Green Infrastructure & Biodiversity Statement

Regularisation, Conservation Repair and Extension to

Cefn Celfi Farmhouse.

(Revised October 2025)

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01 | INTRODUCTION

This Green Infrastructure (GI) statement accompanies the planning application for the regularisation, conservation and repair of Cefn Celfi House. It proposes a carefully considered and detailed scheme that embraces sustainable living within the 21st Century while respecting the existing traditional, listed dwelling house. Please refer to the associated Heritage Impact Assessment/Statement of Significance, Drawings, Specification, etc. as well as the annotated photographic plates.

This development of the dwelling isn't simply about space; it's about responsible growth and creating appropriate. and sensitive interventions that will facilitate the sensitive ongoing use of the house and its conservation whilst creating conditions suited to human well-being and environmental health for this young farming family. GI principles aren't mere add-ons; they are the very foundation upon which the conservation rests. The design strikes to regularize the existing works and create a harmonious balance between a future proposal for expanding the living space while minimising environmental impact. The current proposal is to regularize the existing works to what is a much modified farmhouse. Some of which dates back centuries but also allows scope for a future application for a proposed extension (as part of a separate application) that can blend in and aspires to be – an active contributor to the local ecosystem. This statement details the meticulous measures woven into the design, measures that facilitate sustainability.

Beyond fulfilling immediate needs, the dwelling attemptsto foster a deeper connection with the environment. It envisions a haven for the homeowners, livestock and wildlife alike, where built and natural environments blur, fostering a sense of shared existence.

This statement is the roadmap for achieving this vision, detailing design choices that prioritise ecological health and environmental responsibility. The desire is to provide a balance for an appropriate sustainable future at a domestic scale. It showcases how thoughtful design and a commitment to GI principles can pave the way for progress that doesn't come at the expense of the natural world, but rather, thrives alongside it. This statement demonstrates that environmental well-being and human comfort can co-exist in harmony.

02 LEGISLATIVE CONTEXT

Integration of Green Infrastructure (GI) into planning and development has become a cornerstone of sustainable, resilient, and healthy communities in Wales. Underpinning this approach is a robust framework of legislation and policy, guiding the creation of Green Infrastructure Statements (GIS) that ensure effective planning and delivery of GI benefits. This document delves into the key elements of this framework, drawing upon Planning Policy Wales (PPW), Natural Resources Wales (NRW), and The Environment (Wales) Act 2016.

PPW is the basis of spatial planning in Wales; significant emphasis on GI has been placed here. Policy PPW10 specifically addresses GI, advocating for its proactive and integrated approach into planning decisions. This policy requires planning authorities to:

- Identify, protect, and enhance: Existing GI networks and assets, including parks, woodlands, rivers, and green corridors.
- Provide and deliver: New GI provision proportionate to the scale and impacts of development.
- Deliver measurable: Net environmental gains through GI interventions.
- Prepare and consider: GIS alongside planning applications, particularly for developments with significant impacts.

PPW further strengthens GI's role through policies like PPW7 (sustainable development), PPW9 (sustainable transport), and PPW11 (natural resources and waste). These policies emphasise GI's contribution to biodiversity protection, climate change mitigation and adaptation, flood risk management, and public health and well-being.

NRW plays a crucial role in supporting and guiding GI implementation. Their "Building with Nature" framework provides practical guidance for incorporating GI into development projects. Additionally, NRW's Green Infrastructure Assessment

(GIA) methodology offers a valuable tool for developers and planning authorities to assess the existing GI provision, potential impacts of development, and opportunities for GI enhancement. NRW also contributes to GI policy through its Area Statements, which set out regional priorities for environmental management and identify key GI corridors and opportunities. Furthermore, NRW's role in managing and protecting designated landscapes and habitats adds another layer to the GI framework, ensuring consistency and coherence with wider environmental objectives.

The Environment (Wales) Act 2016 is landmark legislation that introduces a set of principles and duties that further elevate the importance of GI. The "Sustainable Management of Natural Resources" principle requires public authorities to take actions that contribute to the improvement of the state of the environment, with GI serving as a key tool for achieving this. Furthermore, the Act's duty on public bodies to "promote biodiversity" places additional emphasis on GI's role in enhancing and protecting habitats and species. These principles and duties, alongside the Act's focus on long-term planning and ecosystem resilience, provide a robust legal framework for embedding GI into all aspects of decision-making.

