



**Ysgol Gymraeg Rhyd y Grug,
Aberfan, Merthyr Tydfil**

Green Infrastructure Statement

November 2024

DOCUMENT CONTROL

Ysgol Gymraeg Rhyd y Grug, Aberfan, Merthyr Tydfil, CF48 4NT Green Infrastructure Statement				
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1 Introduction

1.1 Background to Green Infrastructure

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. At the landscape scale green infrastructure can comprise entire ecosystems such as wetlands, waterways and mountain ranges. At a local scale, it might comprise parks, fields, public rights of way, allotments, cemeteries, and gardens. At smaller scales, individual urban interventions such as street trees, hedgerows, roadside verges, and green roofs/walls can all contribute to green infrastructure networks¹."

There has recently been an update regarding the National Planning Policy for Chapter 6 of Planning Policy Wales version 11. In addition, Planning Policy Wales version 12 was published in February 2024. A green infrastructure statement must now be submitted with all planning applications. It must describe how green infrastructure has been incorporated into the development proposals.

1.2 Green Infrastructure Assessment

The aim of a Green Infrastructure Assessment (GIA) is to ensure that all elements of GI are coordinated from the outset, so that biodiversity, trees, soils, landscaping, SuDS, amenity, access, recreation and climate change mitigation and adaptation are integrated into a scheme which delivers multiple benefits. Ideally a GIA should be a strategy which informs the design and layout of a scheme, rather than retrospectively explaining how it might work.

This document serves as a Green Infrastructure Statement (GIS). The purpose of a GIS is to outline how GI has been incorporated into the development design and to demonstrate the positive multifunctional outcomes appropriate to the site, showing how the stepwise approach (see Appendix 2) has been applied to prioritise avoidance, minimisation, and compensation of potential impacts. This ensures the development achieves net biodiversity benefit through the enhancement of biodiversity and sustainability.

1.3 Background to Proposed Development

The proposed development works comprise the expansion of the existing Ysgol Rhyd y Grug Welsh medium primary school to accommodate 327 primary places, 60 FTE nursery pupils, a new community room and Meithrin (Welsh language early years provision). The developmental proposals include ca. 600sqm of new build classrooms on the northern aspect and partial refurbishment of the existing building. Areas of short mown modified grassland within the existing playing field to the north of the building will be removed to facilitate the development, in addition to the removal of three trees. The new building will be attached to

¹https://static1.squarespace.com/static/5c45e569c3c16a9eac56d244/t/6565ccf1517d747aa68af45c/1701170419121/Briefing_Paper_BwN_and_Planning_Policy_in_Wales_v1.0.pdf

the existing building through an external walkway on the northern aspect which is unlikely to affect the roof of the existing building.

The proposed development site is located in Aberfan², approximately 7.1km south-east of Merthyr Tydfil. The site covers 1.78ha, comprising the existing Ysgol Rhyd y Grug Welsh medium primary school, grass playing field, Aberfan Park, associated hardstanding and outside classrooms. The River Taff runs approximately 20m to the eastern and northern boundaries of the site, with an area of ancient semi-natural woodland found immediately south of the site.

At the time of writing, a planning application has not yet been submitted.

This Green Infrastructure Statement should be read in conjunction with the Preliminary Ecological Appraisal produced by Acer Ecology Ltd (2024) which provides a detailed assessment of the site's ecological features and potential impacts to species, habitats and other sensitive areas.

1.4 Green Infrastructure Proposed on Site

The landscaping plans for the above site, has been reviewed in relation to the recently revised Green Infrastructure requirements. Existing proposals are included within Appendix 1.

Summary of Proposed Green Infrastructure

- Installation of a planted swale to the east, behind the new extension;
- Areas of new bulb planting to the west of the new extension and existing building;
- Areas of ornamental planting to the west of the new extension and existing building;
- Planting of three new multi-stemmed silver birch (*Betula pendula*) trees to the west, adjacent to the entrance of the new extension;
- Bio-retention/rain garden swale features through the northeast to northwest;
- Creation of a wildflower meadow to the east of the new extension, with additional areas to the north and west;
- Installation of three hedgehog houses within the wildflower areas; and
- Addition of four new rainwater storage planters on the new extension.

