

DAN Y DARREN FARM

- DESIGN STATEMENT, INCLUDING APPROACH TO LANDSCAPE AND VISUAL IMPACT,
AND GREEN INFRASTRUCTURE STATEMENT -

November 2024



DAN Y DARREN FARM

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DAN Y DARREN FARM

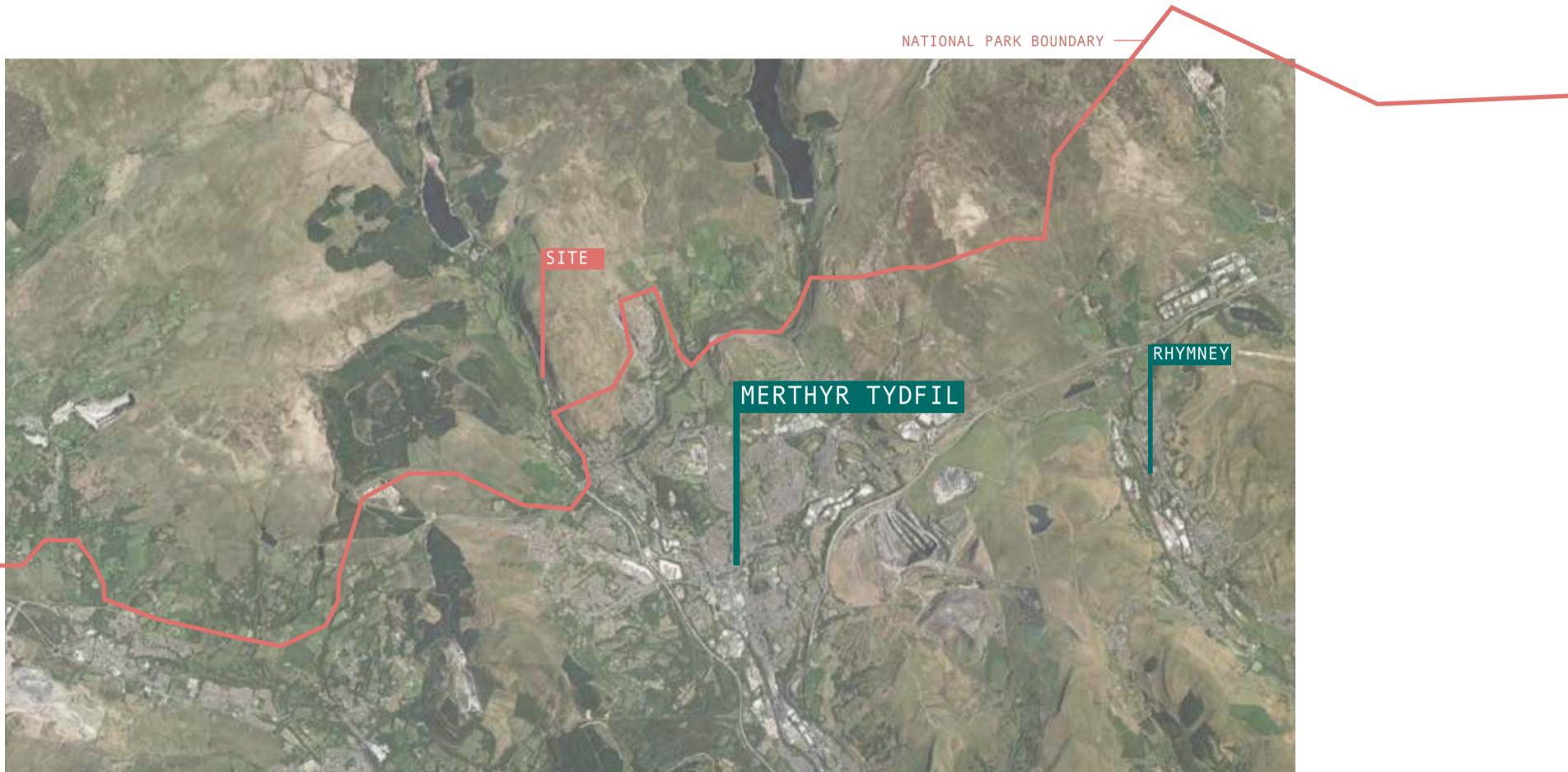
- PROJECT INTRODUCTION -



Dan Y Darren Farm scheme comprises a sustainable, high-quality holiday accommodation proposal. The clients are looking to run a sustainable business that includes; low impact tourism accommodation and a variety of craft based workshops, whilst being fully integrated into the landscape through the use of natural materials and sensitive design.

DAN Y DARREN FARM

- LOCAL CONTEXT AND LOCATION -



LOCATION: BANNAU BRYCHEINIOG NATIONAL PARK

The site sits within Landscape Character Area 8:Talybont and Taff Reservoir Valleys. This is located in the South of the National Park, and abuts its southern boundary near Merthyr Tydfil. To the North is the Central Beacons, to the West Fforest Fawr and to the East Mynyddoedd Llangatwg and Llangynidr, and the Eastern Usk Valley.

This LCA is characterised by its reservoirs, surrounded by steep sided, dark green forested valleys. Between the reservoir valleys are more open ridges of upland moorland which have long views across the reservoirs and their surrounding forests. This LCA is easily accessed from Merthyr Tydfil and the A470, and is a popular recreation destination.

DISTINCTIVE LANDSCAPE CHARACTERISTICS OF THE AREA

1. V-shaped valleys separated by flatter uplands.
2. Artificial reservoirs linked by rivers, mountain streams which flow down valley sides sculpting sandstone and limestone rocks.
3. Coniferous forestry, pasture and open moorland dominate land use. Coniferous Forests consist of larch and patches of mixed deciduous woodland.
4. Field boundaries are usually stone walls or post and wire fencing.
5. Limited settlements within this LCA include housing for reservoir workers, water treatment works, limestone quarries and farms.
6. Recreation provisions include picnic areas, trails, Garwant Forest Visitor Centre, and water sports.

HISTORIC DEVELOPMENT OF THE LOCAL LANDSCAPE

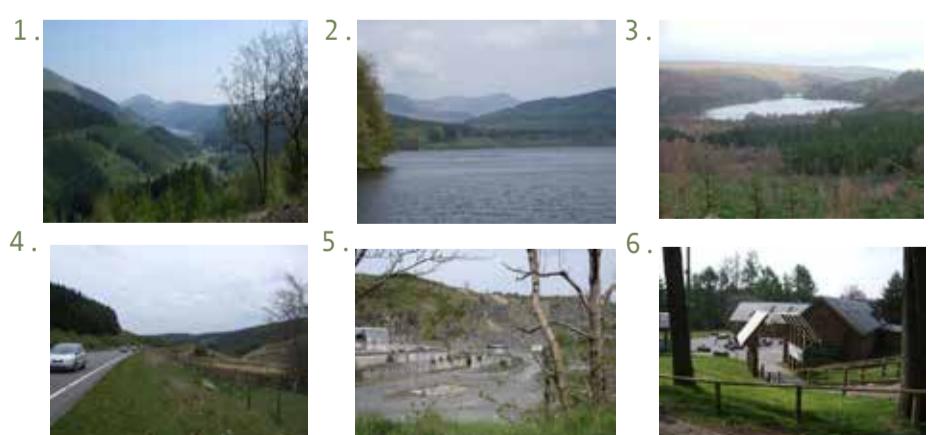
Strings and reservoirs were created in the damming of steep valleys in the 20th Century, dramatically altering the landscape.

The Reservoir that sits closest to the site is Llwynon Reservoir surrounded by extensive conifer plantations and have associated water treatment works.

Pockets of fields, farms and woodland remain which give an indication of how the valley looked prior to their flooding.

The area of the valley the site sits within has strong links to towns in the south acting as a transport corridor. Turnpike road (now a470, industrial tramways and the Brecon and Merthyr Railway all run through this area of the National Park.

FEATURES OF THE TALYBONT & TAFF RESERVOIR VALLEYS



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- LOCAL CONTEXT AND LOCATION -

CONSERVATION OF THE NATURAL ENVIRONMENT IN THE BANNAU BRYCHEINIOG NATIONAL PARK

The Bannau Brycheiniog National Park is designated for its landscape quality. The current legislative framework is the Environment Act 1995, under which the Authority has two statutory purposes to:

Conserve and enhance the natural beauty, wildlife and cultural heritage of the National Park; Promote opportunities for the understanding and enjoyment of the National Park by the public.

The Duty of the National Park is to:

Seek to foster the economic and social well-being of local communities. The Protection of the National Park is not just the preserve of the National Park Authority but also public bodies, government departments, local authorities and statutory undertakers.

APPROPRIATE DEVELOPMENT IN THE NATIONAL PARK

All proposals for development or change of use of land in the National Park must comply with the following criteria, where they are relevant to the proposal:

The scale, form, design, layout, density, intensity of use and use of materials will be appropriate to the surroundings and will maintain or enhance the quality and character of the Park's Natural Beauty, wildlife, cultural heritage and built environment;

SUPPLEMENTARY PLANNING GUIDANCE 8 FOR LANDSCAPE DEVELOPMENT

The proposed development should be integrated into the landscape to the satisfaction of the NPA through planting and appropriate management of native species or through the construction of appropriate boundary features;

The proposed development does not have an unacceptable impact on the economic, social, cultural and linguistic vitality and identity of any community, either in its own right or through cumulative impact.

The proposed development promotes opportunities for the conservation and enhancement of bio/geodiversity through appropriate design and landscaping.



FOLLOWING PLANNING GUIDANCE THE SCHEME WILL:



Protect the upland skylines and long views which form the backdrop of the area.



