



October 2024

Biglis to Dinas Powys
Active Travel Route

Green Infrastructure Statement



GREEN INFRASTRUCTURE STATEMENT

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01

INTRODUCTION

1.0 INTRODUCTION

1.1 INTRODUCTION

- 1.1.1 Arcadis Consulting (UK) Limited has been commissioned by Vale of Glamorgan Council to produce a Green Infrastructure Statement in support of a detailed design application for a proposed Active Travel Route (ATR) between Biglis and Dinas Powys ('the Proposed Development').
- 1.1.2 The Proposed Development is in the Vale of Glamorgan with a central grid reference of ST 15393 70215. The Proposed Development is located between Biglis and Dinas-Powys, approximately 2.5km to the south-west of Cardiff City Centre. From the south, the proposed route connects with Sully Moors Road, passing through a small copse, then proceeding northwards adjacent to the east of the A4055 for approximately 1500m. The route then crosses the A4055, passing through Parc Byn-Y-Don, before continuing northwards through residential areas and terminating at an existing access path for Dinas Powys Station. The application site boundary is shown in the accompanying Soft Landscape Design Drawing (Drawing Ref: 10058585-ARC-XX-300-DR-LA-00001) and below on Figure 1.
- 1.1.3 The southern extent of the Proposed Development Site comprises a mixture of agricultural grassland, with established hedgerows delineating field boundaries and lining the existing A4055.
- 1.1.4 Further north, the route deviates from the A4055, crossing open grassland at Parc Bryn-y-Don, before continuing north through an avenue of mature trees and into the residential suburbs of Dinas-Powys, where vegetation is generally limited to sporadic street trees and amenity planting within private gardens.
- 1.1.5 The planning application seeks full permission for the following:

'The provision of an Active Travel Route, footbridge, landscaping and associated works from Biglis to Dinas Powys'

- 1.1.6 This Green Infrastructure (GI) Statement has been prepared to demonstrate how the Proposed Development responds to its GI assets and surrounding context. The GI Statement sets out an entrenched approach to minimise and mitigate the negative effects of the development. The purpose and detail of the GI Statement is set out in Section 1.4 below.



Figure 1. Location of Biglis - Dinas Powys ATR Site

1.2 SUMMARY OF PROPOSED DEVELOPMENT

- 1.2.1 The proposals are for a new ATR between Dinas Powys and Biglis. An ATR is a path that will be used for walking and cycling (including the use of mobility scooters) for everyday journeys.
- 1.2.2 The northeastern and northern section of the proposed development runs along an existing ATR from Dinas Powys Station, onto St Cadoc's Avenue and then onto Heol Y Frenhines. The route then runs southwards through open grassland at Parc Byn-Y-Don and onto Cardiff Road to the entrance of Green Lane. The southern section of the proposed development runs from Green Lane where it will continue through grazed semi-improved grasslands and run parallel to Cardiff Road to the Biglis roundabout that connects the A4055 to the A4231 and B4267 at the eastern edge of Barry.
- 1.2.3 Works will include:
- Site drainage, access roads and footpaths, task specific lighting, security gates and fencing, landscaping, biodiversity planting and CCTV
 - Path and cycle path creation through widening of existing path.
 - Pedestrian and cycle footbridge.
 - Toucan crossing creation.
- 1.2.4 The proposed works are local in scale and unlikely to result in significant landscape and ecological impacts beyond the boundaries of the Study Area. However, due to the presence of suitable habitats within the Study Area, in the absence of mitigation and potential enhancement works, and in particular habitat creation / reinstatement, have the potential to impact (kill and/ or injure) protected and notable species.
- 1.2.5 A suite of Landscape and Ecological Enhancement Strategy Plans have been prepared to accompany the application (Appendix A contains Soft Landscape Design Drawing 10058585-ARC-XX-300-DR-LA-00001) which illustrates a scheme of ecological enhancement measures including a planting schedule and specification.



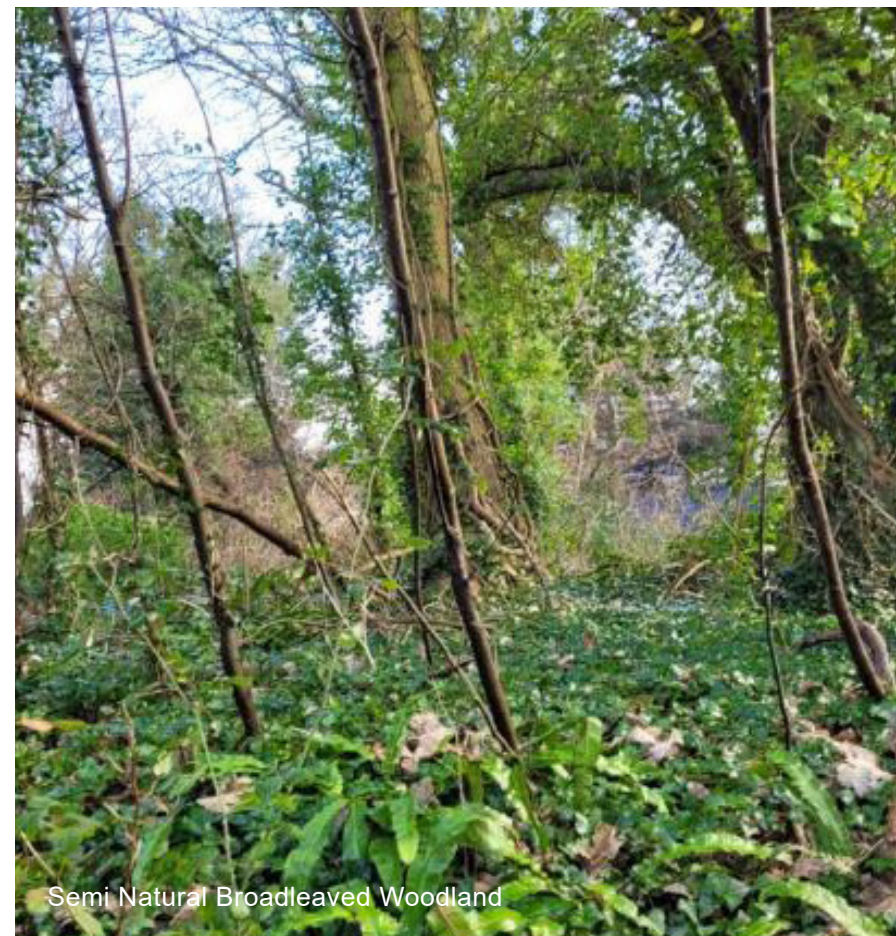
1.2.6 Key ecological and landscape enhancement features include:

- Ensuring that wildlife corridors are maintained and created in particular reinforcing the Vale of Glamorgan coastal B-line through invertebrate attractive planting;
- Incorporation of a sensitive lighting strategy to be considered in the design;
- Tree replacement and new tree planting where feasible;
- Installation of invertebrate hotels, bird and bat boxes in trees to provide additional refuge sites for these species groups;
- The incorporation of attractive wildlife and wildflower areas where feasible using a variety of native species to support invertebrates; and
- The creation of habitat piles to provide refuge for reptiles, amphibians and hedgehogs.

1.2.7 The Soft Landscape Design sets out the proposed planting palettes for mitigation and enhancement of the site area. The proposed species have been selected in consideration of existing key ecological species and invertebrate in the area, such as planting to enhance habitats suitable for foraging hedgehog, polecat and harvest mouse and vegetation which is suitable for the locality in consideration of soil type and the ability to create a very diverse range of habitats across the site where conditions vary:

- Proposed native hedgerow mix includes *Acer campestre* (Field Maple), *Prunus spinosa* (Blackthorn) and *Crataegus monogyna* (Hawthorn);
- Proposed native woodland mix includes native species comprising *Quercus robur* (English Oak), *Corylus avellana* (Hazel) and *Salix caprea* (Goat Willow);
- Specimen trees include species such as *Betula pendula* (Silver birch), *Sorbus aucuparia* (Rowan) and *Prunus padus* (Bird cherry);
- A series of grass mixes including Strong Lawn Grass Mixture (Emosgate EG22) for verges, Basic General Purpose Meadow Mixture (EM1) for general meadow areas and Hedgerow Mixture (EH1) for shaded areas.

1.2.8 A Construction Environmental Management Plan (CEMP) will be delivered as a planning condition for the planned works. The CEMP will provide a framework detailing how the works will be undertaken and managed in accordance with environmental commitments and requirements, which include contractual, legislative and construction industry best practice. The CEMP will provide a means for recording environmental risks, commitments and other environmental constraints and identifies the processes that will be used to manage and control these aspects. The CEMP will also facilitate compliance with relevant environmental legislation, government policy objectives and scheme-specific environmental objectives, whilst also providing the mechanism for monitoring, reviewing and auditing environmental performance and compliance.



Semi Natural Broadleaved Woodland

1.3 PLANNING POLICY CONTEXT

1.3.1 At a national level, Planning Policy Wales (PPW) 12 Edition (Welsh Government, February 2024) provides relevant planning guidance informed by the Well Being Future Generations Act, together with the National Development Framework: Future Wales – The National Plan 2040 (February 2021), as well as supporting Technical Advice Notes (TANs). The content of national guidance must be taken into account by local planning authorities when deciding planning applications. Detail of all applicable policy detail is set out in the Planning Statement ([Document Ref: P27UR7K43AUW-471376514-176](#)).

Green Infrastructure

1.3.2 The Environment (Wales) Act 2016, provides a context for the delivery of multi-functional GI. 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. This means that the development of GI is an important way for local authorities to deliver their Section 6 duty.

1.3.3 Proposed changes to PPW were consulted on between March and May 2023. The finalised policy for inclusion in the next iteration of Planning Policy Wales (version 12) was published in February 2024. The main changes include emphasis on GI, including trees and woodland and Protection for Sites of Special Scientific Interest as well as a Net Benefit for Biodiversity and the Step-wise approach.

- **Green Infrastructure:** stronger emphasis on taking a proactive approach to GI covering cross boundary considerations, identifying key outputs of green infrastructure assessments, the submission of proportionate GI statements with planning applications and signposting Building with Nature standards.

- **Net Benefit for Biodiversity and the Step-wise Approach:** further clarity is provided on securing net benefit for biodiversity through the application of the step-wise approach, including the acknowledgement of off-site compensation measures as a last resort, and, the need to consider enhancement and long-term management at each step. The use of the green infrastructure statement as a means of demonstrating the stepwise approach is made explicit. A simplified diagram of the policy approach has been developed (which will be further refined in the consolidated version of PPW12). The importance of strategic collaboration to identify and capture larger scale opportunities for securing a net benefit for biodiversity is recognised.
- **Protection for Sites of Special Scientific Interest:** strengthened approach to the protection of SSSIs, with increased clarity on the position for site management and exemptions for minor development necessary to maintain a 'living landscape'. Other development is considered unacceptable as a matter of principle. Exceptionally, a planned approach may be appropriate where necessary safeguards can be secured through a development plan.
- **Trees and Woodlands:** closer alignment with the stepwise approach, along with promoting new planting as part of development based on securing the right tree in the right place.

1.3.4 Paragraph 6.2.5 of the annex sets out that the quality of the built environment should be enhanced by integrating GI into development through appropriate site selection and use of creative design. With careful planning and design, informed by an appropriate level of assessment, GI 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. Furthermore a green infrastructure statement should be submitted with all planning applications. This will be proportionate to the scale and nature of the development proposed and will describe how GI has been incorporated into the proposal. In the case of minor development this will be a short description and should not be an onerous requirement for applicants. The green infrastructure statement will be an effective way of demonstrating positive multi-functional outcomes which are appropriate to the site in question and must be used for demonstrating how the step-wise approach has been applied.

