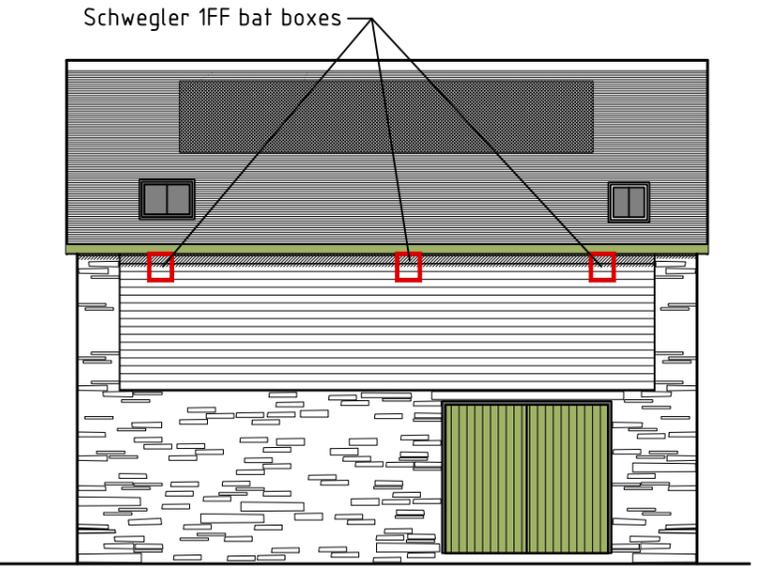
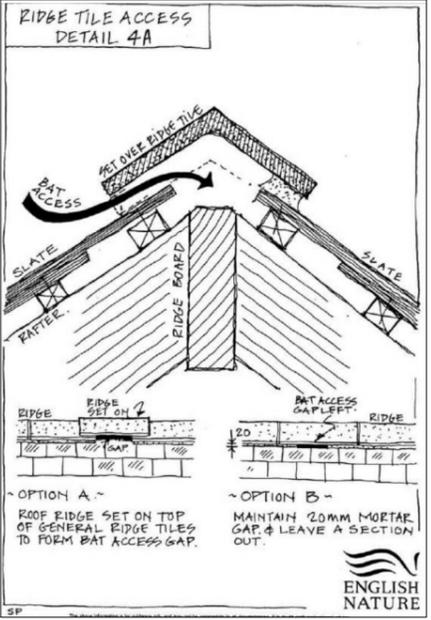


Crevice bat box, accessed via ridge access points



DRYCHIAD DWYRAIN / EAST ELEVATION

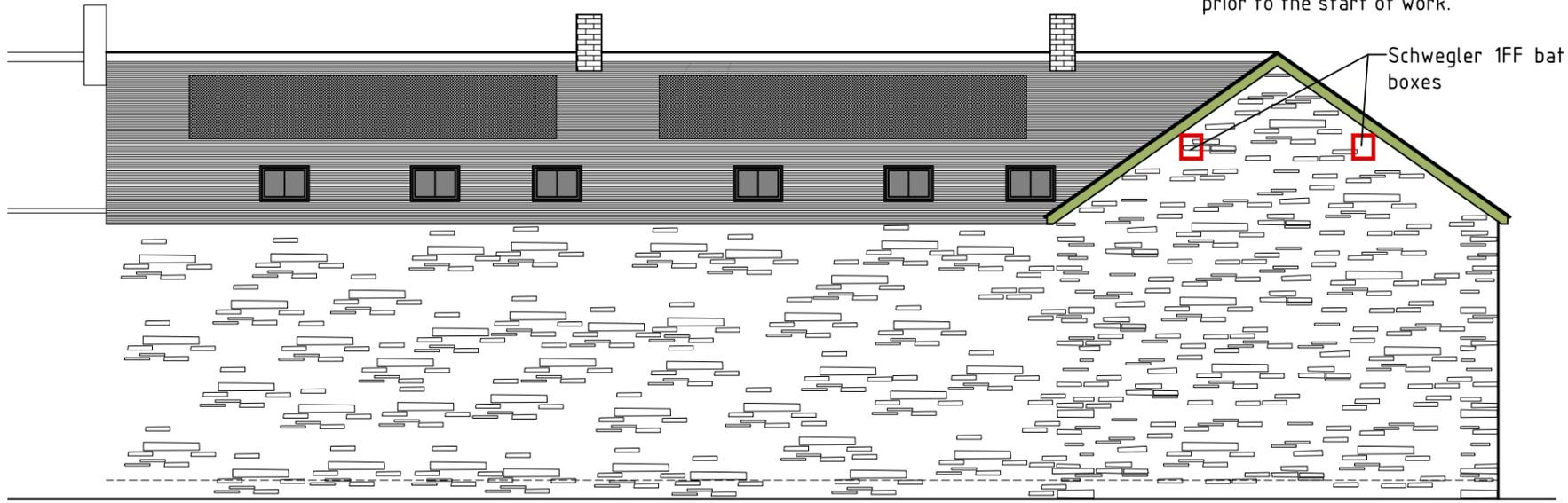


Schwegler 1FF bat boxes



Figure 9: Vincent Pro Bat Box (Vincent Wildlife Trust)

Two of this type of bat box to be fitted to the south elevation of 14 Heol Maengwyn prior to the start of work.



