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Preliminary Ecological Appraisal (PEA)

Survey site:

Carn Friars Farm, Isles of Scilly, TR21 0NZ

Client:

Chris Jenkins (Scilly Cider Co.)

Survey date:

13/05/2025

Project:

Erection of a storage building within a farmstead – exact plans to be determined.

[Unsubmitted]

PEA survey methodology and legislation can be found in the Arbtech Supplement: [PEA Methodology and Legislation - 2024.](#)

PRA survey methodology and legislation can be found in the Arbtech Supplement: [PRA Methodology and Legislation - 2024.](#)

The survey results and recommendations contained within this report are valid for 18 months. An updates site visit may be required if the report is to be used any longer than 18 months after completion.

The field survey was undertaken by: Rhianna Trim, BSc (Hons) MSc, Graduate Ecologist. Accredited agent for class 1 and class 2 techniques on a class 2 Natural England bat licence (Licence number details available on request).					
Date of survey	Temperature (°C)	Humidity (%)	Cloud Cover (%)	Wind (km/h)	Rain
13/05/2025	15	80	20	2	None
Report Validity					
This report is considered valid for a period of 18 months in accordance with CIEEM guidance on the lifespan of Ecological Reports and Surveys ¹ .					
Limitations					
It should be noted that whilst every effort has been made to describe the baseline conditions within the survey area, and evaluate these features, this report does not provide a complete characterisation of the site. This assessment provides a preliminary view of the likelihood of protected species being present. This is based on suitability of the habitats on the site and in the wider landscape, the ecology and biology of species as currently understood. The foundations of the development are already in place therefore a baseline condition assessment of the exact location of the proposed development cannot be undertaken. Therefore, historical aerial imagery of the site has been used to determine the underlying habitat. Details of which are provided within the report. However, for biodiversity net gain purposes, the aerial imagery should be constituted for a representative idea of the grassland and polytunnel division when calculating the associated area and units for this development.					
Executive Summary					
Further surveys Biodiversity Net Gain - The development will require a biodiversity net gain assessment, to achieve a 10% net gain in accordance with current BNG guidelines to comply with the Environment Act (2021) and local planning policy. Precautionary Working Measures (PWMs) Invasive species: Three-cornered leek (<i>Allium triquetrum</i>) was identified on the site. Therefore, groundworks should follow best practice disposal and removal guidelines which are detailed further within the report Protected species: During site preparation and construction, PWMs will be followed to ensure that nesting birds, amphibians, and small mammals such as hedgehogs and the lesser white-toothed shrew (detailed in report) are not harmed by the works. In the unlikely event that a protected animal is found during construction, all works must stop, and a suitably qualified ecologist must be contacted Site enhancements Suggested biodiversity enhancements opportunities are provided throughout the report where relevant for consideration within the planned works mitigation.					
Appendix 1: PEA summary		Appendix 2: Location overview		Appendix 3: Proposed development plans	
				Appendix 4: Site photos	

¹ <https://cieem.net/resource/advice-note-on-the-lifespan-of-ecological-reports-and-surveys/>

Ecological Survey Factor (Conclusion, Impact or Recommendations)	Detailed using desk study and site survey (carried out under good weather conditions). Any specific limitations noted within relevant section. This table may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.
Site Location and Context	
The survey site is centred on National Grid Reference SV 9251 1094 and has an area of approximately 0.15ha. The survey site is located at Carn Friars Farm, Isles of Scilly, and comprises a narrow strip of land adjacent to existing farmstead infrastructure and fields. The area is predominantly characterised by a number of buildings and horticultural structures, mature native trees, transitional scrub, grassland, forming part of a private farmstead. The site lies immediately alongside an agricultural field and is bordered by three farm buildings—two situated to the east and one directly to the south. A section of the site also includes part of the farm's driveway. The site is situated just south of the A3110 (Carn Friars Lane). Aerial imagery indicates the local landscape consists of a mosaic of farmland interspersed with woodland blocks and isolated farmsteads, and in close proximity to wetlands. Directly surrounding the site are multiple farm buildings and tree cover, providing a semi-enclosed character to the area. According to the MAGIC map, several habitats of principal importance are located near the site, including good quality semi-improved grassland (0.05 km northwest), reedbeds (0.05 km south), and maritime cliffs and slopes (0.09 km southwest). The proposed development is to build a storage shed building adjacent to other buildings within a farm stead within a grassland area boarded by trees on land that was previously used for horticultural purposes (polytunnels and vegetable crops). The area has had the polytunnel removed and rubble stone and partial concrete foundations are present which are approximately 190 m². Aerial imagery from google earth indicates the polytunnel and modified/managed grassland edge were present in 2023. Therefore, retrospective biodiversity net gain assessment should occur based on this area being grassland borders with areas of long-term Polyculture evident at this location dating back to at least 2005. The grassland condition assessment for the associated biodiversity net gain assessment should be based on the adjacent grassland to the area in question and polytunnel area using arial imagery between dated back to 2023.	
Habitats and plants Botanical species are described with reference to the DAFOR scale (D = Dominant; A = Abundant, F = Frequent, O = Occasional, R = Rare).	
<i>Summary of Survey Findings</i> <i>u1 (828, 847) - Built-up areas and gardens (vegetated garden, introduced shrubs)</i> <i>u1b5 – Buildings</i> <i>u1b – Developed land/sealed surface</i>	The site does not support habitats listed as of principal importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. However, it does include a variety of semi-natural features such as lines of trees around the perimeter, neutral and modified grassland, which may have value for local wildlife populations. Notable priority habitats are present within 1–2 km of the site. On-site habitat descriptions The majority of the site comprises farm buildings and storage structures, with an associated garden, horticultural areas, and remnants of previous polytunnel use. <u>u1 (828, 847) - Built-up areas and gardens (vegetated garden, introduced shrubs)</u> Th the north east is a section of paved garden with associated lawn where the site is managed, and lawn area maintained. There is patio furniture, clothes lines and the dive into the site is boarded by vegetation and small trees with a number of ornamental shrubs bordering the line of trees in this area (he northeast of the site contains a paved garden area with a maintained lawn. Features include patio furniture, clotheslines, and ornamental shrubs bordering a line of small trees (Appendix 4 – Figures 1 – 3).

