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Preliminary Ecological Appraisal & Preliminary Roost Assessment

Survey site:
Ruabon Brickworks, Hafod Road, Ruabon, Wrexham LL146ET

Client:
ST Demolition and Groundwork Ltd

Survey date:
22/04/2026

Project:
This report is prepared to inform a planning application with Wrexham County Borough Council. This proposal can be described as Deconstruction of the buildings and grub up hard standing ground.

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

Executive Summary

The following is work you will need to commission to obtain planning permission and to comply with legislation. Further information, along with opportunities for biodiversity enhancement, are outlined in Tables 1, 3 & 4 of this report.

Key Findings
- A Construction Ecological Management Plan (CEMP) will be required, outlining best practice measures delineate the construction zone and to minimise the possibility of pollution and habitat damage during construction. - One bat emergence/re-entry surveys are required on B1 during the active bat season (May – September) to confirm presence/likely-absence of bats roosting in or on the building. - The aged droppings identified within B2 will be sent for DNA analysis. - Three bat emergence/re-entry surveys are required on B2 during the active bat season (May – September) to confirm if the droppings are current or remain from a historic roost. The surveys will aim to characterize the roost, if still present, to inform the licence. - A detailed great crested newt reasonable avoidance methods (RAMS) report will be produced to avoid impacts to protected amphibians during works. - Any building removal should be undertaken outside the period 1st March to 31st August. If this timeframe cannot be avoided, a close inspection of the buildings should be undertaken immediately, by a qualified ecologist, prior to the commencement of work. All active nests will need to be retained until the young have fledged or until an ecologist has deemed the nest no longer active. - Precautionary working measures will be followed to ensure that nesting birds, reptiles, amphibians, badgers and small mammals 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.

Introduction

The aim of the PEA was to obtain data on existing ecological conditions, and to conduct a preliminary assessment of the likely significance of ecological impacts on the proposed development. The aim of the PRA was to determine the presence or evaluate the likelihood of the presence of roosting bats, and to gain an understanding of how bats could use the site for roosting, foraging or commuting.

No previous ecology reports have been produced for this site by Arbtech Consulting Ltd or, to the author's knowledge, by any other consultancy.

Methodology

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.

Limitations

Whilst every effort has been made to describe the baseline conditions within the survey area, and evaluate these features, this report is a preliminary assessment and does not provide a complete characterisation of the site. Nor does it represent a full botanical assessment. It assesses the likelihood of protected, notable and important habitats and species being present, based on a site and landscape level habitat value-based risk assessment. This is based upon the ecology, biology and known distribution of species as currently understood.

Portions of B1, B3 and B4 could not be internall assessed due to presence of asbestos and delapoidated nature of the building. This has been taken into account when considering the value of the buildings for roosting bats.

No biological records data search had been authorised at the time of writing this report. This report should be updated once this has been obtained.

Results, Impacts and Recommendations

Site Location and Landscape Context

Table 1: Site location and landscape context

Site Location
The site is located at National Grid Reference SJ 31129 46207 and has an area of approximately 4ha comprising five buildings, developed land; sealed surface, sparsely vegetated land, willow scrub, mixed scrub, bramble scrub and modified grassland. The site is situated ~1km east of the residential town of Johnstown, Wrexham. The town comprises of dense residential settlements with associated vegetated gardens. To the north of the site is dense woodland which connects to priority parkland, containing ponds designated for GCN, along the western boundary of the site and extending to the south. The land to the east of the site is parkland and agricultural land.
Priority Habitats and Designated Sites
Summary of Survey Findings The site does not contain any habitats listed as principally important under Section 7 of the Environment Act (2016). Other habitats within the site are common and widespread and have low ecological value. Further notable habitats are present within 2km. <u>Priority Habitats</u> There are 7 priority habitats located within 2 km of the site. These comprise open mosaic habitat on previously developed land, purple moor grass and rush pastures, lowland fens and reedbeds, traditional orchards, parkland, lowland meadows and unknown. The closest priority habitat comprises open mosaic habitat on previously developed land, located ~90 m N of the site. Due to distance of the open mosaic priority habitat, the site is considered connected. The site is also connected to areas of priortiy parkland to the south via scrub and tree lines. <u>Designated Sites</u> There are 2 statutory sites within 2 km of the site. This is listed below: *Table 1a: Statutory sites within 2km of the site.*

Designation	Reason for designation	Distance from site

Stryt Las A'r Hafod - Site of Special Scientific Interest (SSSI) **Johnstown newt sites** - Special Area of Conservation (SAC)	Parkland containing populations of great crested newt.	25m W

The site does fall within the impact risk zone for Stryt Las A'r Hafod however, the proposed development type is not listed as possible high risk with regard to this designation.

The presence of non-statutory designated sites within 2km of the site cannot be established without data from the local records centre.

Impacts

No direct impacts to any designated sites will occur as a result of the proposed development. However, due to the proximity of the site to Stryt Las A'r Hafod and Johnstown newt sites, and the possible presence of non-statutory designations in the vicinity, indirect effects such as pollution during construction, or increased recreational pressure, could occur.

Recommendations

Best practice measures to minimise the possibility of pollution, damage to adjacent habitats must be implemented during construction. Including the following measures:

Retained trees adjacent to the site will 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).

