ISG LTD

NEW SCHOOL PROVISION, YSGOL Y DERI, COSMESTON

PROTECTED SPECIES SURVEY REPORT

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Issue	Revision	Stage	Date	Prepared by	Approved by	Signed
1	-	Draft for Review	27 July 2022	Ben Satherley (Ecologist)	Dr Matthew Watts (Director)	[redacted]
2	Minor text corrections	For Issue	27 July 2022	Ben Satherley (Ecologist)	Dr Matthew Watts (Director)	[redacted]
3	Change in report title following completion of all surveys. Survey information, mitigation etc. updated as required	Draft for client review	17October 2022	Ben Satherley (Ecologist)	Dr Matthew Watts (Director)	[redacted]
4	Minor text updates following review	For Issue	18 October 2022		Dr Matthew Watts (Director)	[redacted]
5	Typo correction & updates to hedge translocation text	For Issue (A)	20 October 2022		Dr Matthew Watts (Director)	[redacted]

CONTENTS

1.0 INTRODUCTION

1.1 Soltys Brewster Ecology were commissioned by ISG on behalf of the Vale of Glamorgan to undertake supplementary surveys to inform the proposed development of a new school facility (Ysgol y Deri) at Lower Cosmeston Farm (see proposed layout, Appendix I). A preliminary Ecological Appraisal (PEA) was prepared by AECOM in June 2021[1] which identified existing site conditions and recommended mitigation/ enhancement opportunities. The PEA report also recommended that further site-specific surveys be undertaken relating to hedgerows, foraging bats, Dormice and common reptiles. The surveys for protected species were undertaken between April and October 2022 and the findings to date are described in the current document.

1.2 The current document supersedes an Interim Protected Species Note (SBE, 2022b) which was submitted in July 2022 to inform consideration of the application by Vale of Glamorgan (VoG) and Natural Resources Wales (NRW). In addition to reporting on the completed surveys, the current document includes information to address comments raised by NRW (Letter response of 30/08/22) relating to mitigation/enhancement measures for Dormice.

1.3 Appraisal of the hedgerows along Lavernock Road and Fort Road has been reported separately (SBE 2022a).

2.0 METHODOLOGY

Badger Survey

2.1 The PEA survey of 2021[1] did not identify any evidence of use by Badgers at the site or within the immediately surrounding area. The report recommended that an updated walkover be completed ahead of any site enabling or construction works in order to confirm the continued likely absence of Badgers. As part of the site visits undertaken in March and April 2022 to set up the Dormouse and Reptile surveys respectively, a supplementary walkover, to include the woodland strip along the eastern boundary to search for any evidence of Badgers was undertaken by suitably experienced ecologists[2]. The walkover incorporated a search for any evidence of Badger activity within or adjacent to the application site boundary based on guidance set out in Harris *et al.* (1989), and was intended to:

- Locate any Badger setts within the search area;

[1] Ysgol Y Deri Primary School (YYD2) Preliminary Ecological Appraisal (PEA) Report. Vale of Glamorgan Council. Project number: 60629450. June 2021

[2] Full and Associate members of CIEEM with experience of Badger survey work

- Assess the status of any setts found;
- Detect any signs of Badger activity which includes latrines, tracks and prints, hairs and foraging evidence.

2.2 Where any setts were identified, the level of activity would be noted based on the classification described by Harris et al. (1989):

Well-used holes = these are clear from any debris or vegetation, are obviously in regular use and may or may not have been recently excavated;

Partially-used holes = these are not in regular use and have debris such as leaves and twigs in the entrance or have moss and/or other plants growing in and around the entrance. Partially used holes could be in regular use after a minimal amount of clearance;

Dis-used holes = these have not been in use for some time, are partially or completely blocked and cannot be used without a considerable amount of clearance.

Dormouse Nest Tube Survey

2.3 In order to establish the likely presence/absence of Dormice at the site, a total of 46[3] Dormouse nest tubes were deployed across the site on 17 March 2022 within the boundary hedgerow and woodland habitats (see plan in Appendix II). Following best practice guidelines (e.g. Chanin & Woods, 2003), tubes were checked regularly up until 06 October by a licensed dormouse surveyor[4] and notes made on the presence or absence of Dormice (i.e. observation of the animal itself or characteristic nesting materials). Occupation by species other than dormice (e.g. nesting birds and other small mammals) was also recorded. Nest tube checks were completed on 17 May, 09 June, 18 July, 19 August, 13 September and 06 October 2022.

Reptile Survey

2.4 Based on the availability of potentially suitable habitat across the site, a targeted reptile presence/absence survey was undertaken based on recommendations described by Froglife (1999). This involved the deployment and subsequent checking of artificial refugia. Refugia predominantly consisted of bitumen roofing felt (0.5 x 0.5 & 0.5 x 1.0m squares) in order to offer attractive shelter and basking opportunities for reptile species.

[3] The small size of the site was such that the recommended 50no. nest tubes within the guidance could not be accommodated whilst still maintaining a reasonable spacing (10 – 20m) between nest tubes.
[4] NRW Ref: S089089/1

2.5 A total of 50no. refugia were deployed on 15 March 2022 as illustrated on the plan in Appendix II. Following a settling in period, the refugia were checked on 7no. subsequent occasions for basking and sheltering reptiles. Reptile surveys were conducted between 07th April 2022 (check 1) and 19th May 2022 (check 8 & collection); under suitable environmental conditions as defined by Froglife (1999), i.e. little or no rain/wind and temperature between 9 and 18˚C.

Bat Surveys

2.6 The proposed location for Ysgol y Deri school is within an area that was subject to surveys in 2017 to inform a proposed residential development of land allocated for housing in the VoG Local Development Plan (Upper Cosmeston Farm). As part of the survey work, bat emergence and activity transects were completed by Wardell Armstrong (2018). The activity transects included each of the vegetated boundaries of the Ysgol y Deri site with only Common Pipistrelle *Pipistrellus pipistrellus* identified as using the on-site corridors. The woodland corridor immediately off-site to the east was found to be used by a small number of other species including Soprano Pipistrelle *P. pygmaeus*, Noctule *Nyctalus noctula* and Myotis *Myotis* sp.