Areas of wildflower meadow are proposed to the north, east and west of the site, adjacent to the new extension block. A variety of wildflowers present on site will be highly beneficial to wildlife, providing a range of habitats and food for insects, bird and mammals. Areas of meadow will further benefit pollinators and invertebrates, providing nectar and other foraging opportunities which will aid in the maintenance of a healthy ecosystem. Through supporting and encouraging invertebrate populations, the presence of species-rich meadows on site will serve as an important food source for bats, birds and other wildlife. The establishment of the wildflower meadows will also contribute to soil health by improving soil structure and

² Latitude and Longitude: 51.68769505, -3.34082535 / what3words: frown.competent.stilted

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fertility through the root systems of the plants. This can enhance water infiltration and reduce soil erosion on site.

The areas of ornamental and bulb planting to the west of the new extension will further benefit and enhance biodiversity on site, in particular through the support of invertebrate species. The ornamental species will provide continuous flowering throughout the year, offering a longer foraging season for pollinators, while the bulbs will provide an early nectar source in spring, supporting spring populations of emerging pollinators.

Multi-stemmed silver birch (*Betula pendula*) is proposed for the west of the site, adjacent to the entrance of the new extension block and compensating for the loss of the three existing trees proposed for removal. The inclusion of silver birch will aid in mitigating against the effects of climate change and support wildlife and biodiversity. Birch catkins provide an early source of pollen and nectar for bees and other pollinators, which in turn will help to sustain their populations, while the tree's seeds are a valuable food source for birds, including goldfinches and siskins. Furthermore, the canopies will offer nesting sites and shelter for a range of bird species. The planting of these trees is especially important for a wide range of functions, including summer shade and cooling, sequestering carbon, improving air quality, providing habitat for wildlife, and reducing flood risk. Silver birch trees are also known to improve soil quality, due to their roots bringing inaccessible nutrients into the tree, which are then recycled on to the soil surface when the tree sheds its leaves.

A planted swale and areas of bio-retention are integrated into the landscape design to enhance stormwater management and promote groundwater recharge. These vegetated channels will slow runoff, allowing sediment and pollutants to settle before water infiltrates into the ground. By promoting groundwater recharge, they will help to mitigate against the effects of climate change, such as reduce flood risk. The swales will feature a variety of wetland-friendly plants, including species such as (but not limited to) purple moor grass (*Molinia caerulea*), soft rush (*Juncus effusus*), purple loosestrife (*Lythrum salicaria*), yellow iris (*Iris pseydacorus*), and downy birch (*Betula pubescens*). These native plants will contribute to natural water filtration, as well as provide valuable habitats for a variety of wildlife, including pollinators, birds, mammals and foraging bats. This vegetated infrastructure will tie into the broader green corridors such as the woodland to the south of the site, offering important foraging and refugia opportunities for wildlife and ecologically connecting the site to the wider landscape.

These new features will create new wildlife corridors and connect to the wider landscape such as the River Taff and its banks which form part of the wider green infrastructure of which the proposed development will enhance. These features will also act as navigational landmarks for species such as bats and can also provide protection from predators. Therefore, this additional planting will help tie the development to its surroundings and create and substantially improve the ecological value.

2 Building with Nature Standards Framework

The development has also met several of the green infrastructure standards as outlined in the Building with Nature Standards Framework³. The Building with Nature Standards Framework involves twelve Standards, arranged across four groups. There are six Core Standards and three themes, Wellbeing, Water and Wildlife, containing two Standards in each. The six Core Standards create a solid foundation for the delivery of high-quality green infrastructure through design, planning and development.

2.1 Core Standards

The core standards are detailed below: together with details of how they are being met on site.

Standard 1: Optimise Multifunctionality and Connectivity – The green infrastructure incorporated within the new development proposals optimises multifunctionality and connectivity within the boundary of the project and links with existing and planned for green infrastructure in the surrounding area. The areas of new ornamental, wildflower, bulb and tree planting will increase the connectivity of the site, complimenting existing vegetation and links to the semi-ancient broadleaved woodland located immediately south.

Standard 2: Positively Responds to the Climate Emergency – The green infrastructure is designed to be climate resilient by incorporating mitigation and adaptations that respond to the impacts of climate change. This has been met by the inclusion of multi-stemmed silver birch trees to the west of the site which promotes natural carbon capture. Furthermore, the inclusion of a swale and associated bio-retention areas will aid stormwater management, reducing the risk of flooding and promoting groundwater recharge, all of which will help to mitigate the effects of extreme weather events and contribute to the overall resilience of the local ecosystem.