<i>u1c - Artificial unvegetated, unsealed surface</i> <i>g4 (107) – Modified grassland (mown and collected)</i> <i>g3c (27, 33, 523, 524) – Other neutral grassland – (with traditional orchard, line of trees, non-native Species and Invasive non-native species).</i> <i>g27 – Traditional orchard</i> <i>g33 – Line of trees</i> <i>c1f7 – Polyculture</i>	<u>u1b5 – Buildings</u> The redline boundary overlaps with a dwelling, farm structures, and a storage shed, although no buildings are proposed for impact. Structures include a corrugated metal-roofed shed and a metal storage container (Appendix 4 – Figures 4 – 6). <u>u1b – Developed land/sealed surface</u> A tarmac driveway leads into the site, separating the vegetated garden and ornamental shrubs, extending to the farm buildings (Appendix 4 – Figure 7). <u>u1c - Artificial unvegetated, unsealed surface</u> There are two areas of artificially unvegetated surfaces: • One adjacent to the tarmac, leading to an open-fronted car parking space (Appendix 4 – Figure 8). • The second is the proposed development area, which contains cement blocks and poured stone, over an area that previously supported neutral grassland and a polytunnel, evidenced in aerial imagery (2005–2023) (Appendix 4 – Figures 9). <u>g4 (107) – Modified grassland (mown and collected)</u> Located north of the proposed development area, this managed grassland is frequently mown and collected. It shows compaction from frequent foot traffic, bare ground patches, and a homogeneous sward, with fewer forbs and no scrub or bracken present (Appendix 4 – Figures 10). Flora - Species recorded within the grassland parcel included: ○ D: Yorkshire fog (<i>Holcus lanatus</i>), perennial ryegrass (<i>Lolium perenne</i>). ○ A: cock's-foot (<i>Dactylis glomerata</i>), white clover (<i>Trifolium repens</i>), common daisy (<i>Bellis perennis</i>). ○ O: ribwort plantain (<i>Plantago lanceolata</i>), dandelion (<i>Taraxacum officinale</i> agg.), broad-leaved dock (<i>Rumex obtusifolius</i>), yarrow (<i>Achillea millefolium</i>). ○ R: creeping buttercup (<i>Ranunculus repens</i>), lesser chickweed (<i>Stellaria apetala</i>), pineapple weed (<i>Matricaria discoidea</i>), scarlet pimpernel (<i>Lysimachia arvensis</i>), germander speedwell (<i>Veronica chamaedrys</i>). Condition assessment ○ Assessed using Condition sheet: GRASSLAND Habitat Type (low distinctiveness) ○ Score = Poor - Passes: 3 (C, F, G, but fails essential criterion A). <u>g3c (27, 33, 523, 524) – Other neutral grassland – (with traditional orchard, line of trees, non-native Species and Invasive non-native species).</u> South of the proposed development area, this grassland is less intensively managed, supporting more than 10 vascular plant species but also species indicative of suboptimal condition. The area contains bracken at less than 20% cover and some bare ground from past polytunnel relocation.
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	Invasive species including three-cornered leek and altar-lily were recorded (the latter not listed on Schedule 9 of the Wildlife and Countryside Act but considered invasive) (Appendix 4 – Figures 11 – 12). Flora - Species recorded within the grassland parcel included: ○ D: Yorkshire fog (<i>Holcus lanatus</i>), perennial ryegrass (<i>Lolium perenne</i>), field mustard (<i>Sinapis arvensis</i>). ○ A: annual meadow-grass (<i>Poa annua</i>), cock's-foot (<i>Dactylis glomerata</i>), white clover (<i>Trifolium repens</i>), common daisy (<i>Bellis perennis</i>). ○ F: ribwort plantain (<i>Plantago lanceolata</i>), broad-leaved dock (<i>Rumex obtusifolius</i>), dandelion (<i>Taraxacum officinale</i> agg.), smooth sow-thistle (<i>Sonchus oleraceus</i>), common groundsel (<i>Senecio vulgaris</i>), prickly sow-thistle (<i>Sonchus asper</i>), common nettle (<i>Urtica dioica</i>), hedge bindweed (<i>Calystegia sepium</i>). ○ O: common ramping-fumitory (<i>Fumaria muralis</i>), bedstraws (<i>Galium</i> spp.), cleavers (<i>Galium aparine</i>), field rush (<i>Juncus tenuis</i>), creeping buttercup (<i>Ranunculus repens</i>), bracken (<i>Pteridium aquilinum</i>), bramble (<i>Rubus fruticosus</i> agg.), wild carrot (<i>Daucus carota</i>), common mouse-ear (<i>Cerastium fontanum</i>), lesser chickweed (<i>Stellaria apetala</i>), pineapple weed (<i>Matricaria discoidea</i>), scarlet pimpernel (<i>Lysimachia arvensis</i>), three-cornered garlic (<i>Allium triquetrum</i>). ○ R: green alkanet (<i>Pentaglottis sempervirens</i>), bristly oxtongue (<i>Helminthotheca echioides</i>), cuckoo-pint (<i>Arum maculatum</i>), common poppy (<i>Papaver rhoeas</i>), creeping thistle (<i>Cirsium arvense</i>), red campion (<i>Silene dioica</i>), germander speedwell (<i>Veronica chamaedrys</i>), changing forget-me-not (<i>Myosotis discolor</i>), opium poppy (<i>Papaver somniferum</i>), altar-lily (<i>Zantedeschia aethiopica</i>). Condition assessment ○ Assessed using Condition sheet: GRASSLAND Habitat Type (medium, high and very high distinctiveness) ○ Score = Poor - Pass: 2 (B, D) Fails both A and F, which are essential for achieving moderate or good condition for non-acid grassland habitats. <u>g27 – Traditional orchard</u> There is a line of orchard trees located at the southern boundary of the site, comprising predominantly old growth apple trees (<i>Malus</i> Spp.). The fruit trees do not display distinguishing features that would attribute veteran status, such as substantial trunk cavities, hollowing, or significant deadwood in the canopy. The ground flora beneath the trees consists of less than 5% scrub and is dominated by unmanaged tall ruderal vegetation. Surrounding grassland is classified as medium distinctiveness but is currently in poor condition. The orchard trees exhibited extensive lichen and moss growth on the branches, with evidence of decay observed in the form of bracket fungi on the main stems of several individuals. No signs of pruning or active orchard management were noted, and the trees appeared generally free from mechanical damage. No invasive non-native species were recorded within the ground cover beneath the orchard trees during the survey (Appendix 4 – Figures 13).
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Condition assessment Line 1

- Assessed using Condition Sheet: ORCHARD Habitat Type
- Score = Moderate - Pass: 5 (C, E, F, G, H).

g33 – Line of trees

Additionally, within the grassland area are a number of lines of trees which are all elm trees (*Ulmus* sp.)