2.7 With the exception of trees to be retained within the eastern boundary woodland, the PEA survey (2021) did not identify any features for use by roosting bats at the application site and on this basis, consideration of bats will focus on protecting/enhancing the vegetated boundaries for foraging/commuting. As a result of feedback received during the consultation process, a climbing inspection (using rope access techniques) of the 3no. trees within the boundary woodland (as identified in the 2021 PEA survey) was completed on 18 August 2022 (see notes in Appendix III). No development is proposed within the retained woodland to the east of the new school and none of the inspected trees will require removal or management as part of the development.

Walked Transect Survey

2.8 To identify areas of bat activity on site, a total of three walked transects were undertaken at the site on 28 April,16 June and 27 July 2022. Transect routes, fixed point locations and positioning of static detectors are illustrated on the plan in Appendix II. Each survey was carried out by two suitably experienced ecologists[5] equipped with broadband ultrasonic bat detectors (Echo Meter Touch 2 or Peersonic) to allow in field and office-based identification of bat calls. Calls were identified in the field or using computer-based sonogram analysis software (AnalookW and Analook Insight). The dusk activity surveys commenced at sunset and

[5] Full, Associate and Qualifying Members of the Chartered Institute of Ecology & Environmental Management (CIEEM) with experience of bat survey work

continued for a minimum of 90 minutes into the night, based on best practice guidelines (BCT, 2016). On each visit, two transect routes were followed, each by a single surveyor (see Appendix II) along with fixed 'spot count' observations at up to 4no. locations, each of 3 minutes duration. ,.

Table 1 – Conditions for Walked Transect Surveys

Visit	Temperature at start of survey (°C)	Weather Conditions	Sunset	Start Time	End Time
28/04/2022	12	Clear skies (10 – 20% cloud), dry, light winds (Beaufort 1-2)	20:30	20:30	22:00
16/06/2022	20	30% cloud cover, dry, minimal wind (Beaufort 1)	21:30	21:30	23:05
–27/07/2022	-18	-Dry, overcast (75% cloud), light winds (Beaufort 1-2)	21.09	21.09	23.09-

Automated Detector Survey

2.9 To supplement the walked transect surveys, monitoring sessions involving 2no. automated detectors (Anabat Express units) left *in-situ* for 5-7 consecutive nights were also undertaken between 04 – 10 May, 16 – 21 June and 27 July – 02 August 2022. The Anabats were deployed at two different locations across the site during the monitoring period to provide information regarding bat species diversity and distribution across the site. Locations of the fixed Anabats can be seen in Appendix II. All recorded calls were identified using computer-based sonogram analysis software (AnalookW and Analook Insight).

3.0 RESULTS & INTERPRETATION

3.1 The findings from the completed site are summarised in the following sections.

Badgers

3.2 No evidence of use of the site by Badgers was identified over the course of the site visits in 2022. This is consistent with the findings of the 2021 PEA and the recommendations within that report (Section 5.4.9) remain applicable.

Reptile Surveys

3.3 No reptiles were encountered over the course of the survey visits completed in April and May 2022 (see Table 2). Based on this finding, likely absence of reptiles has been established and no particular consideration of this group would be required as part of site enabling or construction work over the majority of the site area. The finding of a Common Toad in close proximity to the woodland boundary would justify a phased, directional approach to any grassland cutting/scrub removal in this part of the site. For example any vegetation clearance within 10m of the woodland edge should be done using hand held strimmers/brush cutters or a small mower capable of cutting at a set height – e.g. 150mm above ground. Cutting should be directional to encourage any animals present to move towards the retained woodland.

Table 2 Reptile Survey Log

Visit	Date (2022)	Time (from)	Temp °C	Weather conditions	Slow worm			Grass Snake		Common lizard		Total	Notes
					Female	Male	Juv	Adult	Juv	Adult	Juv		
	15/03												*50no. Reptile mats deployed across site*
1	07/04	10:00	10	Sunny, windy	0	0	0	0	0	0	0	0	Nothing found
2	13/04	09:00	12	overcast	0	0	0	0	0	0	0	0	Nothing found
3	22/04	10:45	13	Overcast, light breeze	0	0	0	0	0	0	0	0	No reptiles found. Mats still warm despite overcast conditions.
4	25/04	09:30	13	Sunny, clear skies	0	0	0	0	0	0	0	0	Nothing found
5	05/05	09:30	16	Sunny, light breeze	0	0	0	0	0	0	0	0	Single Common Toad found under mat near woodland boundary.
6	10/05	13:00	16	Sunny, windy	0	0	0	0	0	0	0	0	Nothing found.
7	13/05	10:00	13	Overcast, light breeze	0	0	0	0	0	0	0	0	Nothing found
8	19/05	09:40	15	Partly cloudy	0	0	0	0	0	0	0	0	Nothing found

Bat Surveys

3.4 The locations of the bat activity transects and automated detectors are displayed in Appendix II. The surveys completed between April and August have identified that the site is subject to low levels of bat activity by a small number of species.

Activity Survey – 28th April 2022

3.5 During the dusk activity survey low numbers of Common and Soprano Pipistrelle were identified foraging along the site boundary features. A total of just 11 bat observations were made by the two surveyors during the walked transects with an additional 8 observations from the fixed point locations. No records of bat activity was associated with fixed points located in the centre of the field.

Activity Survey – 16 June 2022

3.6 Bat activity levels were higher than those recorded in April although were still relatively low – for example a total of 13 observations were made by the surveyor on the western transect route, with 11 observations along the eastern transect. In addition to both Pipistrelle species, Noctule and Serotine were also identified. Bat activity was noted at each of the fixed point locations, including the centre of the field although typically only single passes were recorded at each of the locations, supporting the general observation of low bat activity across the site. The maximum number of bat passes recorded at any one location was 3 (Noctule passes).

Activity Survey – 27 July 2022

3.7 Bat activity levels were comparable to those recorded in June although were still relatively low – for example a total of 16 observations were made by the surveyor on the western transect route, with 11 observations along the eastern transect. In addition to both Pipistrelle species, which accounted for 23 of the records, Noctule (3 passes) and Myotis (1 pass) were also. Bat activity was noted at each of the fixed point locations, including the centre of the field.