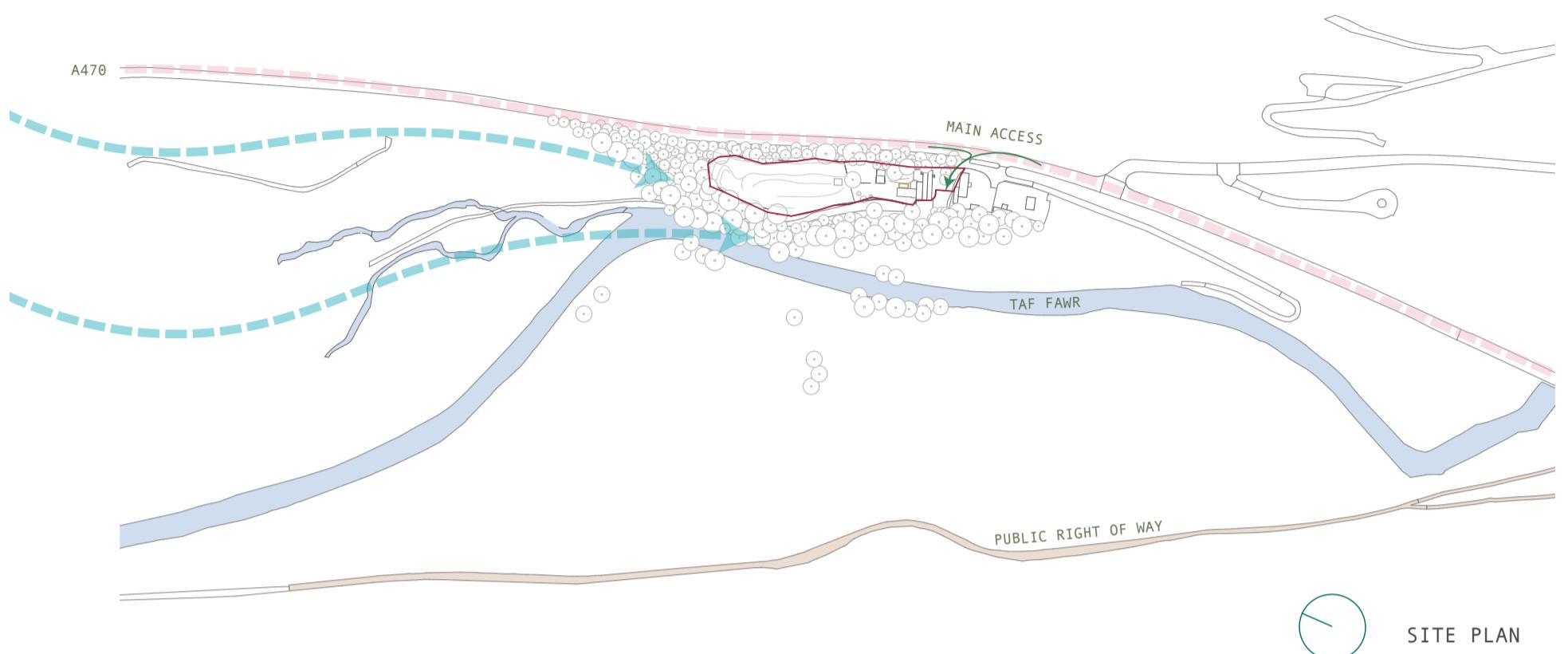
Manage and retain upland habitats with minimal impact on local ecology



Manage and enhance recreation, encouraging visitors and local people to enjoy the landscape whilst minimising impacts on the area's biodiversity, heritage and special qualities.

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- THE EXISTING SITE -



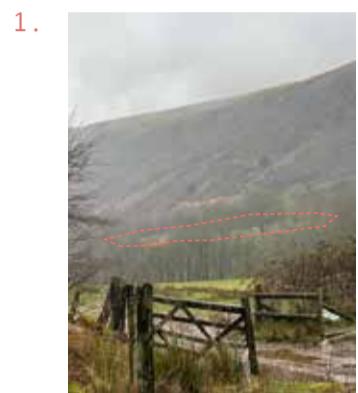
THE EXISTING SITE



DAN Y DARREN FARM

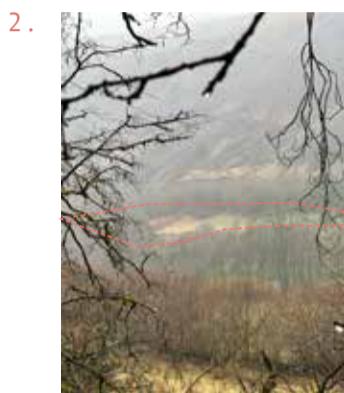
- KEY VIEWPOINTS -

DISTANT VIEWS TO THE SITE 16.03.2024



BRIDGE BETWEEN THE
TWO
(photo taken at
2.7X zoom)

239 metres



END OF THE 'BLUE-
BELLS' PATHWAY
(photo taken at
3.8X zoom)

496 metres



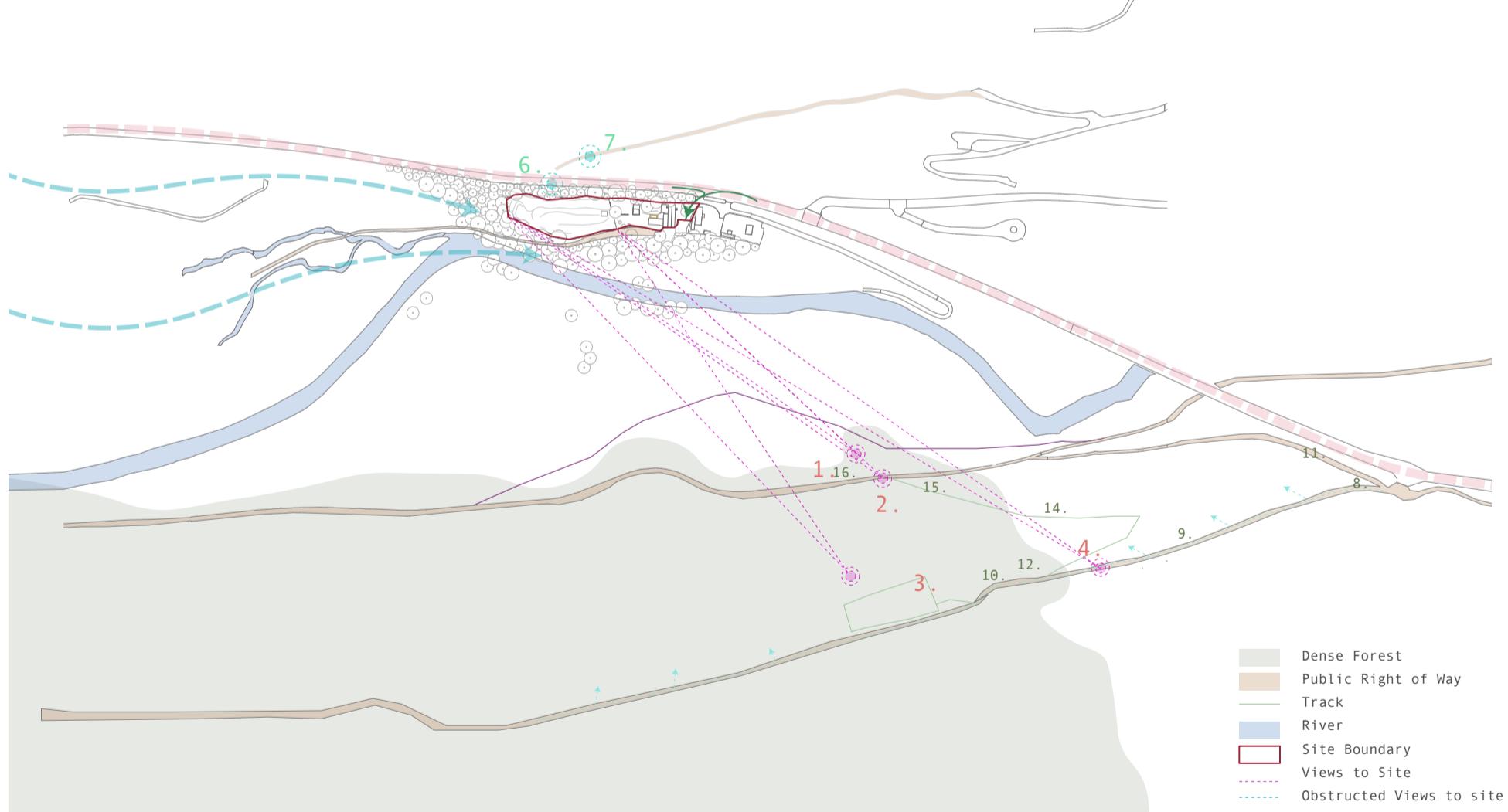
OUTSIDE THE SECRET
GARDEN
(photo taken at
4.2X zoom)

436 metres



TAFF TRAIL (photo
taken at 1X zoom)

496 metres



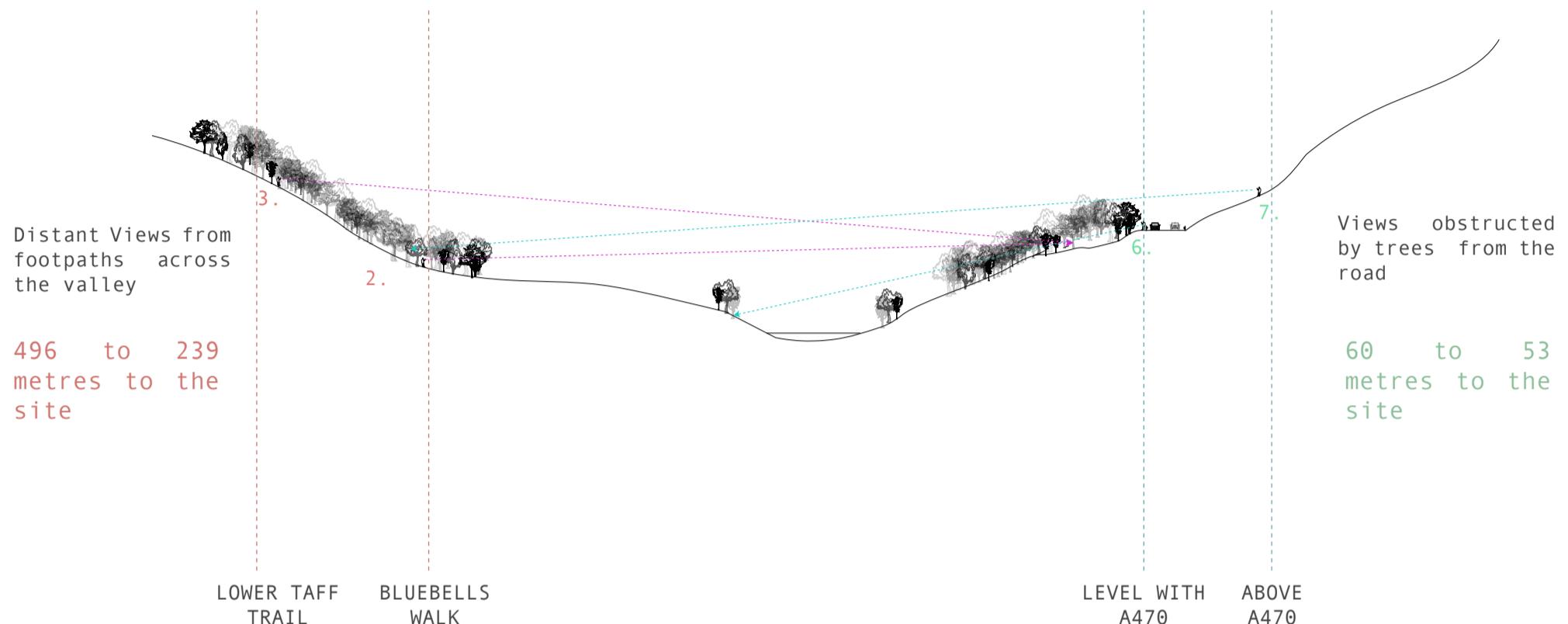
Much of the views to the site along the Taff Trail are obstructed by the forest below. At one point the site can be seen at a great distance as shown by image 4.

