



**Former Primary School, Water Street,
Gwaun-Cae-Gurwen, Neath Port Talbot, SA18 1HA**

Bat Survey Report for Mr D. & Mr D. Davies



***A European Protected Species Licence will not be required
for this development to be undertaken***

Report type	Bat Survey Report
Report reference	IG2019FormerGCGPrimarySchool
Site	Former Primary School, Water Street, Gwaun-Cae-Gurwen, Neath Port Talbot, SA18 1HA
Grid reference	SN 70152 11996 (centre of site)
Client	Mr D. & Mr D. Davies
Date(s)/time(s)/type(s) of survey(s)	Scoping survey: 14 th August 2019 Dusk activity survey: 14 th August 2019 between 20:30 and 22:40
Surveyor details	Scoping survey: Mr Glyn Lloyd-Jones, Natural Resources Wales Licence number S085044/1 and Miss Ceri Daugherty, Natural Resources Wales Licence number S086102/1 Activity surveys: Miss Ceri Daugherty, Mr Mike Jones and Ms Sharon Doherty
Architect	JCR Planning

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Executive summary

- ✦ The site of the Former Gwaun-Cae-Gurwen Primary School (the site) is subject to proposed plans for a planned residential development (10 units). The site is approximately 0.3ha within which are small areas of grassland, which have formed in patches where there is less shade from the mature trees (including Willow, Ash, Leylandii and Hazel). There is a short native hedge forming the western boundary of the vegetated part of the site while the more open areas have a light layer of Bramble scrub, the southern part is mostly hard-standing (being the former floor area for the school). However, scrub is developing around the bases of old walls and footings and the dominant species is Buddleia. The southern section predominantly consists of hard standing and the former yard area has boundary walls made of stone and a basement type building is still present on site (south-western most corner). This is stone/block built with metal doors. The Ecological Appraisal Report noted that these were loosely fitted at the time of survey, exhibiting gaps which potentially allow access for bats and birds. However, upon closer inspection during the scoping survey for this report, only a small crack in one door was found, the remaining louvred panels on the southern elevation are not exploitable and the building is well sealed due to open nature of the site – and its location within a village – to prevent anyone entering. The access door is checked monthly to prevent accidents and incidents. Internally, the building is damp and while some light does enter through the windows, it is mainly dark.
- ✦ On the 14th August 2019, I&G Ecological Consulting Ltd undertook a daytime bat scoping survey of the property. To provide extra confidence, a dusk activity survey was undertaken on the 14th August 2019. The weather conditions present at the site were conducive to bat activity and access was available to all parts of the site.
- ✦ This report confirms the findings of these surveys, completed in accordance with current best practice (Collins, J. (Ed.) 2016) and conducted by experienced, licensed ecologists and an experienced assistant. It is to be read in conjunction with the Ecological Appraisal Report produced by I&G Ecological Consulting in April 2019.
- ✦ The site is located at the northern end of the village of Gwaun-Cae-Gurwen and is just over 7km east of the town of Ammanford. **It is within close proximity to favourable bat habitat but is not within 2km of any sites which are specifically designated for their bat interest.**
- ✦ As part of the scoping survey undertaken by I&G Ecological Consulting Ltd, no bats or their signs were found within any features at the site. Taken as a whole, it is considered to have a very **low** potential to support roosting bats, and a very **low** risk of bats using the features present. During the activity surveys, two species of bat; **Soprano pipistrelle and Common pipistrelle** were using the site for foraging, commuting and socialising, but **no bats were seen to leave or enter any features**. The site therefore receives no ecological protection under wildlife legislation and there are no ecological constraints to the proposed works.
- ✦ Recommendations for enhancement have been made as follows, and are to be included in the final plans:
 - ✦ **Recommendation 1:** x 6 of a mix of Eco Kent, Schwegler 2FR, Schwegler 1FF, Schwegler 1FS, Schwegler 2FS (or similar) bat boxes (see appendix 7 for examples) to be affixed to mature trees around the site. To be affixed in an elevated position, facing different directions and away from artificial light and potential disturbance and/or predation. Ensure that the mix of boxes used provides a range of roosting opportunities (including maternity) for as great a number of species as possible; to include provision for those species detected on site.
 - ✦ **Nesting birds are likely to be using trees on site** and recommendation measures have therefore been included. **No signs of owl activity** were discovered. Recommendations are as follows:
 - ✦ **Recommendation 2:** 5 x a mix of bird boxes for small and large birds (see appendix 7 for examples) to be affixed to mature trees around the site. To be affixed in an elevated position, facing different directions and away from artificial light and potential disturbance and/or predation.

Contents

Executive summary.....	ii
Contents	iii
1. Introduction	1
1.1 Scope and purpose of survey.....	1
1.2 Site characteristics and proposed works	1
2. Desk study methods and results.....	3
2.1 Methods.....	3
2.2 Results	3
3. Field survey methods and results	3
3.1 Methods.....	3
3.2 Survey results.....	4
4. Conclusions and recommendations.....	6
4.1 Conclusions	6
4.2 Recommendations	6
5. Outline method statement for planning.....	7
5.1 Outline method statement for planning.....	7
LIST OF FIGURES	
Figure 1: Aerial view of the site	1
Figure 2: Map showing the wider environment	2
Figure 3: Existing and proposed site layout plan	2
Figure 4: Surveyor positions during the activity surveys	4
Figure 5: Aerial map showing the flight lines of bats detected	5
LIST OF APPENDICES	
Appendix 1: An introduction to bat surveys	8
Appendix 2: Overview of the legislation.....	10
Appendix 3: Types of bat roost and survey timings.....	12
Appendix 4: List of surveyors	14
Appendix 5: Site plan	15
Appendix 6: Site survey images	16
Appendix 7: Roost compensation & enhancement measures	18
Appendix 8: I&G Ecological Consulting Ltd legal disclaimer	20
Appendix 9: References, bibliography and sources of information	21

1. Introduction

1.1 Scope and purpose of survey

1.1.1 Any sign of use of a site by bats is enough to confirm that the space has ‘bat interest’ and is enough to confirm the importance of the location to bat species. All species, as well as their resting places, are protected by law and the site is protected even when bats are not present. See appendix 1 for an introduction to bat surveys, including the aims of the scoping survey, appendix 2 for an overview of the legislation, and appendix 3 for information on roost types and survey timings. Appendix 4 lists all surveyors who undertake work for I&G Ecological Consulting Ltd and includes their experience.