All three lines of trees bordering the site are of the same condition. With continuous canopy, lacking veteran features or natural ecological niches, with undisturbed ground flora with trees in a healthy condition (**Appendix 4 – Figures 14 – 15**).

Condition assessment Line 1

- Assessed using Condition Sheet: LINE OF TREES Habitat Type
- Score = Moderate - Pass: 4 (A, B, D, E).

c1f7 – Polyculture

A polytunnel east of the proposed development area is partially used as a potting shed/greenhouse for nursery plants (**Appendix 4 – Figures 16**).

Local notable habitats

Several habitats of principal importance are present within the local area, enhancing the site's ecological context. The closest include good quality semi-improved grassland approximately ~0.05km to the northwest, reedbeds ~0.05km to the south, and maritime cliffs and slopes located ~0.09km southwest. Other notable habitats within the wider 2km area include patches of lowland heathland, lowland fens, deciduous woodland, and traditional orchards. All of these habitats are classed as a priority habitat under Section 41 of the Natural Environment and Rural Communities (NERC) Act, 2006. Additionally, the site lies within a landscape where multiple areas are mapped as “no main habitat but additional habitat exists,” with the nearest located around 0.47km to the northwest, suggesting the presence of further ecologically valuable features not formally classified under main habitat types.

Below is a tabulated summary of the priority habitats within 2km of the site:

Priority Habitat	Distance from Site (approx.)
Good quality semi-improved grassland	There are several patches northwest of the site. The closest being ~0.05km
Reedbeds	2 large patches ~0.05km south and ~0.20km southwest.
Maritime Cliffs and Slopes	Several patches in all directions. Closest being ~0.09km southwest
Lowland Heathland	Many patches all around the 2km radius circumference. Closest being ~0.21km
Traditional Orchards	Many small pockets north and northeast. The closest being ~0.30km
Deciduous Woodland	Many patches in all directions, the closest being ~0.31km southwest
No main habitat but additional habitat exists	Several patches in all directions. Closest being ~0.47km northwest

	Lowland Fens	2 large patches ~0.32km northwest and ~1.22km southwest	
	Coastal Vegetated Shingle	One large patch ~1.37km southwest of the site	
Foreseen Impacts	On-site habitats The proposed development will result in the loss of previously other neural grassland and polyculture habitats. This is likely to have a minimal impact on biodiversity due to the low ecological value of these habitats. Notable habitats No impacts to any notable habitats are anticipated due to the small scale and distance of the proposed development from such habitats.		
Recommendations	On-site habitats Retained trees should be protected in line with the measures outlined in the British Standard "Trees in Relation to Design, Demolition and Construction to Construction - Recommendations" (BS 5837) (2012). To compensate for the proposed habitat losses at the site, there is potential to improve the grassland surrounding the proposed development area, but it may be more preferable to enhance in different area within the ownership boundary where this area is used for polyculture. Biodiversity net gain The Environment Act (2021) requires all developments (excluding exemptions) to deliver a 10% net gain in biodiversity. Therefore, the planning application must be accompanied by a biodiversity net gain calculation to ensure the proposed development delivers a 10% net gain.		
Locality and Designated Sites			
Summary of Survey Findings	On-site designations The site is situated within the Isles of Scilly Area of Outstanding Natural Beauty (AONB). Statutory designated sites (within 2km) The site lies within an impact risk zone for the Higher Moors & Porth Hellick Pool (St. Mary’s) Site of Special Scientific Interest (SSSI). Five Sites of Special Scientific Interest (SSSIs) are located within 2 km of the site. Additionally, there are two Marine Conservation Zones (MCZ), a Special Area of Conservation (SAC) and a Special Protected Area (SPA), all designated within 2km. These include:		
	Designated Site Name	Approx. distance from Site (and Size)	Reasons for Notification
	Isles Of Scilly Areas of Outstanding Natural Beauty (AONB) ²	On site (168.3 ha)	All parts of the Isles of Scilly are recognised as a National Landscape, which results from the islands being designated as an Area of Outstanding Natural Beauty in 1975.