Taking the path down the bluebells track there are glimpses to the site in the distance as shown by images 1 & 2.

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- KEY VIEWPOINTS -

DISTANT VIEWS TO THE SITE



PUBLIC RIGHT OF WAY ABOVE A470



TAFF TRAIL



BLUEBELLS WALK



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- CONSULTANTS -

Benham Architects: Architects

BENHAM ARCHITECTS

Stephanie Irvine, Lichfields: Planning and development



Karl Von Weber, LvW Highways, traffic and transportation



Carl Collins, RPM Water Management: Environmental flood and drainage engineering solutions



Rebecca Brooks, Ecology Planning: Ecological planning advice and protected species surveys

ECOLOGY PLANNING

Stephen Lucocq, ArbTS: Arboricultural technician services



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- GREEN CREDENTIALS -

(Refer to Appendix A, for Green Infrastructure Statement)

CLIENT BRIEF

- Craft based people
- Manage own farm and land
- Environmentally conscious
- A Goal to improve Health and well-being by encouraging recreational activities in the national park
- Accommodating this, the additions will also provide a main business and source of income



POSITIVE CONTRIBUTORS

The scheme will help achieve client's goal to be self-sufficient

The landscape character will improve by tidying up the land in and around the site

Promoting architecture appropriate to the national park

MINIMAL LANDSCAPE AND ENVIRONMENTAL IMPACT

Hedgerows and hedgerow patterns retained

Retaining the hedge bank and row of trees above additions help to screen potential views and provide a habitat corridor between fields.

New pods are sited in rows adjacent to existing buildings on the land. This strengthens the relationship between new and old buildings improving the composition of the landscape scene and reduces the perception of visual clutter in the landscape.

The proposal supports improved land management by using sustainable waste techniques such as the compost toilets and drainage.

The proposal has minimal lighting impacts to retain dark night skies, with no lighting on the access tracks.

Character of the landscape is enhanced by improving the site through the removal paraphernalia

Enhancing cultural and built heritage by respecting character of existing buildings.

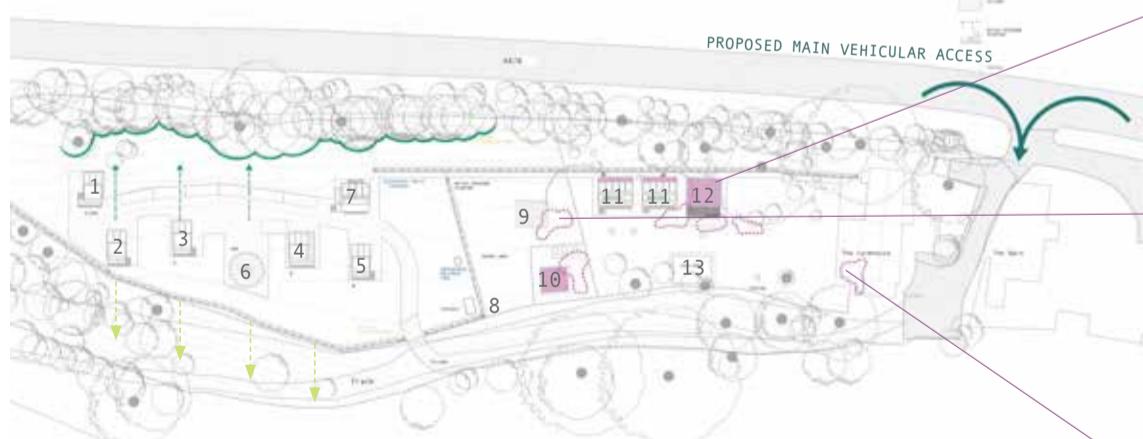
The following surveys have been carried out and positive impacts have been incorporated into the proposals:

- Tree survey
- Phase 1 ecology survey
- Dawn and dusk survey for bats along access road
- Reptile survey on proposed site

Refer also to biodiversity statement below.

SITE IMPROVEMENTS THROUGH STORAGE PROVISIONS

REMOVAL OF PARAPHERNALIA



- Hedge is screening
- Screening Views amongst tree line
- Areas of existing paraphernalia

Proposed Storage Areas

- 1 Pod/Cabin
- 2 Pod/Cabin
- 3 Pod/Cabin
- 4 Disabled Access Pod/Cabin
- 5 Pod/Cabin
- 6 Yurt
- 7 Shower/Toilet Block
- 8 Repaired Fence
- 9 Existing Structure for Animals
- 10 Growing Area
- 11 Workshops
- 12 Stable
- 13 Pool Structure



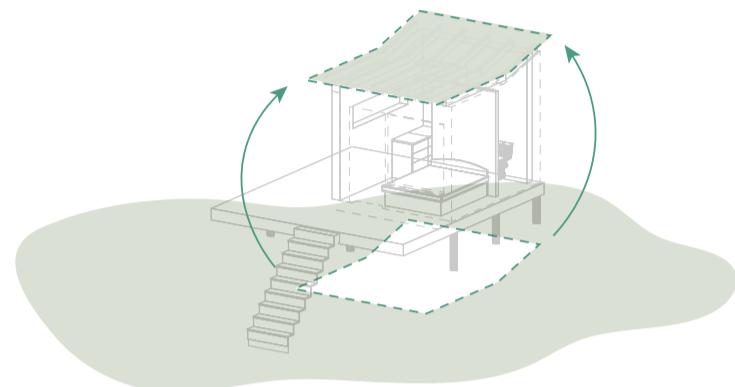
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- IMPROVING BIODIVERSITY -

RETAINING THE GREEN SCAPE

The proposal will incorporate a green roof to ensure the overall green scape footprint is not reduced and individual pods do not obstruct distant views across the valley.

This also ensures biodiversity does not suffer as any grassland area taken away is directly replaced.



CONCEPT CABIN UNIT

BIODIVERSITY

The proposed scheme replaces the existing fencing which distinguishes the site boundary for hedgerows. This addition to the site supports an increase in biodiversity over the site and the surrounding area.

Hedgerows provide vital resources for mammals, birds, and insect species. As well as being an important habitat in their own right, they act as wildlife corridors allowing dispersal between isolated habitats.

Planting hedgerows across the site will deliver the clients goal to help manage and retain upland habitats with minimal impact on local ecology. In accordance with Ecology statement, all new hedgerows to be locally native species, for example: 15% Holly, 15% Hazel, 15% Rowan, 15% Goat Willow, 10% English Oak, 10% Hawthorn, 10% Blackthorn, 5% Elder & 5% Honeysuckle. A single artificial hedgehog refuge will be incorporated into the hedgerow.

Features for priority species include:

Bird and bat boxes on each individual pod, integrated models will be provide to ensure provision for the full lifespan of the development. Consisting of: 2No. external woodcrete bird boxes with 32mm entrance holes such 1MR Schwegler Avianex or Vivara Pro WoodStone 32mm Next Box for various species. Set at the top of the pods. approximately 4-5M above ground.

Green roofs with native pollinating plants for bees to create a habitat corridor.

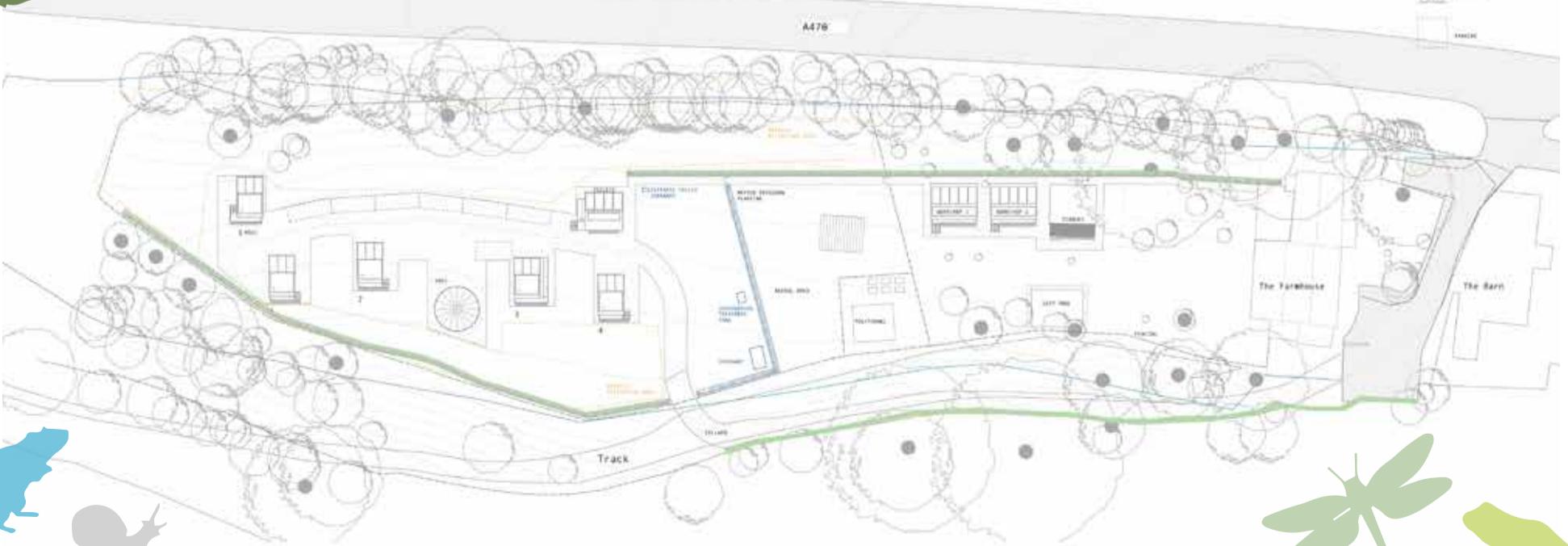
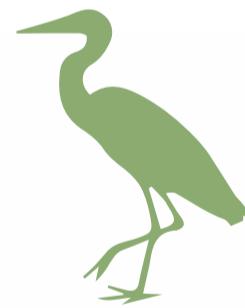
SOFT LANDSCAPING



The proposed scheme includes a series of pathways between cabins. Rather than hard landscaping which restricts the movement of species across grassland, they will be made up of CellWeb.