Appropriate buffering between the development zone and retained habitats (e.g. 15m for ancient woodland)

A Construction Ecological Management Plan (CEMP) will be required, outlining best practice measures to delineate the construction zone and to minimise the possibility of pollution and damage to nearby open mosaic habitat during construction.

Habitats and Flora

The site survey was undertaken by Amber Williams BSc (Hons) MSc MPhil, Consultant Ecologist under direct supervision of Leo Plevin BSc (Hons), MSc MCIEEM Welsh Licence number S096048-1.

Table 2: Survey weather conditions

Date of survey	Temperature (°C)	Humidity (%)	Cloud Cover (%)	Wind (km/h)	Rain
22/04/2026	9.5	68	5	23	None

Table 3: Habitats and flora

Habitats and Flora: Conclusion, Impact or Recommendations *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.*
Onsite habitats
Summary of Survey Findings <u>Developed land; sealed surface (u1b)</u> The majority of the site is dominated by concrete hardstanding which comprises the courtyard of the site and is utilised for driving and parking. <u>Sparsely vegetated land (u1f)</u> Situated to the southern aspect of the site is a parcel of sparsely vegetated land in the form of a mound of rubble and soil. The parcel is ~40% vegetated with grassland species.

Table 3a: Sparsely vegetated land species abundance.

Abundance	Species
Dominant	Red fescues *(Festuca rubra)*
Abundant	Common chickweed *(Stellaria media)*

Frequent	Cleavers *(Galium aparine)*
Occasional	Garlic mustard *(Alliaria petiolata)*, broad-leaved dock *(Rumex obtusifolius)*, field forget-me-not *(Myosotis arvensis)*
Rare	Yarrow *(Achillea millefolium)*

Willow scrub (h3j)
There is scattered goat willow *(Salix caprea)* scrub situated to the southern aspect of the site. The scrub is scattered within the parcel and not dense.

Mixed scrub (h3h)
Situated to the west of the buildings on site are parcels of established mixed scrub. Buddleia dominated the scrub. The scrub measured ~3m high at its tallest.

Table 3b: Mixed scrub species abundance.

Abundance	Species
Dominant	Buddleja *(Buddleja davidii)*
Abundant	Goat willow *(Salix caprea)*, common nettle *(Urtica dioica)*
Frequent	Bramble sp. *(Rubus sp.)*, silver birch *(Betula pendula)*, sycamore *(sapling) (Acer pseudoplatanus)*, curled dock *(Rumex crispus)*
Occasional	Hawthorn *(Crataegus monogyna)*, smooth sow-thistle *(Sonchus oleraceus)*
Rare	Red dead-nettle *(Lamium purpureum)*

Bramble scrub (h3d)

Situated to the southeastern boundary of the site is a dense parcel of bramble scrub.

Table 3c: Bramble scrub species abundance.

Abundance	Species
Dominant	Bramble *(Rubus fruticosus)*

Bramble scrub (h3d) - Line of trees (33)
Within the scrub bordering the southeastern boundary is a line of mature trees. Trees were majority medium in size.

Table 3d: Bramble scrub species abundance.

Abundance	Species
Dominant	Sycamore *(Acer pseudoplatanus)*
Abundant	Ash *(Fraxinus excelsior)*
Occasional	Hawthorn *(Crataegus monogyna)*

Modified grassland (g4)
Adjacent to the mixed scrub to the west of the buildings is a parcel of grassland. The concrete substrate is visible in parts beneath the habitat indicating the grassland species have succeeded over hardstanding. The sward height was varied ~10-40cm, and tussocky in structure at the edges.

Table 3e: Modified grassland species abundance.

Abundance	Species

Dominant	Perennial rye-grass *(Lolium perenne)*, petty spurge *(Euphorbia peplus)*, ribwort plantain *(Plantago lanceolata)*
Abundant	Red fescues *(Festuca rubra)*, smooth sow-thistle *(Sonchus oleraceus)*, white clover *(Trifolium repens)*
Frequent	Dandelion *(Taraxacum)*, daisy *(Bellis perennis)*
Occasional	Common chickweed *(Stellaria media)*

Building (u1b5)
There are five buildings on site; two of them are out-buildings, one is a disused warehouse and office block, one is a disused warehouse and one is an office. Full details for buildings on site are included within Table 4.

Impacts

No direct impacts to any notable habitats will occur as a result of the proposed development. The proposals are limited to the demolition of the on site structures. However, indirect effects such as pollution or habitat damage could occur during construction, whilst encroachment on the adjacent parkland by contractors and machinery could result in plants and biodiversity value being dug up or trampled on.

Recommendations

Best practice measures to minimise the possibility of pollution must be implemented during construction. This should include the following measures:
Use of Heras or other appropriate fencing to prevent encroachment by contractors onto retained habitats.

A Construction Ecological Management Plan (CEMP) will be required, outlining best practice measures delineate the construction zone and to minimise the possibility of pollution and habitat damage during construction.

Planning Policy Wales (2024) requires all developments within Wales to conduct a Green Infrastructure

Assessment to deliver Net Biodiversity Benefit and maintain biodiversity during development. However, the proposed works is limited to the demolition of the existing structures. As such a Green Infrastructure Statement is not required.
Invasive / Non-native species
Summary of Survey Findings No invasive species listed in Schedule 9 of the Wildlife and Countryside Act 1981 were present on site. However, buddleia, a problematic species, was identified dominating the mixed scrub. **Impacts** The demolition of the buildings could result in the spread of buddleia into the local landscape. **Recommendations** Buddleja should be dug up, including roots, and disposed of in line with appropriate waste control measures to prevent its spread.