1.1.2 This report confirms the results of, and conclusions and recommendations from, the surveys undertaken. It aims to provide the local planning authority with sufficient information to enable a full assessment of the potential ecological impacts of the proposed development. The CIEEM Guidelines for Ecological Report Writing (2017) state that it is important that the structure and content of a report should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development. This report has therefore been written in line with these guidelines. It is to be read in conjunction with the Ecological Appraisal Report produced in April 2019 by I&G Ecological Consulting Ltd.

1.1.3 For the purposes of this survey report, the site boundary is defined as the building(s) and surfaces within the overall site footprint.

1.2 Site characteristics and proposed works

1.2.1 The site of the Former Gwaun-Cae-Gurwen County Primary School (the site) comprises 0.3ha of a mix of hard standing, neutral grassland, scrub and some mature trees. It is located at the northern end of the village of Gwaun-Cae-Gurwen and is just over 7km east of the town of Ammanford. Despite being within a village, the area is very rural and the site itself is within close proximity to favourable bat habitat. To the west, within 100m are small predominantly unimproved fields with mature hedgerows and there are a mix of unimproved and semi-improved grasslands beyond this as well as unimproved grassland within 250m to the east. Beyond this, to the south-west is Mynydd y Betws. The area is not particularly wooded but there are some small woodlands to the north-west, west and south-west – including ancient woodland – within 1km. In relation to waterbodies and watercourses, Cwm Garnant is 90m to the west.

1.2.2 The site on which the property is located is subject to proposed plans for a residential development. Figure 1 shows an aerial view, figure 2 on the following page shows the wider environment around the property and figure 3 is a draft site block and location plan. Plan drawings are included within appendix 5.



Figure 1: Aerial view of the property – the site is shaded in red (reproduced from the Ecological Appraisal Report) and the building is outlined in blue.

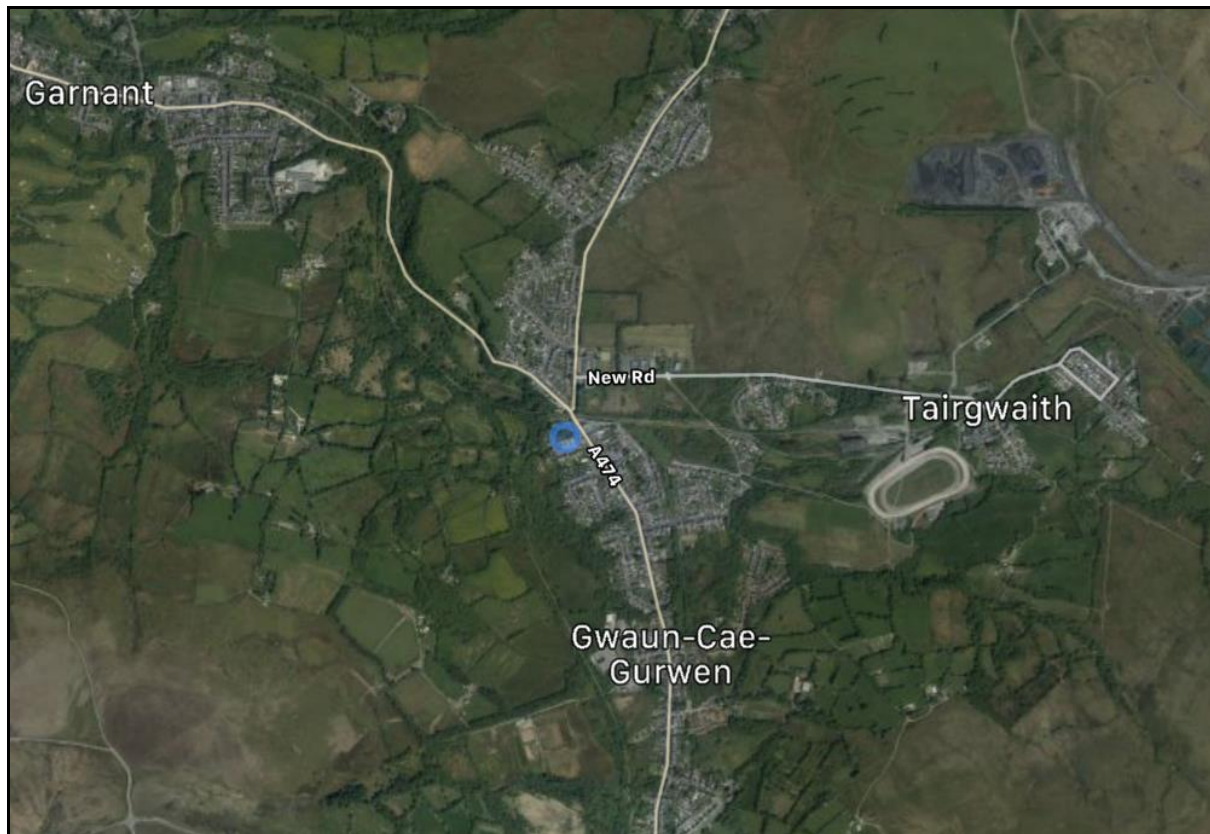


Figure 2: Map showing the wider environment.
The site is indicated by a blue circle. (from Apple® Maps)