The scheme will incorporate native species of plants to create links to the surrounding ecosystem. This will include wildflowers native to the Bannau Brycheiniog including bluebells, buttercups, foxgloves, red champions etc.

Integrated insect nesting boxes will be included in each pod.



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- TECHNICAL BREAKDOWN OF THE DESIGN -

DESIGN WHICH IS SYMPATHETIC TO THE LOCAL ECOLOGY AND NATURAL ENVIRONMENT

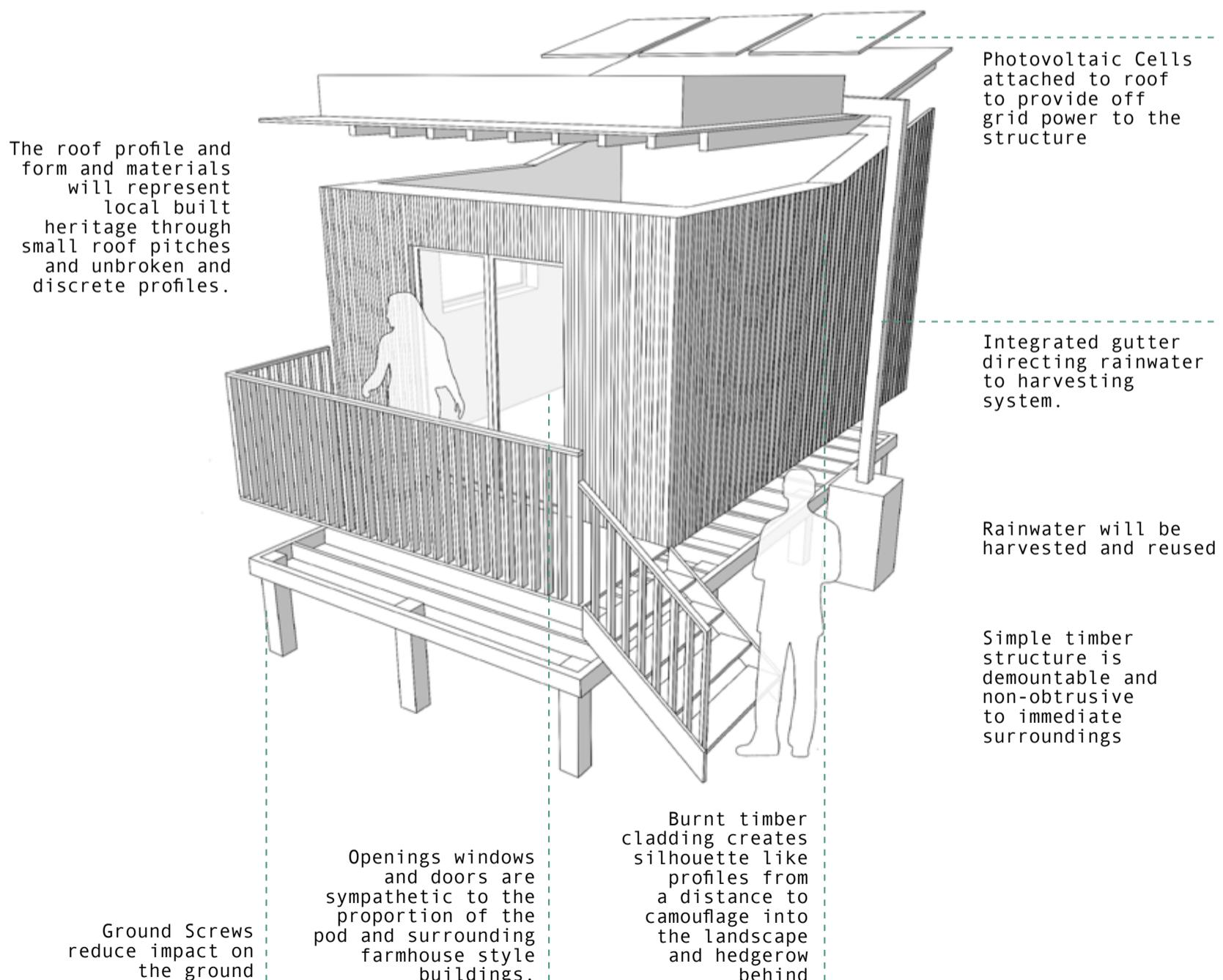
EMBODIED ENERGY

Embodied energy is the energy associated with the manufacturing of a product or services. This includes energy used for extracting and processing of raw materials, manufacturing of construction materials, transportation and distribution, and assembly and construction. The current design of the building, together with the ambition to use Modern Methods of Construction (MMC), such as SIPs and recycled insulation, together with locally sourced products, will provide exemplar buildings in Wales for embodied energy. MMC helps to reduce the impact on the local transport infrastructure as it can decrease construction impacts. The project also aims to minimise the number of wet trades utilised on the project. This will be linked with the client's ambition for minimal maintenance materials that will draw upon the local vernacular. Renewable resources are also being implemented, in terms of heating, water and electrical generation. Solar PVs will be installed on the roof and are south facing to maximise efficiency.

CIRCULAR ECONOMY

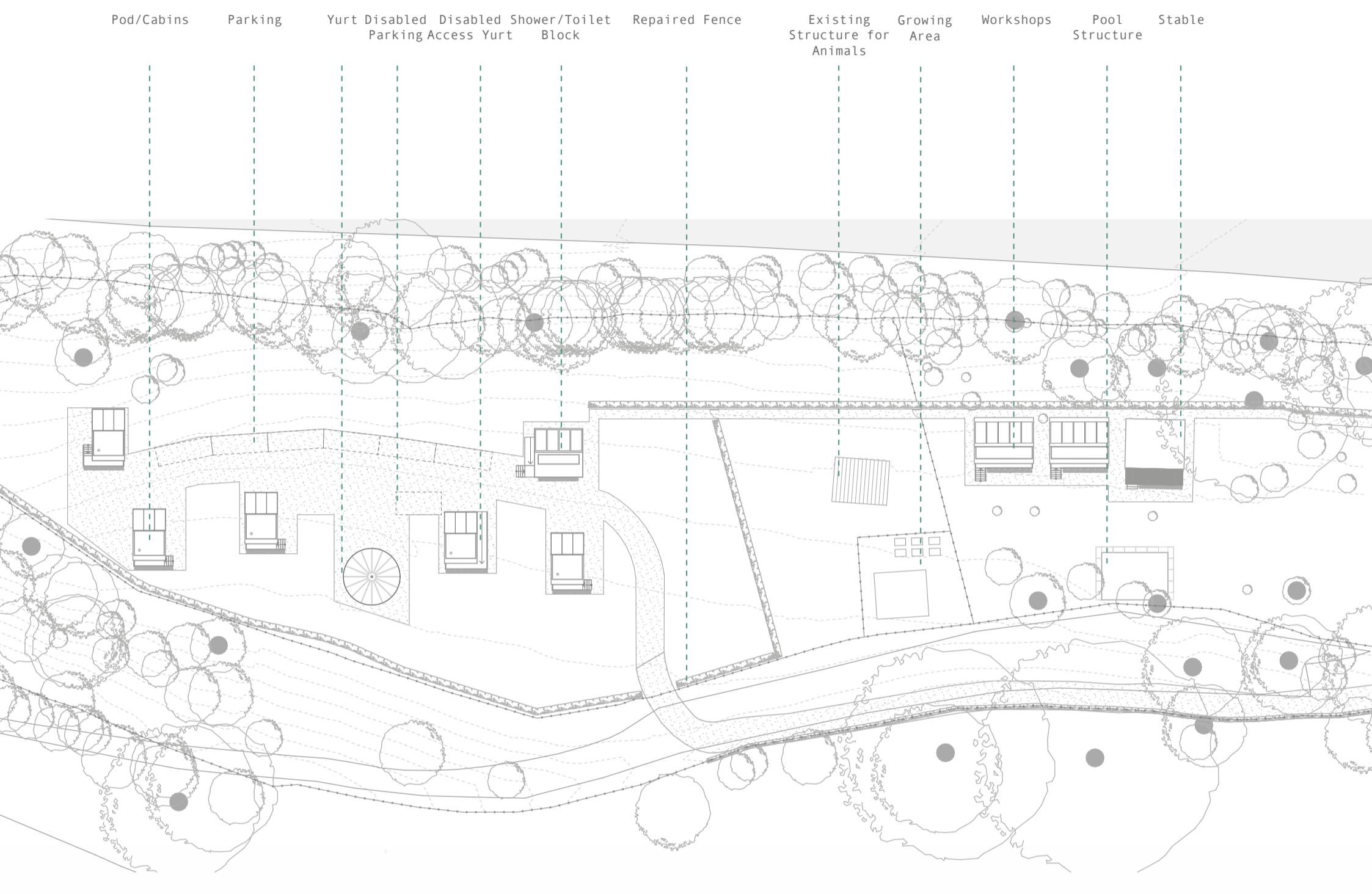
The design is looking to provide a circular economy approach in every stage or chain of the design, construction and inhabitation of the building. This will be considered for form, massing, efficiency of levels selected, MMC, etc. Design decisions will help locals contribute to this approach and mindset.