Standard 3: Maximises Environmental Net Gain – The green infrastructure is designed to actively mitigate any unavoidable harmful environmental impacts of development on soil and air quality and to minimise light and noise pollution. Three trees are planned for removal, however this loss will be fully compensated by the proposed enhancements. These include new tree planting, wildflower meadow, swale, areas of bio-retention, ornamental planting and bulb planting. These features provide shade and evapotranspiration to help reduce day-time temperatures. The vegetation will also provide refuges and corridors for climate sensitive species.

Standard 4: Champions a Context-Driven Approach – The design team engaged directly with the school to inform key elements such as play areas and swales, ensuring alignment with the school's

³https://static1.squarespace.com/static/5c45e569c3c16a9eac56d244/t/6351513d1afee236d4cf6ce8/1666273600232/Building_with_Nature_Standards_Framework_2.0_Oct22_Download_Version.pdf

operations. The design team also identified key policies from Merthyr Tydfil Country Borough Council Local Development Plan⁴ to align with local priorities and minimise adverse environmental impacts. This included:

- SW4 (Settlement Boundaries);
- SW10 (Protecting and Improving Open Spaces);
- SW11 (Sustainable Design and Placemaking);
- SW13 (Protecting and Improving Local Community Facilities);
- CW1 (Historic Environment);
- EnW1 (Nature Conservation and Ecosystem Resilience);
- EnW3 (Regionally Important Geological Sites, Sites of Importance for Nature Conservation, Local Nature Reserves, and Priority Habitats and Species);
- EnW4 (Environmental Protection); and
- EnW5 (Landscape Protection).

These policies helped to guide the design process and ensure that the green infrastructure features enhances ecological connectivity, supports natural water management, and improves quality of life by creating green spaces that meet both current and future community needs.

Standard 5: Creates Distinctive Places – The green infrastructure is integral to the project and is designed to reinforce local distinctiveness and/or create a distinctive sense of place. Currently, the site has limited habitats (comprising mostly modified grassland and developed land) and therefore, the new proposals will increase the sites quality and distinctiveness by the creation of new planting towards northern boundary and centre of the site, including the shrubs and trees.

Standard 6: Secures Effective Place-keeping – While a formal governance structure has not yet been established, it is anticipated that maintenance and upkeep of the new green infrastructure will be adopted by the Merthyr Tydfil County Borough Council Grounds Maintenance Team. This will include maintaining the wildflower meadows, swale, areas of ornamental and bulb planting, and bio-retention areas. Future funding and monitoring mechanisms will be considered to ensure the sustainability and functionality of these green infrastructure elements over time.

Standard 7: Brings Nature Closer to People - The development's green infrastructure is available and accessible to all and optimises their use and enjoyment. The development also incorporates both soft and hard features (see Appendix 1 and 2) which in turn creates a welcoming and safe environment for all.

Standard 8: Supports Equitable and Inclusive Places – The green infrastructure 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. The

⁴<https://www.merthyr.gov.uk/media/5642/replacement-ldp-written-statement-final-composite-version-140120.pdf>

development meets this standard as plans a new Special Resource Base (Additional Learning Needs provision) and a Community Room.

Standard 9: Delivers Climate Resilient Water Management – The new proposed development incorporates multiple above ground features to manage flood risk, including the construction of a swale, areas of bio-retention and rainwater harvesting systems and green roof on the new extension block. These features will help to maintain the natural water cycle through mimicking the role of natural hydrology, managing and using rainwater close to where it falls and improve the quality within the boundary of the project. This nature-based solution approach to water management avoids an over-reliance on 'grey infrastructure' and delivers multiple benefits including introducing different types of habitats, providing greater resilience to extreme weather events and improving resource efficiency.

Standard 10: Brings Water Closer to People – The development proposals does not include any additional blue infrastructure design due to the absence of waterbodies within the site boundary; therefore this principle cannot be met. However, the site does include a swale, areas of bio-retention, rainwater storage planters and a green roof with rain chains – with the opportunity to utilise these features as instructive learning tools within the curriculum. These features are an integral part of a connected blue-green infrastructure solution as these areas will passively treat surface water from the development by promoting infiltration, reducing runoff and enhancing water quality through natural filtration processes.