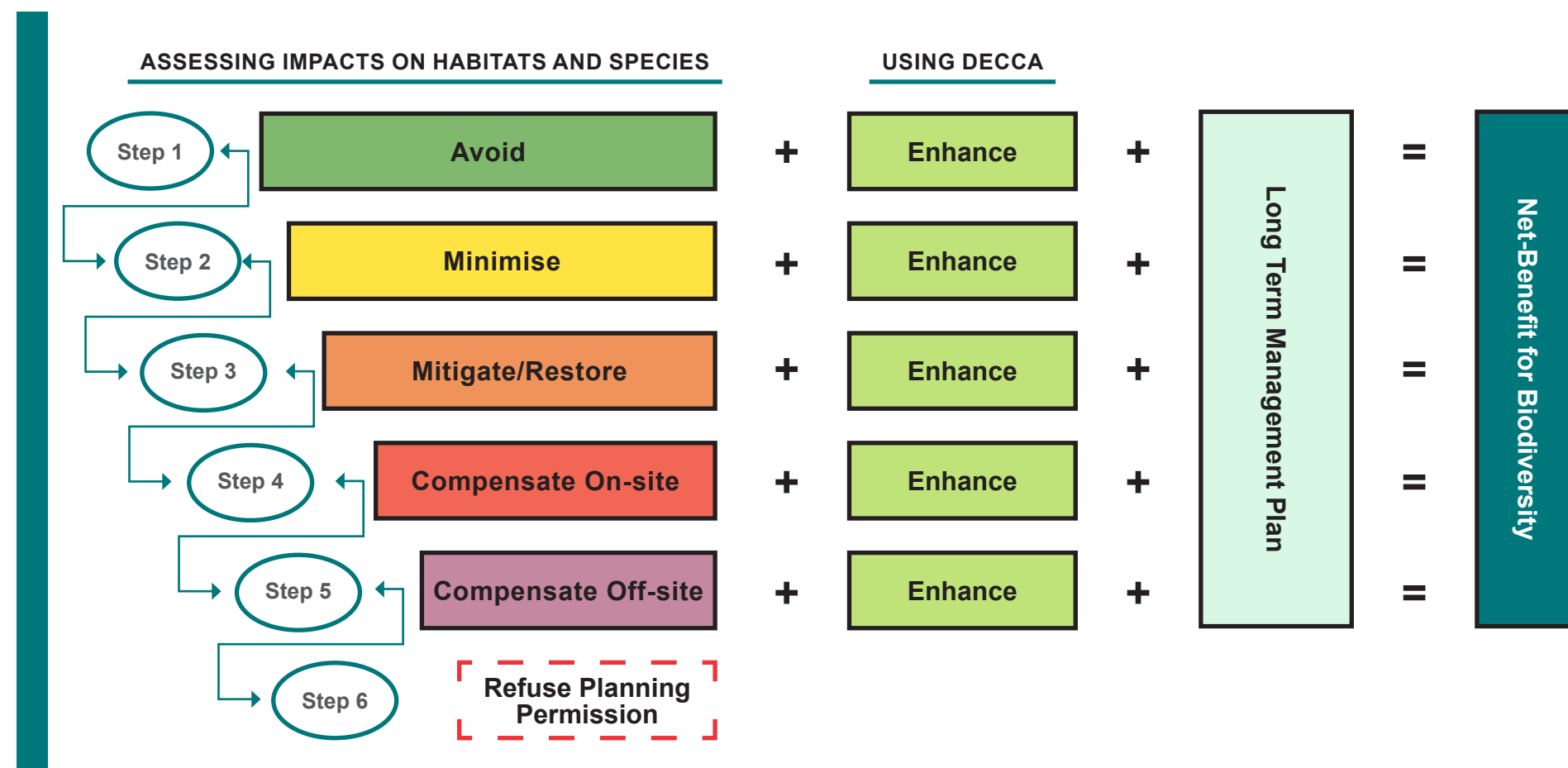


Figure 2. Step-wise Approach

1.3.5 Improving ecosystem resilience, particularly improving connectivity to the immediate surroundings, would be a key contribution to on-site avoidance, minimisation, and mitigation strategies and enhancement. How a development would improve the attributes of resilience should be demonstrated as far as this is reasonably practical.

Step-Wise approach summary

1.3.6 The first priority for planning authorities is to avoid damage to biodiversity in its widest sense (i.e. the variety of species and habitats and their abundance) and ecosystem functioning. Proposals in statutory designated sites are, as a matter of principle unacceptable, and therefore must be excluded from site searches

undertaken by developers. This principle also extends to those sites containing protected species and habitats which are irreplaceable and must be safeguarded. When all locational, siting and design options for avoiding damage to biodiversity have been exhausted, applicants, in discussion with planning authorities must seek to minimise the initial impact on biodiversity and ecosystems by:

- maintaining the largest possible area of existing habitat supporting biodiversity and functioning ecosystems, by minimising development size and appropriate orientation on site, paying due regard to the potential for continued long term maintenance and management of retained areas to benefit biodiversity;
- ensuring that retained habitats continue to be well connected to adjacent habitats to provide connectivity for key species and

ensuring that the favourable conservation status of local species populations is maintained;

- retaining existing features, develop a management plan for their future care (e.g., trees, hedgerows, species rich grasslands, heath, wetlands, ponds and freshwater habitats) and use appropriate buffers to protect these from construction and operational impacts, and
- using proven innovative/creative solutions (where required) to minimise damage and maintain existing biodiversity features and ecosystems in tandem with robust monitoring and rectification strategies.

1.3.7 Where, after measures to minimise impact, biodiversity and ecosystems could still be damaged, or lost through residual impacts, the proposed development should mitigate that damage. Mitigation measures must be put in place to limit the negative effects of a development. Effective mitigation or restoration measures should be incorporated into the design proposal following the consideration of steps one and two above. Mitigation or restoration measures must be designed to address the specific negative effects by repairing damaged habitats and disturbed species. When all the steps above have been exhausted, and where modifications, alternative sites, conditions or obligations are not sufficient to secure biodiversity outcomes further on site/immediately proximate, and as a last resort off-site compensation for unavoidable damage must be provided. This must be of significant magnitude to fully compensate for any loss.

1.4 GREEN INFRASTRUCTURE OVERVIEW

1.4.1 GI 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 and some components, such as trees and woodland, are often universally present and function at all levels. At the landscape scale green infrastructure can comprise entire ecosystems such as wetlands, waterways, peatlands and mountain ranges or be connected networks of mosaic habitats, including grasslands. At a local scale, it might comprise parks, fields, ponds, natural green spaces, public rights of way, allotments, cemeteries and gardens or may be designed or managed features such as sustainable drainage systems. At smaller scales, individual urban interventions such as street trees, hedgerows, roadside verges, and green roofs/walls can all contribute to green infrastructure networks.

1.4.2 GI plays a fundamental role in shaping places and our sense of well-being, and is intrinsic to the quality of the spaces we live, work and play in. The planning system must maximise its contribution to the protection and provision of green infrastructure assets and networks as part of meeting society's wider social and economic objectives and the needs of local communities. Taking a proactive and spatial approach, which links to wider activity being taken by local authorities to protect and provide green infrastructure, will help provide clarity around the contribution which the planning system can make. This means considering how it complements existing and future maintenance and management regimes within urban areas and contribute towards wider land management activities in rural areas to aid nature recovery, and its underpinning natural resources. This will require effective joint working and collaboration across various sectors and activities, including administrative boundaries. Establishing arrangements to promote collaboration across local authority borders will be necessary, especially where the provision of off-site compensatory land to address biodiversity loss and provide enhancement will have the greatest benefit for biodiversity and resilient ecological networks.

1.4.3 GI is capable of providing several functions at the same time and as a result offers multiple benefits, for social, economic and cultural as well as environmental resilience. The components of green infrastructure, by improving the resilience of ecosystems, can result in positive benefits to well-being including flood management, water purification, improved air quality, reduced noise pollution and local climate moderation, climate change mitigation and food production. These benefits are important in urban environments where they can facilitate health and well-being related benefits of open space, clean air and improved tranquillity, for example, as well as creating a sense of place and improved social cohesion. In addition, green infrastructure has a role in protecting local distinctiveness, providing economic benefits and social and community opportunities.



Codoxton River

1.5 PURPOSE AND STRUCTURE OF THE STATEMENT

- 1.5.1 The purpose of this GI Statement is to demonstrate positive multi-functional outcomes as a result of the Proposed Development and how the step-wise approach has been applied.
- 1.5.2 This Statement includes an assessment which is structured around the Building with Nature standards¹. These Standards represent good practice and are an effective prompt for developers to improve the quality of their schemes and demonstrate the sustainable management of natural resources. Using these Standards in a way which is proportionate to the nature and scale of the development proposed is a useful way of ensuring appropriate consideration in circumstances where there is an absence of a green infrastructure assessment and planned approach or relevant local or Supplementary Planning Guidance. The Standards are underpinned by an accreditation system and whenever possible, accreditation under these standards should be pursued.
- 1.5.3 The structure of the Green Infrastructure Statement is as follows:
- **Chapter 1** provides a brief description of the Proposed Development, an overview of Planning policy context and purpose and structure to the Statement.
 - **Chapter 2** sets out the Site Context in consideration of the immediate locality of the Proposed Development and the wider Green Infrastructure context in which it is located.
 - **Chapter 3** provides an analysis of the GI in consideration of the Building with Nature Standards.
 - **Chapter 4** reaches conclusions on the overall provision and design of GI.





02

SITE CONTEXT

2.0 SITE CONTEXT

2.1 INTRODUCTION

2.1.1 This Chapter provides an overview description of the Green Infrastructure assets surround the Site and a description of the Proposed Development Site (PDS). Full details can be found within the Planning Statement Document: [P27UR7K43AUW-471376514-176](#) and further detail of habitats within the Preliminary Ecological Appraisal (PEA) Document: 10058585-ARC-XX-XXX-RP-E-0001-P02. The PEA is designed to present the initial ecological baseline information and in particular identify confirmed (or potential) locations of important ecological features, distinguishing these from areas of less ecological value.

2.2 DEVELOPMENT SITE & SURROUNDINGS

- 2.2.1 As mentioned previously, the Site area to the south comprises a mixture of agricultural grassland, established hedgerows delineating field boundaries along the existing A4055.
- 2.2.2 Further north, the route crosses open grassland at Parc Bryn-y-Don, before continuing north into the residential suburbs of Dinas-Powys, where vegetation is generally limited to tree and amenity planting within private gardens.
- 2.2.3 The southern extents of the PDS follow the route of the existing A4055 across an area of floodplain, where the topography ranges between 5-7m AOD. The landform rises slightly as the route proceeds northwards towards Dinas-Powys, to a maximum of 14m AOD at Dinas-Powys Station.
- 2.2.4 There are a number of watercourses within the Study Area, these are listed below:
- Cadoxton River – Runs broadly north-south through the Study Area, with much of the route running adjacent to the west of the A4055, within the PDS boundary;

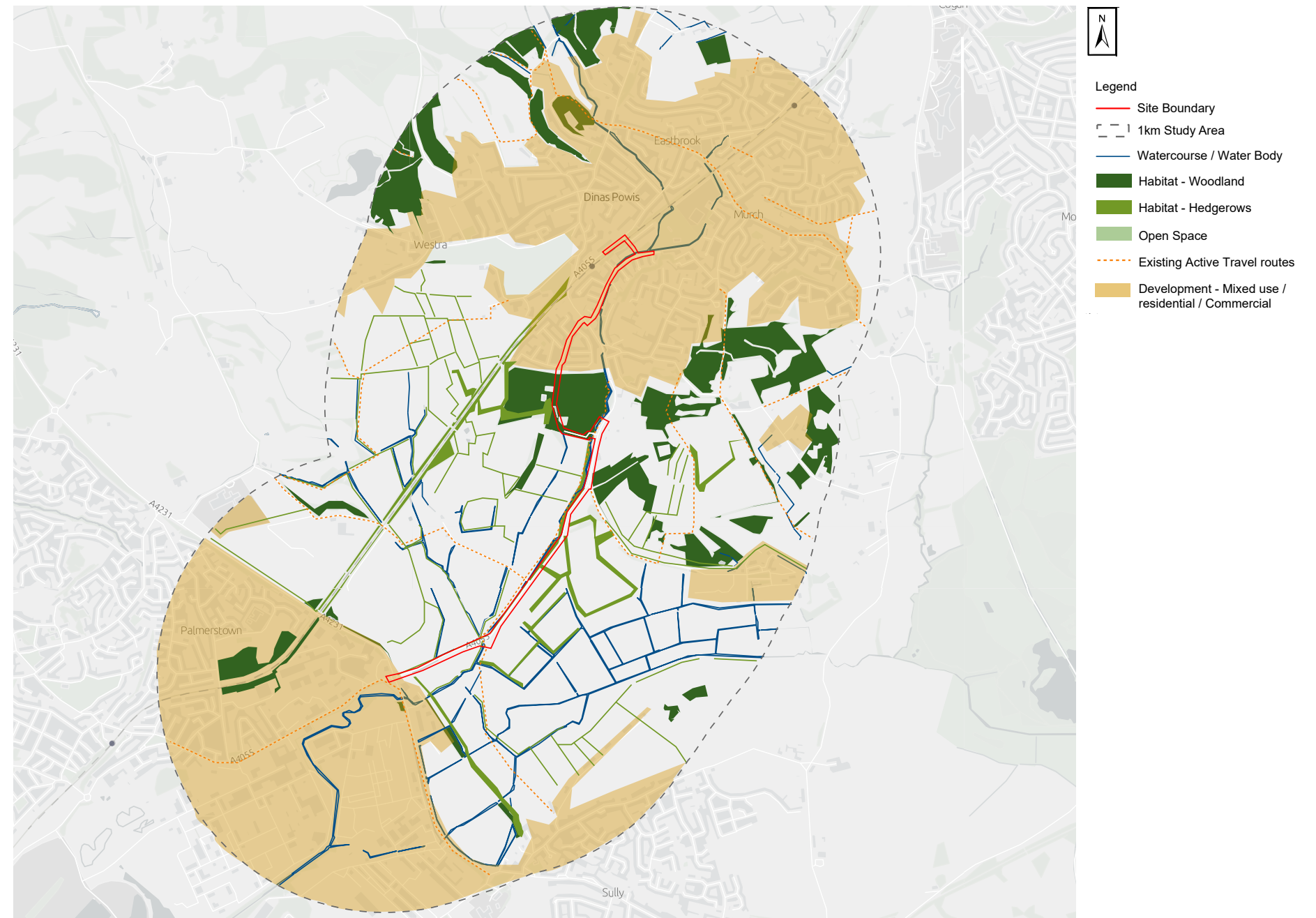


Figure 3. Green Infrastructure Contextual Assets Plan



- Cold Brook – Runs broadly north-south through the Study Area, connecting with Cadoxton River to the west of the A4055; and
- A network of un-named drainage ditches that criss-cross the lowlands of Cog Moors to the east of the PDS.