Automated Surveys

3.8 The results of the automated surveys completed in May, June and July/August are summarised in Table 3. The automated detectors recorded a minimum of six species over the course of the three survey sessions. As noted during the walked transects, bat activity levels across the site were generally low with recordings dominated by Common Pipistrelle (71.9% of calls) and Soprano Pipistrelle (20% of calls). The survey also identified *Myotis sp*. (5.9% of calls) however these calls were not easily identified down to a species level and

so were left grouped into a single category. It should be noted that the number of bat passes included in the summary table do not necessarily relate to the number of bats – for example a high number of passes can be associated with a single (or small number) of bats regularly foraging at a given location.

3.9 The surveys completed have identified generally low levels of bat activity at the site with aerial hawking species (e.g. Pipistrelle & Noctule) accounting for most of bat records. The proposed layout would retain the existing boundary features (with the exception of breaches for access) and lighting has been designed to limit spill onto these features to ≤ 1 lux (see plan in Appendix IV). These measures would permit continued use of the site and immediate local area by foraging/commuting bats.

Table 3: Automated bat detector survey results

Species (Passes Recorded)	May		June		July/August		Total
	Static 1 – Fort Road Hedgerow	Static 2 – Woodland Boundary	Static 1 – Fort Road Hedgerow	Static 2 – Woodland Boundary	Static 1 – Fort Road Hedgerow	Static 2 – Woodland Boundary	
Common Pipistrelle	420	316	269	609	1042	1280	**3936**
Soprano Pipistrelle	165	292	71	73	282	214	**1097**
Noctule	17	4	10	25	30	16	**102**
Serotine	0	9	4	3	0	0	**16**
Leisler's Bat	1	0	0	0	0	1	**2**
Myotis sp.	16	232	4	40	12	18	**322**

Dormouse Surveys

3.10 No evidence of Dormice was identified from the nest tube checks completed between May and October 2022. Using the scoring system devised by Chanin & Woods (2003) for the probability of finding Dormice in nest tubes, the survey effort at Ysgol y Deri would score 21.16[6]. A robust survey is considered to be represented by a score of 20 and the current survey indicates likely absence of Dormice within the surveyed habitats – this does not however preclude their use in the future. No fruiting Hazel was present within the site boundary hedgerows (which are maintained by regular cutting/flailing) or within the woodland along the eastern boundary so a search for characteristically gnawed nuts was not possible.

3.11 No evidence of use by other small mammals was recorded from the nest tubes between May and July although Woomice (or woodmice nests) were identified in a small number of nest tubes in August, September and October. A single nest tube (along Lavernock Road Hedge) was occupied by Woodmouse *Apodemus sylvaticus* in August; 4no. nest tubes contained Woodmouse nests in September (2 nests along Lavernock Road, 1 nest along Fort Road & 1 nest along northern boundary) and 8no. nest tubes contained nests (6no.tubes, e.g. see Plate 1) food caches (1no.) or Woodmice (1no. tube) in October.

3.12 The surveys completed at the site indicate likely absence of Dormice (currently) from the surveyed habitats although in their response of 30 August, NRW noted that the species has previously been recorded in the surrounding area and that maintaining habitat connectivity/resources for this species would need to be considered as part of the development proposals. The following sections set out information on the potential impacts of the scheme on Dormice should they make use of retained (and proposed) habitat features in the future. The Landscape Strategy plan (Appendix I) provides information on the sections of hedgerow along Fort Road to be affected by the development along with the extent of hedgerow translocation and new planting to be undertaken. No removal or breaches of vegetation will be undertaken along the northern boundary or along the eastern boundary (woodland).

[6] Deployment of 46 tubes in March 2022 with checks up to October gives a score of 23, which is multiplied by 0.92 as 46 nest tubes were deployed during the survey (see section 2.3).

Plate 1 Loose nesting material indicating use by Woodmouse. Fort Road hedgerow, October 2022

Impact Assessment

3.13 Measures to minimise existing habitat loss along boundary features have been incorporated into the site layout from an early stage with a breach for access and visibility required along Fort Road and a pedestrian access along Lavernock Road (see Appendix I). Other boundary habitats will be retained and enhanced as part of the development.

Short term impacts: disturbance

3.14 In the short term, site preparation and commencement of construction works will result in direct habitat loss of approximately 678m² of hedgerow along Fort Road (over a length of approximately 139m) and 15m^2 of hedgerow along Lavernock Road (length of approximately 4m). These sections of hedgerow will be translocated into an allocated area immediately north of the existing hedgerow along Fort Road (see Appendix I) so in the long term, there would be no net loss of habitat in this part of the site. Hedgerow removal will however create a gap in the Fort Road hedgerow (approx. 20m width during the construction phase) required for site access (see plan in Appendix I).

3.15 Clearance of vegetation also carries a small potential risk of direct killing or injury of Dormice if undertaken during the winter hibernation period (Dormice hibernate at ground level).

3.16 Dormice (if present) continuing to make use of hedgerows and boundary scrub during site preparation and construction would also be subject to increased levels of disturbance – from e.g. noise, vibration etc. – although this would be minimised to some extent by the primarily nocturnal habit of Dormice and the physical separation of retained habitat features, particularly the woodland corridor to the east.

3.17 The risk to dormice associated with removal/translocation of the hedgerows is assessed as low given the current survey findings, the adoption of appropriate timing of works, the temporary nature of the impact in terms of hedgerow removal (all of the 143m of hedgerow will be translocated) and the availability of suitable habitat in the immediate adjacent area.

Long term impacts: habitat loss & modification

3.18 In the long term, the development of the site would result in the replacement of the existing poor semi improved grassland field (representing unsuitable habitat for Dormice) with the new school buildings and associated infrastructure (roads, sports pitches, ornamental and amenity grass areas etc.).

3.19 The impact of the habitat modification (i.e. development) would be similar to that described for short term impacts relating to increased disturbance (from human activity) for any Dormice which may be present in retained boundary hedgerows/woodland. New planting would be provided as part of the development and the physical separation of the development area from retained habitats is likely to reduce potential for disturbance. The development of the site as a school, will also reduce the potential for disturbance – i.e. primary use of the site would be during daylight hours.