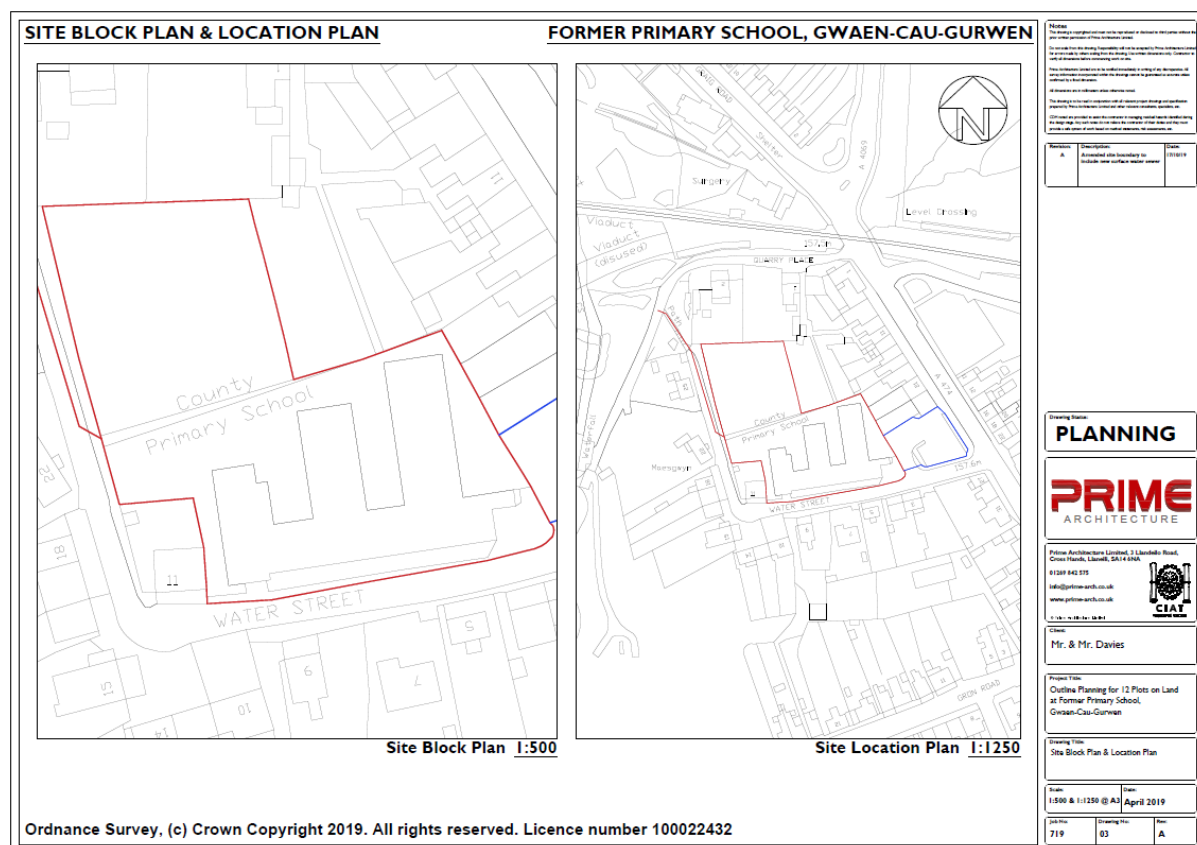


Figure 3: Site block and location plan (provided by the architect)

2. Desk study methods and results

2.1 Methods

2.1.1 A 2km search area is used which covers the predicted zone of influence of the proposed development. Multi-Agency Geographic Information for the Countryside (MAGIC) and Lle are both used to establish the proximity of National and International Statutory Designations, particularly in relation to designations for bat interest. Species searches are also conducted through the Local Records Centre (LRC) where appropriate. An online search of planning applications at the property is undertaken to understand its planning history, especially relating to bats.

2.2 Results

2.2.1 The site is not within or adjacent to any sites which are designated for their ecological significance. Within 2km (from the centre of the site), 1.2km to the east is Tairgwaith Site of Special Scientific Interest which is not designated for its bat interest. In relation to Sites of Importance for Nature Conservation, the species search undertaken as part of the Ecological Appraisal Report reported that within 2km are the following: Betony Field; Derwydd Avenue; GCG Common; NPT Watercourses; and Tiroedd Comin Cwm Amman Uchaf. In addition, there are 15 areas of Ancient Semi-Natural Woodland; the closest being 190m to the south-west. Just over 2km to the north is the boundary of the Brecon Beacons National Park.

2.2.2 An LRC data search was undertaken in March 2019 as part of the Ecological Appraisal report. The records were not listed in full within the report but the most significant – those which are considered to potentially be affected by development of the site – were briefly summarised. The report noted that the full data are available upon request to those nominated on the request form, as some data may be classified as sensitive. In relation to bats, there were records for **Common pipistrelle (*Pipistrellus pipistrellus*)**, **Soprano Pipistrelle (*Pipistrellus pygmaeus*)** and **Unknown bat species (*Chiroptera*)**; the closest record being 178m from the site.

2.2.3 An online search found two previous planning applications for the site. Application P2012/1128 was prior notification for the demolition of the primary school buildings and it was decided on the 24th January 2013 that prior notification was not required. Application L1995/0384 was a CASHPHONE application and the decision on the 19th October 1995 was not recorded.

3. Field survey methods and results

3.1 Methods

3.1.1 A Preliminary Roost Assessment (PRA) was undertaken to identify Potential Roost Features (PRF). Details of the equipment used by I&G Ecological Consulting Ltd can be found in appendix 1. The survey was undertaken by Iestyn Evans, Glyn Lloyd-Jones and Ceri Daugherty.

3.1.2 In relation to survey limitations, many of the UK species of bat are crevice dwelling, and bats or signs of bats can be difficult to find within buildings and trees. In addition, there may be areas that are inaccessible to the surveyor. All parts of the site were accessible from

ground level but it was not possible to access taller trees and it was also not possible to position surveyors by every tree. One activity survey was undertaken to provide extra confidence in our results and to understand how bats are using the site, specifically the underground “bunker”. Surveyors were positioned so that they were close to those parts of the site identified as having roost potential. As a result, using the equipment available to them, all accessible areas were thoroughly surveyed to maximise effectiveness. In addition, weather conditions were very good.

3.1.3 Anabats were not deployed at the site due to the identified low potential and issues around security.

3.1.4 The activity survey was undertaken on the 14th August 2019. The surveyors were Sharon Doherty, Mike Jones and Ceri Daugherty. Sunset was at 20:41, the survey started at 20:30 and ended at 22:40. The weather was dry with sunny spells and some cloud, humidity

was around 80%, there was a light westerly wind of 2mph and the temperature started at 17.8°C and ended at 17.2°C.

3.1.5 Figure 4 shows the position of surveyors during the activity surveys. Each surveyor had a Magenta 5 or an Elekon Batscanner bat detector to assist in identification and detection of bats and their behaviour.