Fauna

Table 4: Fauna

Fauna: Conclusion, Impact or Recommendations *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.*
Roosting Bats

Summary of Survey Findings

The presence of local bat records and EPSL's cannot be established without obtaining data from COFNOD.

Buildings

Building B1 Description	
B1 is a single-storey, semi-detached, brick-built out-building. The structure features a multi-gabled roof clad in clay tiles. In line with Good Practice Guidelines (Collins, J (Ed) 2023), B1 is assessed to have low habitat value for roosting bats due to due to the volume of lifted tiles and features suitable to support individual crevice dwelling bats.	 *B1 - western elevation*  *B1 - southern elevation*

			 *B1 - southeastern elevation*
Feature	**Materials**	**Condition/Suitability**	**Photographs**
Roof	Clay tiles	The roof comprises clay tiles, with large sections of missing mortar and tiles across the entire structure, enabling ingress of daylight and weather. While a good proportion of the roof comprises well-sealed tiles, there are large areas of lifted, slipped, and missing tiles. The areas of missing tiles do not provide suitable roosting as the internal void is not suitable for void-dwelling species due to light and weather ingress. However, the lifted tiles provide suitable roosting opportunity for individual crevice-dwelling species. The lifted tiles at the southern aspect of the structure do not have a clear flight path due to the adjacent mixed scrub.	 *Lifted tiles at southern elevation*  *Lifted tiles at the western elevation*

	Walls	Brick-built	The walls exhibit loose masonry and cavities. Although the missing brickwork permits internal access, the walls lower the suitability of the building for void-dwelling bats due to the large volume of missing brickwork, which reduces the quality of shelter provided by the building and exposes the internal void to daylight and weather.	 *Warped brick and missing brick at western elevation*
	Eaves	Cement	The eaves and soffits show some defects, including local gaps or loose boards. There is missing mortar along the western eaves below lifted tiles, which provides suitable roosting opportunity for individual crevice-dwelling bats.	 *Missing mortar at western valley*
	Voids	NA	A void was recorded within B1 but was inaccessible and could not be assessed.	 *The internal of B1 was not accessible due to health and safety constraints.*

Building B2 Description

B2 is a two-storey, semi-detached, brick-built disused warehouse and office block. The building features a multi-gabled roof comprising a mixture of asbestos corrugated sheeting and clay tiles, with some defects noted including local gaps or damage. Internal voids were recorded within the structure. Aged bat droppings were identified within the building.

In line with Good Practice Guidelines (Collins, J (Ed) 2023), B2 is assessed to have confirmed roost habitat value for roosting bats due to the identification of bat droppings within the loft space.



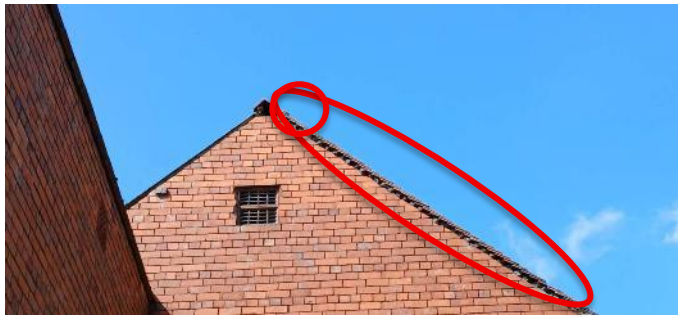
B2 - western elevation



B2 - southeastern elevation



B2 - eastern elevation

Feature	Materials	Condition/Suitability	Photographs
Roof	Mixture of asbestos corrugated sheeting and clay tiles	The majority of the roof is comprised of asbestos corrugated sheeting, which offers little roosting value to bats. Plastic skylights are scattered across the roof space, permitting daylight ingress and reducing suitability for void-dwelling bats. Sections of the building with asbestos roofing are considered negligible for roosting bats due to the absence of suitable crevices and internal daylight. However, the gables to the north of the structure feature clay tiles, some of which are slipped or lifted, providing suitable roosting opportunities for crevice-dwelling bats. The sections of slipped tile may also permit ingress into the loft void. Missing mortar beneath the ridge tiles at the western elevation on a number of gable apexes may provide suitable ingress into the structure for roosting bats.	 *Asbestos corrugated sheet roofing*  *Lifted tiles on the northernmost eastern facing gable*  *Missing mortar at ridge tile on gable end at eastern elevation of B2*

	Eaves	Timber	The eaves and soffits exhibit minor defects, including small gaps or wear. At the eastern elevation, timber bargeboards are present along the aspect of the building with asbestos roofing. Small gaps behind these bargeboards could provide suitable roosting opportunities for individual crevice-dwelling bats on a transient basis.	 *Gap behind eastern bardge board*
	Voids	Bitumen felt	A loft void above the office block was recorded, measuring 15m in length, 8m in width, and 3m in height, with an approximate area of 120m². The void is lined with bitumen felt and was accessible. The temperature was recorded at 17.4°C and humidity at 49.5%. Daylight ingress was noted via the southern eaves, indicating potential entry points for roosting bats. Localised damage, including tearing and ripping, was observed in the bitumen lining beneath the tiles, which could be indicative of use by roosting bats. A high volume of droppings, approximately 50% of which were identified as aged bat droppings (estimated ~250), were collated along the centre timber board walk. These droppings, due	 *B2 loft void*  *B2 loft void showing timber truss beams and bricked gable end in good condition*

			to their location and size, are assumed to be from a brown long-eared bat species. Other droppings present were identified as rat and mouse.	 *B2 loft space showing partially boarded floor with mineral wool insulation and timber board walk down centre of ridge (with droppings).*  *Daylight permitting via southern facing eaves*  *Damaged lining at ridge timber beam above droppings*	



Further example of damaged lining



Example of bat droppings found along timber board walk within B2.