DRYCHIAD GORLLEWIN / WEST ELEVATION

ECOLOGICAL MITIGATION

To be read in conjunction with the Ecology report produced by Laura Cottrell, Sep 2022. Prior to the start of works, two bat boxes are to be installed on the existing building that is to be retained (14 Heol Maengwyn St) within the curtilage of the site, these will be facing south or south-west, to act as temporary roost provision. Artificial light must not illuminate the boxes at any time. The boxes must be suitable for crevice-roosting bats such as the Vincent Pro Bat Box. The bat boxes must remain in-situ for the duration of works, and will ideally be retained following the completion of works to act as additional roosting features. Works will commence with the strip of bat roosting features under supervision from the ECoW, who will undertake a high level of ecological inspection prior to and supervision during works that will enable works to be carried out. This includes inspecting all areas behind the wooden cladding and on wall tops. In the course of works, any bats encountered during the strip of roost features will be captured by the ECoW and will be relocated to one of the bat boxes. This process will continue until all roost access points and potential access points have been removed and the building is clear. If a bat is discovered when the ECoW is not on site, all works must cease and the ECoW contacted for advice before proceeding.

Ridge tile roost

The creation of three ridge tile access points to allow bats to roost under ridge tiles is recommended. Gaps above the ridge board to the new houses will be created using additional mortar to slightly raise the ridge tile above the proposed roost location. Mortar will be placed along the ridge tiles exposing a slit of 20mm long x 15mm wide. This will provide access under the ridge tiles and into a crevice roof unit.

Building mounted boxes

The primary mitigation will be provided in the form of four externally mounted bat boxes, three mounted on the southeast elevation, and two on the southwest gable end of the newly built buildings. This will offer a range of temperatures. Two bat boxes will also be placed along the east facade of the new builds

Flat panel timber boxes will be used of a design e.g., Causa maternity box or Schwegler 1FF. It may be possible to clad or paint the box to make it less obtrusive.



Schwegler 1FF bat boxes

EXTERNAL LIGHTING

The surrounds of the Arvonía building appear to be valuable for common and soprano pipistrelle bats that all use the vicinity for foraging and commuting. If any lighting is to be installed on the exterior of the new buildings, only a limited amount of lighting must be affixed and only to aid safe access to and from the new builds. Light fixtures will be directed downwards with additional canopy protection, and must be on a passive infrared (PIR) sensor, to allow lighting to come on only when required. Light fixtures must never directly illuminate any bat roosts, access points or boxes.

The sensitive lighting scheme as recommended must be created using the advice given by an ecologist specialising in bat ecology. The sensitive lighting scheme must follow advice detailed in the Technical Guidance note 08/18 and generally comprise:

- light fixtures, fittings, light spill and any artificial light must be directed away from bat roost entrances, both existing and those to be created as part of the mitigation;
- luminaires are to be LED only, due to their sharp cut-off, lower intensity, good colour rendition and dimming capability;
- luminaires should have a warm white spectrum (ideally <2700 Kelvins), reducing the blue light component and increasing the red-light component;
- luminaires should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats;
- heights of fixtures should be carefully considered to minimise light spill;
- only luminaires with an upward light ratio of 0% and with good optical control should be used;
- luminaires must always be mounted on the horizontal, i.e. no upward tilt;
- any external security lighting should be set on motion-sensors and short (1min) timers;
- as a last resort, accessories such as baffles, hoods or louvres must also be used; and

reduce light spill and direct it only to where it is needed. Lighting fixtures must be directed away from any natural features and must not encroach outside the site boundaries, particularly the surrounding trees, hedgerow and other vegetation in the landscape.

This form of lighting will be in keeping with Powys LDP Policy DM7: Dark Skies and External Lighting, where all efforts are being made to minimise light pollution.

No lighting will illuminate the bat mitigation.

NRV ARCHITECTURAL DESIGN	
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PROJECT Arvonía Yard	
REF 12-17 P03A Ecology mitigation	
SCALE 1:100 @A3	DATE JAN 24