Figure 4: Surveyor positions during the activity surveys. (from Apple® Maps)

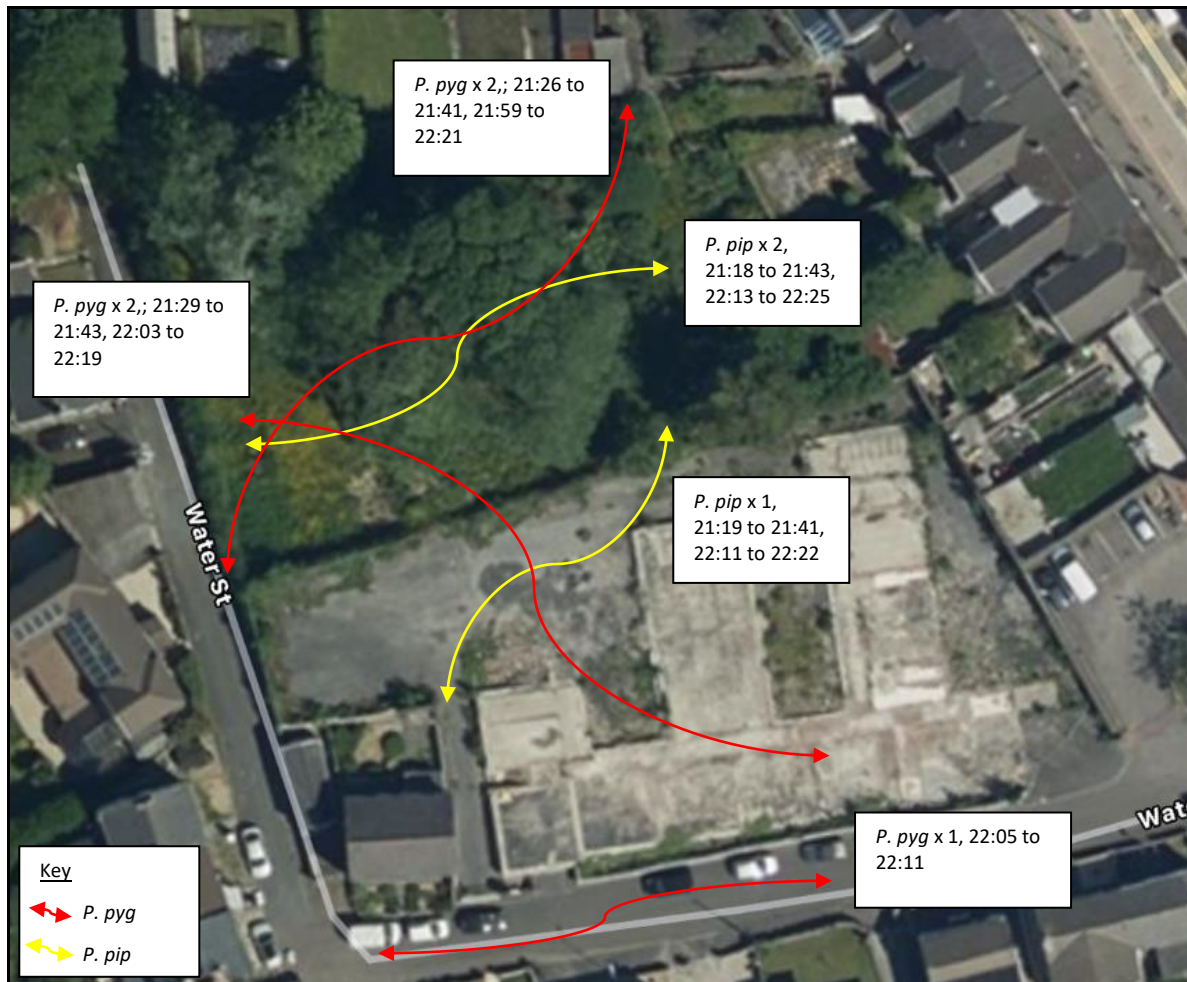
3.2 Survey results

3.2.1 The PRA found that the site is approximately 0.3ha within which are small areas of grassland, which have formed in patches where there is less shade from the mature trees (which include Willow, Ash, Leylandii and Hazel). The more open areas of the site have a light layer of Bramble scrub, while the southern part is mostly hard-standing. However, scrub is developing around the bases of old walls and footings, as well as establishing amongst piles of rubble and the dominant species is Buddleia. There is a short native hedge forming the western boundary of the vegetated part of the site. The southern section of the site predominantly consists of hard standing; including the base of the former school buildings. The former yard area has boundary walls made of stone and a basement type building is still present on site (south-western most corner). This is stone built, with metal doors. The Ecological Appraisal Report noted that these are loosely fitted, exhibiting gaps which potentially allow access for bats and birds. However, upon closer inspection during the scoping survey for this report, only a small crack in one door was found, the remaining louvred panels on the southern elevation are not exploitable and the building is well sealed due to open nature of the site – and its location within a village – to prevent anyone entering. Internally, the building is damp and while some light does enter, it is dark in places. A number of items remain within and their surfaces had only dust and

dirt on them. As a result of the findings, it is considered that the site has a very **low** potential to support roosting bats and a very **low** risk of bats using the features present, and no evidence of the presence of bats within any site features was found. Site survey images are included in appendix 6.

3.2.2 Figure 5 shows the flight lines of bats detected. The species of bats detected during the surveys, and the nature of their activity follows:

Figure 5: Aerial map showing the flight lines of bats detected. (from Apple® Maps)



Sunset was at 20:41, the survey started at 20:30 and ended at 22:40

- ***P. pipistrellus***: bats were using the central and northern areas of the site for foraging and socialising, with the focus of activity being to the north. The earliest activity on the activity survey was 37 minutes after sunset.
- ***P. pygmaeus***: bats were using the central and northern areas of the site as well as the road (Water Street) along the southern boundary for foraging, commuting and socialising, with the focus of activity being to the north. The earliest activity on the activity survey was 45 minutes after sunset.

3.2.3 **Activity summary:** No bats were seen to leave or enter any features at the site but two species were using the whole of the site – with a focus on the northern area – for foraging, socialising and commuting.

3.2.4 **Nesting birds are likely to be using trees on site** and recommendation measures have therefore been included. **No signs of owl activity** were discovered, nor were any heard during survey..