3.20 Approximately 692m² of hedgerow is proposed to be removed along Fort Road and Lavernock Road (139 m & 4m lengths respectively) although the entirety of this area will be translocated into the new receptor areas (orange shaded areas) along Fort Road – see plan in Appendix I. There will be no net loss of hedgerow habitat as a result of the development.

3.21 In addition to the hedgerow translocation, new scrub planting will be provided as illustrated on the plan in Appendix I. The area alongside the retained section of Fort Road hedge will be supplemented with 'Native Scrub planting' which will provide new connections to the retained Fort Road hedge and the eastern boundary with the retained woodland where new planting (Proposed Native Scrub Reclaimed Land) will

supplement natural development of tall grassland and Bramble (already present) in these areas. New 'Native Scrub Planting' will also be provided in two locations along the northern boundary to supplement retained hedgerows and dense bramble present. This new plating will provide approximately 800m^2 of new Dormouse habitat in the long term. Some additional native scrub planting or natural colonisation may also be possible within marginal areas of the site in the north west and south west (see orange shaded areas on the Strategy Plan).

Long term impacts: Habitat fragmentation and isolation

3.22 The breach required for access into the site from Fort Road would result in a gap of approximately 20m during construction although in the completed scheme, the inclusion of trees and ornamental scrub (Appendix I) will narrow this gap to approximately 8.6m. This is very unlikely to pose a risk of habitat fragmentation given the retention of other contiguous boundary vegetation and the relatively small area affected. Dormice are predominantly arboreal, and spend much of their time within the tree/scrub canopy. However, they are able to travel over land and there is documented evidence that they can and do cross small gaps in hedgerows and woodlands and have been recorded crossing open areas as large as 500m during dispersal (Büchner 1998 – referenced in Garland & Woods 2005). Dormice have also been recorded crossing single track roads and dual carriageways – for example a survey along the A30 in Cornwall found Dormice within Blackthorn scrub in the central reservation (see Garland & Woods 2005).

Post Development Interference Impacts

3.23 As described in preceding sections, post development interference impacts are mainly related to disturbance (by human activity) of Dormice within retained habitats. Direct impacts to habitats have been minimised as far as practicable by the scheme design. The new scrub planting (800m^2) will supplement the retained hedgerows and woodland and these areas will be protected by the proposed perimeter fencing, which will limit access to these habitat areas for management/maintenance only.

3.24 The lighting design (see Appendix IV) has minimised the increases in lux level along the boundary features in recognition of the use of these areas by bats and other nocturnal species (e.g. Dormice).

Mitigation, Compensation & Monitoring

3.25 The key mitigation principle – i.e. minimising loss of boundary hedgerows within the red line boundary and retention/enhancement of remaining vegetation has been incorporated into the Landscape Strategy (Appendix I) alongside new habitat provision of native scrub planting. The measures to be implemented as part of the scheme to maintain habitat resources/connectivity for Dormice (and other species) include:

- Sensitive timing of scrub/hedgerow removal/translocation under ecological supervision;
- Translocation of 143m (linear) of hedgerow to achieve no net loss of existing Dormouse habitat;
- In the unlikely event that a Dormouse or nest was found, all works will cease immediately and a licence application made to NRW. Vegetation clearance works will be suspended until such time as a licence was in place;
- Provision of ca. 800m² of native scrub planting to the around the site boundary in order to supplement retained vegetation. Species will include Field Maple *Acer campestre,* Hawthorn *Crataegus monogyna,* Hazel *Corylus avellana* 'Contorta', Dog Rose *Rosa canina,* Blackthorn *Prunus spinosa*, and Guelder Rose *Viburnum opulus;*
- Management of translocated/retained/new planting to maintain habitat resource
- Annual monitoring (via walkover inspection) during construction, and for first 5 years after planting

Site Clearance Methods

3.26 The target start date for the works to create the site access and hedgerow removal/translocation along Fort Road is unknown although based on the status of the planning application is likely to occur over winter 2022/23 following planning consent. Temporary protective fencing (Heras fencing or similar) will be installed at the start of site construction works in order to clearly demarcate the retained hedgerows and woodland edge as protected features.

Hedgerow removal/Translocation (two-stage winter hibernation method)

3.27 This method will be used during the dormouse hibernation period (typically late November to early April but to be confirmed by the Ecologist based on the current weather conditions prior to the start of works). The 143m length of hedgerow identified for removal will be translocated in a two stage process. Initial coppicing will be carried out in winter when dormice are hibernating at ground level.

3.28 Operatives will be given a toolbox talk induction by an ecologist regarding the terms of the mitigation strategy, what to look out for in terms of size and structure of Dormouse nests and the actions to take if a Dormouse is found. Direct ecological supervision of coppicing work will be required with hand searches to identify any nests undertaken as part of this operation. Thereafter, the ecologist will be retained on an 'on-call' basis in the event of any queries or discoveries during the works.

3.29 Given the potential for hibernating Dormice to be present within the hedgerows to be translocated, the operation will be phased to minimise the risk to hibernating animals. The affected areas will initially be cut to a height of 300mm over winter using hand-tools (hand-held strimmer's, chain-saws etc.) and felled woody material removed – no machine access or breaking-ground operations will be undertaken in these areas.

3.30 For work undertaken over winter, the risk of encountering a hibernation nest (and/or Dormouse) is considered low given that cutting would be to a minimum height of 300mm and the majority of the hedge to be translocated (approx. 123m) will not be moved until April/May. However, in order to gain access into the site for other construction work to start, a 20m length of hedge will be translocated over winter (anticipated to be February 2023) at the proposed access point. This work will be done under ecological supervision and the 20m length translocated as described in Section 3.32. In the unlikely event that a hibernation nest is found, works in the immediate area (within 5m) will stop immediately. Works will be suspended in the immediate area (within 5m of the nest) until the active season to allow for a licence application to be made. In addition to minimising impacts on hibernating Dormice, the timing will also minimise conflict with the bird nesting season (March – August inclusive).

3.31 Translocation of the remaining coppiced sections of hedge (approx. 123m) will be undertaken in from April once dormice have emerged from hibernation and moved away from the affected area into adjacent, retained habitat. As weather conditions vary from year to year works will not commence until the ecologist has confirmed that conditions are suitable and dormice have emerged from hibernation.