Building B3 Description	
B3 is a disused, single-storey, semi-detached, brick-built warehouse. The building features a multi-gabled roof clad with asbestos corrugated sheeting. No bat evidence was recorded during the survey. In line with Good Practice Guidelines (Collins, J (Ed) 2023), B3 is assessed to have negligible habitat value for roosting bats due to there are no features liekly to be used by bats at any time of year.	

	B3  *B3 internal*

Building B4 Description

B4 is a single-storey, detached, brick-built office building. The main roof is a lean-to structure covered with asbestos corrugated sheeting. No bat evidence was found during the survey of this building. In line with Good Practice Guidelines (Collins, J (Ed) 2023), B4 is assessed to have negligible habitat value for roosting bats due to no features likely to be used by bats at any time of year.	 *B4*

Building B5 Description

B5 is a single-storey, detached, brick-built out-building. The main roof is gabled and clad with asbestos corrugated sheeting and flashing. No internal voids were recorded. No bat evidence was found anywhere within the building. In line with Good Practice Guidelines (Collins, J (Ed) 2023), B5 is assessed to have negligible habitat value for roosting bats due to no features likely to be used by bats at any time of year.	 *B5*  *B5*  *B5*

Impacts

B1-2
The proposed development will result in the demolition of this B1-2. This could result in the destruction of any bat roosts present and could cause disturbance, death or injury to bats.

B3-5
Bats are very unlikely to be roosting within these buildings and as such, there are not anticipated to be any impacts on bats in this location as a result of the proposed development.

Recommendations

No works to the property that may block or remove suitable roosting features should be carried out until the required surveys have been completed. Undertaking such work beforehand could unlawfully affect bats if present and may compromise the validity of the surveys and hinder the planning application process.

B1
One bat emergence/re-entry surveys are required on B1 during the active bat season (May – September) to confirm presence/likely-absence of bats roosting in or on the building.
These survey visits should be completed during the optimal survey period mid-May to August inclusive.
Three surveyor positions are required to provide full coverage of the building's elevations to look for emerging/re-entering bats.
Lighting mitigation may be required based on the outcome of the night bat survey(s).
If any bat roosts are confirmed from this survey schedule, a bat licence would be required to demolish the buildings as it would involve the destruction of roosts. This is applied for with the help of a class 2 licensed bat ecologist after planning permission is granted, but before commencement of works.

B2
The aged droppings identified within B2 will be sent for DNA analysis.
Three bat emergence/re-entry surveys are required on B2 during the active bat season (May – September) to confirm if the droppings are current or remain from a historic roost. The surveys will aim to characterize the roost, if still present, to inform the licence.
These survey visits should be completed during the optimal survey period mid-May to August inclusive. The survey visits should be at least three weeks apart.
Five surveyor positions are required to provide full coverage of the building's elevations to look for emerging/re-entering bats.
Lighting mitigation may be required based on the outcome of the night bat survey(s).

If a present bat roost is confirmed, an EPSL application to Natural England will be required. The EPSL application requires that all surveys have been undertaken within the most recent active bat season and planning permission must have been granted and all relevant wildlife-related conditions have been discharged prior to submission.

Suggested biodiversity enhancements

The installation of two bat boxes at the site has already been installed, mounted on poles. These provide additional roosting habitat for bats.

Foraging and Commuting Bats

Summary of Survey Findings

Habitats recorded on site are assessed to provide foraging and commuting opportunities for bats in the form of small area of grassland, scattered scrub, and tree lines. These habitats connect the site to other areas of elevated foraging and commuting value for local bats. These habitats also likely provide micro-climatic conditions that support invertebrates that will in turn provide foraging opportunities for local bat populations.

Impacts

No new lighting will be installed as a result of the proposed development.
No lighting is to be installed to facilitate construction works which may impact upon foraging or commuting bats within or adjacent to the site during works. It is understood that all works will be undertaken during daylight hours.

Recommendations

None required.

Amphibians

Summary of Survey Findings

Local EPSL's and record data cannot be established without obtaining local records from COFNOD.

No ponds are located on site. There are a total of 23 ponds within 500m, all of which are considered suitably connected to the site via parkland, scrub and woodland. It should be noted that ~25m to the west is Johntown Newt Site (SAC) which is designated for the site hosting populations of great crested newts. The closest pond is situated <100m west from the development area. This

pond is manmade drainage pond with steep banks lined with tarpaulin with an absence of submerged vegetation, dense shade produced by surrounding trees and a presence of litter.

The linear bramble scrub on site likely enables amphibians to commute along the length of the site. Scattered scrub on site also offers refuge and foraging opportunities. The parkland and woodland within the local landscape elevate the area for amphibians by providing a good quality abundance of foraging, commuting and shelter resources.
It should also be noted that ~25m west of the site boundary is a designated site with several ponds which host populations of breeding great crested newts.