- 2.2.5 There are various Tree Preservation Order (TPO) trees or groups within or immediately adjacent to the PDS. The details of these can be found the the LVA Report (Doc Reference: 10058585 – Biglis to Dinas Powys LVA). The site is not directly contained within any statutory designated areas or sites.
- 2.2.6 There are also a number of areas within 1km of the PDS that contain either Ancient Semi Natural Woodland or Restored Ancient Woodland. The closest to the Site Boundary being 1.6ha on the southern outskirts of Dinas Powys not far from A4055/Cardiff Road to the east of the site boundary. Other areas dot the outskirts of the town to the south, and the north surrounding Dinas Powys Golf Club.
- 2.2.7 The nearest residential properties are those located adjacent to northern section of the site area, in Dinas Powys.
- 2.2.8 There are a large number of Public Rights of Way (PRoW) within 1km of the PDS. They run adjacent to Cardiff Road, into the adjacent field networks and around and within the urban areas to the north and south of the site. The names and locations of the specific PRoWs within 1km of the PDS are fully detailed in the LVA Report.

LANDMAP

- 2.2.9 LANDMAP is an all-Wales landscape resource where landscape characteristics, qualities and influences on the landscape are recorded and evaluated in a nationally consistent data set. It is a whole landscape approach that covers all landscapes, designated and non-designated, it covers natural, rural, peri-urban and urban areas, (excluding the Cities of Cardiff and Swansea) and it includes inland waters and coastal areas to the low water mark. LANDMAP divides Wales into discrete geographical areas known as aspect

areas. For each aspect area there is a survey record of landscape information. The five LANDMAP spatial datasets are called the Geological Landscape, Landscape Habitats, Visual & Sensory, Historic Landscape and Cultural Landscape.

- 2.2.10 The site lies within National Character Area NLCA 35 - Cardiff, Barry and Newport. The area forms a busy transport and development corridor. It occupies the coastal lowlands between the Severn estuary with its levels, and the edge of the South Wales Valleys with their uplands. The area includes major ports at Cardiff, Barry and Newport, and associated industrial infrastructure. There is an intensive network of busy roads and railways, including part of the M4 corridor. These urban landscapes have expanded across formerly open countryside over the last century. Yet despite all this development, the area also includes Wales' only Green belt (around Cardiff) and appealing areas of sylvan woodland, pastures and hedgerows in open countryside.

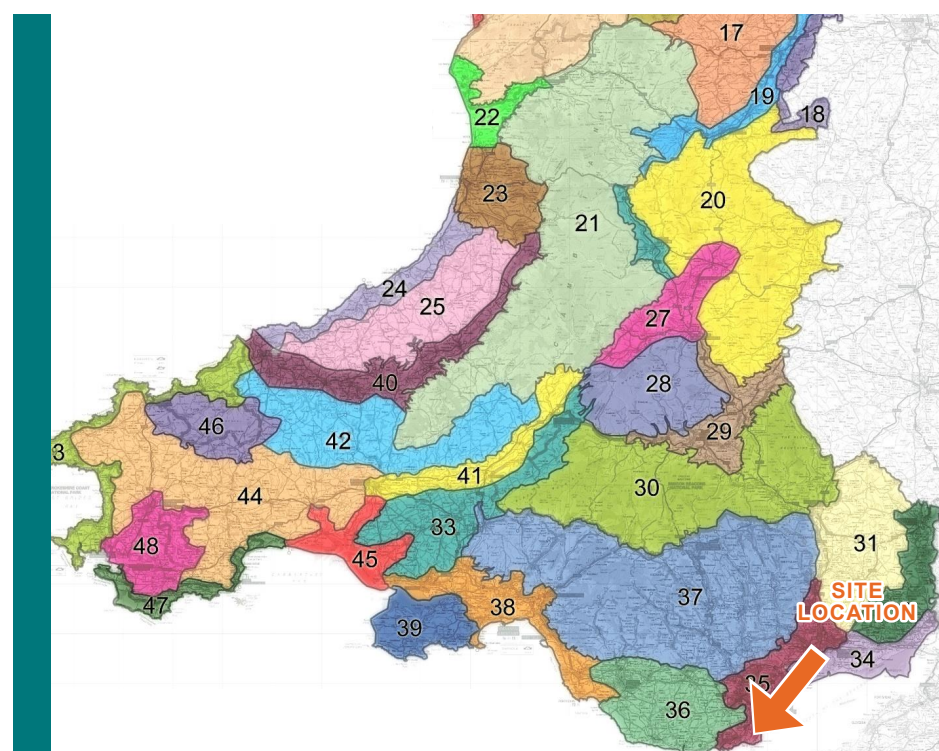


Figure 4. NLCA35 Boundary Map

Statutory and Non-Statutory Designated Sites

- 2.2.11 Cog Moors Site of Special Scientific Interest (SSSI) is located to the south of Dinas Powys between the A4055 and Sully Road, adjacent to the Welsh Water treatment site. There are no other statutory designated sites for nature conservation within 1km of the PDS.
- 2.2.12 Pwll Erw-naw Site of Importance for Nature Conservation (SINC) is the closest SINC located 10 from the site, with a number of other SINC's which are all located within 1km of the PDS boundary. The Glen Chalk caves and the Moreton Hall community woods Local Nature Reserve (LNR) are both non statutory designated areas located 1km to the south of the PDS.
- 2.2.13 A B-line (pollinator wildlife corridor) is located within the southern section of the proposed development connecting to B-lines along the south coast of Vale of Glamorgan. B-lines are chosen for restoring and improving insect/pollinator wildlife corridors and may not currently be high-value.

Local Heritage Assets

- 2.2.14 Within 1km of the PDS there are a number of Listed Buildings, Scheduled Monuments, and County Treasures with these predominantly being to the north of the Site within Dinas Powys. The Romano-British Farmstead, Dinas Powys Common is the closest Scheduled Monument located in close range at the northern extents of the scheme. A list of Scheduled Monuments, Listed Buildings and County Treasures are detailed fully in the LVIA report. There is also a Special Landscape Area, Cwrt-yr-Ala Basin on the northern outskirts of Dinas Powys, and the Dinas Powys Conservation Area, designated in 1971 by the former Glamorgan County Council, which covers 35.9 acres of the historic centre of the town.
- 2.2.15 There are a number of areas within 1km of the PDS that contain either Ancient Semi Natural Woodland or Restored Ancient

