Lleine Farm, Cynwyl Elfed

dp landscape architecture

GREEN INFRASTRUCTURE STATEMENT
APPLICANT: Obsidian Developments Ltd

May 2025

Introduction

dp landscape architecture [DPLA] have been commissioned by Obsidian Developments Ltd to provide a Green Infrastructure Statement to support the proposed residential development off the B4333 / Surgeon Street, Cynwyl Elfed, Carmarthenshire. An assessment of the existing landscape and surrounding context was undertaken on 9th April 2025 by Dan Patterson BA [hons] DipLA MLI. The assessment comprised a site walk-over and brief desktop study.

This report should be read in conjunction with DPLA drawing; 1265.01; Soft Landscape Proposals.

Existing site

The existing site is located within the northern area of Cynwyl Elfed and is bounded by the existing residential property known as Garreg Lwyd to the north, open fields / farmland to the east, existing residential properties and chapel along the A484 to the south and the B4333 / Surgeon Street to the west.

There is very little in terms of existing landscape or GI features within the site as it is dominated by hardstanding / levelled ground to the north and the existing buildings / hard standing associated with the former farmyard to the south. The centre of the site contains an area of 'improved grassland' according to the Ecology report. Existing vegetation is limited to a single tree and 2no 'species poor' hedgerows. The single tree, all of the grassland and the eastern hedgerow will be removed to accommodate the development. The existing hedgerow to the west, along Surgeon Street will be retained where possible, subject to visibility splays at the site entrance.

The site will be enhanced by the introduction of new native tree planting, native hedge planting, new shrubs including plants known to benefit wildlife, wildflower meadow areas and other habitat types.

View northwest from existing farmyard area, looking over grassland with hedgerows east and west.

Green Infrastructure Strategy

Planning Policy Wales defines Green infrastructure as 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 and some components, such as trees and woodland, are often universally present and function at all levels.

The Environment (Wales) Act 2016, provides a context for the delivery of multi-functional green infrastructure. Its protection and provision can make a significant contribution to the sustainable management of natural resources, and in particular to protecting, maintaining and enhancing biodiversity and the resilience of ecosystems in terms of the diversity within and connections between ecosystems and the extent and condition of these ecosystems, so that they are better able to resist, recover from and adapt to pressures.

The quality of the built environment should be enhanced by integrating green infrastructure into development through appropriate site selection and use of creative design. With careful planning and design, informed by an appropriate level of assessment, green infrastructure can embed the benefits of biodiversity and ecosystem services into new development and places, help to overcome the potential for conflicting objectives, and contribute to health and well-being outcomes.

Due to the nature of the proposed development, a proportion of the site will be taken up by the buildings and the associated access roads and parking, however, the proposed layout creates a series of green spaces which will be maximised to meet the GI objectives.