4. Conclusions and recommendations

4.1 Conclusions

4.1.1 Using the findings of the desk study and field surveys, it is **concluded that the site is located within close proximity to favourable bat habitat but is not within 2km of any sites which are designated for their bat interest.** It has low potential to support roosting bats and two species of bat (*P. pipistrellus* and *P. pygmaeus*) were using the surroundings for foraging, socialising and commuting. However, **bats are not currently using any features at the site and it is therefore considered that proposed development will not have a negative impact upon the bat species using the area.** The scale of the proposed development is not insignificant but it is localised and retains all the boundary features. Thus, the impact on the local ecology is likely to be low and the proposed enhancements detailed in 4.2 may result in a positive impact.

4.1.2 There are not considered to be any survey limitations which would impact upon the findings and recommendations of this report.

4.2 Recommendations

4.2.1 Enhancement measures will be required to help meet obligations within The Environment (Wales) Act 2016 and Planning Policy Wales 10th Edition (Dec 2018); as well as to compensate for the loss of roosting opportunity. Excellent long-term enhancement can be delivered by implementing measures outlined within appendix 7. Proposed enhancements are as follows:

Recommendation 1: x 6 of a mix of Eco Kent, Schwegler 2FR, Schwegler 1FF, Schwegler 1FS, Schwegler 2FS (or similar) bat boxes (see appendix 7 for examples) to be affixed to mature trees around the site. To be affixed in an elevated position, facing different directions and away from artificial light and potential disturbance and/or predation. Ensure that the mix of boxes used provides a range of roosting opportunities (including maternity) for as great a number of species as possible; to include provision for those species detected on site.

Recommendation 2: 5 x a mix of bird boxes for small and large birds (see appendix 7 for examples) to be affixed to mature trees around the site. To be affixed in an elevated position, facing different directions and away from artificial light and potential disturbance and/or predation.

4.2.2 This ecological report will remain valid for a period of two years from the date of the last survey i.e. until 14/08/2021. A further scoping survey may be required to update the site information if planning is not obtained or works do not commence within that period, especially if the property to be developed has fallen into disrepair.

5. Outline method statement for planning

5.1 Outline method statement for planning

5.1.1 **No bats** were detected using any features at the site and there are no restrictions on the timing of the work in relation to bats. **If bats are found at any stage, all works will stop and a qualified ecologist called for advice and guidance.** As no bats or bat signs were detected at the site, no monitoring is required (Mitchell-Jones, 2004 – figure 4, page 39). However, it is recommended that the local bat group are informed of the installation of the recommended bat boxes as they may be able to undertake some monitoring.

5.1.2 Current lighting plans for the site are not known but should any be proposed they must ensure that exterior lighting is kept to a minimum to prevent any adverse impacts on bats. In particular, external lighting around the recommended enhancement must be carefully designed to avoid any impact upon bats.

5.1.3 Where external lighting is necessary, this should utilise a number of key design points to limit any impact, as follows:

- Low level lighting pointed towards the ground; LED bulbs to be used of 3000 Kelvin and below (Warm White light and not daylight);
- Use of light shields and hoods to direct the light downwards and prevent vertical and horizontal light spill; and
- Use of passive infrared (PIR) motion sensors on timers to ensure lights only come on when necessary.

Appendix 1: An introduction to bat surveys

A note on bat surveys

- ✧ All bats and their roosts, irrespective of the number of bats, species, and whether bats are present or not, are fully protected by the Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended). Bats are the only mammal capable of true flight. They are notoriously difficult to survey for as they cannot be heard unaided and are difficult to see due to their nocturnal behaviour. They are also small and can live in the smallest of crevices, so may often be overlooked because of their size.
- ✧ Wales has relatively high numbers of most of the species that occur in Britain; the rural landscape with its abundance of wooded areas, river valleys and hedgerows means that buildings are commonly used as roosting sites by bats. This is particularly the case for older buildings (typically with stone walls and slate roofs) that are located close to good feeding areas, on the edge of settlements, or that are rarely disturbed.
- ✧ Bats may also change their resting and feeding places regularly throughout the year, depending on the time of year and weather conditions. Thus, other signs of use are also looked for such as their droppings or signs of feeding.
- ✧ To gain an understanding as to how bats are using a building, a survey may also involve dusk and/or dawn observations which may need to be repeated at different times throughout the year.
- ✧ The search buffers implemented as part of the survey are considered to more than adequately cover the predicted zone of influence of the proposed development. The reasons for the site designations have also been considered when discussing potential impacts on the biodiversity of these sites. If the sites are designated for their bat or bird interest, this will be mentioned.
- ✧ Survey methodologies are implemented as appropriate, based on the surveyors' assessment of the site features and with particular reference to the advice in Bat Surveys for Professional Ecologists: Good practice guidelines, 3rd edition (Collins, J. (Ed.), 2016) & The Bat Workers' Manual, 3rd edition. (Mitchell-Jones, A.J., & McLeish, A.P. (Ed.), 2004). Reports are written with reference to the CIEEM (2015) Guidelines as well as BS42020.
- ✧ A PRA visit (scoping survey) is used to identify all potential access and egress points for bats in the building, and to identify crevices and possible dwelling places. Internal and external inspections are aided using powerful binoculars and close-focussing monoculars, as well as ladders, high powered Cree flashlights and head-torches. We also have thermal imaging cameras and night vision devices at our disposal as well as full spectrum photographic cameras which can photograph a bat in complete darkness with an infrared flash. Exploitable crevices are also endoscoped with either a hand-held digital scope or a smart phone compatible scope. Digital thermometers and hygrometers are also at our disposal.
- ✧ The survey consists of a visual inspection of the interior and exterior of the building for evidence of bat use, including droppings, smells, feeding remains, staining, and scratching around roost exit and entry points. Potential features conducive (but not necessarily predictive) to bat presence include voids in the stonework, wooden beams, any associated rot holes, gaps behind soffits or within walls and fascia boards, raised tiles, any raised render, and any sufficiently large crevices. The general condition of the building is

examined, including the structure of the roof, condition of walls, the potential for disturbance, and the position of the building in relation to connectivity to good bat habitat.