² <https://islesofscilly-nl.org.uk/>

			The Isles of Scilly is the smallest National Landscape in Britain. The vision for the Isles of Scilly National Landscape is outlined in the Isles of Scilly Management Plan (2021-2025). ³
	Higher Moors & Porth Hellick Pool (St. Mary's) SSSI ⁴	~0.06km west (15.97 ha)	Designated for its nationally important wetland habitats, including fen, wet woodland, scrub, and reedbed. Open water areas support breeding and migratory birds such as gadwall (<i>Mareca strepera</i>), coot (<i>Fulica atra</i>), water rail (<i>Rallus aquaticus</i>), and sedge warbler (<i>Acrocephalus schoenobaenus</i>), alongside occasional rare vagrants.
	Watermill Cove SSSI ⁵	~1.16km north (0.46 ha)	Notified for its nationally important geological features, including a succession of Quaternary deposits.
	Lower Moors (St. Mary's) SSSI ⁶	~1.17km southwest (10.13 ha)	Notified for its nationally important wetland habitats, including mire, reedbed, wet woodland, and open pools, which support breeding and migratory bird species such as common snipe and water rail.
	Porthloo SSSI ⁷	~1.6km northwest (0.82 ha)	Notified for its nationally important geological features, including a succession of Quaternary deposits such as Late Devensian head deposits with Arctic tundra plant remains
	Peninnis Head (St. Mary's) SSSI ⁸	~1.8km southwest (16.32 ha)	Notified for its nationally important biological and geological features, including maritime heathland, species-rich grassland, and significant geological formations such as granite tors and Quaternary deposits. The site supports rare plant species and diverse lichen communities.
	Isles of Scilly Sites - Peninnis to Dry Ledge Marine Conservation Zone ⁹ (MCZ)	~ 0.5 km south (327.18ha)	Two nearby MCZs, protect a diverse range of marine habitats and species not covered by the overarching Isles of Scilly SAC. Peninnis to Dry Ledge MCZ protects moderate energy intertidal rock and aims to recover populations of spiny lobster (<i>Palinurus elephas</i>).
	Isles of Scilly Sites - Lower Ridge to Innisvouls (MCZ)	1.8 km north east (224.57 ha)	Lower Ridge to Innisvouls MCZ protects intertidal coarse sediments, mixed sediments, sand and muddy sand, low and moderate energy intertidal rock, and intertidal underboulder communities. It also supports stalked jellyfish (<i>Haliclystus auricula</i>) and spiny lobster, with management objectives to maintain or recover these features to favourable condition.
	Isles of Scilly Complex Special Area of	Surrounding the islands – nearest point ~ 0.5 km	Isles of Scilly Complex SAC is designated for its extensive subtidal sandbanks (1110), intertidal mudflats and sandflats (1140), and reef habitats (1170), all supporting rich and diverse marine communities, including some of the best <i>Zostera marina</i> (eelgrass) beds in southern England. It is also designated for the rare plant shore dock (<i>Rumex rupestris</i> ; 1441),

³ <https://islesofscilly-nl.org.uk/management-plan/>

⁴ <https://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=s1001252>

⁵ <https://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=s2000176>

⁶ <https://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=s1001273>

⁷ <https://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=s2000177>

⁸ <https://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=s1001894>

⁹ <https://assets.publishing.service.gov.uk/media/5a74dc0440f0b65c0e8450e8/mcz-map-isle-of-scilly-sites-boundary-overview.pdf>

	Conservation ¹⁰ (SAC) Marine Components GB	south (26,848.62 ha)	which survives at a few locations across the islands. Grey seal (Halichoerus grypus; 1364) is present but not a primary reason for selection.
	Isles of Scilly Special Protection Area ¹¹ (SPA) Marine Components GB	Surrounding the islands – nearest point ~ 0.5 km south (26,848.62 ha)	Designated for breeding populations of European storm petrel (Hydrobates pelagicus), lesser black-backed gull (Larus fuscus), and a diverse seabird assemblage. A marine extension is proposed to include foraging areas and add European shag (Phalacrocorax aristotelis) and great black-backed gull (Larus marinus), reflecting the Isles’ importance for England’s largest seabird colonies.
	Non-statutory designated sites Data was obtained from The Environmental Records Centre for Cornwall and the Isles of Scilly and revealed no additional records for non-statutory sites within 2km of the site.		
Foreseen Impacts	On-site Designations The proposed development, approximately 190 m ² in area, is not anticipated to impact the Isles of Scilly Area of Outstanding Natural Beauty (AONB). The development remains within the character of the existing farm landscape and land ownership boundary, and no adverse effects on local wildlife are expected. The proposal aligns with local strategies for sustainable economic and environmental growth and does not result in any significant landscape change. SSSI Impact Risk Zones (IRZs) The proposed development type is not listed as high risk within the SSSI Impact Risk Zones (IRZs). Therefore, it is unlikely to result in adverse effects on nearby Sites of Special Scientific Interest (SSSIs), Special Areas of Conservation (SACs), Special Protection Areas (SPAs), or Ramsar sites. Statutory and Non-Statutory Designated Sites No direct impacts on statutory or non-statutory designated sites are anticipated.		
Recommendations	On-site designations Non applicable. SSSI IRZ consultation You do not need to consult Natural England on the proposed development at this location.		
Invasive / Non-native species			
Summary of Survey Findings	Site observations		

¹⁰ <https://sac.jncc.gov.uk/site/UK0013694>

¹¹ <https://publications.naturalengland.org.uk/file/5743389357637632>

	Three-cornered leek (<i>Allium triquetrum</i>)¹² was identified on the site, which is considered mostly naturalised but is listed as an invasive, non-native species under Schedule 9 of the Wildlife and Countryside Act 1981¹³ (WCA S9) (Target note 1: Appendix 1 for the locations within the habitat map and Appendix 4 for photographs). Additionally, a small area of altar-lily's (<i>Zantedeschia aethiopica</i>) was identified on site. Although not listed under WCA S9, it has been assessed by Plantlife as a low-risk invasive non-native species, for which further management or legislative control is currently considered unnecessary at present¹⁴ (Target note 2: Appendix 1 for the locations within the habitat map and Appendix 4 for photographs).
<i>Foreseen Impacts</i>	Construction activities could facilitate the spread of invasive species if not properly managed. When designing planting schemes, care must be taken to avoid introducing or facilitating the spread of Schedule 9 invasive species or other non-native species that could escape into semi-natural habitats on or adjacent to the site.
<i>Recommendations</i>	Further surveys None required. Management through Precautionary Working Measures (PWMs): Species listed under WCA Schedule 9 must not be released into the wild due to their potential to cause ecological, environmental, or socio-economic harm. Reasonable measures should be taken to confine such species within cultivated areas. For the three-cornered leek currently present, it is recommended that plants are dug up, including roots, and disposed of as controlled waste to prevent spread into surrounding habitats. Failure to prevent spread could constitute an offence under the Wildlife and Countryside Act. Although altar-lily is not a Schedule 9 species, it is recommended that groundworks near its location are managed carefully. While not legally enforceable, similar control and disposal measures are advised to minimise the risk of unintentional spread
Invertebrates	
<i>Summary of Survey Findings</i>	Habitat suitability The habitats present on site, including mixed sward grassland with flower-rich areas, native and non-native garden plants, horticultural flora, numerous fruit trees, and lines of coppiced elm (<i>Ulmus</i> spp.), are likely to provide foraging and shelter opportunities for a range of common invertebrates.
<i>Foreseen Impacts</i>	The grassland and a previously artificially unvegetated, unsealed surface (associated with an earlier polytunnel set-up) have been removed during initial ground preparation and foundation works. No additional habitat removal is anticipated as part of the proposed development. The loss of these habitats is considered negligible, owing to their low ecological value and the presence of more extensive habitat locally.
<i>Recommendations</i>	Further surveys None required. Potential biodiversity enhancement opportunities