Standard 11: Delivers Wildlife Enhancement – The green infrastructure optimises long-term and climate-resilient net benefits for nature, by enhancing existing ecological assets such as the semi-ancient broadleaved woodland to the south and creating locally relevant new habitats within the boundary of the project, including the areas of wildflower meadow, swale, bulb planting and new trees. This in turn will support the conservation status of priority species and habitats and delivers positive benefits for wildlife, within and beyond the boundary (and life) of the development.

Standard 12: Underpins Nature's Recovery – The green infrastructure creates effective links with existing and planned networks and features beyond the boundary, by creating linkages, corridors and 'stepping-stones' to them due to the woodland just south of the development site, as well as the River Taff that runs adjacent to the eastern boundary of the site.

2.2 Summary of Development and How it Meets the Core Standards

Overall, the development meets the majority of the core standards within the Building with Nature Standards Framework.

2.3 Summary of How Stepwise Approach has been Followed

The table below sets out the stepwise approach taken in assessing impacts of a development on habitats and the species.

	Steps	Assessment	Enhancement	Long term Maintenance	Net Benefits
1	Avoid	Retention of mature trees on site, excluding three trees required for removal.	Complementing existing green infrastructure with additional native planting.	N/A	Preserved existing habitats and biodiversity.
2	Minimise	The development footprint has been minimised to retain the majority of existing habitats.	Enhancement of retained areas with wildflower seed mixes and native tree/shrub species.	N/A	Enhanced existing habitats and increased biodiversity.
3	Mitigation/restore	Design has minimised direct impacts on existing ecological features where feasible.	Remaining habitats to be enhanced and loss of trees to be compensated for with additional planting.	N/A	Lost features compensated for.
4	Compensate on site	Additional planting including new tree planting as compensation for the loss of three trees.	Swale and bio-retention areas as part of the SuDs design for the site.	Landscaping for newly created habitats provided and maintained by existing grounds team.	Increased ecological connectivity and habitat diversity. Climate resilience through new diverse planting.
5	Compensate off site	N/A	N/A	N/A	N/A

2.4 Summary of Development and How it Results in Net Biodiversity Benefits

Overall, the proposal will result in an ecological enhancement and biodiversity net benefit as a result of the development. This will be undertaken by integrating such green infrastructure into the development proposals. The development will protect and enhance the ecosystems within and adjacent to the site, ensuring that they continue to support diverse habitats and species, allowing them to adapt to change. The plans will also enhance the green infrastructure on site in a way that increases resilience to the changing climate and provide protection for people and places.

3 References

Building with Nature (2023) *Delivering High Quality Green Infrastructure In Wales*. Available at:
https://static1.squarespace.com/static/5c45e569c3c16a9eac56d244/t/6565ccf1517d747aa68af45c/1701170419121/Briefing_Paper_BwN_and_Planning_Policy_in_Wales_v1.0.pdf

Building with Nature Standards Framework (2023) Available at:
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Planning Policy Wales (2024) Available online at:
https://www.gov.wales/sites/default/files/publications/2024-02/planning-policy-wales-edition-12_1.pdf

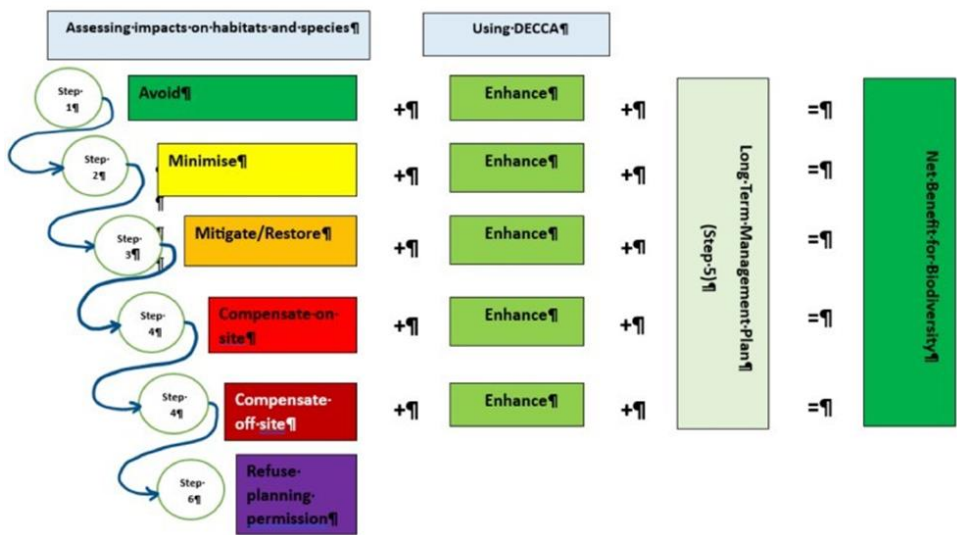
Appendix 2: Background to Requirements for Green Infrastructure Statements