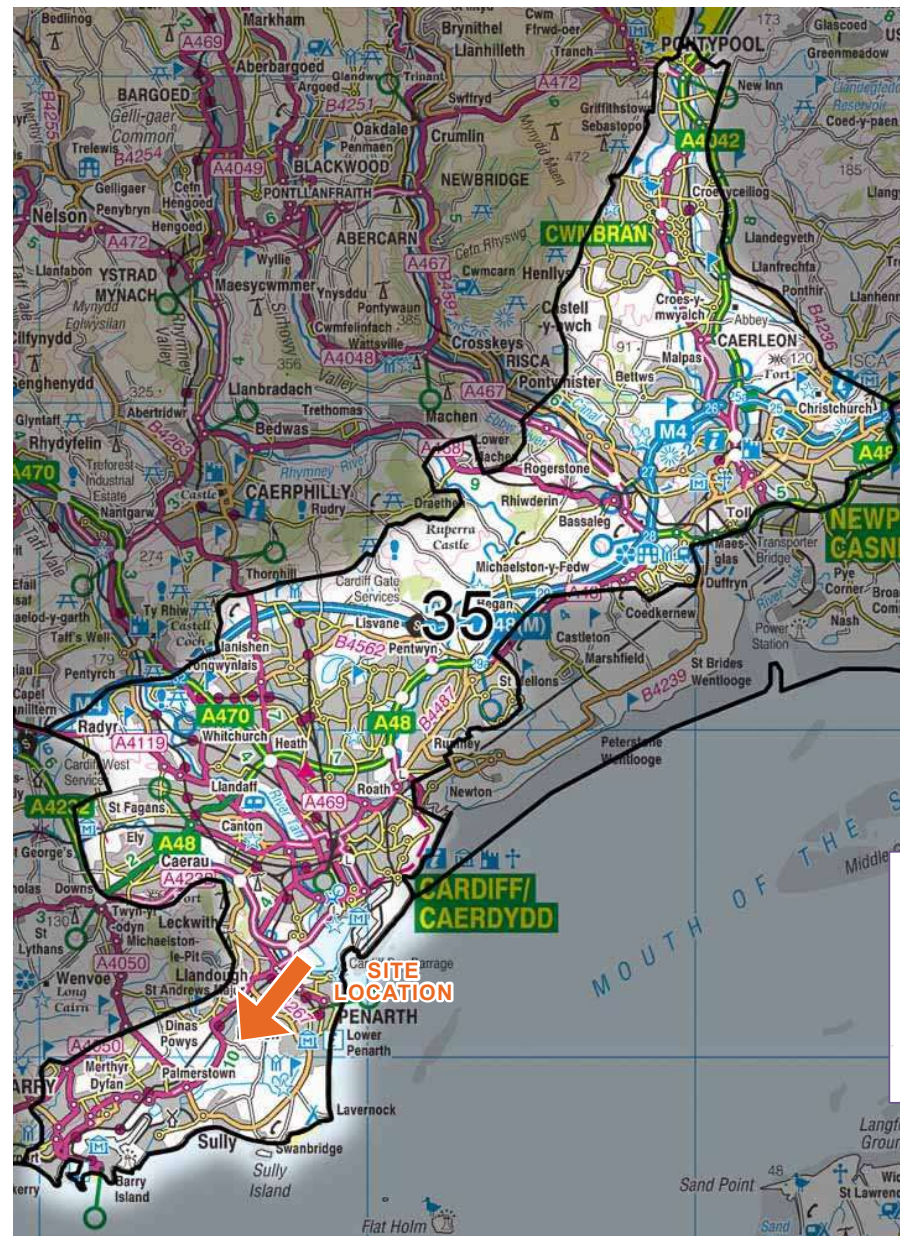


Figure 5. NLCA35 Boundary Map

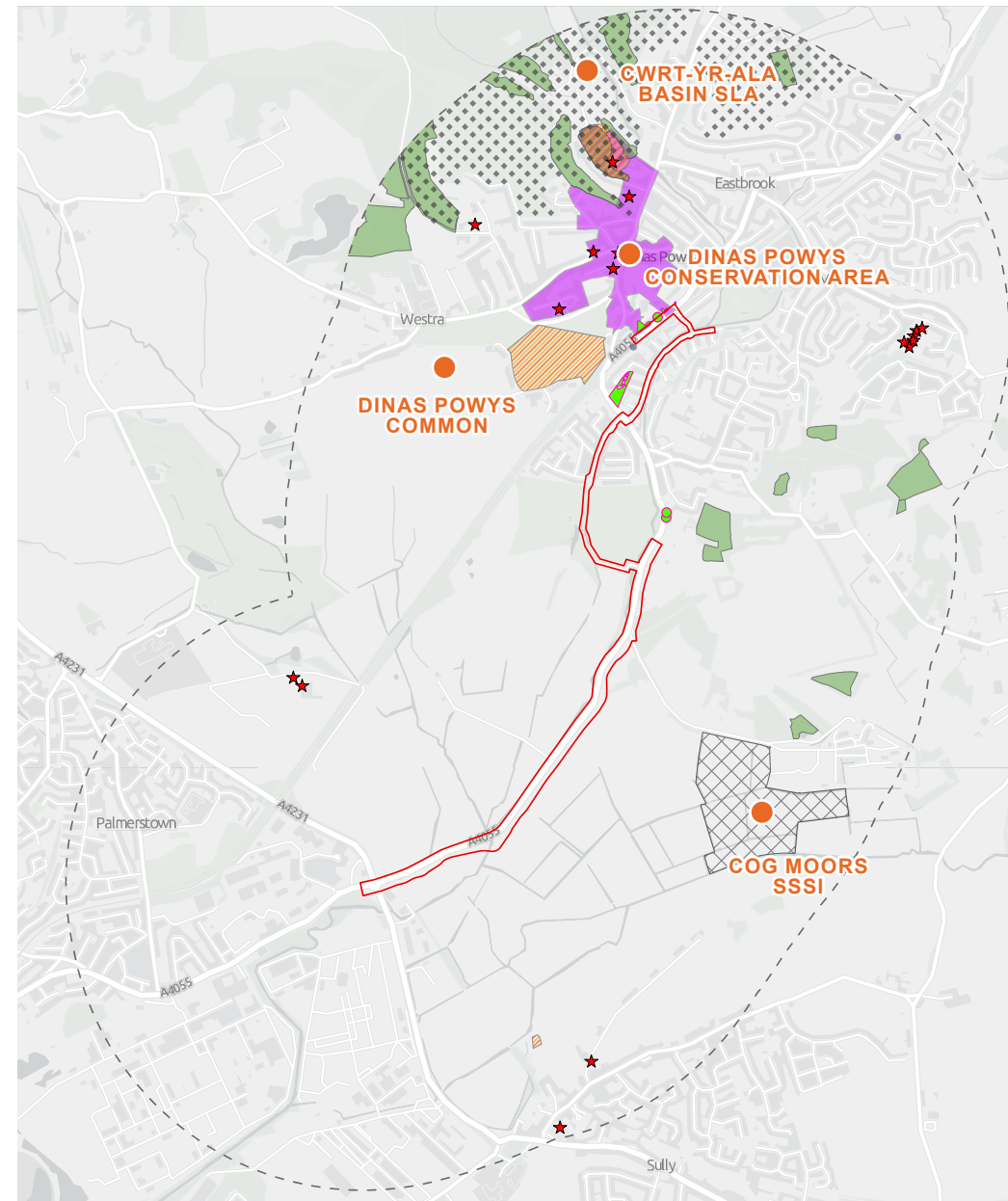


Figure 6. Local Designations within 1km Study Area

Woodland. The closest to the Site Boundary being 1.6ha on the southern outskirts of Dinas Powys not far from A4055/Cardiff Road to the east of the site boundary. Other areas dot the outskirts of the town to the south, and the north surrounding Dinas Powys Golf Club. There are no Historic Landscapes or Historic Park & Gardens 1km of the PDS.

Existing Habitats

- 2.2.16 Full details of the existing habitats and surveys are set out in the PEA (Document reference: 10058585-ARC-XX-XXX-RP-E-0001-P02).
- 2.2.17 There are 23 areas of ancient semi-natural woodland, 15 areas of restored ancient woodland and two areas of ancient woodland site of unknown category within 2km of the proposed development. The nearest ancient semi-natural woodland is located within Cross Common approximately 375m west of the northern section of the proposed development.
- 2.2.18 Other important habitats within 2km include Natural Resources Wales (NRW) Priority Area (Coastal Saltmarsh), nearest area located 2km from the proposed development, NRW Priority Area (Enclosed Farmland), the nearest one being 800m from proposed development, and a B-line (pollinator wildlife corridor) is located within the southern section of the proposed development connecting to B-lines along the south coast of Vale of Glamorgan.
- 2.2.19 **Semi-natural Broadleaved Woodland:** Areas of semi-natural broad-leaved woodland are present along the northern, central and southern section of the proposed development adjacent to the roundabout. Canopy level tree species within the woodland consist of Oak (*Quercus* spp), Sycamore (*Acer pseudoplatanus*), Ash, and English Elm (*Ulmus procera*)
- 2.2.20 Understorey habitat within the woodland is minimal, the dominant understorey species is Bramble (*Rubus fruticosus* agg.) and Hawthorn, Blackthorn (*Prunus spinosa*), Dog Rose (*Rosa canina* agg.) and Butterfly-bush (*Buddleia davidii*) is also present.

- 2.2.21 **Scattered Broadleaved Trees:** Scattered broadleaved trees are located adjacent to Cardiff Road within the northern and central section of the proposed development, species recorded include Ash, Oak, Conifer sp. and Sycamore.
- 2.2.22 **Hedgerow:** There is a species-poor hedgerow located on the north-western boundary of the site to the west of the A4055 road which forms a field boundary. Species poor hedgerow with trees are located adjacent to the footpath and Cardiff Road within the southern section of the proposed development, creating boundaries around horse and cattle grazed fields. The hedgerow is dominated by Hawthorn with Bramble, Field Maple, and Ash also present. Trees within the hedgerow include Sycamore, Ash, Oak, and Hawthorn.
- 2.2.23 **Species poor semi-improved grassland:** An area of species poor semi-improved grassland is located within the southern section of the proposed development where the proposed development leaves Cardiff Road, at Green Lane and into horse and cattle grazed fields. Some areas of the field are dominated with Soft-Rush (*Juncus effusus*) and Hard Rush (*Juncus inflexus*), with some evidence of previous water logging. Areas of scattered scrub are located around the boundaries of the fields adjacent to the hedgerow. Species present include Cock's-foot, Perennial Rye-grass (*Lolium perenne*), Yorkshire-fog, and White Clover (*Trifolium repens*).
- 2.2.24 **Scrub:** Areas of dense and scattered scrub are located within the woodland understorey and adjacent to hedgerows and footpaths. Species recorded include Bramble, Hawthorn, Blackthorn and Butterfly-bush.
- 2.2.25 **Amenity Grassland:** Amenity grassland is located on the roundabout on Cardiff Road and adjacent to footpaths occasionally throughout the proposed development. Species recorded include Annual Meadow-grass (*Poa annua*), Perennial Rye-grass, Dandelion and Daisy.
- 2.2.26 **Running Water:** The proposed development crosses over Cadoxton River via a footbridge within the centre of the proposed development. The river continues to flow through the southern extent of the proposed development within a semi-improved grazed field.
- 2.2.27 There is a stream (running water) that runs adjacent to a parcel of

woodland in the northwest of the site parallel with the A4055 road. The stream has marginal vegetation including Marsh Thistle (*Cirsium palustre*), Common Nettle, Horsetail (*Equisetum* sp.) and Hedge Bindweed (*Calystegia sepium*).

- 2.2.28 **Hardstanding:** Hardstanding footpaths and roads are located predominately along the north-eastern, northern, and central section of the proposed development.
- 2.2.29 The PEA identified that protected and notable plant species include records of Bluebell (*Hyacinthoides non-scripta*) and Jersey Cudweed (*Gnaphalium luteoalbum*), as well as Algae and Bryophyte.
- 2.2.30 Protected fauna and species of conservation concern also include terrestrial invertebrates, amphibians, reptiles, birds, bats, Hazel Doormouse, Water Vole, Otters and Badgers, as well as other mammals such as hedgehogs.
- 2.2.31 Phase 1 Habitat Plans are provided on the next page. Habitat Plans are included in the PEA as well as detailed information about existing habitats.



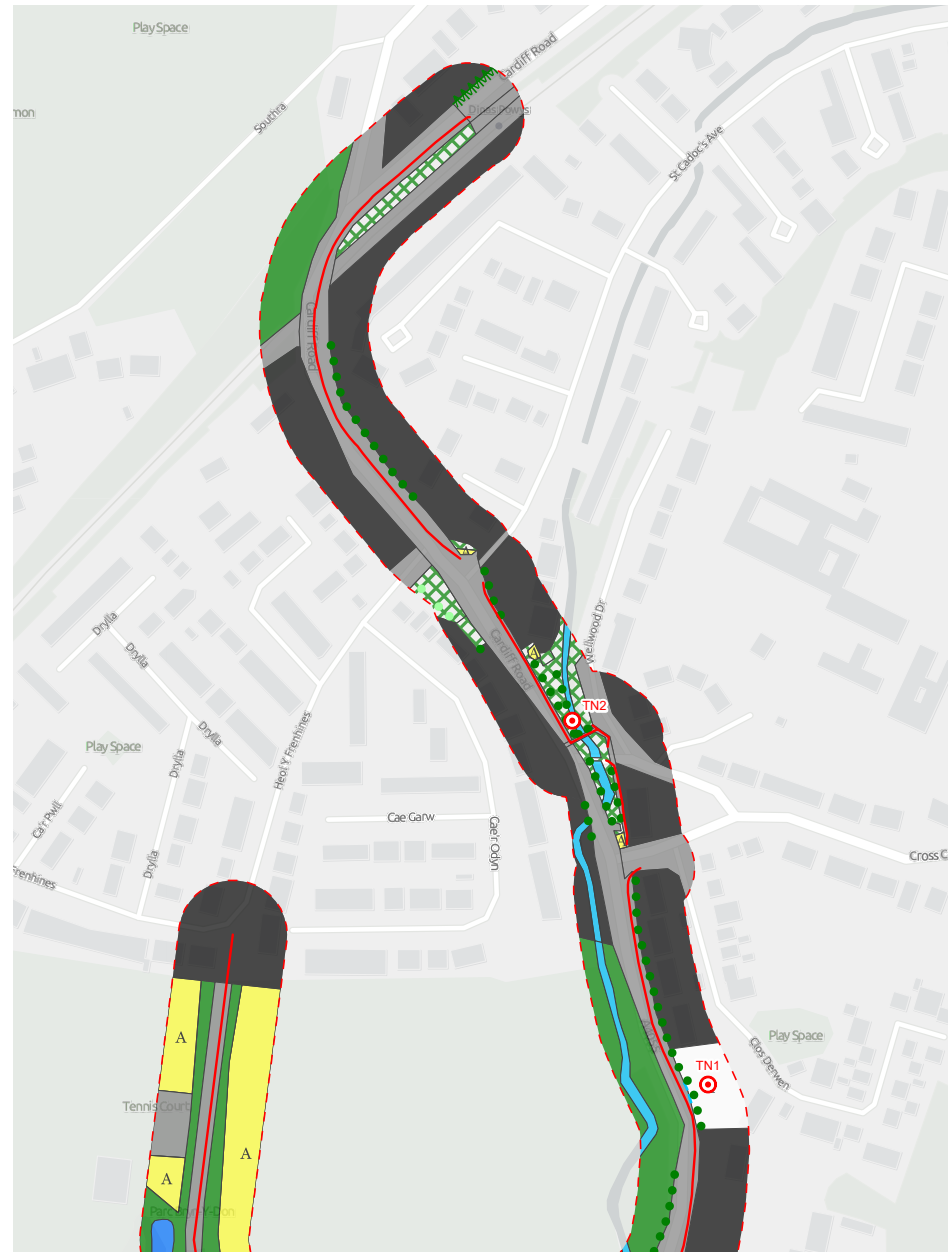


Figure 7. Phase 1 Habitat Plan (1 of 3)