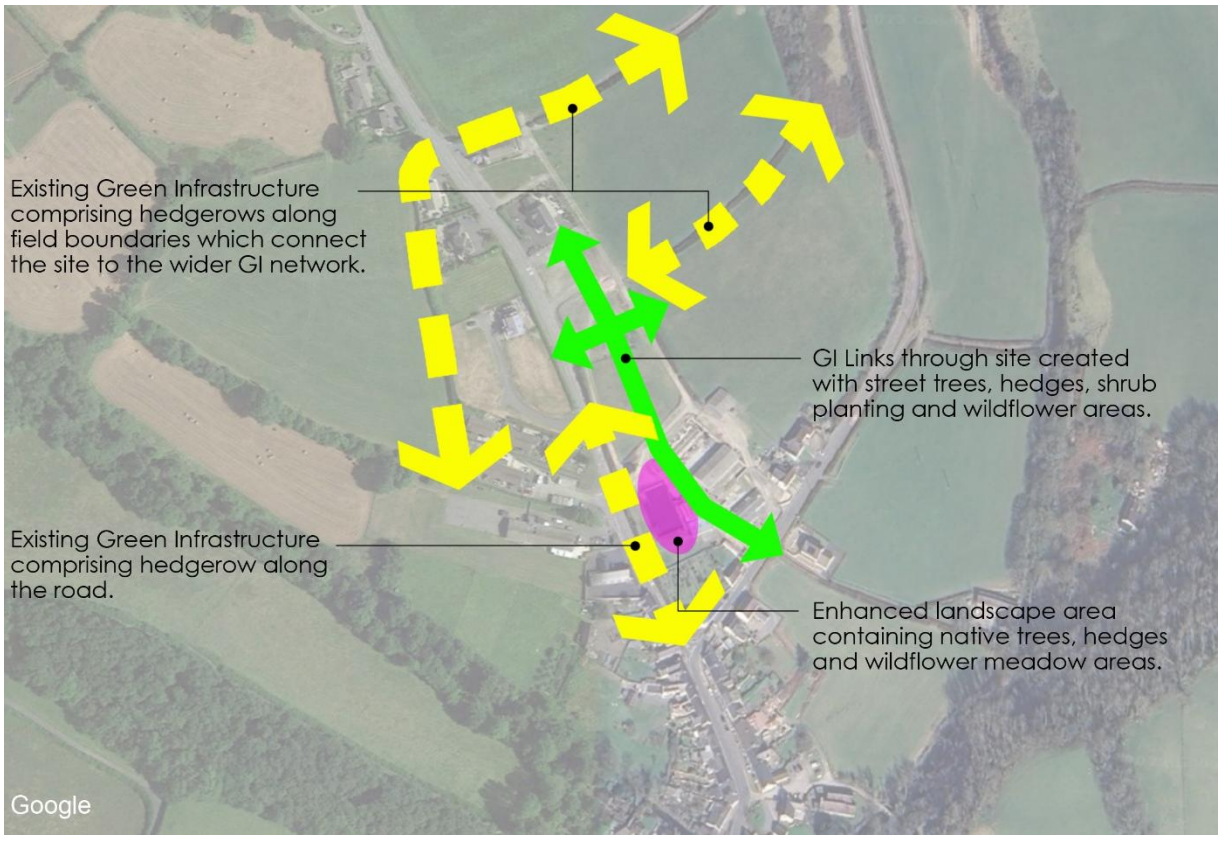


Figure 01 – Design Principles.

The site contains very little in terms of GI but nevertheless benefits from its proximity to the adjacent hedgerows and vegetation along field boundaries, as indicated in Figure 01 above.

The new Green Infrastructure proposed as part of the development can utilise these existing features to connect directly with the wider ecological network by introducing enhanced landscape areas and a series of GI links though the site and along its boundaries.

This report uses the following five principles of Green Infrastructure as a guide to inform the landscape design to ensure the landscape maximises the benefits to people and wildlife.

The five principles:

- Multi-functional
- Adapted for Climate Change
- Healthy
- Biodiverse
- Smart & Sustainable

Multi-functional:
The landscape design includes a range of GI features for the benefit of people and wildlife. These include native tree planting to improve amenity as well as providing summer shade and a food source for wildlife.

The planting design includes ornamental shrubs and those that are known to support wildlife. This will improve amenity and tie in visually with the adjoining landscape. This planting also provides safe routes through the site for mammals and foraging opportunities for local fauna.

Street trees, shrub planting and hedges are proposed to provide GI links through the site as well as areas of wildflower meadow proposed as part of a SUDS features. The proposed seed mix contains a range of flowering species which will add to the amenity and attract endangered species such as bees and butterflies.

The combination of the above measures will enhance biodiversity across the site and demonstrates every effort is being made to create a multi-functional landscape.

Landscape features to benefit people and wildlife.

Adapted for Climate Change:
The drainage design for the site includes a Sustainable Urban Drainage System. [SUDS]. The design comprises a large basin and a series of rain gardens.

This gives us an excellent opportunity at surface level to create rich wetland and grassland habitats capable of holding water on site. This will improve and manage water quality, enhance biodiversity as well as providing amenity for the people using the site.


'RE3 River Floodplain - Water Meadow' by Germinal Seeds or similar.

Healthy:
The underlying principles of the landscape design for the site are to create an attractive setting for the new development for the benefit of all users.

This will be achieved by retaining and enhancing existing landscape features where possible and introducing new native tree and shrub planting as well as areas of wildflower meadow as described earlier.