✧ If positive bat signs are discovered, or the construction style suggests cryptic bats *may* be present, an Anabat SDII or Anabat Express is deployed within the space of the building surveyed. These commonly record all bats from within and to the exterior of a building as they have extremely sensitive microphones so clusters of calls or high frequency of calls over short periods that are repeated (not just a vocal (Chatty) bat passing the microphone once on a foraging /socialising expedition) may indicate a presence within the building. Supporting evidence is then needed to make a decision, such as bats seen during surveys, droppings and feeding signs as well as building suitability for a given species. For example, we have had clear sonograms for Serotine bats (*Eptesicus serotinus*) from a loft space deployed recorder where no gaps existed anywhere and no droppings from serotines were present. These large bats must have been present elsewhere on site or use the site for foraging.

✧ The outcomes have been used to specify whether further surveys are required, or to establish the need for, and extent of, any mitigation or compensation measures required as part of the proposed works.

✧ If positive signs of bat activity are found then it will be necessary to assess whether a licence is needed at all (damage and disturbance to the roost and harm to bats can be avoided through thoughtful and planned working practices), or whether a licence is recommended as damage, disturbance or harm are unlikely to be avoided.

Appendix 2: Overview of the legislation

- ✧ All bats and their roosts, irrespective of the number of bats, species, and whether bats are present or not, are fully protected by the Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended).
- ✧ There is a risk that works could result in the damage or destruction of a bat roost or roosts, the disturbance of bats, and the potential killing or injury of bats, sufficient survey effort (where indicated) helps to minimise this risk.
- ✧ All wild birds, their nests, eggs and dependent young are afforded protection under the Wildlife and Countryside Act 1981 (as amended), with the bird nesting season generally from 1st March until 31st August.

Technical Advice Note (TAN) 5 (Welsh Government, 2009) specifically provides advice about how the land use planning system should contribute to protecting and enhancing biodiversity and geological conservation. The TAN provides advice for local planning authorities on the key principles of positive planning for nature conservation; nature conservation and Local Development Plans; nature conservation in development management procedures; development affecting protected internationally and nationally designated sites and habitats; and development affecting protected and priority habitats and species.

Under Section 2.4 within the TAN 5, 'when deciding planning applications that may affect nature conservation local planning authorities should':

- ✧ Pay particular attention to the principles of sustainable development, including respect for environmental limits, applying the precautionary principle, using scientific knowledge to aid decision making and taking account of the full range of costs and benefits in a long- term perspective;
- ✧ Contribute to the protection and improvement of the environment, so as to improve the quality of life and protect local and global ecosystems, seeking to avoid irreversible harmful effects on the natural environment;
- ✧ Promote the conservation and enhancement of statutorily designated areas and undeveloped coast;
- ✧ Ensure that appropriate weight is attached to designated sites of international, national and local importance;
- ✧ Protect wildlife and natural features in the wider environment, with appropriate weight attached to priority habitats and species in Biodiversity Action Plans;
- ✧ Ensure that all material considerations are taken into account, and decisions are informed by adequate information about the potential effects of development on nature conservation;
- ✧ Ensure that the range and population of protected species is sustained;
- ✧ Adopt a step-wise approach to avoid harm to nature conservation, minimise unavoidable harm by mitigation measures, offset residual harm by compensation measures and look for new opportunities to enhance nature conservation; where there may be significant harmful effects local planning authorities will need to be satisfied that any reasonable alternative sites that would result in less or no harm have been fully considered.

✧ Bats are listed under Schedule 5 and 6 of the Wildlife and Countryside Act 1981 and protected under sections 9 and 11 (as amended by the Countryside and Rights of Way (CROW) Act 2000).

✧ The Environmental Damage (Prevention & Remediation) Regulations 2009 – A protected species and its habitat are protected under this legislation as well as others.

✧ The Conservation of Habitats and Species Regulations 2017 – (regulation 43) fully protects all bats and their roosts, making it **an offence to deliberately kill, injure or capture** (take) bats; *to deliberately disturb bats; damage or destroy bat roosts* or resting places (this is considered an ‘Absolute Offence’ as damage and destruction may detrimentally effect the Continuous Ecological Functionality of that roost/resting place); possess or transport a bat or any part of a bat; sell (or offer for sale) or exchange bats or parts of bats.

✧ For any offence to occur a derogation or **European Protected Species (EPS) licence** must be gained from Natural Resources Wales. To gain an EPS Licence, they must be satisfied that;

i. granting the licence would not be detrimental to the Favourable Conservation Status (FCS) of the populations of species concerned within its natural range;

ii. the derogation (licence) is in the public interest of Health and Safety or for other reasons of over-riding public interest, including those of a socio-economic nature or will have a benefit of primary importance to the environment; and

iii. there is no satisfactory alternative to the derogation which would allow the described development to proceed but which would avoid or reduce, the need for any adverse impact to the species.

Bats are also protected by;

✧ Appendix III of the Bern Convention.

✧ Appendix II of the Bonn Convention (including the Convention's Agreement on the conservation of Bats in Europe).

✧ Natural Environment and Rural Communities Act 2006 (in England).

✧ The Environment (Wales) Act 2016: specifically, Sections 6 (*places a duty upon Local Authorities to enhance biodiversity and the **resilience of ecosystems***) and 7 (*Creating local biodiversity lists and a duty to take steps to **maintain and enhance biodiversity***).

✧ All bats are listed in Annex IV of The Conservation of Habitats and Species Regulations 2012 and are therefore designated as *European Protected Species*. These *protected* species are afforded enhanced protection and more stringent licensing provisions than those protected by the Wildlife and Countryside Act (WACA) alone. There are also biodiversity obligations to be met within the Well-being of Future Generations (Wales) Act 2015 [WFG] and the seven Well-being goals which include an emphasis on socio-economic resilience as well as protecting culture, heritage and the Welsh language. One Act does not take precedence over the other.

Appendix 3: Types of bat roost and survey timings

As the mitigation guidelines state: The presence of a significant (important) bat roost... can normally be determined on a single visit at any time of year; providing that the entire structure is accessible and that any signs of bat activity have not been removed by others. The table below shows the applicability of survey methods. The table has been reproduced from Bat Mitigation Guidelines (table 5.2) (2004).