3.32 All translocation works will be carried out under the direct supervision of the ecologist. Prior to the start of work, operatives will be given a toolbox talk by the ecologist regarding the methods to be used for

translocation/removal of coppiced material. A v-notch trench will be dug at the receptor site immediately north of the Fort Road hedge and the bottom scarified to a depth of 150 mm in preparation to receive the translocated material. The coppiced hedgerow will be accommodated within a single linear length, within the receptor area (see Appendix I).

3.33 Coppiced material will then be removed in sections using a tracked 360° excavator with the largest bucket available. Each section will be excavated to a depth of at least 1 m and gently lifted maintaining as much of the root ball intact as possible. Where required a chainsaw will be used to free branches and roots to prevent them tearing. Each section will then be immediately transferred to the receptor trench in the order in which they were removed, backfilled with topsoil and then firmed by treading to ensure no air pockets remain around the roots. Once translocation of all sections is complete the hedge will be watered in.

Habitat Retention & Creation

3.34 Development works will be largely confined to areas of poor semi improved grassland, which are of little or no value to Dormice and the majority of existing hedgerow habitat would be retained. There will be no permanent loss of hedgerow habitats as a result of construction/site preparation works, with all of the 143m of existing hedgerow translocated.

3.35 The retained hedgerows would not be subject to particular modification although the adjoining habitats would be subject to change (i.e. new school replacing species-poor grassland).

3.36 New planting totalling 800m^2 will be provided as illustrated on the plan in Appendix I, providing a net gain in suitable Dormouse habitat in the long term. Scrub management will be annually reviewed in the first 5 years to determine if any management is required. If management is recommended then this will undertaken using hand-held tools (e.g. strimmers, brush cutters etc) and will not be undertaken in spring or summer to avoid any conflict with nesting birds. All arisings will be removed from site following each management operation.

Aspirations for retained, planted and translocated vegetation

3.37 The aim of the proposed mitigation/compensation works is to ensure 'Continued Ecological Functionality' as part of the development. The retained & translocated hedgerows will be subject to management to maintain and enhance their existing value to wildlife in general. Left alone, a hedgerow will continue to grow upwards and outwards and will eventually become a line of trees. Hedges flower more profusely when they are cut less often because most of the trees and shrubs in hedgerows cannot flower on stems that have grown for less than one year. Therefore, cutting hedges every year means that wildlife is deprived of flowers, nuts and berries. The translocated hedge along Fort Road and the retained northern hedgerow will be maintained via

rotational cutting/trimming every 3 – 5 years and kept at a height of at least 3m and a minimum width of 2m wide. No cutting of the translocated hedge will be undertaken until it has established and achieved these dimensions.

3.38 In order to maintain sight lines and avoid obstructing the existing footpath along Lavernock Road, the retained hedgerow in this location will require annual cutting on the western face – this work will be undertaken over winter (November – February inclusive). The top and eastern side of the Lavernock Road hedge will be allowed to grow as for the northern hedgerow with the top and eastern side cut every 3-5 years to maintain a height of 3m and minimum width of 2m. Annual management will also likely be required for the southern face of the retained Fort Road hedge with the top and north side managed every 3-5 years (to achieve 3m height, 2m minimum width).

Mechanism for ensuring delivery of mitigation measures

3.39 In order to permit the development works across the site, the mitigation measures described in the preceding sections will be used to inform consideration of the planning application by the Vale of Glamorgan Council and NRW (as a statutory consultee). The implementation of the management is likely to be controlled via a specific planning condition. .

Habitat/site management and maintenance

3.40 Long term management of the newly planted and retained hedgerow/scrub areas, so as to benefit Dormice and biodiversity in general, will be the responsibility of the landowner (Vale of Glamorgan Council) post completion of construction works. Until such time as construction work is completed, ISG as the contractor will be responsible for implementing the site clearance and new planting as set out in previous sections. Construction work is estimated to take 70 weeks (approx. 17 months) to complete.

3.41 Following handover of the site to the Vale of Glamorgan Council, they, or their appointed management company will be responsible for management of retained and new planting.

Habitat Monitoring

3.42 Inspection of retained hedgerows, translocated hedge material and new planting will be undertaken in May 2023 (post translocation) & September/October 2023. Annual inspections at these times will also be undertaken for up to 5 years post planting. Reporting on the condition of planting/translocated material will be included in an annual report and any failures replaced with material of the same size and species in the next planting season. Any requirement for immediate remedial action e.g. watering if material begins to wilt

will be communicated to the contractor (during construction phase) or land owner (post construction) by the ecologist at the end of each visit.

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APPENDIX I SOFT LANDSCAPE STRATEGY PLAN

KEY

Planning Boundary
Demonstrating extent of works

SOFT LANDSCAPE

Existing Hedge 2,620m²
To be protected and retained

Existing Hedge 695m²
To be removed

Area for existing hedge species to be translocated 680m²
Proposed area for translocation of existing hedgerow species which are to be removed as part of the development to provide access into the site.

Existing Tree
Retained

Proposed Trees
Standard or multistemmed, to be confirmed. Extra Heavy Standard to frontage; clear stem minimum 200cm; 18-20cm Girth, 450-500cm height. Trees to remaining site to be Large Feathered trees; 12-14cm girth; 5 breaks; 350-425cm height. Mulch to base of trees to 75mm Depth. Note that exact tree locations may be subject to change slightly due to underground services. Underground Guying System. Proposed Trees to have root barrier protection as required to protect hard standing/ services. Mixed tree species with a focus on native species where feasible.

Proposed Feature Shrubs
To be planted at 10L Pot size.

Proposed Ornamental Shrub Planting (OSP) 1,910m²
With 450mm Topsoil. Planting to be ground cover plants 3-5L Pot size. Planted at 4-5 plants/m2. Mulch to planting beds to 75mm depth.

Proposed Rain Gardens 80m²
With 450mm Topsoil. Planting to be ground cover plants 3-5L Pot size. Planted at 4-5 plants/m2. Mulch to planting beds to 75mm depth.