On 11th October 2023¹ the Welsh Government issued updated National Planning Policy for chapter 6 of Planning Policy Wales. This was followed by the publication of Planning Policy Wales version 12 in February 2024

The updated policy guidance recognises the value of green infrastructure within the built environment. In order to facilitate a quality built environment enhanced by integrated green infrastructure all planning applications must now include a green infrastructure statement.

“6.2.6 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 green infrastructure 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 (Paragraph 6.4.21) has been applied.”

Figure 1 below sets out the summary of the stepwise approach as set out in the Annex to the published advice.



Appendix 3: Wildlife Friendly Plants Recommended for Urban Areas

In green are native species and in black are non-native species

Woody Species

Anenome clematis (*Clematis Montana*)
 Birmingham Photinia (*Photinia fraseri*)
 Broad-leaved Cockspur Thorn (*Crataegus prunifolia*)
 Cherry Laurel (*Prunus Laurocerasus* 'Cherry Brandy')
 Climbing Hydrangea (*Hydrangea petiolaris*)
 Common hawthorn (*Crataegus monogyna*)
 Compact Laurel Hedge (*Prunus laurocerasus* 'otto luyken')
 'Daydawn' Shrubby cinquefoil (*Potentilla fruticosa* 'Daydawn')
 Dogwood (*Cornus sanguineus*)
 Donards seedling (*Escallonia* 'Donards Seedling')
 Escallonia (*Escallonia ivelyi*)
 Field maple (*Acer campestre*)
 Firehill Russian Almond (*Prunus tenella* 'Fire Hill')
 Flowering Cherry (*Prunus* 'Snow Goose')
 Honeysuckle 'Maigreen' (*Lonicera nitida* 'Maigreen')
 Japanese skimmia (*Skimmia japonica* 'Rubella')
 Lebanese wild apple (*Malus trilobata*)
 Lesser periwinkle 'Bowles' Variety (*Vinca minor* "Bowles Blue")
 Meidomonac' Rose (*Rosa Bonica*)
 Mexican orange blossom (*Choisya ternate*)
 Mugo pine (*Pinus mugo*)
 Osmarea Burkwoodii (*Osmanthus* x *Osmarea burkwoodii*)
 Red flowered Escallonia (*Escallonia macrantha*)
 Rock rose (*Cistus corbariensis*)
 Rowan (*Sorbus aucuparia*)
 Shrubby Veronica 'Emerald Green' (*Hebe* 'Emerald Green')
 Silver bush (*Convolvulus cneorum*)
 Snowy mespilus (*Amelanchier lamarckii*)
 Spindle 'Emerald n Gold' (*Euonymus Emerald n Gold*)
 Spindle 'Emerald Gaiety' (*Euonymus fortunei*)

Herbs and Ferns

Bluebell (*Hyacinthoides non-scripta*)
 Daffodil Minnow (*Narcissus* 'Minnow')
 Hart's Tongue-Fern (*Phyllitis scolopendrium*)
 Holly 'Golden von Tal' (*Ilex aquifolium*)
 Ivy (*Hedera helix*)
 Ivy 'Green ripple' (*Hedera helix* 'Green Ripple')
 Ivy 'Goldheart' (*Hedera helix* 'Goldheart')
 Large-cupped Daffodil (*Narcissus* 'Carlton')
 Miniature daffodil (*Narcissus* 'Tete-a-Tete')
 Snowdrop (*Galanthus nivalis*)

Appendix 4: Wildflower Meadow Creation

Site Preparation

The chosen area must be cleared of existing vegetation by mowing, raking, or applying a non-residual herbicide. Rake the soil to create a fine tilth, ensuring an even surface for seed sowing.