The combined force of PPW, NRW's guidance and tools, and The Environment (Wales) Act 2016 creates a comprehensive and dynamic framework for GI in Wales. Green Infrastructure Statements, informed by this framework, play a crucial role in ensuring that GI is effectively planned, delivered, and monitored, contributing to the creation of vibrant, healthy, and resilient communities for future generations.

03 GREEN INFRASTRUCTURE DESIGN

Green infrastructure design in architecture is a sustainable approach that enhances buildings and their surroundings, through the incorporation of natural elements. This can lead to numerous benefits, including improved energy efficiency, reduced stormwater runoff, and enhanced occupant well-being. The project will delve into the aspects of GI and biodiversity enhancement and as such, demonstrate how the philosophy of a greener, sustainable future has been at the core of the design.

03.1 // Green Space
Background: Although traditional, hard standing is specified around the dwelling and can act as impervious surfaces, accelerating rainwater runoff this property is hundreds of metres from neighbouring dwellings, other buildings or highways and all excess surface water will be effectively managed within the farm in a sustainable manner, using existing and improved onsite drainage systems. This will prevent flooding, water quality issues, and not create urban heat island effects.

Justification: A mixture of gardens offers a sustainable solution creating natural ecosystems. The vegetation absorbs rainwater, slowing down runoff and replenishing groundwater. It also filters pollutants, improves air quality, and provides valuable habitat for pollinators and other wildlife. This aligns with PPW TAN 6's emphasis on sustainable drainage and NRW's objectives for promoting biodiversity and healthy ecosystems.

03.2 // Permeable Paving:
Background: Conventional paving prevents rainwater infiltration, leading to increased surface water runoff and reduced groundwater recharge. This can exacerbate flood risks and strain localised private drainage systems. Enhancement of drainage and reduction of surface water drainage around the dwelling and yard is critical to protect the Grade II listed farmhouse and enable it to continue to function as a farm dwelling whilst meeting Housing Health and Safety, Risk based assessment criteria.

Justification: Permeable Paving allows rainwater to permeate the ground, replenishing groundwater reserves and alleviating pressure on drainage infrastructure. This aligns with PPW TAN 6's focus on managing surface water and NRW's guidance on mitigating flood risks. Additionally, permeable surfaces contribute to cooler urban environments by allowing for better heat dissipation, addressing the urban heat island effect as outlined in PPW TAN 6. More specifically.

PPW Policy 5.8 encourages developments to "implement sustainable drainage systems," while Policy 8 emphasises the need for "managing and reducing the risk of flooding." This coupled with guidance from the Wales Sustainable Drainage Systems Design Manual (2019): advocates permeable paving in new developments to manage surface water runoff sustainably. The farmyard area will remain permeable as will the grass-surfaced garden areas associated with the immediate house.

03.3 // Ground Source Heat Pumps:
These afford an opportunity to use a green technological solution as a key technology for harnessing renewable energy and reducing our reliance on fossil fuels.

Justification: Ground Source Heat Pump generate clean heating and domestic hot water facilities when combined with heat pumps and green electricity, offsetting reliance on the grid and reducing the development's carbon footprint, contributing to a cleaner future. Whilst doing so, the dwellings can achieve lower energy bills and improved energy independence for residents, empowering them to make sustainable choices. PPW Policy 5.1 champions "low carbon and renewable energy generation," while Policy 5.5 encourages developments to "contribute to...mitigation of and adaptation to climate change." Solar panels directly address these policy aspirations. In addition, Wales Spatial Plan (2022) focuses the need for a "net-zero Wales" and highlights the importance of renewable energy infrastructure. Integrating ground-source heating supports this ambition.

03.4 // Native Species Planting:
Background: Non-native plant species can disrupt local ecosystems and displace native flora and fauna.

Justification: Providing green spaces and nature corridors with native species creates a biodiverse environment that supports local wildlife populations. These plants are adapted to the local climate and soil conditions, requiring less maintenance, and promoting healthy soil development. This aligns with the Wales Act 2016's emphasis on biodiversity and NRW's guidance on habitat creation and ecosystem services.