Proposed Grass 3,700m²
General amenity mix. Existing grass to be made good where necessary with this mix too.

Proposed Meadow Mix 563m²
For ecological benefit.

Proposed Planting to Raised Beds in Horticulture Area 55m²
To be planted by school students

Proposed Bulb Planting Mix in Amenity Grass 130m²

Proposed Swale Planting 255m²
Included for SUDS for S278, sized for interception requirements.

Proposed Native Scrub Planting 410m²

Proposed Native Scrub Reclaimed Land 390m²
Existing grass to be retained. Area between proposed boundary fence and retained woodland to be allowed to scrubs naturally with bramble.

Green roof to cycle shelter 35m²

NOTE:
Habitat creation and ecology features
The following habitat creation features will be located thoughout the masterplan as required:
- bird and bat boxes
- compost bin
- hedgehog homes
- bug hotels
- bee bank
- log shelters

Notes

Check all dimensions on site. Do not scale from this drawing
Report any discrepancies and omissions to HLM Architects
This Drawing is Copyright ©

NB:
All details and design layout subject to provision of detailed topographical, utility, services, arboricultural and full ecological surveys.

N

Hedge Types	Length (m)
Existing hedge length	540m
Existing hedge to be removed length	143m
Proposed translocation hedge length	143m

1:500 / 1:200 — 50 M / 20 M

Rev	Description	Date	By	Chk
P11	ISSUED FOR PLANNING	14.10.22	SL	IB
P10	ISSUED FOR PLANNING	11.10.22	SL	AO
P09	ISSUED FOR PLANNING	06.10.22	SL	IB
P08	ISSUED FOR STAGE 3 COMMENTS	05.04.2022	SL	IB
P07	ISSUED FOR PLANNING	24.03.2022	SL	IB
P06	ISSUED FOR STAGE 3 REPORT	10.03.2022	IB	HLM
P05	ISSUED FOR STAGE 2 REPORT	13.01.2022	SL	IB
P04	REVISED ISSUE FOR OUTLINE PLANNING	26.05.2021	AMS	NI
P03	ISSUE FOR OUTLINE PLANNING	20.05.2021	AMS	GW
P02	UPDATED ISSUE FOR OUTLINE PAC	18.12.2020	HV	BT
P01	ISSUE FOR OUTLINE PAC	16.12.2020	HV	BT

Revisions — Suitability
Project — S4

15-1077-01
Ysgol Y Deri - Primary School

Client
Vale of Glamorgan Council

Title
Soft Landscape Strategy

Drawing No. — Revision
YYDE-HLM-00-00-DR-L-45001 — **P11**

Scale @ A1: 1:500 — Drawn: SL
Date: 14.10.22 — Checked: IB

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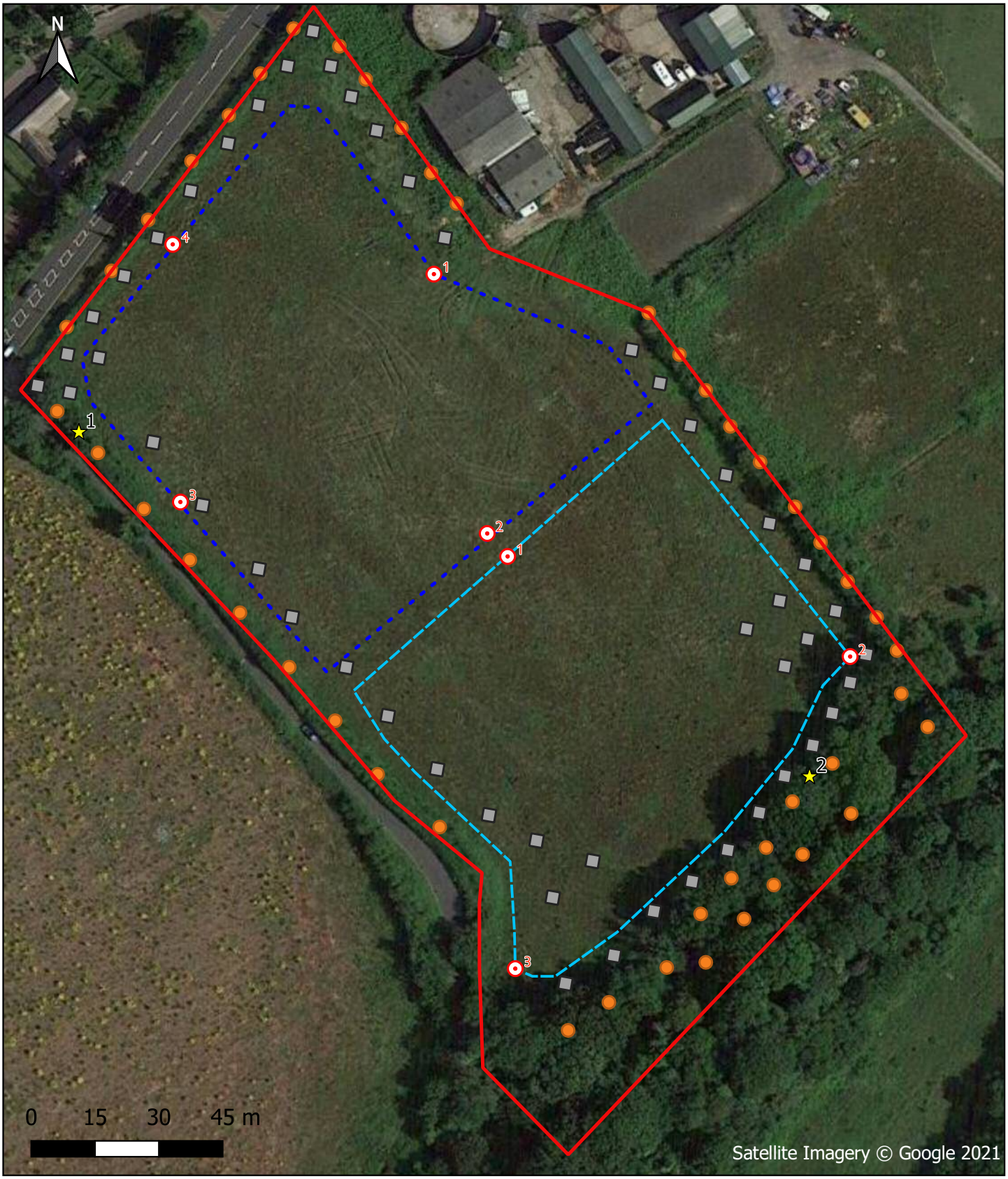
APPENDIX II PROTECTED SPECIES SURVEY PLAN