"Sustainability means we are optimising what we are doing. It's optimising the system: we reduce energy, we reduce material, so it's about reduction. But at the end of reduction, often nothing has changed. Circularity is about facilitating responsibility. So we have to create a new chain of value creation." Thomas Rau



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- ARRANGEMENT OF BUILDINGS -

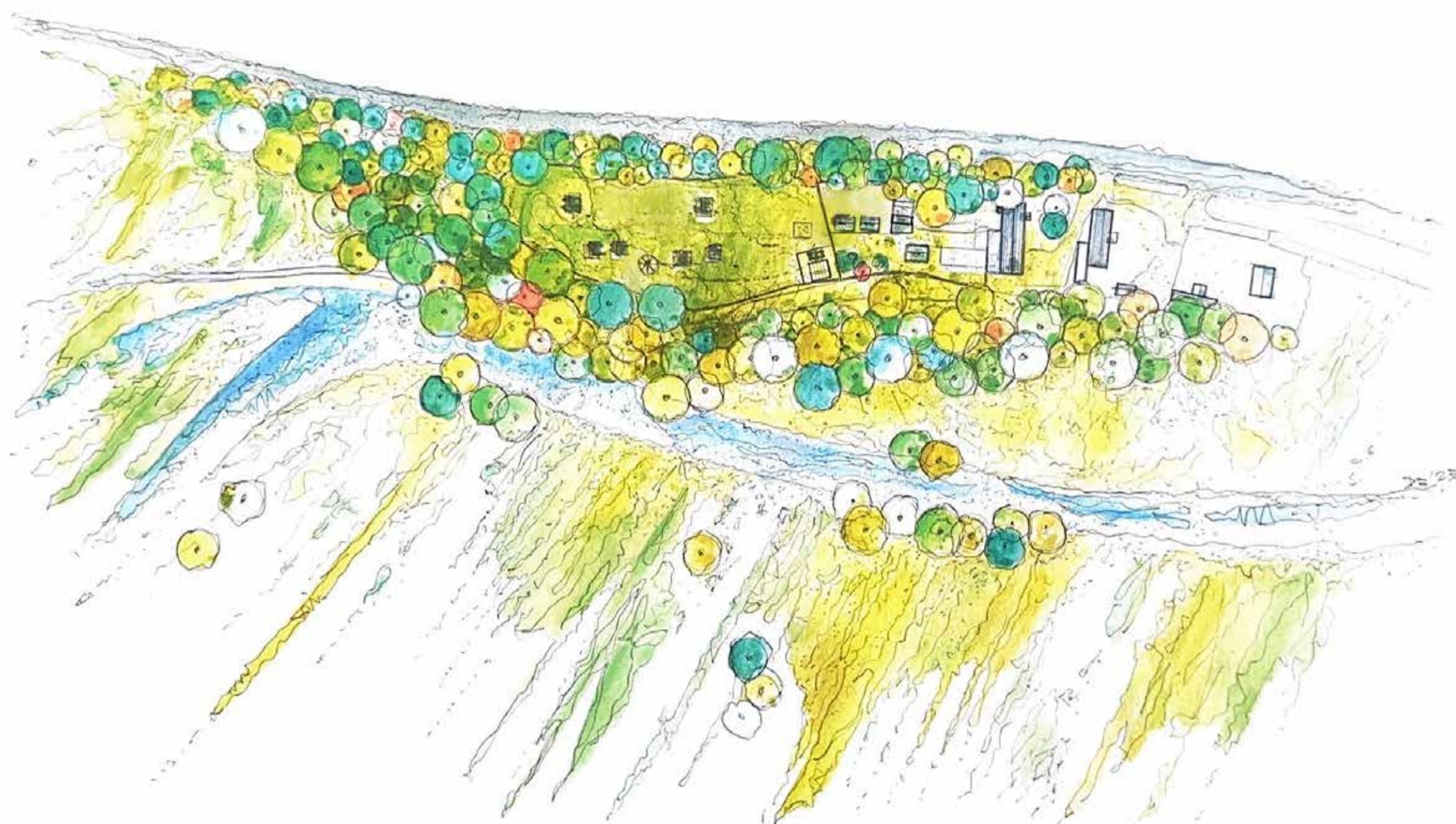


ARRANGEMENT OF BUILDINGS

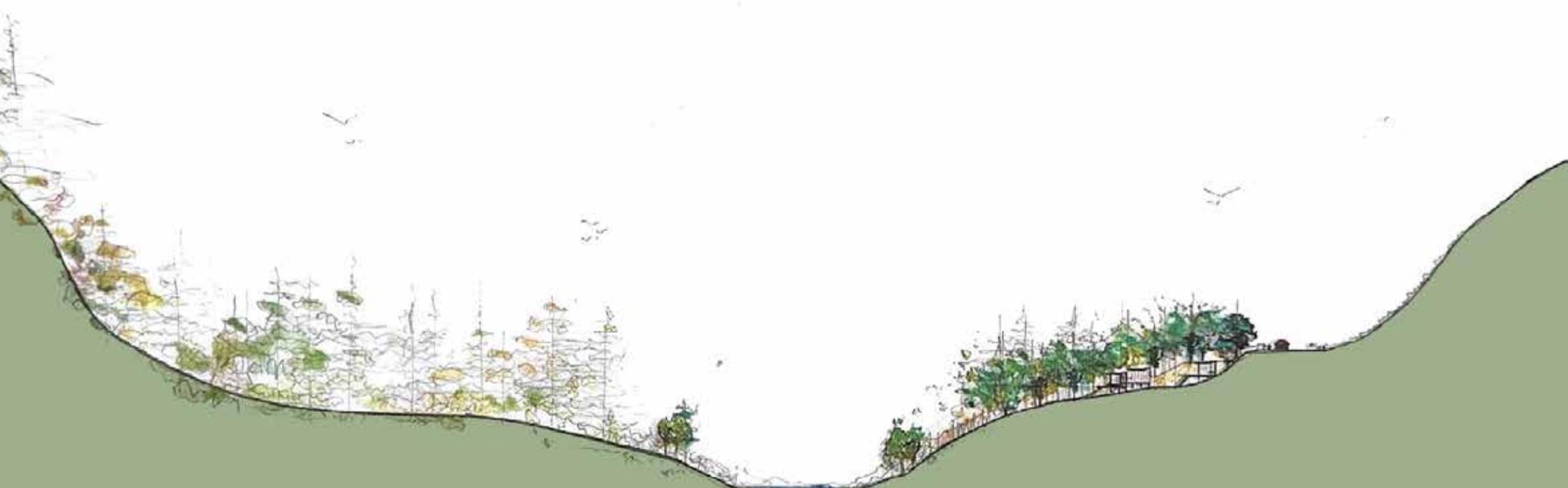


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- SITE PLAN AND CONTEXT -

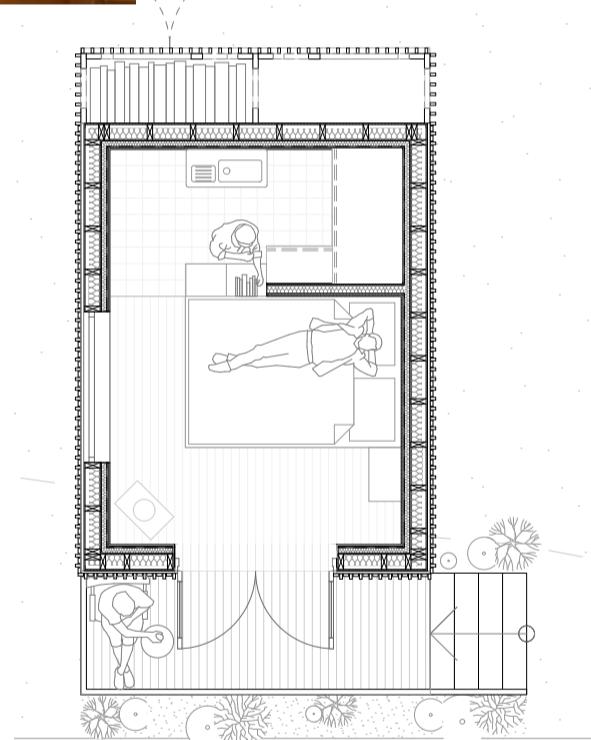


PROPOSED SITE PLAN



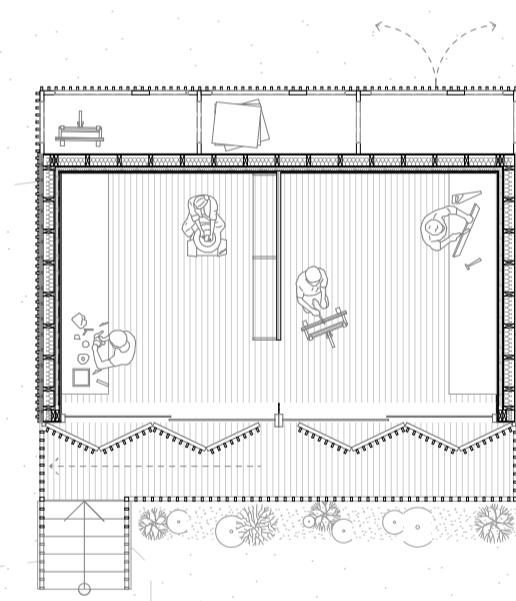
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- POD PRECEDENTS -



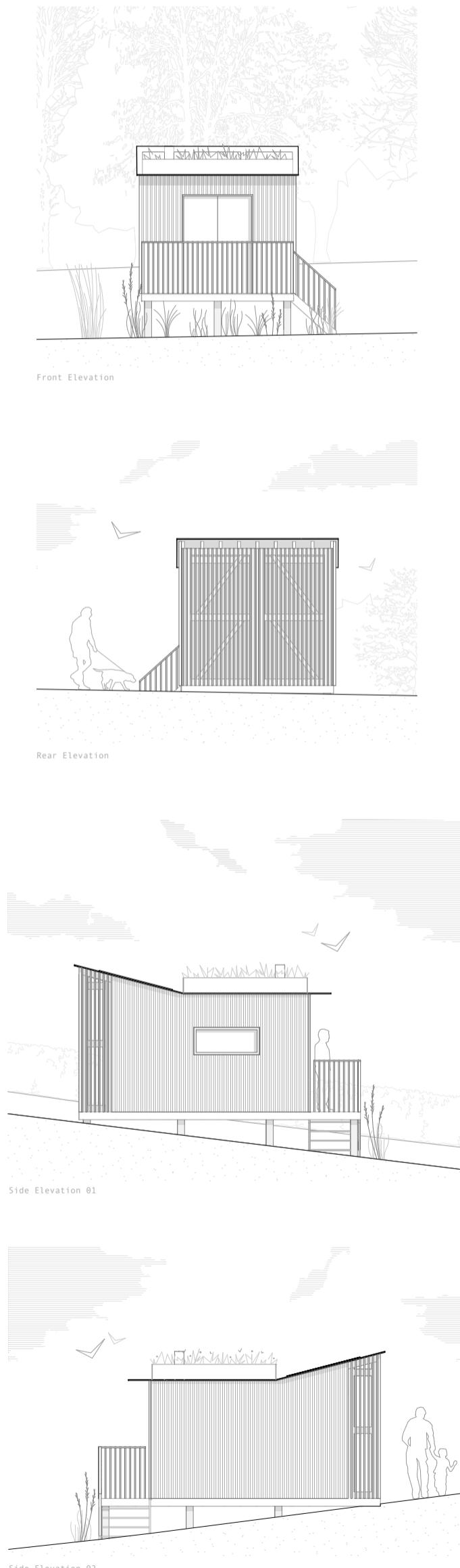
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- WORKSHOP PRECEDENTS -