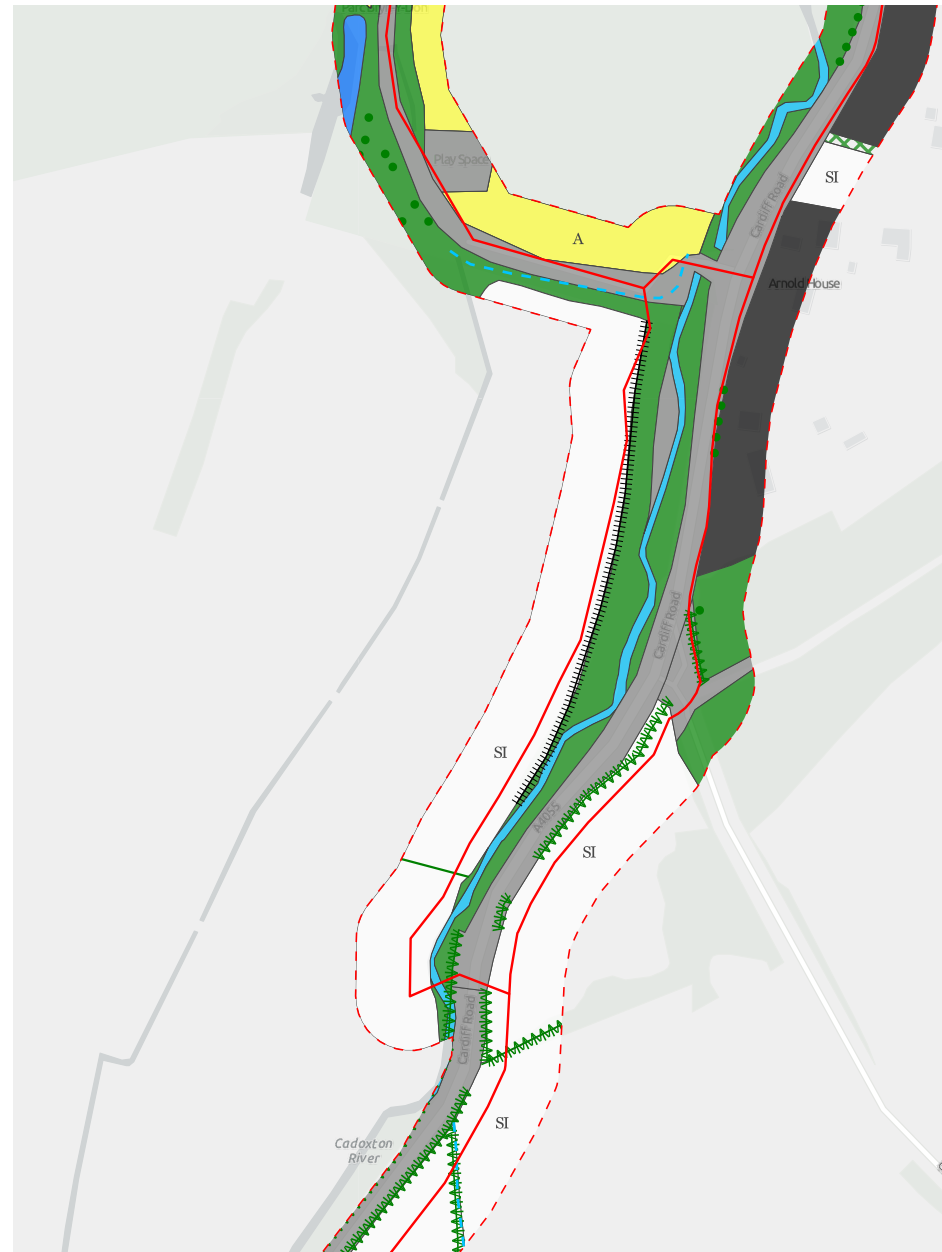


Figure 8. Phase 1 Habitat Plan (2 of 3)

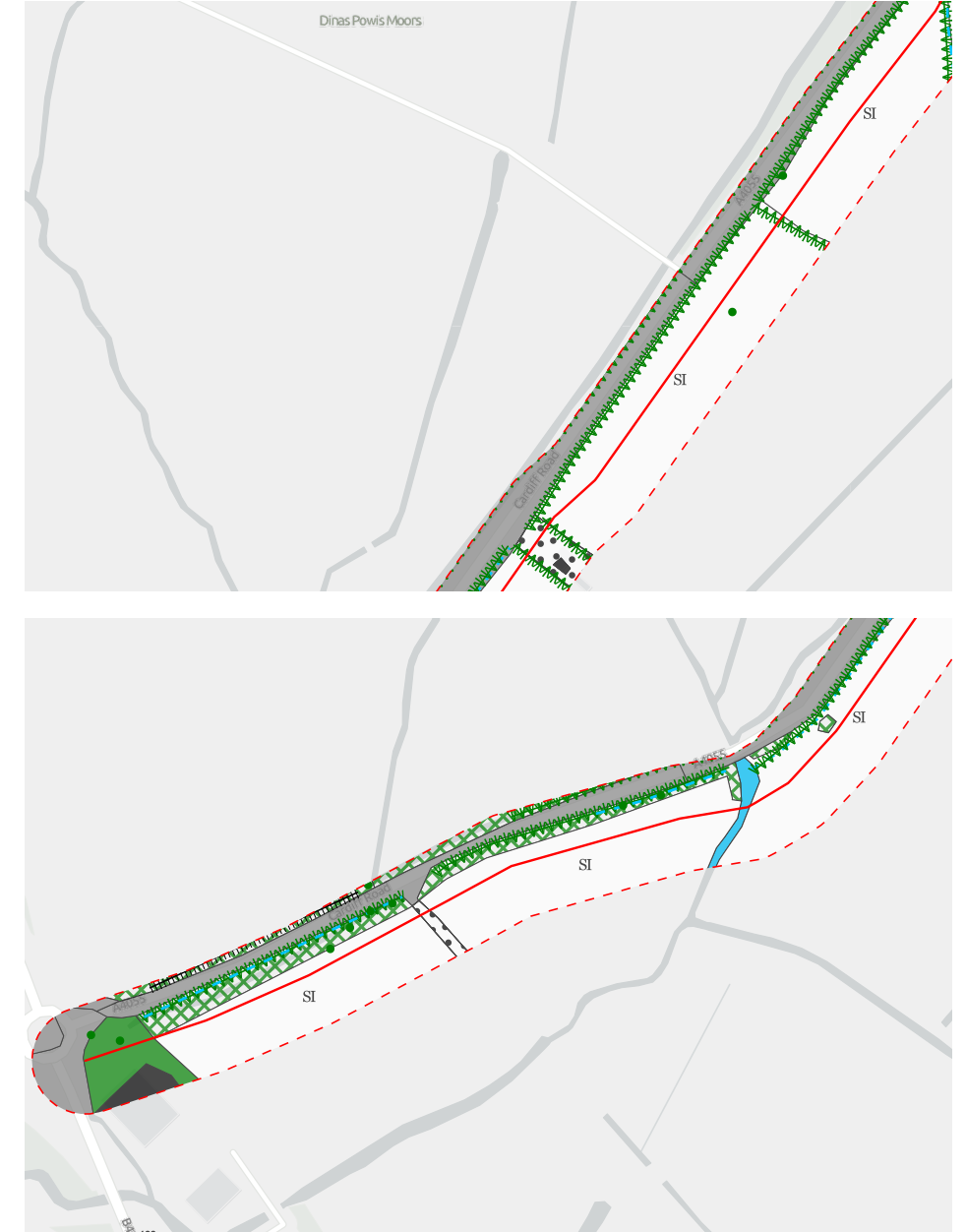
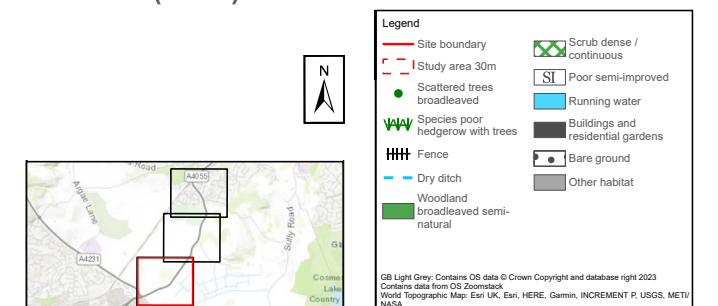
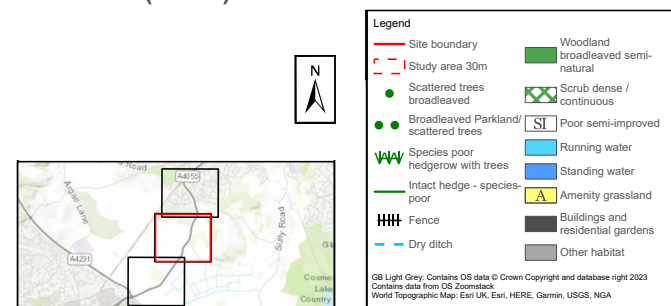
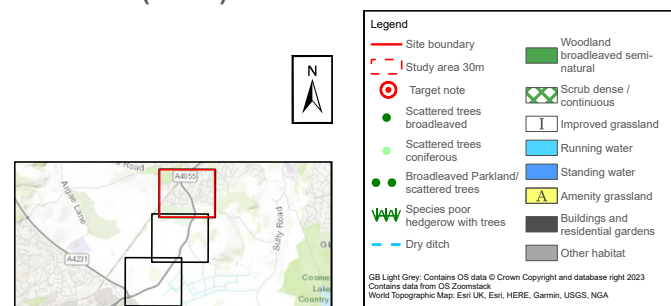


Figure 9. Phase 1 Habitat Plan (3 of 3)





03

GREEN INFRASTRUCTURE ANALYSIS

3.0 GREEN INFRASTRUCTURE ANALYSIS

3.1 APPLICATION OF THE BUILDING WITH NATURE STANDARDS

- 3.1.1 This Chapter provides an analysis of GI in consideration of the planning application material prepared for the Proposed Development. The analysis is structured using the Building with Nature (BwN) Standards. Taken together, the 12 BwN Standards define “what good looks like” by offering a set of quality standards for placemaking and place-keeping, covering the themes of Wellbeing, Water and Wildlife. The BwN Standards support cross-disciplinary decision making about GI design and delivery, implementation, construction, management and maintenance of green infrastructure in development.
- 3.1.2 The analysis considers each of the 12 BwN Standards against the key criteria in consideration of the design, mitigation and management arrangements for the Proposed Development bringing together the contextual analysis as a baseline starting point and analysis of the proposed GI enhancement and gains. The table set out below provides evidence referencing the key planning application documents where each of the standards can be supported with explanatory text to set out the key proposals and benefits they will bring.
- 3.1.3 The Landscape Strategy is provided in Appendix A for reference however all Planning documents have been reviewed as part of the desk top review and this analysis.

BwN Standards	Evidence	Analysis
Standard 1 Optimises Multifunctionality and Connectivity		
Optimises multifunctionality and connectivity within the boundary of the project and links with existing and planned for GI in the surrounding area.	<p>Planning Statement (Document reference P27UR7K43AUW-471376514-176).</p> <p>Preliminary Ecological Appraisal (Ref: 10058585-ARC-XX-XXX-RP-E-0001-P02).</p> <p>Landscape and Visual Appraisal (Ref: 10058585 – Biglis to Dinas Powys LVA).</p> <p>Soft Landscape Design (Ref: 10058585 – Biglis to Dinas Powys LVA).</p>	<p>The Proposed Development ensures that retained habitats continue to be well connected to adjacent habitats to provide connectivity for key species and ensuring that the favourable conservation status of local species populations is maintained.</p> <p>Biodiversity and ecosystem resilience has been considered at the earliest possible stage of the development. The Proposed Development will maintain, protect and enhance ecological networks and features of importance for biodiversity, particular importance will be given to maintaining and enhancing the connectivity of ecological network.</p> <p>Vegetation clearance will be minimised as much as possible to retain the existing habitats present within and adjacent to the Proposed Development. Prior to works commencing, an ecological mitigation and enhancement plan will be in place to conserve and enhance biodiversity and promote biodiversity net gain if possible.</p> <p>The following general enhancement measures have been incorporated into the scheme design:</p> <ul style="list-style-type: none">• Ensure that wildlife corridors are maintained and created in particular reinforcing the Vale of Glamorgan coastal B-line through invertebrate attractive planting;• Incorporation of a sensitive lighting strategy to be considered in the design;• Tree replacement and new tree planting where feasible;• Installation of invertebrate hotels, bird and bat boxes in trees to provide additional refuge sites for these species groups;• The incorporation of attractive wildlife and wildflower areas where feasible using a variety of native species to support invertebrates; and• The creation of habitat piles to provide refuge for reptiles, amphibians and hedgehogs. <p>The landscape and ecological design and mitigation assists both the aesthetic and functional aspects of the surrounding landscape but also contribute significantly to the preservation and restoration of the natural ecosystems.</p>



BwN Standards	Evidence	Analysis
Standard 2 Positively Responds to the Climate Emergency		
<p>Is designed to be climate resilient by incorporating mitigation and adaptations that respond to the impacts of climate change. The green infrastructure is designed to promote low carbon behaviours and contributes to achieving zero carbon development by optimising carbon sequestration and demonstrating low carbon approaches to design, construction, and long-term maintenance.</p>	<p>Construction Environmental Management Plan</p> <ul style="list-style-type: none">- to be provided as a planning condition	<p>In line with the UK Government's carbon reduction plan, the design of the works will aim to reduce greenhouse gas (GHG) emissions as far as practicable to help contribute towards the UK's net reduction in carbon emissions.</p> <p>The design helps mitigate the causes of climate change by minimising carbon and other greenhouse gas emissions associated with its design, construction and use and includes features that provide effective adaptation to, and resilience against, the current and predicted future effects of climate change.</p> <p>Principles:</p> <ul style="list-style-type: none">— Avoid and prevent: explore alternative lower carbon options to deliver the objectives.— Reduce: apply low carbon solutions (including technologies, materials and products) to minimise resource consumption during the construction, operation and at end-of-life; and construct efficiently: use techniques that reduce resource consumption over the lifecycle of the works.— Construction works will be carried out in accordance with the best practicable means, as described in Section 79 (9) of the Environmental Protection Act 1990, to reduce fumes or emissions. This will include all vehicle engines and plant motors to be switched off when not in use.