The combination of the above GI features will contribute positively to the amenity of the site and to the wellbeing of those who live there and / or visit.

Biodiverse:
The planting scheme includes a large number of native species and species noted for wildlife value. These features include trees, hedges, shrubs, wildflower meadows and wetland habitats across the sites.

The existing planting infrastructure surrounding the site will be retained where possible and enhanced to ensure a healthy biodiverse site in the long term, which in turn will benefit local ecosystems and the wellbeing of people.

In addition to the habitats created through the planting design, the site will also include other ecological measures. Bat and bird boxes will be installed on the new building.

Bat boxes, bird boxes and invertebrate refugia.

Smart & Sustainable:
The planting design for the development has been carefully considered to ensure that it is not reliant on artificial irrigation.

The only exception to this could be during the establishment period, where, during periods of prolonged dry weather, the young plants may require some watering to prevent loss and to aid their successful establishment. In these circumstances, the watering should be carried out using harvested rainwater where possible.

Landscape Proposals

An extract of the soft landscape proposals drawing is copied below and clearly describes the design intent for the planting areas.

Figure 02 - Extract from DPLA drawing 1265.01

The landscape proposals have been designed to contain a range of measures to ensure GI is maintained and enhanced as part of the development.

Key measures include:

- Native tree planting around the site. This provides an attractive setting for the development and adds to the existing landscape infrastructure.
- Native hedge planting to boundaries provides a food source and nesting opportunities for birds.
- Native structure planting to sloped ground between plateaus creates new ecological habitats.
- Shrub planting including species known for wildlife value. This softens building frontages and enhances biodiversity.
- The inclusion of wildflower meadow area to the SUDS features and around the site generally provides further ecological benefits and enhances the external environment.

The combined effect of the above measures will be the creation of a species rich landscape, appropriate to the scale and nature of the proposed development.

Native trees, hedges and shrubs known to benefit wildlife.

The DECCA Framework and Net Benefits for Biodiversity
The DECCA framework is used for evaluating ecosystem resilience based on five attributes and properties specified in the Environment (Wales) Act. These are: Diversity, Extent, Condition, Connectivity and Aspects of ecosystem resilience.

A summary of the definitions is described below:

- ***Diversity**: maintaining and enhancing diversity at every scale, including genetic, structural, habitat and between-habitat levels. This supports the complexity of ecosystem functions and interactions that deliver services and benefits.*

- ***Extent**: incorporating measures which maintain and increase the area of semi-natural habitat/features and linkages between habitats. In general, smaller ecosystems have reduced capacity to adapt, recover or resist disturbance.*

- ***Condition**: The condition of an ecosystem is affected by multiple and complex pressures acting both as short term and longer term types of disturbance. Both direct and wider impacts should be considered, for example avoiding or mitigating pressures such as climate change, pollution, invasive species, land management neglect etc.*

- ***Connectivity**: This refers to the links between and within habitats, which may take the form of physical corridors, stepping stones in the landscape, or patches of the same or related vegetation types that together create a network that enables the flow or movement of genes, species and natural resources. Developments should take opportunities to develop functional habitat and ecological networks within and between ecosystems, building on existing connectivity.*

- ***Aspects** of ecosystem resilience (adaptability, recovery and resistance): ecosystem resilience is a product of the above four attributes. Adaptability, recovery and resistance to/from a disturbance are defining features of ecosystem resilience.*