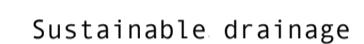


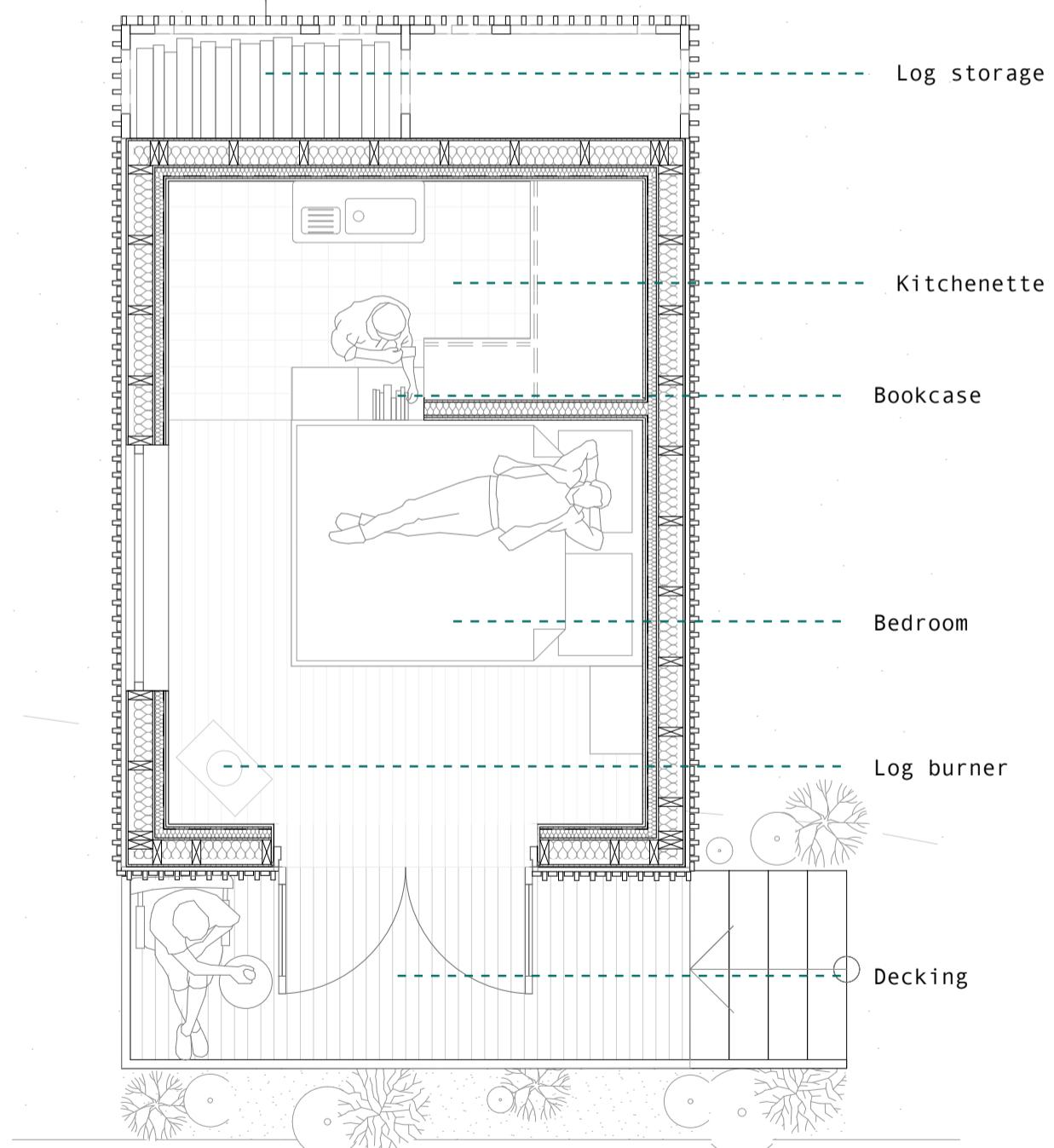
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- POD LAYOUT -



The workshop looks to incorporate:

- Good passive design principles
- Low embodied carbon materials
- Locally sourced materials, where possible
- Module size of materials - minimise waste
- Local trades
- Sustainable drainage solutions
-  Raised off the ground
- Ground screws connections



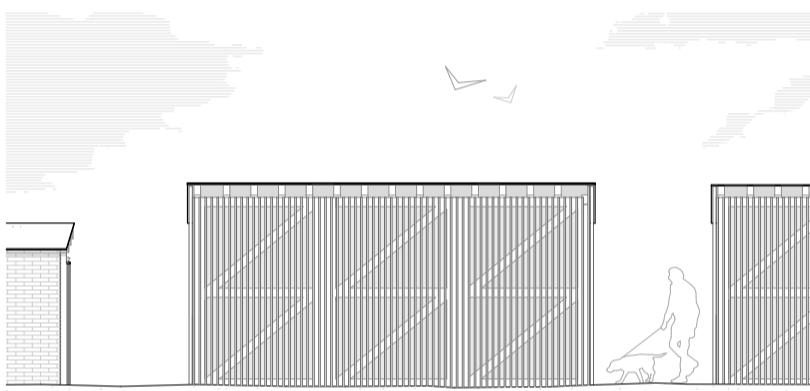
4 pods to be accessed
by stairs, 1 pod to be
disabled level access

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- WORKSHOP LAYOUT -



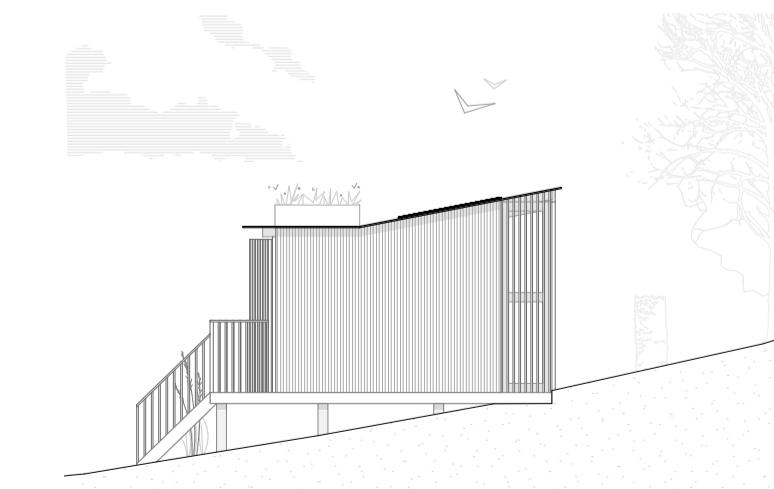
Front Elevation



Rear Elevation



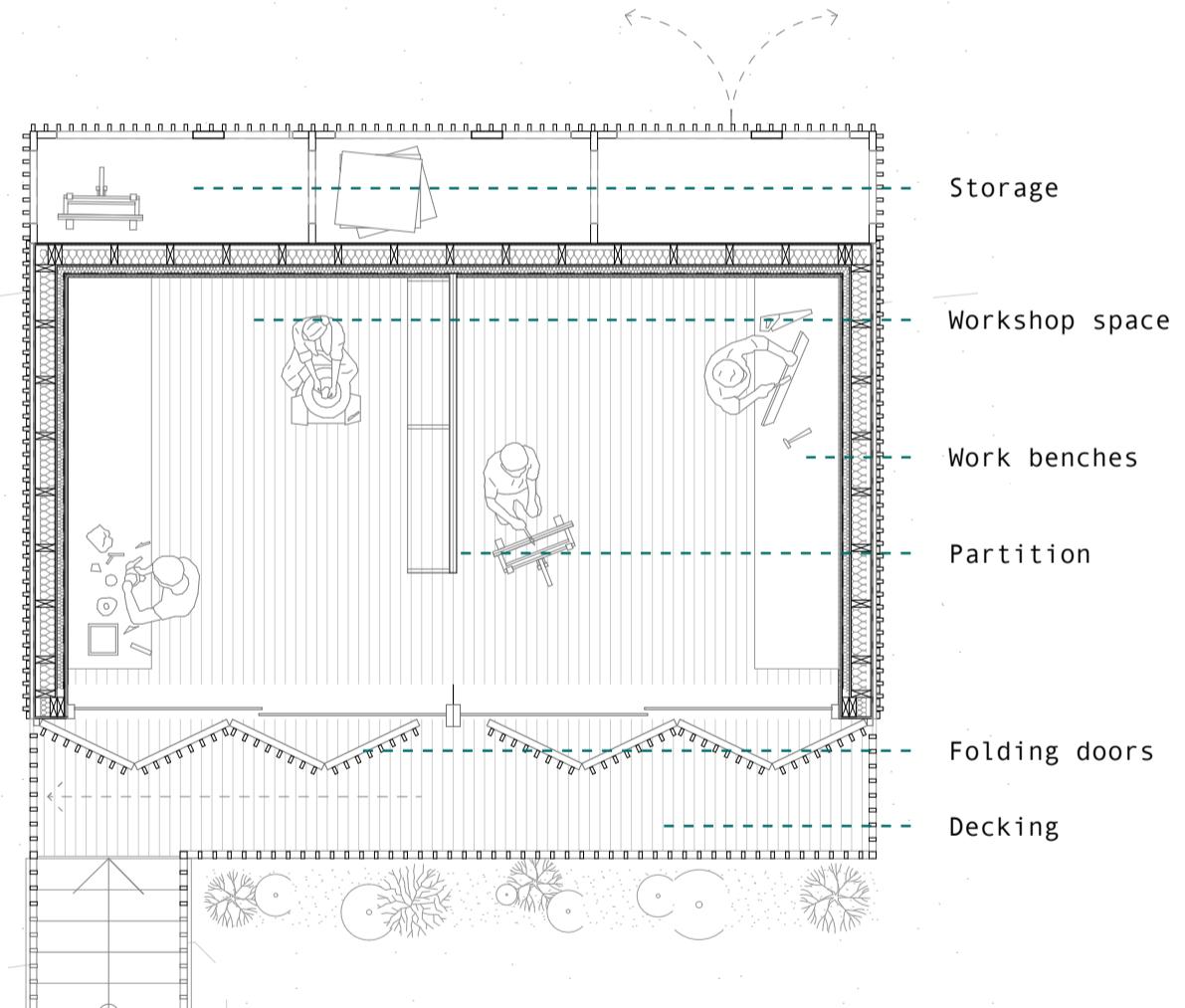
Side Elevation 01



Side Elevation 02

The workshop looks to incorporate:

- Good passive design principles
- Low embodied carbon materials
- Locally sourced materials, where possible
- Module size of materials - minimise waste
- Local trades
- Sustainable drainage solutions
- Raised off the ground
- Ground screws connections



DAN Y DARREN FARM

- PROPOSAL -



Concept sketch of proposal

"When an Architect embodies oneself within nature, they understand their place in eternity" [Anonymous 2024]

APPENDIX A

GREEN INFRASTRUCTURE STATEMENT

Overview

This document has been produced in reference to the recently published updated Chapter 6 of Planning Policy Wales which sets out the policies to support 'Distinctive and Natural Places'.

6.0.1 The Distinctive and Natural Places theme of planning policy topics covers historic environment, landscape, biodiversity and habitats, coastal characteristics, air quality, soundscape, water services, flooding and other environmental (surface and sub-surface) risks.

The proposed scheme provides several Green Infrastructure enhancement opportunities as described in the following sections.

The report will provide a summary of the design proposals, in relation to the Green Infrastructure, as described in the associated planning submission information pack for a sustainable, high-quality holiday accommodation proposal. The applicants are looking to run a sustainable business that includes low impact tourism accommodation and a variety of craft based workshops, whilst being fully integrated into the landscape through the use of natural materials and sensitive design. The following surveys and reports have been carried out on the existing site landscape and surrounding context, to assess the impact on habitats and species.

- Topographical Survey.
- Phase 1 Ecology Survey, Bat Surveys and Reptile Survey, Ecology Planning.
- Arboricultural Survey by Arb TS
- Transport Statement, by LwW Highways.
- Drainage Report, by RPM Water Management.

All should be read in conjunction with the Benham Architect's complete Design Statement and Lichfields' Planning Statement.

GREEN INFRASTRUCTURE STRATEGY

6.2.1 Green infrastructure is the network of natural and semi-natural features, green spaces, rivers and lakes that intersperse and connect places. Component elements of green infrastructure can function at different scales.... at a local scale, it might comprise parks, fields, public rights of way, allotments, cemeteries and gardens. At smaller scales, individual urban interventions such as street trees, hedgerows, roadside verges, and green roofs/walls can all contribute to green infrastructure networks. - Planning Policy Wales - Chapter 6

Central principles to a successful development advocate a design strategy which integrates and prioritises the natural environment, as the enhancement of biodiversity and green infrastructure have direct benefits and impact on the residents. Including helping to enhance health and wellbeing, building a sense of community through improved amenity spaces and preparing for the impacts of climate change. This approach addresses the key goals identified in The Well-being of Future Generations Act and goals for Wales and have informed the design development of the proposal, through a step-wise approach.

SITE

The Site extends to approximately 0.5 Ha immediately adjacent to the west of the A470 to the north of Merthyr Tydfil. It is centred at National Grid Reference SO 02196 09367. The Site is greenfield and comprises a small field enclosure to the north of the farmhouse.

STEP-WISE APPROACH

The following statement demonstrates a step-wise approach to the all decisions, in order to consider any impact on habitats and species.

ECOLOGY

AVOID - SURVEY RESULTS

Phase I Survey

An extended Phase I habitat survey was undertaken on 10th January 2024 by Rebecca Bohane. The methodology used was based on that used for Phase I habitat survey1 and entailed walking the Site and mapping habitat types, including dominant and notable species. Any potential for protected species to be present within the habitats or features found at the Site was also recorded and surrounding offsite areas were surveyed where possible.

Bats

The trees within and adjacent to the west of the Site were subject to a preliminary roost assessment. The survey was aided using close-focussing binoculars, video inspection camera and high-powered torches where necessary. The survey followed standard practice and consisted of a visual inspection of the trees for potential roost features and visible signs of bats including:

- direct evidence of bat use, including droppings, feeding remains, smell, audible squeaking and staining from fur oil or urine around roost exit/entry points;
- features that hold the potential to be used by bats, including woodpecker holes, rot holes, deep cracks and splits, dense ivy etc; and
- general conditions including disturbance and connectivity of suitable habitat.

The roosting potential of the trees was classified between negligible to high potential.

Bat Survey, Emergence of Trees

Plan 1 - Habitat Features illustrates the location of the two mature trees surveyed.



Emergence surveys of two trees off Site to the west were undertaken in August and September. Surveys were undertaken in accordance with best practice guidelines for trees with medium potential to support roosting bats. All surveys were undertaken by Rebecca Bohane a licensed bat worker and with 20 years of bat survey experience. The trees are in close proximity to each other and the surveyor covered both trees during a single survey. The survey was focused on any impacts resulting from future light spill resulting from use of the Site. Therefore focusing on the eastern side of the trees, adjacent to the new access road, was considered appropriate. The survey had the dual purpose of assessing

APPENDIX A

GREEN INFRASTRUCTURE STATEMENT

the presence of roosts within the trees, as well as noting activity along the existing track, which is to be replaced with the new access road. The surveyor used an Echometer Touch2Pro as well as Batbox Duet frequency division bat detector. A XInfrared thermal camera was used throughout

Bat Survey, Automated Detector Activity Survey

An Anabat Express was deployed adjacent to the trees on a fence post along the existing access track. This was left in situ for a minimum of seven suitable survey nights in each of August, September and October.

Reptile Survey

All suitable habitat in the northern field enclosure was subject to a reptile survey. This primarily involved the steep western facing bank. An additional three refugia were included on the bank where the new access road will be constructed. The survey followed standard guidance whereby artificial refugia (0.5m² medium weight 1F bitumen felt) were spread throughout suitable habitat on 27th August 2024. A total of 20 refugia were used across less than 0.2Ha of suitable habitat, giving a density of approximately 10 times that used for monitoring and considered suitable to establish presence. Refugia was left to bed in for 10 days and were checked on seven separate occasions throughout September and the first half of October. All checks were carried out under suitable weather 7 conditions, avoiding midday conditions, except when the weather was cool.

MINIMISE - DESIGN CONSIDERATIONS

Designated Sites

Almost all the designated sites are sufficiently removed from the Site so as to be unaffected and are not considered further. The exception is the Cwm Taf Fawr SINC which is continuous with the watercourse to the west of the Site. Potential impacts are restricted to construction impacts only, primarily from the regrading required for the new vehicular access. Construction impacts from the new units and the water treatment plant are likely to be minor in comparison. where soil and dust could enter the watercourse if there are significant

earthworks required to level sites for the units or for the access track. This assumes that the new water treatment plan is a contained system. There is unlikely to be significant surface run-off generated from the new units and it is anticipated that all run-off can be absorbed within the retained habitat.

The habitat loss arising from the new units is unlikely to compromise the overall quality of the existing grassland since the units are located within the flatter central section which has previously been cut and is less diverse.

Access Road

The access across the Site will be created with cellweb prior construction of the units to enable a defined working space for machinery. This is likely to require phase strimming of existing grass under supervision of a suitably qualified Ecologist. This would encourage reptiles into the core habitat along the east. It is possible that temporary reptile fencing may be required to prevent reptile encroachment onto the construction access, but this is dependent on the length of works. It may not be required if the pods are all prefabricated and minimal vehicular movement is required to move them into position.

Prior to re-grading for the new access, some clearance may be required to remove existing grassland along the bank to the west of the Site boundary. Clearance will aim to move individuals eastwards into the west of the Site. The affected area would be subject to a destructive search prior to any soil movements.

Given the number of units and the track, it is likely that

works will need to be phased, since reptiles will remain in situ in the long term. The new units are not located on the steep eastern bank in the Site and the core reptile habitat will be unaffected. However, since the Site has remainder unmanaged and owing to the presence of reptiles on the Site bank to the west, it must be assumed that they could be present across the Site.

A translocation exercise is unlikely to be required, since the majority of habitat is unaffected and the reptiles will be retained in situ. Prior to works, the western portion of the Site will be enhanced to ensure suitability for reptiles.

Birds

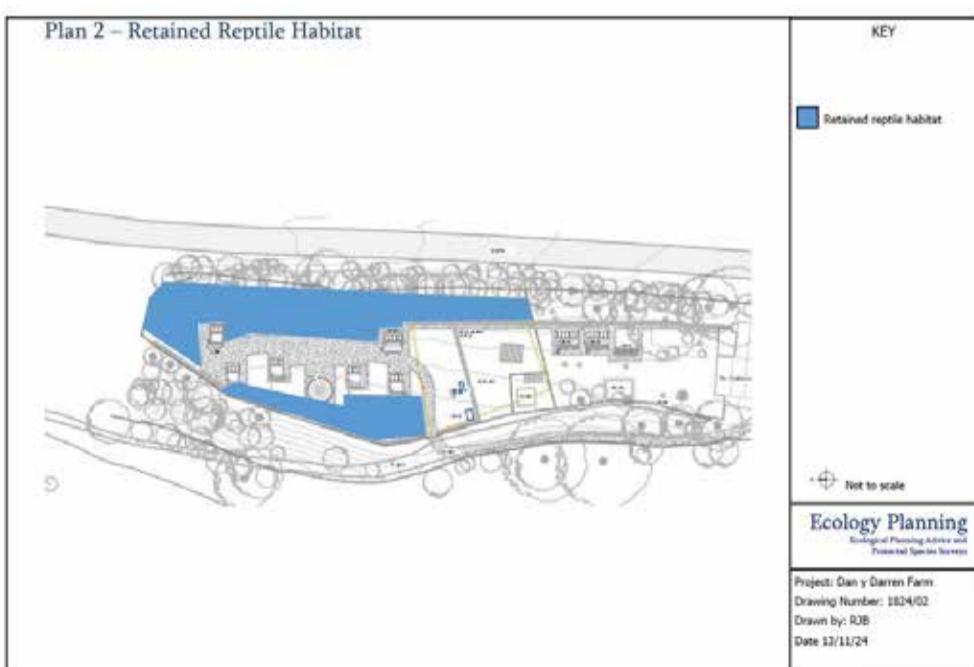
Removal of trees will be undertaken outside of the nesting bird season (March to August, inclusive) unless a check by a suitably qualified Ecologist immediately prior to works, confirms that no nesting birds are present.