BwN Standards	Evidence	Analysis
Standard 3 Maximises Environmental Net Gains		
Is designed to actively mitigate any unavoidable harmful environmental impacts of development on soil and air quality and to minimise light and noise pollution. In addition, it delivers environmental net gains, including improving air and water quality and wherever possible includes quiet spaces for people and wildlife.	<p>Preliminary Ecological Appraisal (Ref: 10058585-ARC-XX-XXX-RP-E-0001-P02).</p> <p>Construction Environmental Management Plan - to be provided as a planning condition</p> <p>Planning Statement (Document reference P27UR7K43AUW-471376514-176)</p>	<p>Potential temporary impacts and mitigation measures will be detailed in the Construction and Environmental Management Plan (CEMP) to be delivered as a planning condition.</p> <p>Vegetation and wood chippings arising from the vegetation clearance works will be retained on Site and used to create or enhance footpaths, tracks and roadways, and to suppress/prevent regrowth of plants and trees in cleared areas.</p> <p>Excavated materials such as soils will be carefully stored in segregated piles for subsequent re-use on Site, wherever possible. Suspected contaminated materials will be kept separated from clean materials and sent for either treatment, recycling or recovery, where appropriate, or disposal at appropriately permitted and licensed facilities.</p> <p>The Proposed Scheme would not involve the use of any hazardous substances in notifiable quantities.</p> <p>Other design details, namely the lighting will be designed and sited as sensitively as possible to avoid visual intrusion and light spillage.</p>
Standard 4 Champions a Context Driven Approach		
Positively responds to the local context, including the physical environment, such as landscape and urban character and social, economic, and environmental priorities, including the evidenced needs and strengths of existing and future local communities.	<p>Planning Statement (Document reference P27UR7K43AUW-471376514-176)</p> <p>Preliminary Ecological Appraisal (Ref: 10058585-ARC-XX-XXX-RP-E-0001-P02).</p> <p>Landscape and Visual Appraisal (Ref: 10058585 – Biglis to Dinas Powys LVA).</p> <p>Soft Landscape Design (Ref: 10058585 – Biglis to Dinas Powys LVA).</p>	<p>The closest environmental statutory designated sites to the PDS are the Cog Moors SSSI and various TPO trees, all located to the north of the scheme. Cog Moors SSSI is located to the south of Dinas Powys between the A4055 and Sully Road, adjacent to the Welsh Water treatment site. This SSSI supports extensive areas of relatively unimproved species rich grassland, which is traditionally managed for hay. Grassland is characterised by Common Knapweed <i>Centaurea nigra</i>, Crested Dog's-tail <i>Cynosurus cristatus</i>, Common Bird's-foot-trefoil <i>Lotus corniculatus</i> and Meadow Vetchling <i>Lathyrus pratensis</i>. The local context and local character features have been used as a starting point for the proposals and incorporates them into the Proposed Development to reference, reflect and enhance the local environment. This includes restoration and creation of native woodland and hedgerows using a variety of native species and avoidance of the use invasive non-native plant species within landscape planting. The Soft Landscape Design drawing sets out the proposed planting palettes. The proposed species have been selected in consideration of existing key ecological species and invertebrate in the area, such as planting to enhance habitats and encourage species that are suitable for the locality in consideration of soil type and the ability to create a very diverse range of species across the site where conditions vary.</p>

BwN Standards	Evidence	Analysis
Standard 5 Creates Distinctive Places		
Is integral to the project and is designed to reinforce local distinctiveness and/or create a distinctive sense of place	<p>Planning Statement (Document reference P27UR7K43AUW-471376514-176)</p> <p>Preliminary Ecological Appraisal (Ref: 10058585-ARC-XX-XXX-RP-E-0001-P02).</p> <p>Landscape and Visual Appraisal (Ref: 10058585 – Biglis to Dinas Powys LVA).</p> <p>Soft Landscape Design (Ref: 10058585 – Biglis to Dinas Powys LVA).</p>	<p>The scale of the Proposed Development has been limited to that which is functionally necessary for the proposed works.</p> <p>Due to the distance it is not considered that there would be any adverse effects on the character and setting of locally important places such as the Cog Moors SSSI, Pwll Erw-naw SINC and B-line located within the site boundary.</p> <p>The Soft Landscape Design reinforces locally distinctive habitats and species through the inclusion of:</p> <ul style="list-style-type: none"> – The proposed hedgerow includes <i>Acer campestre</i> (Field Maple), <i>Prunus spinosa</i> (Blackthorn) and <i>Crataegus monogyna</i> (Hawthorn) – Proposed woodland trees include native species comprising <i>Quercus robur</i> (English Oak), <i>Corylus avellana</i> (Hazel) and <i>Salix caprea</i> (Goat Willow) – Specimen trees include <i>Acer campestre</i> (Field Maple), <i>Betula pendula</i> (Silver Birch) and <i>Prunus padus</i> (Bird Cherry_)
Standard 6 Secures Effective Place-keeping		
Is subject to management arrangements that demonstrate a commitment to effectively implement, establish and maintain features at all stages of the development process. This should include details of funding, governance, maintenance, monitoring, remediation and, where appropriate, community involvement and stewardship.	<p>Planning Statement (Document reference P27UR7K43AUW-471376514-176).</p>	<p>It is recommended that a site-specific Reasonable Avoidance Measures Method Statement (RAMS) is produced to ensure the potential for ecological impacts of the proposed remediation works are minimised.</p> <p>To ensure the implementation of the RAMS, an Ecological Clerk of Works (ECoW) should have oversight and be available to supervise and provide guidance to the contractors prior to and during the works, as required. While the RAMS should be produced using site and task specific information, provided below are general mitigation measures to be considered for inclusion in the RAMS:</p> <ul style="list-style-type: none"> – A detailed methodology for minimising impacts to protected and notable species during the infilling of the pond should be produced. The methodology should include the undertaking of phased vegetation clearance works around the perimeter, draining and hand-searching prior to infilling taking place. – A detailed methodology for the capture and release of small numbers of reptiles and amphibians that may be encountered during the remediation works should be produced. Due to the small areas being impacted and expected low numbers of animals, relocation outside of the works areas within suitable habitat inside the 3M site is recommended. – All vegetation clearance works should be overseen by a suitably qualified ecologist performing the role of Ecological Clerk of Works (ECoW) in accordance with the RAMS. – Pre-commencement checks for protected/ notable species including amphibians, reptiles and hedgehogs should be undertaken prior to clearance works commencing. – If clearance works are undertaken between 1 March and 31 August, pre-clearance checks for nesting birds should also be completed. Should any protected/ notable species be encountered during the works, all works should cease and advice sought from the ECoW. – Removal and disposal of the invasive non-native species <i>Rhododendron</i> and <i>Cherry laurel</i> should be undertaken in accordance with best practice. <p>The ECoW will be agreed and appointed prior to the works commencing.</p>

BwN Standards	Evidence	Analysis
Standard 7 Brings Nature Closer to People		
Is close to where people live, work, learn, play and/or visit, and is designed to optimise use and enjoyment for everyone across the year, to maximise health and wellbeing outcomes and to promote active living for existing and future communities.	Planning Statement (Document reference P27UR7K43AUW-471376514-176).	The site is open to members of the public. The site will be managed to ensure good horticultural practice provides a high level of after care and landscape is aesthetically and ecologically managed.
Standard 8 Supports Equitable and Inclusive Places		
Is designed to encourage and enable everyone, including those from vulnerable or excluded groups, to use and enjoy it, to help reduce health inequalities and to build a shared sense of community and belonging.	Construction Environmental Management Plan - to be provided as a planning condition Design and Access Statement (Document reference P27UR7K43AUW-471376514-176).	There is full public access to the site. Ensuring the route is safe for all users by providing separate lanes for cyclists and pedestrians, clear signage, well-marked crossings, and proper lighting. The proposition of an ATR encourages physical activity and reduces sedentary lifestyles by offering alternatives to personal vehicles, this also assists in alleviating traffic congestion by offering alternative modes of transportation which will allow ease of movement on these existing networks. The ATR will also offer improved liveability as they create more pedestrian-friendly environments, enhancing the overall quality of urban spaces, leading to more inclusive and community driven environments.
Standard 9 Delivers Climate Resilient Water Management		
Is integral to sustainable drainage using above ground features to manage flood risk, maintain the natural water cycle and improve water quality within the boundary of the project and at a catchment scale. The green infrastructure is designed to be drought resistant and wherever possible, includes measures for the retention and reuse of rainwater.	Planning Statement (Document reference P27UR7K43AUW-471376514-176).	The works include activities that have the potential to impact water quality within identified water resources such as surface water drainage features around the Site. Impacts could be via sediment runoff, surface runoff and accidental spills of oils, chemicals and fuels. Where possible a 5m buffer zone is to be implemented around surface drainage features for all construction activities including site establishment (welfare) to reduce the potential risk with physical barriers installed where appropriate. Additional monitoring will be undertaken throughout the entire duration of the works due to the close proximity to drainage features. Implement working methods will be developed to protect surface water from pollution and other adverse impacts. This will be completed in accordance with relevant legislative requirements and appropriate industry guidance. The Contractor(s) will utilise good practice pollution prevention methods for activities such as storage of fuels, chemicals and oils, and vehicle washing. The Proposed Scheme would not involve the use of any hazardous substances in notifiable quantities.

BwN Standards	Evidence	Analysis
Standard 10 Brings Water Closer to People		
Is designed to integrate water, including areas of standing water, flowing water, seasonal and ephemeral features, to bring additional amenity and wildlife benefits.	<p>Planning Statement (Document reference P27UR7K43AUW-471376514-176).</p> <p>Preliminary Ecological Appraisal (Ref: 10058585-ARC-XX-XXX-RP-E-0001-P02).</p> <p>Landscape and Visual Appraisal (Ref: 10058585 – Biglis to Dinas Powys LVA).</p>	<p>The site is open to the public and includes measures to reinforce the Vale of Glamorgan coastal B-line through intertebrate attractive planting.</p> <p>The Landscape and Ecological enhancements include areas of grassland to bring reinforce wildlife benefits around the water which include Emorsgate - EM1 Basic General Purpose Meadow Mixture (for general meadow areas)</p>
Standard 11 Delivers Wildlife Enhancement		
Optimises long term and climate resilient net benefits for nature, by retaining and enhancing existing ecological assets and creating locally relevant new habitats within the boundary of the project. Wildlife measures are secured at all stages of implementation and where applicable, across multiple phases of development.	<p>Planning Statement (Document reference P27UR7K43AUW-471376514-176).</p> <p>Preliminary Ecological Appraisal (Ref: 10058585-ARC-XX-XXX-RP-E-0001-P02).</p> <p>Landscape and Visual Appraisal (Ref: 10058585 – Biglis to Dinas Powys LVA).</p>	<p>A Preliminary Ecological Appraisal (PEA) has been prepared to accompany the application and in consultation with the Landscape and Ecology County officers a landscape and ecological design for the Site incorporates principles of The Nature Recovery Action Plan for Wales (2020-21). This includes safeguarding species and habitats of principal importance and improving their management; restoring degraded habitats and the creation of habitats in consideration of target habitats in the area. The Proposed Development also includes installation of invertebrate hotels, bird and bat boxes in trees to provide additional refuge sites for these species groups and creation of habitat piles to provide refuge for reptiles, amphibians and hedgehogs.</p>
Standard 12 Underpins Nature's Recovery		
Creates effective links with existing and planned for ecological features and networks beyond the boundary of the project to support the creation and restoration of resilient ecological networks in the wider landscape.	<p>Planning Statement (Document reference P27UR7K43AUW-471376514-176).</p> <p>Preliminary Ecological Appraisal (Ref: 10058585-ARC-XX-XXX-RP-E-0001-P02).</p> <p>Landscape and Visual Appraisal (Ref: 10058585 – Biglis to Dinas Powys LVA).</p>	<p>The proposed landscaping and ecological mitigation proposals play a key role in achieving environmental sustainability as part of the Proposed Scheme. The proposals enhance the aesthetic and functional aspects of the surrounding landscape but also contribute significantly to the preservation and restoration of natural ecosystems. By incorporating these key design principles promote a balanced coexistence between the proposed development and the environment aspects of the site. The proposals ensure that target habitats are enhanced such as the creation of hedgerows using native species of local provenance and ensuring fencing is permeable to wildlife (e.g. leaving gaps to allow hedgehogs through) to provide greater connectivity throughout the development and the incorporation of wildflower areas using a variety of native species as part of landscaping plans to support target species in Wales.</p>



04

CONCLUSION

4.0 CONCLUSION

4.1 GREEN INFRASTRUCTURE SUMMARY

- 4.1.1 The Proposed Development demonstrates that the design and mitigation proposals have been designed to protect and reinforce local distinctiveness, notably in consideration of landscape character and local habitat typologies. The Proposed Development identifies important local character features as a starting point for the Green Infrastructure proposals and incorporates them into the Proposed Development to reference, reflect and enhance the local environment.
- 4.1.2 In consideration of the Step-wise approach the design has considered maintaining the largest possible area of existing habitat paying due regard to the potential for continued long term maintenance and management of retained areas to benefit biodiversity. The proposals ensure that retained habitats continue to be well connected to adjacent habitats to provide connectivity for key species and ensuring that the favourable conservation status of local species populations is maintained.
- 4.1.3 Given the importance and influence of local landscape character and existing Green Infrastructure assets, careful planning and design has informed an appropriate level of Green Infrastructure which embeds the benefits of biodiversity. The landscape and ecological design and mitigation assists both the aesthetic and functional aspects of the surrounding landscape but also contributes to the preservation and restoration of the natural ecosystems. By incorporating these key design principles they promote a balanced coexistence between the Proposed Development and the environmental aspects of the site.





