03.5 // Wildlife Features:
Background: A development can fragment habitats and reduce opportunities for wildlife populations to thrive.

Justification: Installing bat boxes, bird feeders, and hedgehog houses provides vital resources and shelter for these species, encouraging them to utilise the site and contributing to a balanced ecosystem. This aligns with the Wales Act 2016's duty to maintain and enhance biodiversity and promotes public awareness about wildlife conservation. The proposal will facilitate 'Bee Bricks' and Bird Boxes. Bee Bricks that provide a safe nesting place for non-swarming solitary bees like red masons and leafcutters. These measures align with PPW Policy 11 which encourages developments to "protect and enhance biodiversity and geodiversity," while Policy 5.4 advocates for "supporting the resilience of ecosystems and natural resources.". The Wales Biodiversity Strategy 2020-2030 underscores the importance of providing nesting sites for birds and encourages actions that support bird populations.

Biodiversity Enhancement Proposed: In addition to bat bricks incorporated in the garden walling,

two Bird boxes are to be located on the West Elevation i.e. 2 number, in total and to be a type approved by the RSPB.

Any shrubs affected by the development to be translocated to the South/Western part of the site enhance this as an established wildlife habitat.

04 BENEFIT ANALYSIS

The proposed Green Infrastructure (GI) measures for the extension at Cefn Celfi offer a multitude of advantages for both the project and the surrounding community. These features will demonstrably contribute to a healthier environment and a more vibrant local area.

Effective Stormwater Management:
The green areas and permeable paving will work together to efficiently manage rainwater. By reducing surface runoff and allowing for infiltration away from the immediate dwelling but on the farm, they will alleviate pressure on drainage infrastructure and mitigate flood risks. This not only protects the immediate property but also benefits the wider community by ensuring a safer and more resilient environment.

Enhanced Biodiversity and Educational Value:
The areas for native planting will provide a valuable habitat for pollinators, birds, and insects, promoting biodiversity within the built environment. The strategically planted native species around the extension will further contribute to a thriving ecosystem by offering food and shelter for local wildlife. This not only enriches the natural world but also serves as an educational resource, raising awareness about the importance of native species and environmental stewardship.

Sustainable Water Management and Resilience:
A rainwater harvesting system will capture and store rainwater for later use, reducing reliance on mains water resources. This not only benefits the environment by lessening the strain on treatment infrastructure but also provides a reliable backup during periods of drought or water restrictions.

Commitment to Sustainable Materials and Local Economy:
The project's use of reclaimed or locally sourced building materials will minimise its environmental footprint by reducing transportation emissions and conserving resources. This approach not only benefits the planet but also supports the local economy by strengthening the community's fabric.

Lasting Benefits for All:
The positive impacts of these GI measures will extend far beyond the immediate project. Improved air quality, enhanced biodiversity, and reduced flood risks will contribute to a healthier and more liveable environment for residents and the wider community. Additionally, the focus on sustainable materials sets a positive precedent for future developments, ensuring a more sustainable future for generations to come.

05 CONCLUSION

In conclusion, the proposed Green Infrastructure (GI) provides a commitment to building a sustainable and environmentally responsible development. By meticulously integrating these features, the project will contribute to a healthier planet, a more vibrant local environment, and a resilient community.

From the areas from native planting and permeable paving managing stormwater, rainwater harvesting system promoting water conservation and the native species plantings fostering biodiversity, each measure showcases a dedication to environmental stewardship. Furthermore, the focus on sustainable building materials minimises the project's footprint and supports the local economy, setting a positive precedent for future development. The measures

extend far beyond the immediate project. Reduced flood risks, improved air quality, and enhanced biodiversity will create a healthier and more liveable environment for residents and the wider community. Moreover, the educational value of the landscaped area and the focus on sustainable materials serve to raise awareness about environmental responsibility and inspire future generations to adopt similar practices.

The development transcends its physical form to become a beacon of sustainability. By demonstrating a holistic approach to environmental responsibility, it showcases how development can coexist harmoniously with nature and contribute positively to the local community. This project sets a compelling example for future developments, paving the way towards a more sustainable and resilient future for all.