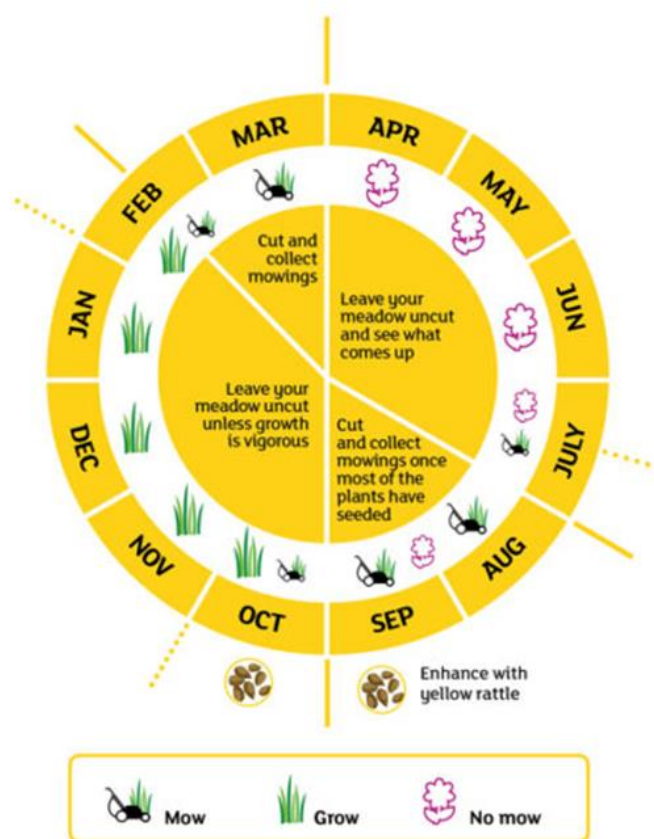
Sowing Seeds

Select a mix of native wildflower and grass species. Sow seeds evenly at the recommended rate. Lightly rake to ensure good seed-to-soil contact. Firm the soil by rolling or walking over it.

A selection of wildflower seed mixes can be sourced from Emorsgate Seeds (<https://wildseed.co.uk/>). Mixes such as EM1 Basic General Purpose Meadow Mixture and EM2 Standard General Purpose Meadow Mixture are recommended.

Watering and Maintenance

Water lightly but consistently until germination. Reduce watering frequency after germination, ensuring adequate moisture during dry periods. Remove emerging weeds manually. Mow annually in late summer or early autumn to a height of 10 cm to maintain health and diversity.



Meadow management schedule taken from Plantlife (available at <https://meadows.plantlife.org.uk/3-maintaining-meadows/managing-a-hay-meadow/>)

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Appendix 5: Species Suitable for Swales and Rain Gardens

Grasses, Rushes	Sedges &	Tufted hair grass	<i>Deschampsia cespitosa</i>
		Purple moor grass	<i>Molinia caerulea</i>
		Tall fescue	<i>Festuca arundinacea</i>
		Lesser pond sedge	<i>Carex acutiformis</i>
		Soft rush	<i>Juncus effusus</i>
Wildflowers & Perennials		Purple loosestrife	<i>Lythrum salicaria</i>
		Meadowsweet	<i>Filipendula ulmaria</i>
		Marsh marigold	<i>Caltha palustris</i>
		Yellow iris	<i>Iris pseydacorus</i>
		Primrose	<i>Primula vulgaris</i>
		Oxeye daisy	<i>Leucanthemum vulgare</i>
		Ragged robin	<i>Lychnis flos-cuculi</i>
		Small scabious	<i>Scabiosa columbaria</i>
		Hemp agrimony	<i>Eupatorium cannabinum</i>
		Devil's-bit scabious	<i>Succisa pratensis</i>
		Betony	<i>Stachys officinalis</i>
		Bird's foot trefoil	<i>Lotus corniculatus</i>
		False goat's beard	<i>Astilbe spp</i>
		Perennial phlox	<i>Phlox paniculata</i>
		Plantain lily	<i>Hosta spp</i>
Shrubs		Osier willow	<i>Salix viminalis</i>
		Dogwood	<i>Cornus sanguinea</i>
		Dog rose	<i>Rosa canina</i>
		Guelder rose	<i>Viburnum opulus</i>
		Alder buckthorn	<i>Frangula alnus</i>
		Downy birch	<i>Betula pubescens</i>
		Hawthorn	<i>Crataegus monogyna</i>