Key

- Site Boundary
- Bat activity transect 1
- Bat activity transect 2
- Bat static location
- Fixed Listening Point Locations
- Dormouse Nest Tube/Box
- Reptile mats

PRELIMINARY	PLANNING	DESIGN	TENDER	CONSTRUCTION

ISG Ltd

Ysgol y Deri, Cosmeston

Phase 2 Survey Plan

E22107901 / DR01 | BS | MW | 11 October 2022

soltysbrewster

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Vale of Glamorgan
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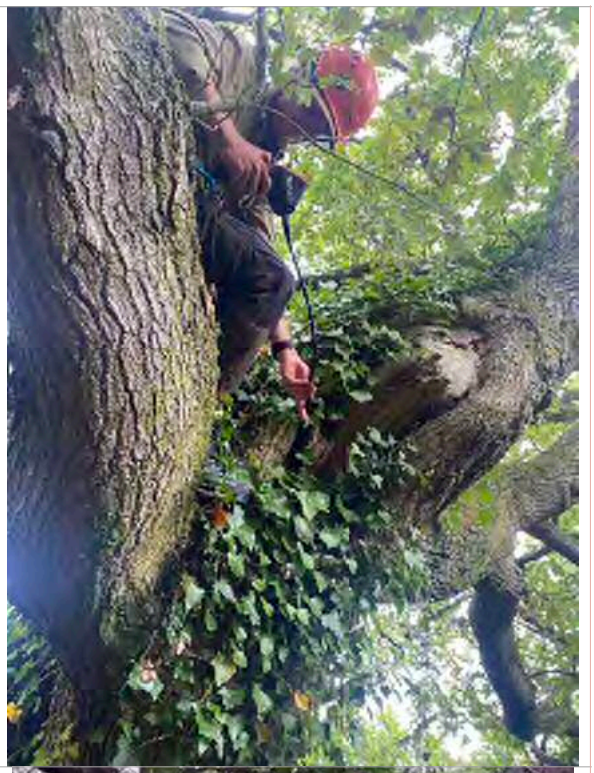
APPENDIX III TREE CLIMBING INSPECTION NOTES (AUGUST 2022)

Bat Tree	Description	Image
1 - Sessile Oak Retains moderate bat potential	**Feature 1** – Upward facing horizontal split in north branch, 2m above ground, Cavity is between 1 and 2cm wide in places. It extends up to 4cm into branch. Crack was approximately 70cm long. Very unlikely to support multiple bats. Low bat potential	
	Feature 2 – Lifted barkon northerly facing dead limb 3m above ground, Cavity behind lifted bark is approx. 2 cm deep. Low bat potential	

	Feature 3 – Knothole 1 of 2 on north-easterly primary limb 4m above ground, on the west side of limb 4m from stem. Cavity entrance is approx. 5cm long and 2cm wide. Depth was 5cm, filled with wet detritus due to upward facing angle. Low bat potential	
	Feature 4 – Knothole 2 of 2 on north-easterly primary limb 4m above ground, on the west side of limb 2m from stem. Cavity entrance is approx. 5cm long and 2cm wide. Cavity extended away from stem and up the lomb for 20cm. No direct evidence of bats. Moderate bat potential	

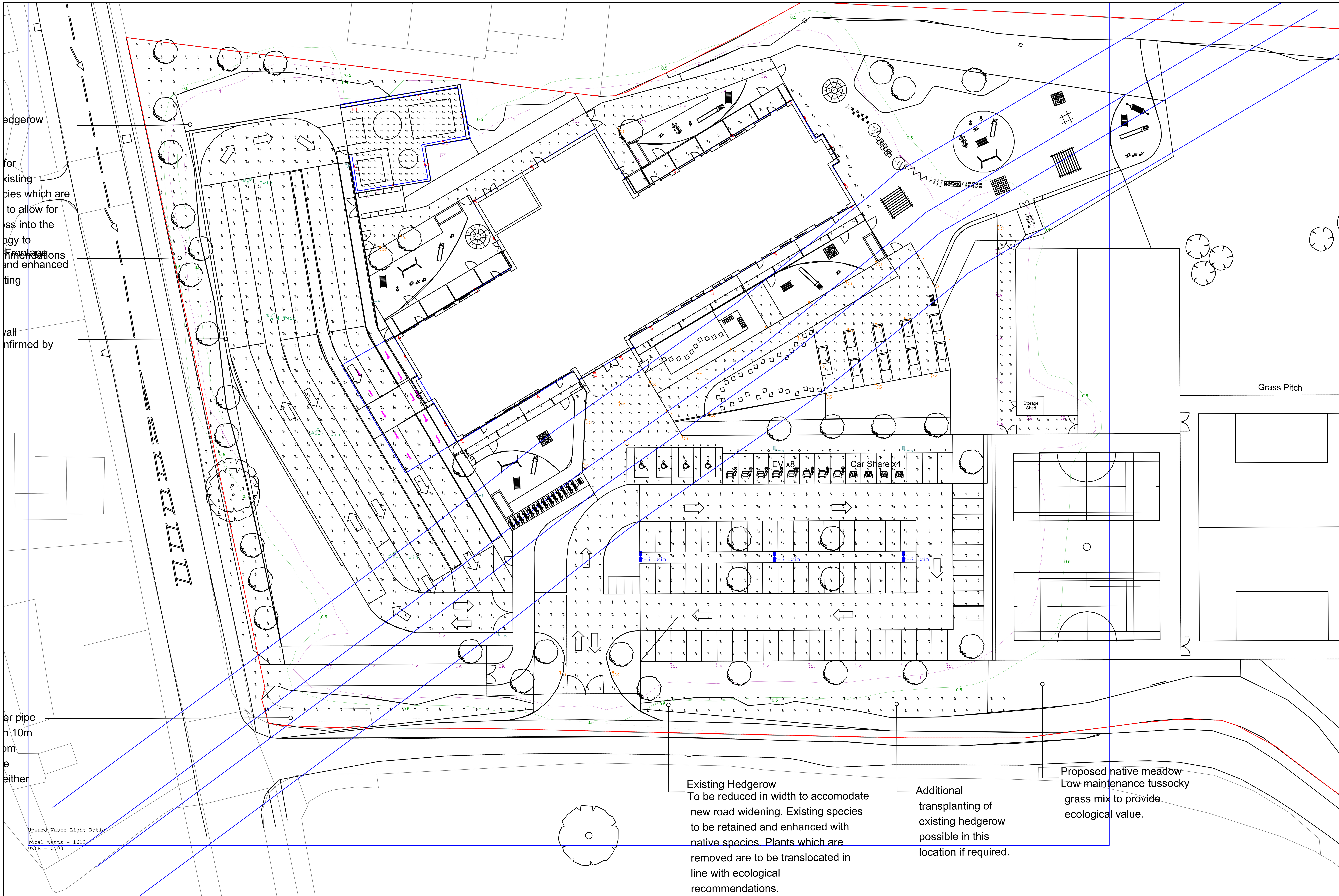
	Feature 5 –Large tear out wound on main stem. 2 m above ground, orientated south.Cavity entrance is approx. 10 cm wide and facing downwards. Cavity extended approximately 20cm down. No direct evidence of bats. Moderate bat potential	
	Feature 6 – Rot hole entered between two hazard cracks on southerly primary limb 5m above ground. Rot hole entrance had diameter of 5cm and cracks were approximately 2cm wide and 30cm long. Large internal cavity that potentially interconnects. No direct evidence of bats but suitable for multiple bats. Moderate bat potential.	