APPENDIX A

SOFT LANDSCAPE DESIGN



- | NOTES | |
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| 4. | REFER TO DRG 10058585-ARC-XX-300-DR-A-00008 FOR PROPOSED PLANTING AND SEED MIXES |

Legend

- | | |
|---|--|
|  | Planning Application Boundary |
|  | Highways Proposed Development Boundary |
|  | Public Rights of Way |
| Proposed | |
|  | Active Travel Route |
|  | Highway |
|  | Tactile Paving |
|  | Vehicle Crossover Point |
|  | Pedestrian Priority Crossing |
|  | Raised Table |
|  | Specimen Tree |
|  | Native Deciduous Woodland |
|  | Native Hedgerow |
|  | Amenity Grassland (EG22) |
|  | Species-Rich Grassland (EM1) |
|  | Shaded Species-Rich Grassland (EH1) |
|  | Meadow Grass for Wet Soils (EG8) |
|  | Type 1 Handstanding |

P01	22/10/24	FOR PLANNING	HG	DW	BH	MJ	
Rev	Date	Description	Prod.	Chk.	Rev.	Ap	



Project: **Biglis to Dinas Powys ATR**

Site	Client
Biglis to Dinas Powys Cardiff	Vale of Glamorgan Council Civic Offices, Holton Rd, Barry CF63 4RU www.valeofglamorgan.gov.uk



Registered office: 80 Fenchurch Street
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Coordinating office: Arcadis Suite 4d,
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Sheet 1 of 8

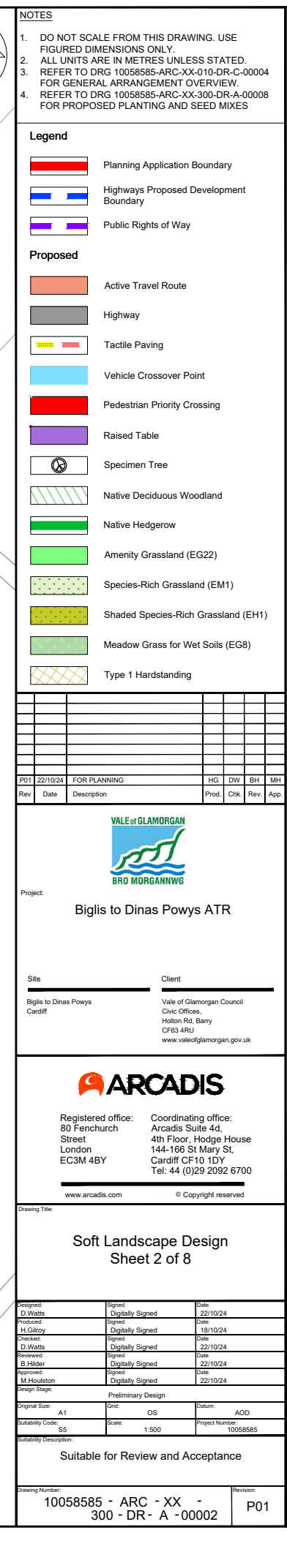
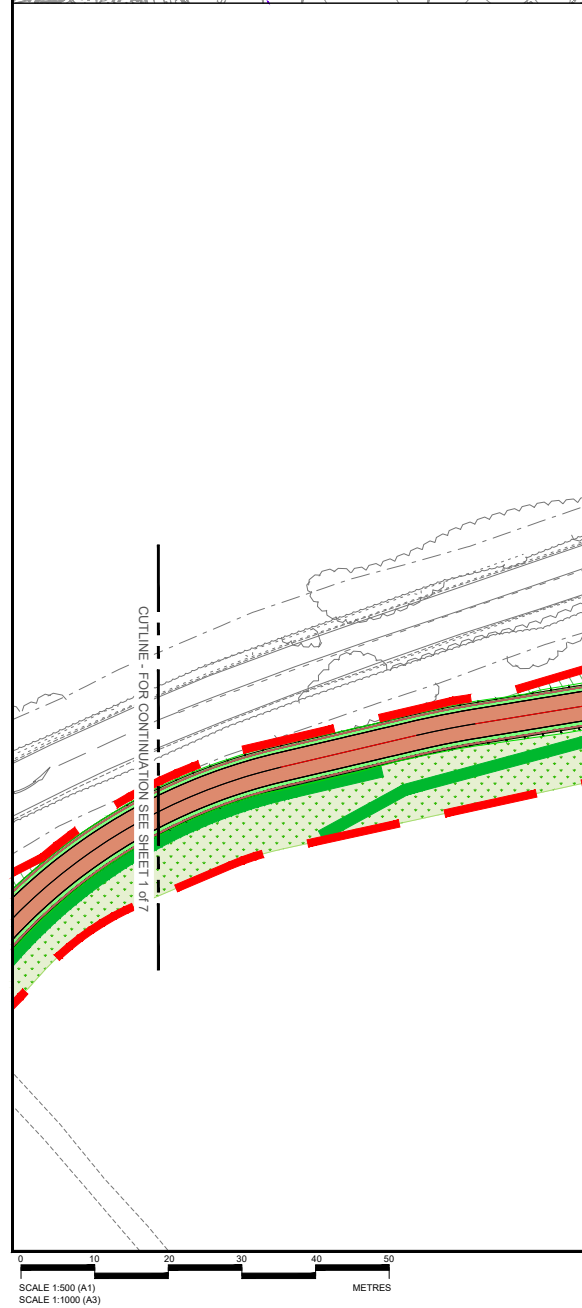
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Checked:	Signed	Date
D.Watts	Digitally Signed	22/10/24
Reviewed:	Signed	Date
B.Hilder	Digitally Signed	22/10/24
Approved:	Signed	Date
M.Houlston	Digitally Signed	22/10/24
Design Stage:	Discontinued Design	

Design Stage:	Preliminary Design
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Suitability Code: S5	Scale: 1:500	Project Number: 10058585

Suitable for Review and Acceptance

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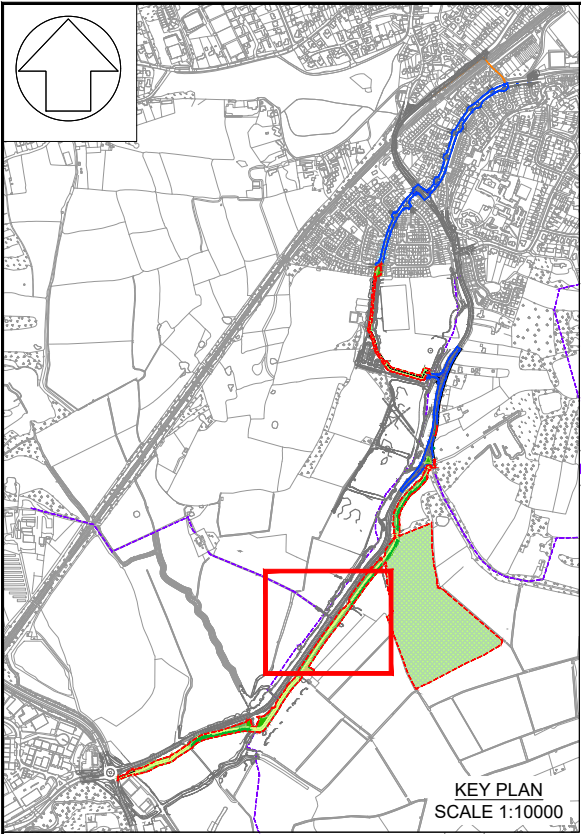


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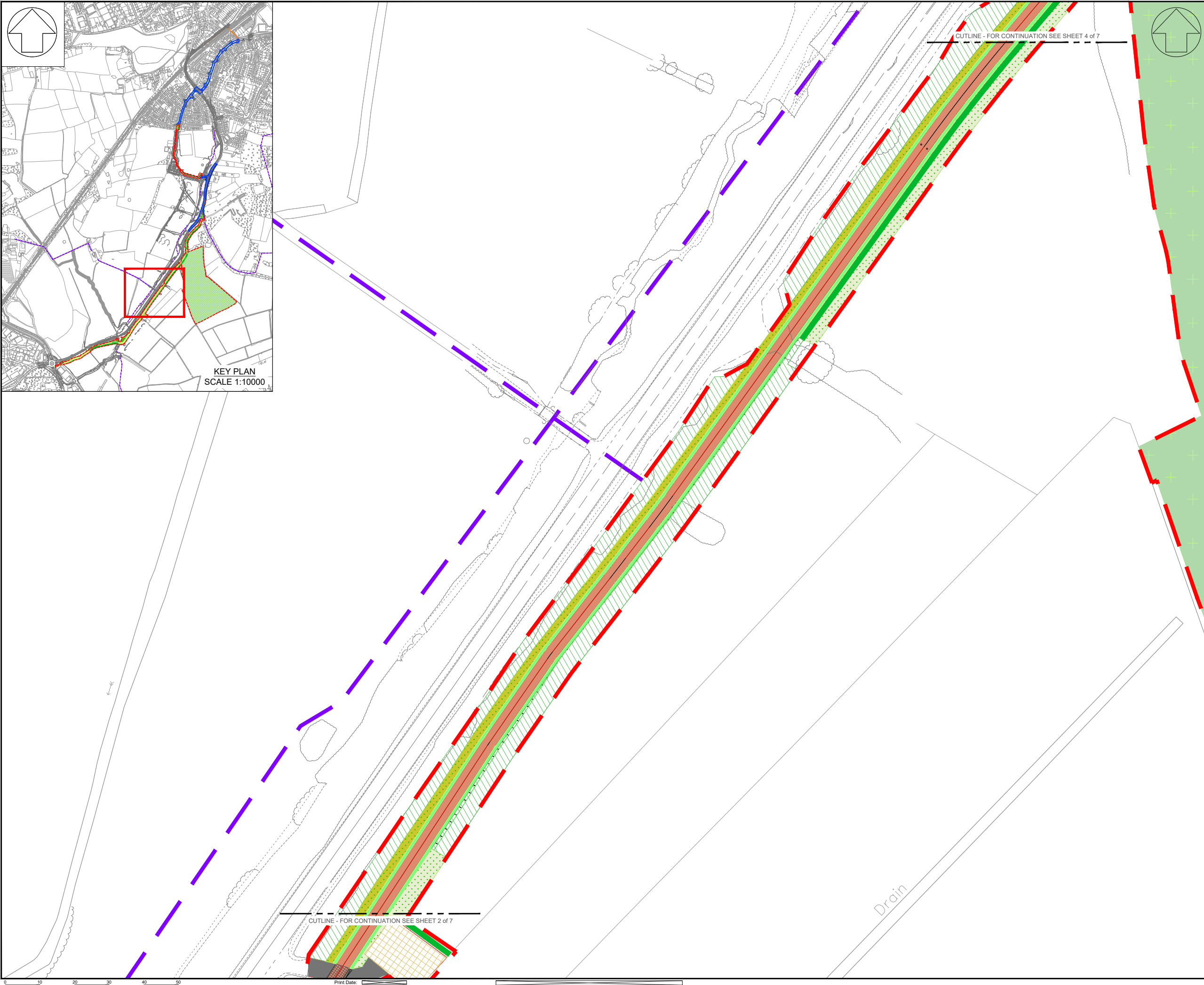
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M. Houston	<u>Digitally Signed</u>	<u>28/10/24</u>	
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KEY PLAN
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CUTLINE - FOR CONTINUATION SEE SHEET 2 of 7