Impacts

No ponds will be impacted as a result of the proposed works. No scrub or vegetation is expected to be removed as part of the works.
However, due to the proximity to the site designated for known populations of great crested newts there is a risk that individuals could commute onto site during works. In this instance, great crested newts could be injured or killed during development, although the risk is considered suitably low.

Recommendations

A detailed great crested newt reasonable avoidance methods (RAMS) report will be produced to avoid impacts to protected amphibians during works.

Reptiles

Summary of Survey Findings

Local EPSL's and record data cannot be established without obtaining local records from COFNOD.
There is limited suitable habitat present on site for reptiles in the form of small area of tussocky grassland, scattered scrub and tree lines. The habitat dominating the site (hardstanding) is of low value to reptiles due to the lack of vegetational structure which would provide shelter for reptiles during commuting bouts. The hardstanding provides suitable basking habitat when located adjacent to refugia such as scrub. The surrounding landscape is of good reptile habitat in the form of woodland, scrub and parkland.

Impacts

Built structures will be removed during construction. The loss of such habitats is likely to be inconsequential to local reptile populations owing to their low value and the presence of more extensive habitat locally. However, demolition of the buildings could result in the death or injury of reptiles, if present.

Recommendations

A precautionary working method will be implemented for widespread reptiles 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.
- Best practice pollution prevention measures will be implemented to minimise impacts to nearby habitats.
- Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations.
- If any reptiles 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 reptile is identified, works must cease and advise must be sought from a suitably qualified ecologist.

Birds

Summary of Survey Findings

The following species were observed during the survey:

- Herring gull
- House sparrow
- Blue tit
- Barn swallow
- Goldfinch
- Wren

All buildings on site are considered suitable to support nesting species including pigeons, corvids and house sparrows/swallows.

During the survey barn swallows were observed flying in and out of B1-3.

No birds nest were identified within any building or within the vegetation on site. However, all buildings and all scrub, tree lines and grassland offer opportunities for nesting and nest building resources.

Impacts

The proposed development could result in the destruction or disturbance and subsequent abandonment of active bird nests if within the buildings during demolition or within vegetation close to works.

Recommendations

Any building removal should be undertaken outside the period 1st March to 31st August. If this timeframe cannot be avoided, a close inspection of the buildings should be undertaken immediately, by a qualified ecologist, prior to the commencement of work. All active nests will need to be retained until the young have fledged or until an ecologist has deemed the nest no longer active.

Precautions should be taken with machinery and noise levels when working close to any retained nests so as not to disturb any nearby nesting birds during construction works. At least a 3-5m buffer should be created between any machinery and active nests until the young have fledged.

Suggested biodiversity enhancements

The installation of a minimum of two bird boxes on mature trees around the site boundaries will provide additional nesting habitat for birds e.g.
Schwegler 1B Nest Boxes (trees)
Schwegler 2H Robin Boxes (trees)
Woodstone Nest Box (buildings or trees)
Or a similar alternative brand.

Tree boxes should be positioned approximately 3m above ground level where they will be sheltered from prevailing wind, rain and strong sunlight. Small-hole boxes are best placed approximately 1-3m above ground on an area of the tree trunk where foliage will not obscure the entrance hole.

Badgers

Summary of Survey Findings

Local EPSL's and record data cannot be established without obtaining local records from COFNOD.

No badger setts were noted on site or within a 30m radius of the site. Further, no evidence of foraging badgers was noted within the development area. The site is dominated by hardstanding and so is unsuitable for sett making. However, the site was considered suitable for badger foraging habitat particularly within the scattered scrub. The surrounding parkland and woodland offer elevated value to badgers. As such, badgers commuting across the site cannot be discounted.

Impacts

No works will be undertaken within 30m of a badger sett. Built structures will be demolition during construction. The loss of such habitats is likely to be inconsequential to local badger 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 badgers, if present.

Recommendations

Owing to the nature of the proposed development and the low level risk of impacts to badgers, further badger surveys are considered to be disproportionate. A precautionary working method will be implemented during construction, including the following measures:

- Heras fencing will be erected around the working area to prevent encroachment into retained habitats where badger setts could be present.
- 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 badgers could use.
- Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations.

In the unlikely event that a badger sett is identified, works must cease and advise must be sought from a suitably qualified ecologist.

Riparian animals

Summary of Survey Findings

Local EPSL's and record data cannot be established without obtaining local records from COFNOD.

There are also no riparian habitats present on site or within an influencing distance.

Impacts

None foreseen.

Recommendations

None required.

Hazel dormouse

Summary of Survey Findings

Local EPSL's and record data cannot be established without obtaining local records from COFNOD.

The site does not contain habitats suitable to support hazel dormice.

Impacts

None foreseen.

Recommendations

None required.

Invertebrates

Summary of Survey Findings

Due to the suburban context of the site type of habitats recorded, the site is not considered suitable to support a protected and/or notable assemblage of invertebrates. The habitats present on-site, including scrub, grassland and trees likely provide common invertebrates with opportunities to forage and shelter.

Impacts

None foreseen.

Recommendations

None required.

Other e.g. small mammals

Summary of Survey Findings

The scrub and tree lines onsite provide foraging and commuting opportunities for small mammals, with woodland habitat and parkland nearby to the north, east and west

Impacts

Built structures will be removed during construction. The loss of such habitats is likely to be inconsequential to local hedgehog 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, if present.