¹² <https://www.nonnativespecies.org/non-native-species/information-portal/view/131>

¹³ <https://www.legislation.gov.uk/ukpga/1981/69/schedule/9>

¹⁴ https://www.nonnativespecies.org/assets/Document-repository/Here_today_here_tomorrow_2010_summary.pdf

	• Incorporate bee bricks (e.g. Ibstock Bee Habitat or equivalent) into the fabric of the new buildings, installed at least 0.5 m above ground level on a south-facing elevation, free from shading vegetation. • Enhance site biodiversity through native wildflower planting along the grassland borders to improve foraging opportunities for invertebrates. • Create deadwood habitats along the southern boundary to provide additional sheltering resources. • Plant additional native trees, including hawthorn (<i>Crataegus monogyna</i>), blackthorn (<i>Prunus spinosa</i>), and willow (<i>Salix</i> spp.), to increase early spring blossom availability and support pollinators.																				
Bats																					
Summary of Survey Findings	EPSL data A search of the MAGIC.gov.uk database confirmed that there are no granted European Protected Species Licences (EPSLs) for bats within a 2 km radius of the site. Displaced bats from licensed sites would typically relocate within mitigation areas or nearby suitable habitat. There are also no Special Areas of Conservation (SACs) designated for bats within 10 km of the site.																				
	Local Biological Records Data (BRD) Data obtained from the Environmental Records Centre for Cornwall and the Isles of Scilly (ERCCIS) indicates that common pipistrelles (<i>Pipistrellus pipistrellus</i>) are present on the island. The closest records within 1 km of the site are:																				
	<table><tr><th>Distance and direction</th><th>Species</th><th>Record dates</th><th>Record type</th></tr><tr><td>~300 m north east</td><td>Pipistrelle (<i>Pipistrellus</i> sp.)</td><td>2016</td><td>Field observation / detection</td></tr><tr><td>~450 m south</td><td>Common pipistrelle (<i>Pipistrellus pipistrellus</i>)</td><td>2019</td><td>Trapping</td></tr><tr><td>~550 m north</td><td>Pipistrelle (<i>Pipistrellus</i> sp.)</td><td>2002</td><td>Field observation / detection</td></tr><tr><td>~1000 m southwest</td><td>Pipistrelle (<i>Pipistrellus</i> sp.)</td><td>2019</td><td>Field observation / detection</td></tr></table>	Distance and direction	Species	Record dates	Record type	~300 m north east	Pipistrelle (<i>Pipistrellus</i> sp.)	2016	Field observation / detection	~450 m south	Common pipistrelle (<i>Pipistrellus pipistrellus</i>)	2019	Trapping	~550 m north	Pipistrelle (<i>Pipistrellus</i> sp.)	2002	Field observation / detection	~1000 m southwest	Pipistrelle (<i>Pipistrellus</i> sp.)	2019	Field observation / detection
	Distance and direction	Species	Record dates	Record type																	
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~1000 m southwest	Pipistrelle (<i>Pipistrellus</i> sp.)	2019	Field observation / detection																		
Foraging and commuting habitat Habitats recorded on site, including neutral grassland, connected hedgerows, mature mixed-species tree lines, and fruit-bearing orchard trees, provide suitable foraging and commuting opportunities for local bat populations. These habitats likely support a diverse invertebrate community, providing a valuable food source. The mature tree lines along the west, south, and east of the proposed development area are well connected and extend beyond the site, forming continuous vegetated corridors which are important navigation routes for bats commuting between foraging areas and roosts. Nearby priority habitats and designated areas, such as Porth Hellick Pool to the southwest, are connected via tree lines and hedgerows and offer high-quality foraging and commuting routes. However, due to the small extent of the development area and the availability of extensive suitable habitat locally, the site itself is not considered a significant resource for bats within the wider landscape.																					

	Roosting habitat • Buildings No buildings are proposed for impact. A visual walkover assessment of adjacent structures including a single-skin corrugated metal farm shed and a modern metal storage container and single panel sheds in good condition confirmed that they have no features suitable for roosting bats. Anecdotal information from the landowner indicates bats are known to roost in a building to the north of the site, outside the redline boundary and the proposed development area. This is consistent with the availability of good quality foraging habitat within the site boundary. • Trees No trees within the site were identified as having Potential Roosting Features (PRFs). The boundary trees consist largely of coppiced elm (<i>Ulmus</i> spp.) and dwarfed fruit trees forming a traditional apple (<i>Malus</i> spp.) orchard, none of which exhibit features suitable for roosting bats.
<i>Foreseen Impacts</i>	Foraging and commuting habitat The proposed development will not result in the removal of any habitats used by foraging or commuting bats. However, if external lighting is introduced, it could cause light spill onto important bat habitats, potentially deterring bats from using these areas. Roosting habitat (Buildings and trees) No buildings or trees with roosting potential are proposed for removal or disturbance. The development involves a single-storey storage shed with no external lighting. Bats are very unlikely to be roosting within the existing buildings and structures on site. Bat activity is known within the wider landholding from previous mitigation works, and bat boxes are already present on site. Proximity to the proposed new storage shed is evident in the survey map in Appendix 1, and photographs of each building/structure are provided in Appendix 4. The development will continue to retain the site's existing dark skies character, supporting local nature recovery and landscape management strategies. Artificial lighting No new lighting will be installed as part of the development. All construction works will occur during daylight hours, and no lighting will be required for the construction phase.
<i>Recommendations</i>	Further Surveys None required. General Mitigation In the unlikely event that a bat or evidence of bats is discovered during works, all activity must cease immediately, and a licensed bat ecologist must be contacted for advice.