2 - Dead Ash. - Retains low bat potential	**Feature 1** - Dense ivy cover. Several Ash trees matching the description were aligned along the bend in the road. These were also marked in orange presumably for removal either due to ash dieback or road improvements. Both ash dieback and position along road meant they were not safe to climb. No obvious features were identified from the ground inspection other than the ivy obscuring some of the stems. The suggested categorisation remains. Low bat potential	

3 - Sessile Oak - Retains low bat potential	**Feature 1**- Rot hole on missing limb on south side. 2m up the stem. Cavity entrance is approximately 1-2cm in diameter and extends 5-10cm into the tree. Not suitable for multiple bats. Low bat Potential	

APPENDIX IV LIGHTING PLAN & LUX CONTOURS



Luminaire Schedule										
Symbol	Qty	Label	Sap Code	Arrangement	Description	LLF	Luminaire Lumens	Luminaire Watts	Total Watts	Mounting Height
	6	A-6	92907852	SINGLE	R2L2 S 12L50-740 EWR BS 3550 CL1 GY	0.790	2922	20	120	6
	3	A-6 Twin	2 x 92907852	Back-Back	2 x R2L2 S 12L50-740 EWR BS 3550 CL1 GY	0.790	2922	20	120	6
	26	CA	96264242	SINGLE	TR B S 10L25 740 ASY CL1 MGR	0.790	813	11	286	1
	31	CS	96264241	SINGLE	TR B S 10L25 740 R_S CL1 MGR	0.790	872	11	341	1
	21	B	96666256	SINGLE	PIAZZA II 1690-840	0.790	1844	15	315	2.4
	11	D	92901967	SINGLE	AQFPRO S LED 2900-840 PC WB HF	0.790	3021	22	242	4
	4	A-4 Twin	2 x 92907852	BACK-BACK	2 x R2L2 S 12L50-740 EWR BS 3550 CL1 GY	0.790	2922	20	160	4
	7	B1	96666256	SINGLE	PIAZZA II 1690-840	0.790	1844	15	105	1.8

PLANT AREA OPEN WITH 2.5M HIGH PERIMETER WALL

CANOPY WITHIN DROP OFF ZONE ASSUMED AT 4M AFFL. SIZE OF CANOPY TO BE DEFINED AND ADJUSTED LIGHTING LAYOUT TO SUIT MAY BE REQUIRED

ILLUMINATION LEVELS TO BE CHECKED AGAINST SPECIFICATION. RISK ASSESSMENT MAY REQUIRE INCREASED LEVELS

Isoline Legend	
Illuminance (Lux)	
Color	Value
	0.5
	1

UWLR Area Summary		
Label	UWLR	%
Upward Waste Light Ratio	0.032	

Calculation Summary						
Label	CalcType	Units	Avg	Max	Min	Min/Avg
Blg Perimeter	Illuminance	Lux	20.01	38	5	0.25
Car Parking	Illuminance	Lux	6.94	15	2	0.29
Drop Off Area	Illuminance	Lux	18.48	133	5	0.27
Habitat Area	Illuminance	Lux	13.37	27	3	0.22
Main Blg Entrance	Illuminance	Lux	19.34	39	4	0.21
North West Hedge 1m	Illuminance	Lux	0.26	1	0	0.00
Path To Sports	Illuminance	Lux	24.02	62	6	0.25
Plant	Illuminance	Lux	23.96	56.1	6.9	0.29
Rear Path	Illuminance	Lux	16.60	61	2	0.12
South Hedge 1m	Illuminance	Lux	0.18	1	0	0.00
South West Hedge 1m	Illuminance	Lux	0.09	1	0	0.00
Vehicle Access	Illuminance	Lux	5.94	24	3	0.51

ZUMTOBEL Group

No.	Date	Revision
R2	27-09-22	PLANT AREA ADDED - SPILL REDUCT.
R1	18-07-22	LIGHT SPILL REVISIONS

Project Title: Ysgol Y Deri

Area: External Lighting

Client: McCann & Partners Cardiff

Scale: 1:200 @A0	Project Number: 0002228379
Date: 27.09.22	Rev Number: R2
Drawn By: A Crutchley - MJE	Checked By:

Drawing Number: 0002228379-EX-R2-270922

Drawing Status: For Approval

ZG Lighting (UK) Ltd, Durhamgate, Spennymoor, Co. Durham, DL16 6HL
Tel: 01388 420042

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