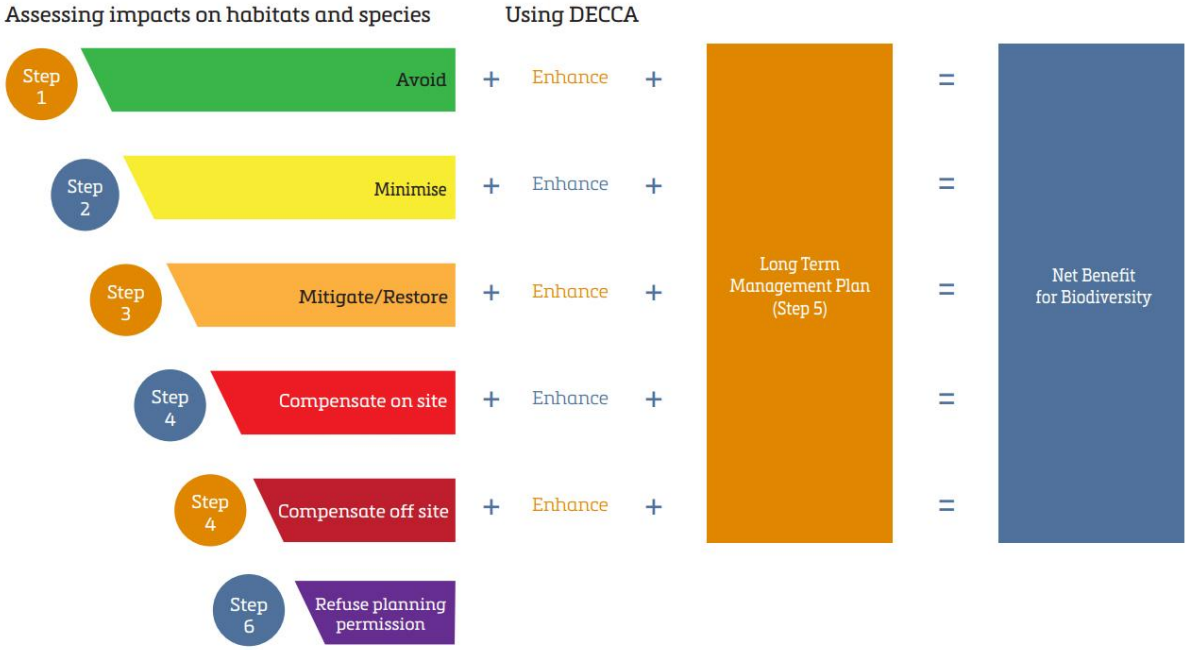
The landscape proposals seek to maintain and enhance diversity where possible by introducing new and varied habitats. The extent of habitats have been increased by introducing new hedges, tree and shrub planting and wildflower meadows.

The application site includes a broader range of habitats, thereby improving the condition of the existing ecosystems. The new landscape proposals improve the existing connectivity between habitats and also create important links and stepping stones throughout the development using tree planting, structure planting, new hedges and shrubs.

The variation in species used in the proposed tree and shrub planting, the new hedges and wildflower meadows all contribute positively to the long-term resilience of the site's ecosystems.

Demonstrating Net Benefits for Biodiversity [NBB]
The landscape proposals for the site demonstrate that they have both maintained and enhanced biodiversity and built resilient ecological networks. The biodiversity enhancements described above, achieve NBB by following the Step-Wise Approach of firstly avoiding, then minimising, mitigating and as a last resort compensating for, adverse impacts on the environment in a development.

Figure 12: Summary of the Step-Wise Approach



Summary of the Step-Wise Approach taken from Planning Policy Wales. 12 Edition – February 2024.

The examples of using the Step-Wise Approach are evident within the design for the site. The removal of existing vegetation has been avoided where possible, for example; the existing hedge along Surgeon Street has been retained where possible.

Where removal of existing vegetation has been unavoidable, either due to the development or due to other reasons, this has been minimised and then mitigated with new planting and ecological measures to ensure the appropriate restoration of habitats.

Finally, all of the mitigation measures have been included within the site, demonstrating that all attempts have been made to compensate on site.

The NBB for the site have been achieved through a range of actions, ranging from installation of bat and bird boxes to the creation of new habitats. The soft landscape proposals are proportional to the extent and impact of the development and contribute to a resilient and biodiverse ecological network.

Conclusion

The existing landscape has been assessed and important existing features have been identified. These will be retained and enhanced where possible and as appropriate, as part of the new landscape proposals for the site.

The impact of the new development will be mitigated by creating new planting zones, wildflower meadows and other landscape features which will improve biodiversity, provide important ecological habitats and enhance the amenity value of the site.

The successful establishment of the landscape design for the site will provide a network of healthy, multi-functional and biodiverse green spaces, capable of delivering a wide range of environmental and quality of life benefits for people and wildlife.