Recommendations

A precautionary working method will be implemented during construction, including the following measures:

- Any areas of scrub or dense vegetation should be first searched by hand before clearing.
- 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.

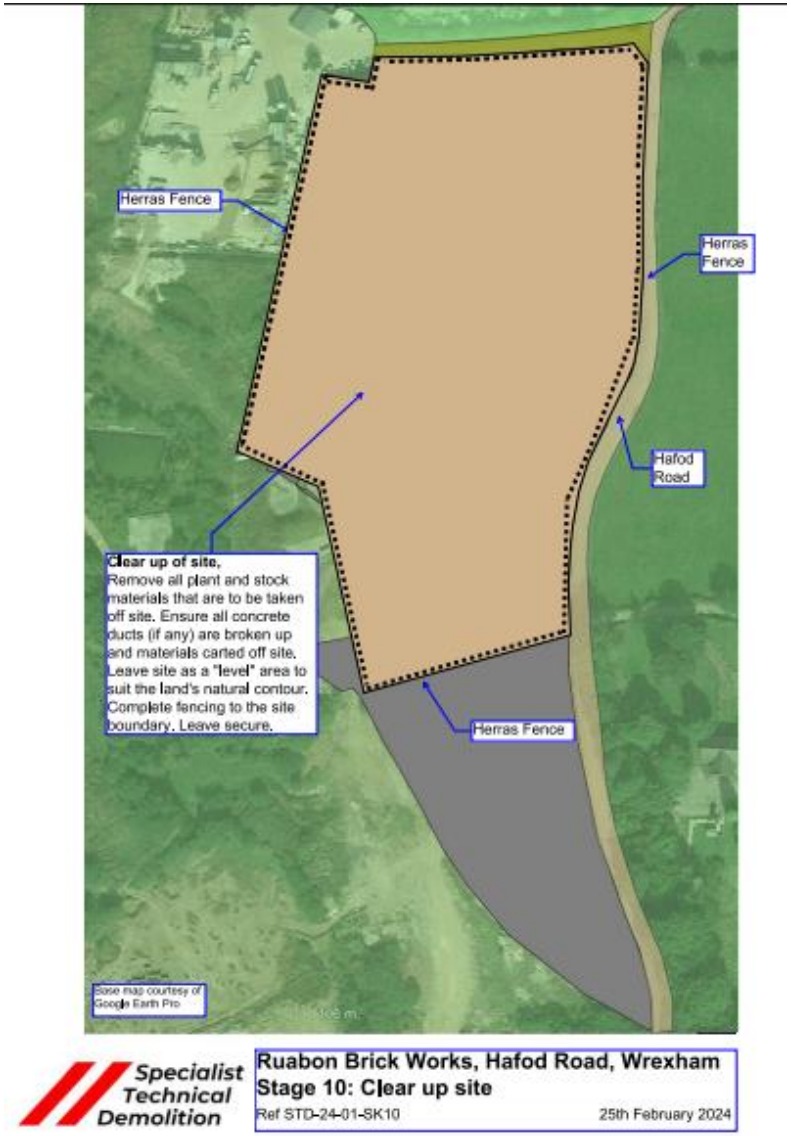
If any hedgehogs are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance.

Suggested biodiversity enhancements

The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for hedgehogs:

- Creation of brash piles or installation of hedgehog houses in shady areas.
- Installation of gaps under boundary fencing to enable hedgehogs to move freely through the site.