	Artificial Lighting No additional lighting is proposed; therefore, no further mitigation is necessary. Potential biodiversity enhancement opportunities • Install two bat boxes on the external walls of the new building, preferably on the southwest elevation or along the tree line. • Recommended models include the Habibat Bat Box or Ibstock Enclosed Bat Box, or similar alternatives. • Bat boxes should be installed at 3–5 m above ground level, facing south or southwest, with a clear flight path and located away from any artificial light sources.																												
Birds																													
<i>Summary of Survey Findings</i>	Local Biological Records Data (BRD) Data obtained from the Environmental Records Centre for Cornwall and the Isles of Scilly (ERCCIS) indicates that there are significant populations of Schedule 1 bird species recorded on the island. A wetland and inland pools are located approximately 500 m southwest of the site, contributing to suitable habitat in the wider landscape. A total of 271 bird species have been recorded within 2 km of the site, with 21 records within the last five years summarised below: <table> <tr> <th>Species</th><th>Number of records</th></tr> <tr> <td>Blackbird (<i>Turdus merula</i>)</td><td>2</td></tr> <tr> <td>Cattle Egret (<i>Bubulcus ibis</i>)</td><td>1</td></tr> <tr> <td>Common Guillemot (<i>Uria aalge</i>)</td><td>5</td></tr> <tr> <td>European Shag (<i>Gulosus aristotelis</i>)</td><td>1</td></tr> <tr> <td>Gannet (<i>Morus bassanus</i>)</td><td>3</td></tr> <tr> <td>Great Black-backed Gull (<i>Larus marinus</i>)</td><td>1</td></tr> <tr> <td>Grey Heron (<i>Ardea cinerea</i>)</td><td>2</td></tr> <tr> <td>House Sparrow (<i>Passer domesticus</i>)</td><td>2</td></tr> <tr> <td>Oystercatcher (<i>Haematopus ostralegus</i>)</td><td>1</td></tr> <tr> <td>Razorbill (<i>Alca torda</i>)</td><td>1</td></tr> <tr> <td>Robin (<i>Erithacus rubecula</i>)</td><td>1</td></tr> <tr> <td>Barn swallow (<i>Hirundo rustica</i>)</td><td>2</td></tr> <tr> <td>Wren (<i>Troglodytes troglodytes</i>)</td><td>1</td></tr> </table> Further detailed records are available upon request Bird observations on site Visual and auditory detection during the ecological walk over highlighted the following birds on site which are likely nesting and foraging within the habitats nearby and onsite:	Species	Number of records	Blackbird (<i>Turdus merula</i>)	2	Cattle Egret (<i>Bubulcus ibis</i>)	1	Common Guillemot (<i>Uria aalge</i>)	5	European Shag (<i>Gulosus aristotelis</i>)	1	Gannet (<i>Morus bassanus</i>)	3	Great Black-backed Gull (<i>Larus marinus</i>)	1	Grey Heron (<i>Ardea cinerea</i>)	2	House Sparrow (<i>Passer domesticus</i>)	2	Oystercatcher (<i>Haematopus ostralegus</i>)	1	Razorbill (<i>Alca torda</i>)	1	Robin (<i>Erithacus rubecula</i>)	1	Barn swallow (<i>Hirundo rustica</i>)	2	Wren (<i>Troglodytes troglodytes</i>)	1
Species	Number of records																												
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	Species	
	Barn swallow (<i>Hirundo rustica</i>)	Gold finch (<i>Carduelis carduelis</i>)
	Song thrush (<i>Turdus philomelos</i>)	Great tit (<i>Parus major</i>)
	Robin (<i>Erithacus rubecula</i>)	Willow warbler (<i>Phylloscopus trochilus</i>)
	Linnet (<i>Linaria cannabina</i>)	House sparrow (<i>Passer domesticus</i>)
	Starling (<i>Sturnus vulgaris</i>)	Blackbird (<i>Turdus merula</i>)
	Buildings No evidence of nesting birds was found in or on the adjacent buildings surveyed. However, buildings to the north are known to support nesting swallows (<i>Hirundo</i> Sp.). Trees and vegetation No active nests were identified within the on-site vegetation, although the existing trees, shrubs, and hedgerows offer suitable nesting and foraging opportunities. No habitats suitable for Schedule 1 species were observed on site. Barn owls The site does not appear to provide any suitable nesting sites for barn owls. Overwintering birds Due to the small size of the site and the habitat types recorded, the site is not considered suitable to support a significant assemblage of overwintering birds or notable wintering species.	
<i>Foreseen Impacts</i>	Buildings/trees No impacts on nesting birds are anticipated as a result of the proposed development. Barn owls No impacts foreseen. Overwintering birds No impacts foreseen.	
<i>Recommendations</i>	Buildings/trees • Precautionary measures should be taken to avoid disturbance to any active nests during construction. • A buffer of 3–5 m should be maintained around any nests, with reduced machinery use in the vicinity until fledging is complete. Barn owls	

	None required. Overwintering birds None required. Potential biodiversity enhancement opportunities Install a minimum of two bird boxes on mature trees along the site boundaries or on retained buildings to provide additional nesting opportunities. Suggested designs include: • Schwegler No. 17 Swift Nest Box (for buildings) • Schwegler 1SP Sparrow Terrace (for buildings)		
Reptiles			
Summary of Survey Findings	EPSL data and local Biological Records Data (BRD) A review of the MAGIC database confirmed that there are no granted European Protected Species Licences (EPSLs) for protected reptiles within 2 km of the site. Due to the island’s isolation from the mainland, there are no known native reptile populations on St Mary’s¹⁵. While slow-worms (Anguis fragilis) have been introduced to the island of Bryher, there are no records or evidence of introductions on St Mary’s. Reptiles are therefore considered absent and have not been considered further in this assessment.		
Foreseen Impacts	No impacts are anticipated on reptiles as a result of the proposed development.		
Recommendations	None required.		
Amphibians			
Summary of Survey Findings	EPSL data A review of the MAGIC database confirmed there are no granted European Protected Species Licences (EPSLs) for fully protected amphibians including great crested newts (GCN), in the local area. GCN are not naturally present on the Isles of Scilly and are therefore considered absent. Local Biological Records Data (BRD) Data obtained from the Environmental Records Centre for Cornwall and the Isles of Scilly (ERCCIS) indicates occurrences of common amphibian species on the island:		
	Species	Number of records	Record dates
	Common Frog	4	2010 - 2011
	Common Toad	2	1961, 1985
	Palmate Newt	1	2011
Aquatic habitat suitability (including ponds within 500m)			