Season	Roost type	Inspection	Bat detectors and emergence counts
Spring (Mar – May)	Building	Suitable (signs, perhaps bats)	Limited, weather dependent
	Trees	Difficult (best for signs before leaves appear)	Very limited, weather dependent
	Underground	Suitable (signs only)	Static detectors may be useful
Summer (June – August)	Building	Suitable (signs and bats)	Suitable
	Trees	Difficult	Limited: use sunrise survey
	Underground	Suitable (signs only)	Rarely useful
Autumn (September – November)	Building	Suitable (signs and bats)	Limited, weather dependent
	Trees	Difficult	Rather limited, weather dependent; use sunrise survey?
	Underground	Suitable (signs, perhaps bats)	Static detectors may be useful
Winter (December – February)	Building	Suitable (signs, perhaps bats)	Rarely useful
	Trees	Difficult (best for signs after leaves have gone)	Rarely useful
	Underground	Suitable (signs and bats)	Static detectors may be useful

The table below shows the recommended survey timings and is reproduced from the Good Practice Guidelines (table 7.1) (3rd Edition, 2016). This is for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).

Low roost suitability	Moderate roost suitability	High roost suitability
May to August (structures) No further surveys required (trees)	May to September ^a with at least one of the surveys between May and August ^b	May to September ^a with at least two of the surveys between May and August ^b

^a September surveys are both weather and location dependent. Conditions may become more unsuitable in these months, particularly in more northerly latitudes, which may reduce the length of the survey season.

^b Multiple survey visits should be spread out to sample as much of the recommended survey period as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more, unless there are specific ecological reasons for the surveys to be closer together (for example, a more accurate count of a maternity colony is required but it is likely that the colony will soon disperse). If there is potential for a maternity colony then consideration should be given to detectability. A survey on 31 August followed by a mid-September survey is unlikely to pick up a maternity colony. An ecologist should use their professional judgement to design the most appropriate survey regime.

The table below shows the recommended minimum number of surveys to be carried out according to roost potential. It is reproduced from the Good Practice Guidelines (table 7.3) (3rd Edition, 2016).

Low roost suitability	Moderate roost suitability	High roost suitability
One survey visit. One dusk emergence or dawn re-entry ^a (structures). No further surveys required (trees)	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey ^b	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn ^b

^aStructures that have been categorised as low potential can be problematic and the number of surveys required should be judged on a case-by-case basis (as noted in section 5.2.9 of the guidelines). If there is a possibility that quiet calling, late-emerging species are present then a dawn survey may be more appropriate, providing weather conditions are suitable. In some cases, more than one survey may be needed, particularly where there are several buildings in this category.

^b Multiple survey visits should be spread out to sample as much of the recommended survey period (see table 7.1 above) as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more. A dawn survey immediately after a dusk one is considered only one visit.

Roosts required by bats

Hibernation sites (hibernacula). Sheltered areas with relatively stable winter temperatures.

Underground cavities, caves, mines, cellars, hollow trees and cavities and crevices in buildings or similar structures are examples.

Nursery roosts (maternity roosts). Places usually warm, where adult females of a colony gather to give birth and rear their young. These are often traditional sites with a history of such use and include roof voids, walls, soffit boxes, hollows and cracks/splits in trees and cavities in bridges and similar structures.

Night roosts/feeding perches. Places where bats may gather at night away from the day roost after initial feeding. These places are often quite exposed and may not be suitable for day roosting. They are often recognisable by deposits of droppings and insect remains.

Intermediate/dispersal roosts. Sites where small numbers of bats may gather after hibernation before taking up residence in the nursery roost. Bats may return to these sites after dispersal from the nursery roost and before entering hibernation.

Mating/male roosts. Places that an individual male may defend from other males and to which he will attempt to lure females. These will include small holes/cavities in trees, stonework, caves, mines and buildings.

Access, size of roost space and structure

- *Crevise-dwelling bats* (such as Soprano pipistrelles) can crawl into roosts via small gaps in the range of 15–20mm high by 20–50mm wide. The roost area should maintain a crevice of this approximate size gap that the bats can roost between. The area this roost provision covers can be small but about 1m² would be useful for summer nursery roosts. The height of entry can be from 2–7m.
- *Roof-void dwelling bats* require similar dimensions to access the roost but typically need timber joists or beams on which to roost. The height of entry can be from 2–7m.
- *Bats needing a flying area* require the same access dimension as mentioned above, 15–20mm (h) x 20–50mm (w) situated over 2m in height. The roosting area should not be trussed, to allow flight, and should ideally (wherever possible) be of similar dimensions to the roost being replaced.
- *Horseshoe bats* need a larger access so that they can fly (instead of crawl) directly into the roost. Lesser horseshoe bats need an access of 300mm (w) x 200mm (h), while greater horseshoe bats need 400mm (w) x 300mm (h). As above, the roosting area should not be trussed, to allow flight, and should again (where possible) be of similar dimensions to the roost being replaced.

Appendix 4: List of surveyors

Surveyor	Licence	Experience/background
Mr Glyn Lloyd-Jones	Bats	Glyn has significant experience in survey and presentation skills and has also assisted/worked with many other licensed bat surveyors as well as local bat groups over the past years. He possesses both a Bachelor's degree (with honours) and Master's degree in the biological sciences and is a member of the Royal Society of Biology. He also holds a bat licence in England. He has also undertaken many badger, tree and herpetofaunal surveys. Natural Resources Wales Licence number S085044/1.
Mr Iestyn Evans	Bats	Iestyn has extensive experience in conservation, habitat improvement and management and has also worked with and assisted other licensed bat workers for many years. He has also helped with local bat group surveys and assisted in data gathering for the Beacon for Bats project undertaken by the Vincent Wildlife Trust. Iestyn has also assisted the Glamorgan Bat Group and will also help supervise and mentor members of the newly incarnated Carmarthenshire Bat Group. Natural Resources Wales Licence number S086081/1.
Miss Ceri Daugherty	Bats	Ceri worked at Team Leader level within the SNCO for Wales for many years, dealing with customers and negotiating with landowners. She also has practical conservation management experience as both a Countryside Ranger and a conservation volunteer. She possesses a Master's degree in Environmental Impact Assessment and a Bachelor's degree (with honours) in the natural sciences. She is a member of the Carmarthenshire Bat Group. Natural Resources Wales Licence number S086102/1.
Mr Pete Watts	Trainee	Peter provides survey support with his keen eye for detail and vigilance. He has accompanied I&G Ecological Consulting Ltd on many surveys and is becoming a valuable and experienced surveyor.
Mr Greg Evans	Trainee	Greg attends dusk and dawn surveys to provide extra monitoring for possible entry and exit points for bats. He is currently building his experience in this area and is a keen amateur natural historian with an enthusiasm and affinity for bats.
Mr Mike Jones	Assistant	Whenever we need extra assistance in observing and recording bat activity on buildings, Mike provides an excellent and reliable service
Ms Jody Evans	Assistant	Whenever we need extra assistance in observing and recording bat activity on buildings, Jody provides an excellent and reliable service.
Ms Sharon Doherty	Assistant	Whenever we need extra assistance in observing and recording bat activity on buildings, Sharon provides an excellent and reliable service.
Ms Wendy Larcombe	Assistant	Wendy has an Honours degree in Environmental Biology and over 17 years' experience working in the field of conservation, including as a Planning Ecologist and as a freelance Ecologist. She has a wide range of experience, both paid and voluntary which includes extended Phase 1 habitat surveys, building assessment for bats, bat/barn owl surveys, summer roost counts (Gower), and winter roost counts (Black Mountains). She has undertaken a range of training including bat ecology and surveying and is a valued member of the team.