MITIGATE - DESIGN CONSIDERATIONS

Habitat loss resulting from the new access, units and associated parking will be offset through appropriate management of the retained habitat. This retained habitat will also comprise part of the reptile mitigation. It is anticipated that whilst this cannot feasibly be returned to meadow grassland on account of the reptiles, appropriate management will increase opportunities for a variety of species. The cellweb permeable access will ensure connectivity across the Site and result in a variety of sward heights. Off Site connectivity will be maintained and improved through enhancement of the grassland to the Creation of a vehicle access track across the northern enclosure would result in more habitat loss but this is unlikely to be more than which could be offset by bringing the remainder into favourable condition.

Protected Species

On the long term, the management of retained habitat for reptiles is likely to ensure continued survival of the species present. The majority of suitable habitat is being retained, with short term disturbance only. The small losses will be more than compensated for by the enhancement of the area of the Site to the west of the pods/yurt. Connectivity within and off Site will be maintained.



The loss of small amounts of scrub may be required during construction of the access track. In the absence of timing restrictions, removal of trees and bramble has the potential to affect nesting birds. No trees are being removed and the mature off-Site trees to the west will be protected throughout works.

APPENDIX A

GREEN INFRASTRUCTURE STATEMENT

There is no potential for roosting bats to be present within the Site. However, there will be an increase in light spill off Site resulting from occupation of the units, particularly those to the west of the Site, as well as from vehicles accessing the new access road. There is unlikely to be significant bat activity within the Site given the open grassland and proximity to the river valley, which provides more suitable foraging habitat.

Whilst there was bat activity recorded along the existing track, this predominantly related to pipistrelle bats, which are relatively tolerant of lighting. Several different light sensitive species were recorded by the automated detector in low numbers, and it is assumed these are moving along the river corridor to the west, passing along the eastern boundary of the Site at the top of the stream corridor. The river is at the bottom of a steep and valley, which is partially sheltered by trees canopies on the eastern side. It is very likely that light adverse species, which are typically woodland/woodland edge species, use the wooded western side of the valley in preference, hence the relatively low numbers. Impacts on most species are anticipated. However, given the proximity of more suitable habitat, combined with the low numbers of passes from species sensitive to lighting, impacts are not anticipated to be significant. However, the impacts will be reduced further by the installation of a new hedgerow. There will be no lighting of the new access.

Bats

Any external lighting required for the new units will be low level bollard lighting unless agreed otherwise. This must be on a sensor and will minimise light spill. In order to prevent light spill from car headlights on the new access impacting bat movement along the eastern side of the valley, a new hedgerow will be planted along the western edge of the track. This will prevent light spill from entering the main valley basin.

Reptiles

There will be works to the Site, including laying the cellweb access and regrading works to create the off Site new access track. A Working Method Statement will be required to ensure that reptiles are not harmed during construction.

ENHANCEMENTS - DESIGN CONSIDERATIONS

There are various elements that, if incorporated within the design of the development and if managed appropriately, could result in longer term overall enhancement. The following elements are considered proportionate to the scheme.

Hedgerow and Tree Planting

Small sections of new hedgerow planting can be included around the perimeter and within the area of Site to the east. Hedgerow planting will follow the western edge of the new access road. All will follow best practice guidance and will be a staggered, double line of hedgerow. The new hedgerows will be protected with suitable fencing whilst they establish.

The new hedgerows will be of locally native species of local provenance, with a suitable example mix being: 18

- 15% Holly *Ilex aquifolium*
- 15% Hazel *Corylus avellana*
- 15% Rowan *Sorbus aucuparia*
- 15% Goat willow *Salix caprea*
- 10% English oak *Quercus robur*
- 10% Hawthorn *Crataegus monogyna*
- 10% Blackthorn *Prunus spinosa*
- 5% Elder *Sambucus nigra*
- 5% Honeysuckle *Lonicera periclymenum*

Grassland

The grassland will largely be left unmanaged with only an annual cut in autumn (to be cut to a height no lower than 15cm). The short sward where the cellweb access is laid will result in sufficient sward diversity so as to be beneficial to a variety of invertebrates.

Green Roof

The green roofs on the new units are an opportunity to increase grassland diversity, whilst retaining the structure of the main sward for reptiles. Native species will be used, including those found in MG5 grassland and this grassland mix recreated as far as is practical for the roof in terms of hydration and substrate.

Reptiles

New refuge will be created in the retained grassland. Wood piles will be created from any scrub removal required.

Bat Boxes

The new units are unlikely to be suitable to site new boxes. It is proposed that five new boxes will be located on trees, under the guidance of a suitably qualified Ecologist. Ideally these will be on trees to the west of the Site, but if this is not possible then they will be located on trees within the hedgerow and the south of the Site. Boxes will include:

- A summer and winter box such as the Schwegler 1WI box;
- Two Schwegler 2FN boxes suitable for larger species; and
- Three multi-chambered boxes, such as the Vivara Pro Large Multi Chamber WoodStone Bat Box or Schwegler 2F Box with double front panel.
- 5.37 More than one box can be located on the same tree on varying aspects.
- Bird Box Provision

Five new bird boxes will be provided within the Site on trees and an additional box on each unit. Depending on the construction of the new units, integrated models should be prioritised that will ensure provision for the full lifespan of the development.

The provision would include:

- external woodcrete bird boxes with 32mm entrance holes such as 1MR Schwegler Avianex or Vivara Pro WoodStone 32mm Nest Box for various species; and
- general purpose open fronted boxes, again of woodcrete/woodstone construction.
- 5.40 The boxes will be set on various aspects at a height of about 5m. Integrated boxes would require advice on suitability following detailed design of the units. 19

Hedgehog

A single artificial hedgehog refuge could be incorporated into the any new hedgerow (excepting the roadside boundary).

Invertebrates

Depending on the construction of the new units, it is recommended that an integrated insect nesting box is included in the design where possible. If this cannot be done, then two durable woodcrete based models should be erected on trees.

ECOLOGY CONCLUSION

It is expected that the proposals including the above mitigation and enhancements would serve local and national policy requirements. Whilst it is not appropriate to return the entire Site to MG5 grassland (thereby contributing to increasing priority habitat), the existing area of traditional grassland will be maintained and species diversity of the retained grassland can be increased, alongside additional green roof habitat, which will be a seed resource. It is anticipated that a Construction Method Statement, to include a reptile method statement will be a condition of planning consent. A Management Plan detailing the species composition and management of habitat is also anticipated to be conditioned.

APPENDIX A

GREEN INFRASTRUCTURE STATEMENT

TREES

This accompanying Arbocultural report identifies the quality of the trees on this site as categorised by the British Standard 5837:2012, Trees in relation to design, demolition and construction - Recommendations. The survey and findings, as reported here, represent an unbiased third-party opinion offering professional advice on the value of the trees on or adjacent to this site.

The survey was carried out per British Standard 5837:2012, Trees in relation to design, demolition and construction - Recommendations. This standard gives a systematic, consistent, transparent evaluation method for tree surveying.

AVOID & MINIMISE

Tree Loss - AIA - LOW - The following trees are required to be removed to facilitate the construction of the proposed development design.

Individual Tree Loss -

- o Tree T1 - Crack Willow - Moderate Value - (B Category)
- o Tree T4 - Goat Willow - Low Value - (C Category)
- o Tree T10 - Oak - Low Value - (C Category)
- o Tree T9 - Cherry - Low Value - (C Category)

MITIGATION

Four trees have been identified as being removed to facilitate the construction of the proposed development design. All but one of these trees identified for removal are low-quality trees (C Category). These trees should not present a constraint on developing the site. The removal of the one moderate-quality tree (B Category = T1) can be mitigated by suitable compensatory tree planting.

Root Protection Area (RPA) - AIA - LOW - RPA potential damage can all be managed through the installation of tree protective fencing, installation of Cellweb within RPA etc., as designed by an Arboriculturist will ensure no significant long-term adverse impact will occur to any of the retained trees.

Tree surgery work - AIA - LOW - Some minor branch reduction/branch lifting pruning work will be required to facilitate this proposed scheme, as detailed in the tree protection plan (Appendix 4). This work will be carried out to the British Standard 3998:2010 tree work recommendations. Adhering to this standard will ensure no adverse impact on these trees' long-term health or visual amenity.

Future Tree Pressures - AIA - LOW - Overall, the design has considered the size and value of the trees on this site to minimise any future pressures to heavily prune or fell the higher-value trees.

CONCLUSION

Conclusion - AIA (Including landscape mitigation) - LOW - The site has several Arboricultural constraints that must be considered in the development design phase. Four trees have been identified as being removed to facilitate the construction of the proposed development design. All but one of these trees identified for removal are low-quality trees (C Category). These trees should not present a constraint on developing the site. The removal of the one moderate-quality tree (B Category = T1) can be mitigated by suitable compensatory tree planting.

OVERALL SUMMARY

The importance of integrating green infrastructure and biodiversity enhancement has been embedded into the proposals from the earliest design stages. This statement has set out the benefits of the proposed scheme for both use, architecture and the natural environment.

The considered proposals have identified and utilised existing features of the site, ensuring their preservation and enhancement in the new plans. The scheme creates

new planting, establishing native hedgerows, integrating rainwater attenuation, and incorporating landscape elements that not only mitigate environmental impacts but elevate biodiversity and enhance the overall amenity value of the site.

We believe the scheme balances a sensitive architectural proposal with green infrastructure that supports improved connection between people and nature, providing a positive impact on well-being and ensuring a sustainable and enriching environment for the future.

It is considered that the proposed scheme complies with the updated Chapter 6 of Planning Policy Wales which sets out the policy for biodiversity and nature.

DAN Y DARREN FARM