¹⁵ <https://www.ios-wildlifetrust.org.uk/wildlife>

	Porth Hellick Pool, located approximately 122 m southwest of the site, is one of the only permanent waterbodies on the island, comprising wet woodland, scrub, and adjoining farmland. It is primarily noted for supporting breeding and migratory birds. While amphibians have not been specifically recorded at this location, the proximity of water and historic records of common frog, common toad, and palmate newt on the island suggest that common amphibian species could be present in the wider landscape. Terrestrial habitat suitability Areas of shrubbery on site offer limited foraging and sheltering opportunities for amphibians. No suitable hibernation features were identified within the development footprint.
<i>Foreseen Impacts</i>	Given the known absence of GCN, impacts on this species are considered extremely unlikely. While the potential presence of common amphibians such as common frogs or toads cannot be fully discounted, the risk is low. However, construction activities could pose a risk of harm or mortality to individual amphibians without appropriate mitigation.
<i>Recommendations</i>	Further Surveys None. Mitigation Owing to the nature of the proposed development and the low potential for impacts to GCN, further surveys would be disproportionate. Precautionary working measures (PWMs) are considered suitable to mitigate impacts to common amphibians to an acceptably low level. These will be implemented during construction, including the following measures: • Site clearance will be undertaken outside of the amphibian hibernation season (November to February) insofar as is possible. • The vegetation on site will be kept at a short sward height. If vegetation in site needs to be cleared, a staged approach will be adopted for vegetation clearance, whereby the vegetation will be strimmed to 15cm and left overnight to allow any amphibians to disperse. The vegetation can then be cleared to ground level and must be maintained at this level for the duration of construction to deter amphibians from the working area. • Any rubble piles will be dismantled by hand and debris and brash will be stored on pallets or removed from the site to prevent amphibians from utilising these areas. • Best practice pollution prevention measures will be implemented to minimise impacts to nearby aquatic habitats that amphibians could use. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. • If any common amphibians are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance. • In the unlikely event that a great crested newt is identified, works must cease and advice must be sought from a suitably qualified ecologist. Potential biodiversity enhancement opportunities The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for amphibians: • Provision of dead wood and rubble piles near the vegetated boundaries could create suitable hibernacula for amphibians during their terrestrial phase.

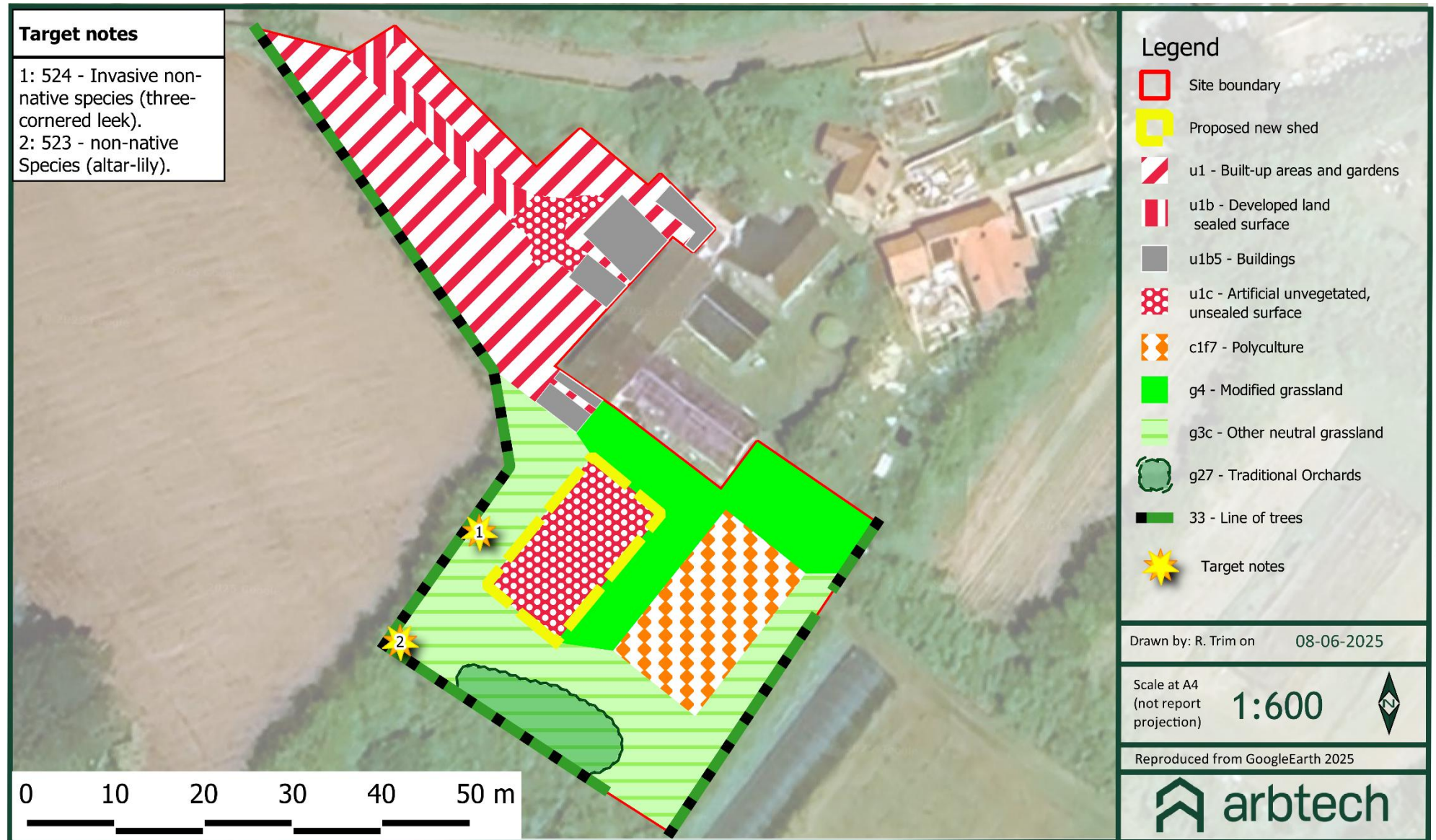
Badger	
<i>Summary of Survey Findings</i>	Biological Records Data (BRD) Data was obtained from The Environmental Records Centre for Cornwall and the Isles of Scilly (ERCCIS) indicates that there are no badgers recorded on the island. Habitat suitability Due to the island's isolation from the mainland, there are no known occurrences of badgers on St. Marys¹⁶. Therefore, they are considered absent and not considered further for assessment within this report.
<i>Foreseen Impacts</i>	No impacts are anticipated on badgers as a result of the proposed development.
<i>Recommendations</i>	None required.
Riparian animals	
<i>Summary of Survey Findings</i>	EPSL data A review of the MAGIC database returned no granted EPSL records for otters or water voles within 2km of the site. Biological Records Data (BRD) Data was obtained from The Environmental Records Centre for Cornwall and the Isles of Scilly (ERCCIS) indicates that both otters and water voles are considered absent from St. Marys, Isles of Scilly. Habitat suitability There are no watercourses on or connected to the site suitable to support otters or water vole, which are considered absent locally.
<i>Foreseen Impacts</i>	No impacts are anticipated on riparian animals as a result of the proposed development.
<i>Recommendations</i>	None required.
Hazel dormouse	
<i>Summary of Survey Findings</i>	EPSL data A review of the MAGIC database returned no granted EPSL records for hazel dormice within 2km of the site. Biological Records Data (BRD) Local records indicate that hazel dormice are considered absent from St. Marys, Isles of Scilly. Habitat suitability The site lies outside of the know current range for hazel dormice and there are no suitable habitats within the development area. As such it is considered likely that hazel dormice are absent from site.
<i>Foreseen Impacts</i>	No impacts are anticipated on hazel dormice as a result of the proposed development.