Appendix 5: Proposed site plan



Appendix 6: Site survey images



The top left image shows the rest of the building prior to demolition (from Google© Maps) while images two and three are what remains. There was no connectivity to outside with only a small crack in one door (see yellow arrow), the louvred panels are not exploitable. It is therefore very well-sealed due to open nature of the site – and its location within a village – to prevent anyone entering. The bottom two images show some of the trees and scrub at the site (healthy and young with no exploitable breaks, scars or rot holes). There are some mature trees (as identified within the Ecological Appraisal Report) but none have any exploitable bat features. Further images and details of the vegetation on site are provided within the Ecological Appraisal Report.



Interior images of what remains of the “cellar” of the former primary school building. The building is damp and while some light does enter, it is dark in places. A number of items remain within and their surfaces had only dust and dirt on them. No bats or their signs were found anywhere internally.

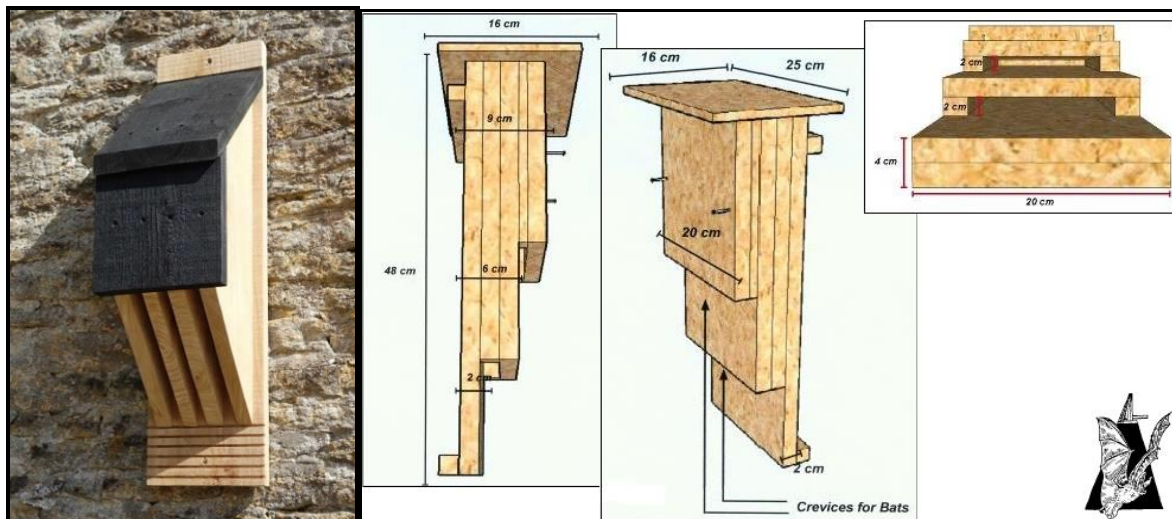
Appendix 7: Roost compensation & enhancement measures



Left: The Eco Kent Bat Box is based on the popular and proven Kent Bat Box design. However, this box has an added weatherproof outer shell, making it more secure and long-lasting. The additional plastic layer also reduces draughts inside the box, thus providing a more attractive roosting environment for bats. It is suitable for crevice-dwelling species. The two crevices inside the box are approximately 18mm wide, ideal for common and soprano pipistrelles. The FSC-certified spruce wood is roughly sawn on the inside, providing good grip for bats once inside the box. This box is self-cleaning and does not require any maintenance, as the droppings fall straight down out of the bottom entrance.

These bat boxes can be mounted on either a tree or building using the three concealed keyhole fixings located at the top of the box. If possible, site the box at a height of between 4m and 6m in a sheltered sunny place, away from artificial light sources. The box should not be positioned in direct sunlight. Ideally, several boxes should be placed facing different directions, as this provides a choice for roosting bats. A clear path to the entrance of the box is essential.

Bottom: The Vincent Pro bat box (left) and the Kent Bat Box (right)



Above: The Schwegler 2FS (left) and 3FS (right)



The Schwegler 2F is a general-purpose bat box is suitable for most situations and is an ideal starter bat box. The spherical interior of the roof area provides an ideal roost for bats. If it is not occupied by bats after a number of years, it is easily converted to a bird box simply by changing the front panel (additional cost applies). Providing accommodation for large number of bats, this box offers good value for money and can be used to help with their conservation. The front cover can be removed for inspection and cleaning.

Below left: Small bird box. This comes in a variety of hole sizes: a 25mm hole for blue tits, coal tits and marsh tits; 28mm for tree sparrows and great tits; 32mm for nuthatch and pied flycatcher; and 38mm for redstarts. **Below middle:** Robin and spotted flycatcher box. **Below right:** Large bird nest box.



Appendix 8: I&G Ecological Consulting Ltd legal disclaimer

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We confirm that in preparing this report, we have exercised reasonable skill and care, taking into account the project objectives, the agreed scope of the work, and prevailing site conditions.

Advice in this report is based on the judgement of I&G Ecological Consulting and the interpretation of data gathered during the course of their survey on the property named in this document. ***Until payment has been received, this report remains the intellectual property of I&G Ecological Consulting and can be withdrawn from the planning process at our request. You are also not covered by any of our indemnity or liability insurance until the report has been paid for in full.***

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All work undertaken in this report is the sole responsibility of I&G Ecological Consulting.

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