CUTLINE - FOR CONTINUATION SEE SHEET 4 of 7

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Legend

- Planning Application Boundary
- Highways Proposed Development Boundary
- Public Rights of Way
- Proposed**
 - Active Travel Route
 - Highway
 - Tactile Paving
 - Vehicle Crossover Point
 - Pedestrian Priority Crossing
 - Raised Table
 - Specimen Tree
 - Native Deciduous Woodland
 - Native Hedgerow
 - Amenity Grassland (EG22)
 - Species-Rich Grassland (EM1)
 - Shaded Species-Rich Grassland (EH1)
 - Meadow Grass for Wet Soils (EG8)
 - Type 1 Hardstanding

Rev	Date	Description	Prod.	Chk.	Rev.	App.
P01	22/10/24	FOR PLANNING	HG	DW	BH	MH

VALE OF GLAMORGAN
BRO MORGANNWG

Project: Biglis to Dinas Powys ATR

Site: Biglis to Dinas Powys Cardiff

Client: Vale of Glamorgan Council
Civic Offices,
Holton Rd, Barry
CF63 4RU
www.valeofglamorgan.gov.uk

ARCADIS

Registered office: 80 Fenchurch Street, London EC3M 4BY

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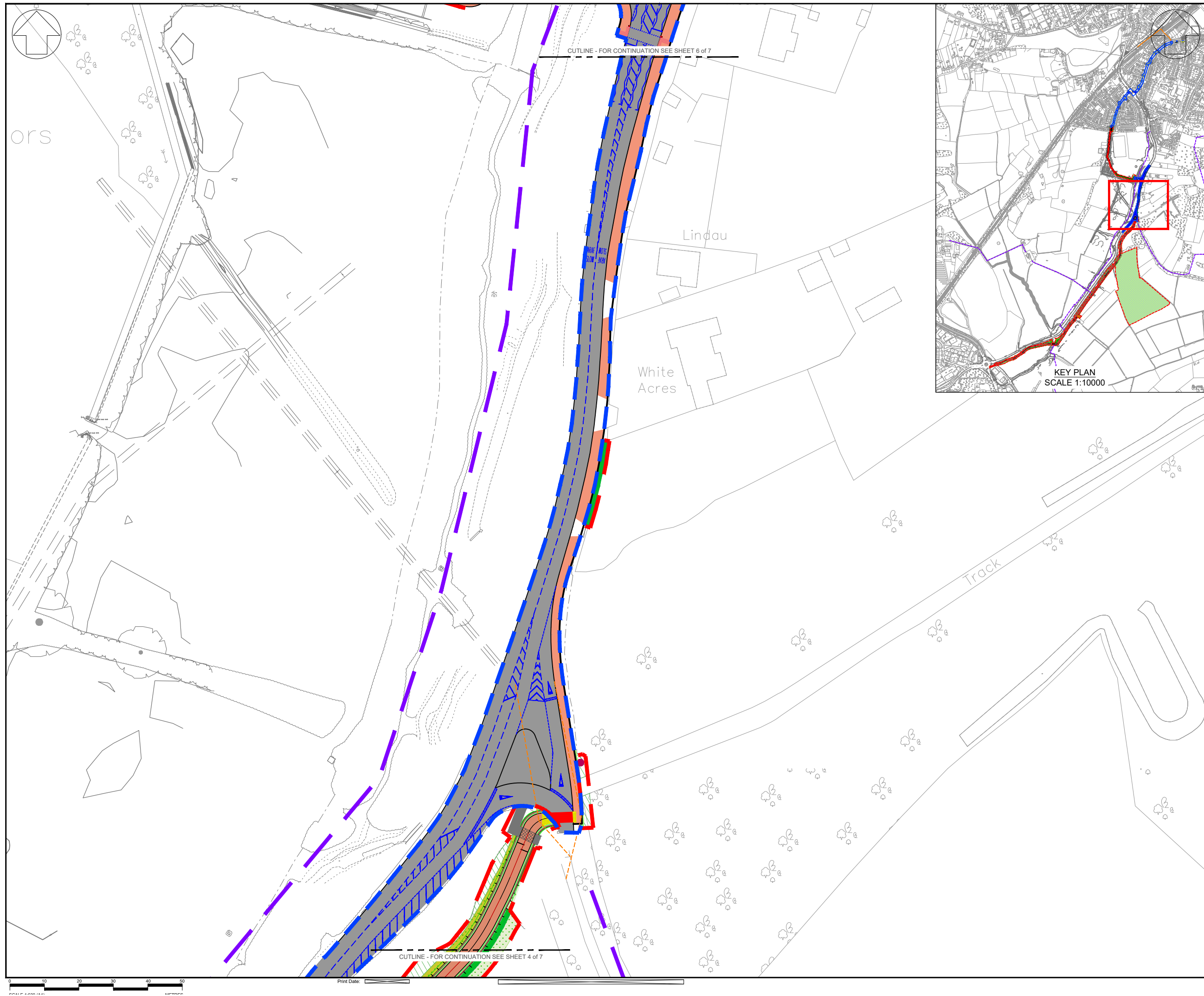
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Legend

- | | |
|---|--|
|  | Planning Application Boundary |
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Tel: 44 (0)29 2092 6700

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Sheet 5 of 8

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Checked: D.Watts	Signed Digitally Signed	Date 22/10/24
Reviewed: B.Hilder	Signed Digitally Signed	Date 22/10/24
Approved: M.Houlston	Signed Digitally Signed	Date 22/10/24

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| NOTES | | | | | | | | | |
| 1. DO NOT SCALE FROM THIS DRAWING. USE FIGURED DIMENSIONS ONLY. | | | | | | | | | |
| 2. ALL UNITS ARE IN METRES UNLESS STATED. | | | | | | | | | |
| 3. REFER TO DRG 10058585-ARC-XX-010-DR-C-00004 FOR GENERAL ARRANGEMENT OVERVIEW. | | | | | | | | | |
| 4. REFER TO DRG 10058585-ARC-XX-300-DR-A-00008 FOR PROPOSED PLANTING AND SEED MIXES | | | | | | | | | |
| Legend | | | | | | | | | |
| | | Planning Application Boundary | | | | | | | |
| | | Highways Proposed Development Boundary | | | | | | | |
| | | Public Rights of Way | | | | | | | |
| Proposed | | | | | | | | | |
| | | Active Travel Route | | | | | | | |
| | | Highway | | | | | | | |
| | | Tactile Paving | | | | | | | |
| | | Vehicle Crossover Point | | | | | | | |
| | | Pedestrian Priority Crossing | | | | | | | |
| | | Raised Table | | | | | | | |
| | | Specimen Tree | | | | | | | |
| | | Native Deciduous Woodland | | | | | | | |
| | | Native Hedgerow | | | | | | | |
| | | Amenity Grassland (EG22) | | | | | | | |
| | | Species-Rich Grassland (EM1) | | | | | | | |
| | | Shaded Species-Rich Grassland (EH1) | | | | | | | |
| | | Meadow Grass for Wet Soils (EG8) | | | | | | | |
| | | Type 1 Hardstanding | | | | | | | |
| | | | | | | | | | |
| P01 | 22/10/24 | FOR PLANNING | | | | HG | DW | BH | MH |
| Rev | Date | Description | Prod | Chk | Rev | App | | | |
| | | | | | | | | | |
| <div><p>VALE OF GLAMORGAN
BRO MORGANNWG</p></div> <div>Project:
Biglis to Dinas Powys ATR</div> <div><div>Site
Biglis to Dinas Powys Cardiff</div><div>Client
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| Drawing Title: | | | | | | | | | |
| Soft Landscape Design
Sheet 7 of 8 | | | | | | | | | |
| Assigned:
D.Watts | | Signed:
Digitally Signed | | | | Date:
22/10/24 | | | |
| Produced:
H.Gilroy | | Signed:
Digitally Signed | | | | Date:
18/10/24 | | | |
| Checked:
D.Watts | | Signed:
Digitally Signed | | | | Date:
22/10/24 | | | |
| Reviewed:
B.Hilder | | Signed:
Digitally Signed | | | | Date:
22/10/24 | | | |
| Approved:
M.Houston | | Signed:
Digitally Signed | | | | Date:
22/10/24 | | | |
| Design Stage: | | Preliminary Design | | | | | | | |
| Original Scale:
A1 | | Grid:
OS | | Datum:
AOD | | | | | |
| Suitability Code:
S5 | | Scale:
1:500 | | Project Number:
10058585 | | | | | |
| Stability Description: | | | | | | | | | |
| Suitable for Review and Acceptance | | | | | | | | | |
| Drawing Number:
10058585 - ARC - XX -
300 - DR - A - 00007 | | | | | | Revision:
P01 | | | |

Proposed Plants & Grass Seed Species

Native Hedgerow

Planted at 0.5m centres in a double staggered row with 0.3m between rows. 5 Plants per linear m

Species	Height cm	Root	Specification
Acer campestre	60-80	BR	Transplant - seed raised
Cornus sanguinea	60-80	BR	1+1; Transplant - seed raised; branched; 3 breaks
Corylus avellana	60-80	BR	Transplant - seed raised; branched; 3 breaks
Orataegus monogyna	60-80	BR	Transplant - seed raised
Euonymus europaeus	60-80	BR	1+2; Transplant - seed raised; branched; 5 breaks
Ilex aquifolium	80-100	RB	Leader with laterals
Malus sylvestris	60-80	BR	1+1; Transplant - seed raised
Prunus spinosa	60-80	BR	Transplant - seed raised; branched; 2 breaks
Rosa Canina	60-80	BR	1+1; Transplant - seed raised; branched; 3 breaks

Native Deciduous Woodland

Planted at 1.5m centres

Species	Height cm	Root	Specification
Acer campestre	60-80	BR	Transplant - seed raised
Betula pendula	60-80	BR	1+1; Transplant - seed raised
Corylus avellana	60-80	BR	1+2; Transplant - seed raised; branched; 3 breaks
Crataegus monogyna	60-80	BR	Transplant - seed raised
Cytisus scoparius	40-60	2L	Bushy; 5 breaks
Hedera helix	40-60	2L	Several shoots; 3 breaks
Ilex aquifolium	80-100	RB	Leader with laterals
Malus sylvestris	60-80	BR	1+1; Transplant - seed raised
Prunus avium	60-80	BR	1+1; Transplant - seed raised
Prunus spinosa	60-80	BR	1+1; Transplant - seed raised; branched; 2 breaks
Quercus robur	60-80	BR	1+2; Transplant - seed raised
Salix caprea	60-80	BR	0/1; Cutting; branched; 2 breaks
Viburnum lantana	60-80	BR	1+2; Transplant - seed raised; branched; 3 breaks

Grasses	Sowing Rate
Emorsgate - EG8 Meadow Grass Mixture for Wet Soils (for flood attenuation)	5g/m ²
Emorsgate - EG22 Strong Lawn Grass Mixture (for verges)	25g/m ²
Emorsgate - EM1 Basic General Purpose Meadow Mixture (for general meadow areas)	4g/m ²
Emorsgate - EH1 Hedgerow Mixture (for shaded areas)	4g/m ²

Specimen Trees

Number of Plants	Species	Common Name	Height	Specification	Girth
4	Acer campestre	Common Maple	2.5-3.0m	Heavy Standard :RB	12-14cm
4	Betula pendula	Common Silver Birch	2.5-3.0m	Heavy Standard :RB	12-14cm
3	Prunus padus	Bird Cherry	2.5-3.0m	Heavy Standard :RB	12-14cm
2	Sorbus aria	Whitebeam	2.5-3.0m	Heavy Standard :RB	12-14cm
3	Sorbus aucuparia	European Mountain Ash	2.5-3.0m	Heavy Standard :RB	12-14cm
16					

1. REFER TO DRAWINGS
10058585-ARC-XX-300-DR-A-00001 - 00007
FOR SOFT LANDSCAPE DESIGN

P01	22/10/24	FOR PLANNING				HG	DW	BH	MH
Rev	Date	Description				Prod.	Chk.	Rev.	App.



Project:

Biglis to Dinas Powys ATR

Site

Biglis to Dinas Powys
Cardiff

lient

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Drawing Title:

Soft Landscape Design
Sheet 8 of 8

Designed: D. Watts	Signed Digitally Signed	Date 22/10/24
Produced: H. Gilroy	Signed Digitally Signed	Date 18/10/24
Checked: D. Watts	Signed Digitally Signed	Date 22/10/24
Reviewed: B. Hilder	Signed Digitally Signed	Date 22/10/24
Approved: M. Houlston	Signed Digitally Signed	Date 22/10/24
Design Stage: Preliminary Design		
Original Size: A1	Grid: OS	Date: A00
Sustainability Code: S5	Scale: 1:500	Project Number: 1005855

Suitability Description:

Suitable for Review and Acceptance

Drawing Number:

10058585 - ARC - XX -
300 - DR- A - 00008

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