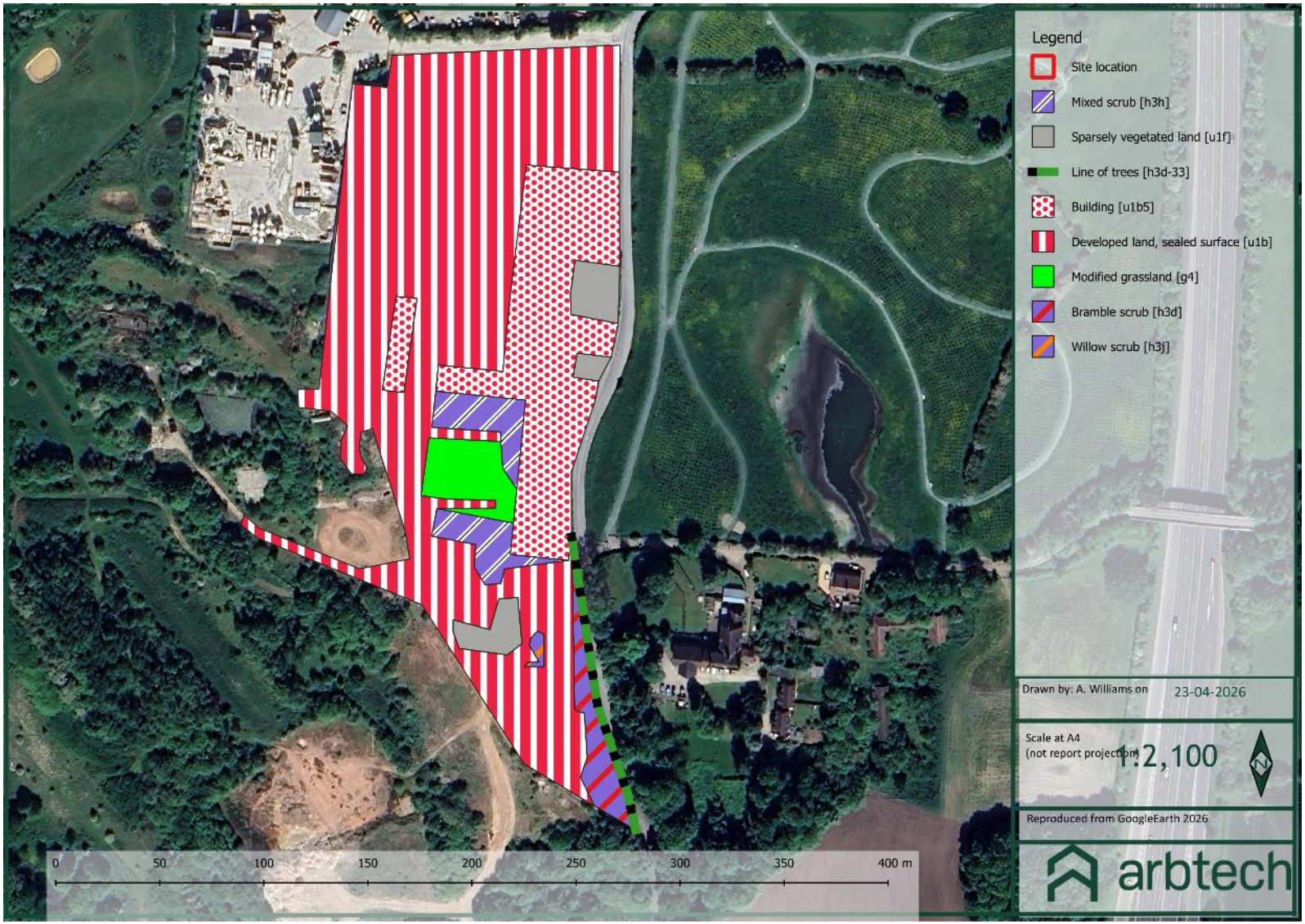
Appendix 1: Proposed Development Plan



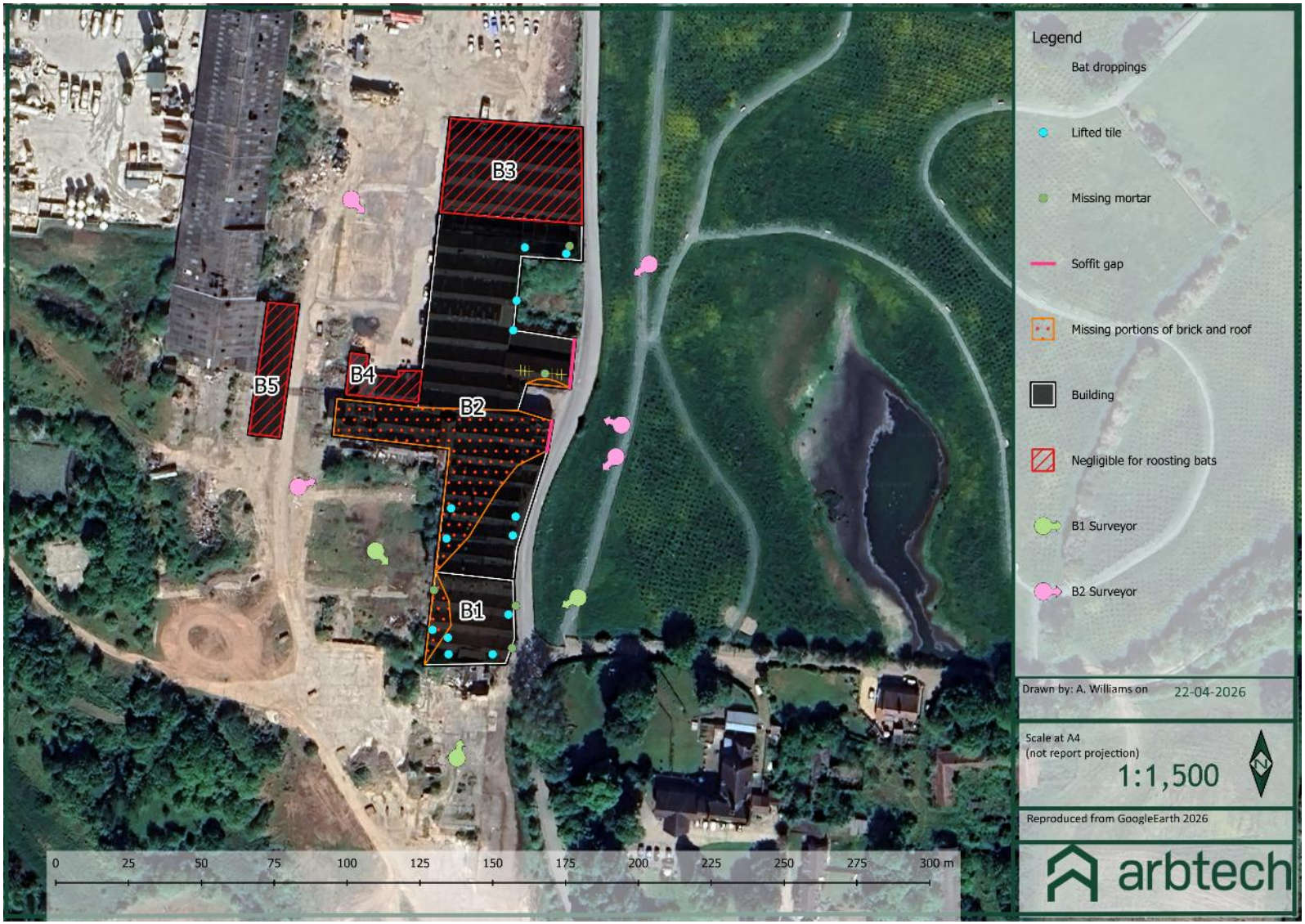
Appendix 2: Site Location Plan



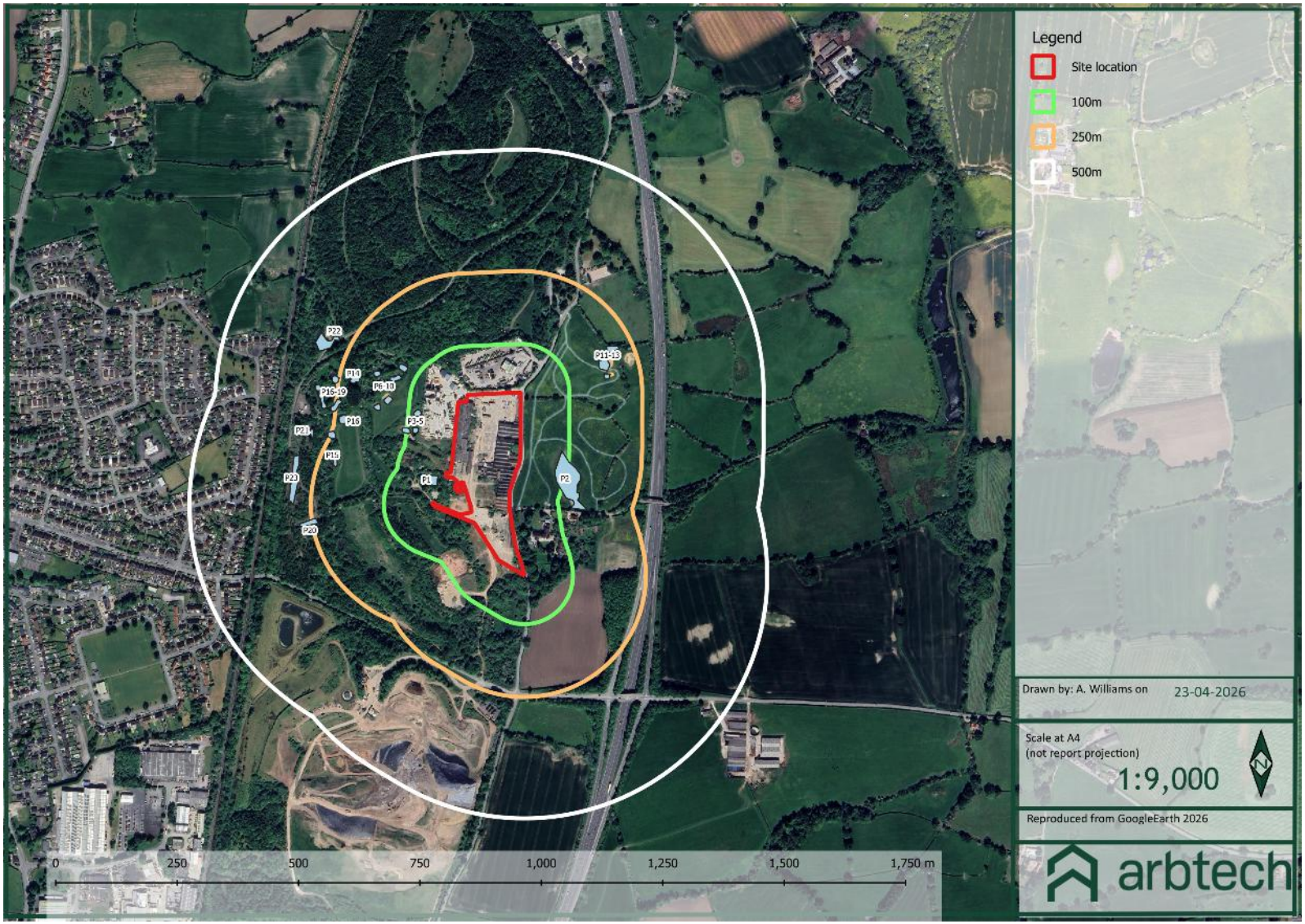
Appendix 3: Habitat Survey Plan



Appendix 4: PRA Plan



Appendix 5: Pond Plan



Appendix 6: Site Photographs



Photo 1: Developed land; sealed surface



Photo 2: Artificial unvegetated, unsealed surface



Photo 3: Willow scrub



Photo 4: Mixed scrub



Photo 5: Bramble scrub



Photo 6: Line of trees within bramble scrub



Photo 7: Modified grassland



Photo 8: B1 - western elevation



Photo 9: B1 – southern elevation



Photo 10: B1 – southeastern elevation



Photo 11: B2 – western elevation



Photo 12: B2 – southeastern elevation



Photo 13: B2 - eastern elevation



Photo 14: B3



Photo 15: B3 internal



Photo 16: B4



Photo 17: B5



Photo 18: B5



Photo 19: B5



Photo 20: Offsite pond

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