¹⁶ <https://www.ios-wildlifetrust.org.uk/wildlife>

Recommendations	None foreseen.		
Other e.g. European hedgehog, and the Scilly shrew (the lesser white-toothed shrew)			
Summary of Survey Findings	Biological Records Data (BRD)		
	Data was obtained from The Environmental Records Centre for Cornwall and the Isles of Scilly (ERCCIS) indicates that both hedgehogs and the Scilly shrew have been found in proximity within 500 m of the site:		
	Species	Number of records	Record dates
	Lesser White-toothed Shrew	16	1962 - 2018
	West European Hedgehog	22	1990 - 2021
	Habitat suitability		
	The shrubby undergrowth bordering the lines of trees onsite provides some foraging and commuting opportunities for hedgehogs and lesser white-toothed shrew ¹⁷ , with woodland habitat and rocky coastal paths nearby.		
Foreseen Impacts	A small area of grassland has been removed bordering a vegetated strip by a line of trees to lay the foundations. No additional habitat will be removed during construction. The loss of such habitats is likely to be inconsequential to local hedgehog and shrew populations owing to their low value and the presence of more extensive habitat locally. However, construction activities could result in the death or injury of hedgehogs or native Scilly shrews if present.		
Recommendations	Further surveys		
	None foreseen.		
	Mitigation		
	Small mammals including hedgehogs: A precautionary working method will be implemented during construction, including the following measures: - Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. - The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to retained habitats which hedgehogs could use. - Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. - If any hedgehogs or shrews are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance		

¹⁷ <https://www.ios-wildlifetrust.org.uk/scilly-shrew>

Appendix 1: Survey/Habitat map



Appendix 2: Location maps





Appendix 3: Proposed plan

Formalised plans with elevation have not been provided at this point. However, the footprint of the proposed development will remain unchanged from this 190 m² area.



Appendix 4: Habitat Photos

Photograph	Description
u1 - Built-up areas and gardens [vegetated garden 828, introduced shrubs 847]	
	Figure 1: Facing north east at the garden area north of the proposed development and adjacent buildings.
	Figure 2: Facing southwest at the ornamental shrubs bordering the access road.



Figure 3: Vegetated garden present dominated by garden nasturtiums (*Tropaeolum majus*)

u1b5 – Buildings



Figure 4: The corrugated metal roofed building to the north east of the site



Figure 5: The adjacent corrugated roofed open fronted garage.



Figure 6: The adjacent farm storage buildings and single scene corrugated PVC greenhouse.

u1b – Developed land/sealed surface



Figure 7: The road access track on the north west side of the site.

u1c - Artificial unvegetated, unsealed surface



Figure 8: the artificially unvegetated unsealed track after the tarmacked drive access to the northwest of the site.



Figure 9: the new foundations for the proposed development of the storage shed made from concrete blocks and poured loose stone.

g4 – Modified grassland



Figure 10: Facing north east over the area of modified grassland of low distinctiveness north of the proposed development and polytunnel.

g3c – Other neutral grassland



Figure 11: The less managed middle section of grass between the polytunnel and new proposed development area.



Figure 12: The mustard dominated grassland boarder area

g27 - orchard trees	
	Figure 13: The row of 5 small orchard trees to the south of the proposed development area
G33 - Line of trees	



Figure 14: Looking north east at the east line of coppiced elm trees bordering the site.



Figure 15: Looking south at the south west line of coppiced elm trees bordering the site.

c1f7 - Polyculture



Figure 16: The polytunnel adjacent to the proposed development.

Target note 1 – 524 – Invasive non-native species (Three cornered-leek)



Figure 17: An Invasive non-native species (Three cornered-leek) present within the neural grassland habitat.

Target note 2 – 523 – Non-native (altar-lily)		
		Figure 18: A non-native species (altar-lily) present within the neural grassland habitat.

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