Chapter 3: Wider Environmental Considerations

Streetscape Design Guide 2025

Worcestershire County Council

worcestershire county council

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1. Construction Environmental Management Plan (CEMP)

A Construction Environmental Management Plan (CEMP) is a document submitted by developers to Local Planning Authorities that outlines how a developer will minimise any negative environmental impacts of a specific construction project. Local Planning Authorities may require a CEMP as a condition of planning permission. The CEMP also demonstrates how a project complies with environmental regulations and mitigates potential issues.

A CEMP allows a proactive approach in controlling potentially polluting activities to prevent adverse public health impacts, nuisance, and hazards to the natural and human environment. The production of a CEMP is the responsibility of the applicant/developer, and the onus is on them to ensure that it is specific to their project and is suitable in scope.

The CEMP may often require a Construction Traffic Management Plan (CTMP) for large sites or sites in locations where the local road network is sensitive to large vehicles or higher volumes of traffic. The proposed development may also be the subject of planning permission conditions requiring a CTMP which will need to be formally discharged before any significant works can take place on site. The CTMP is primarily to ensure that construction related vehicles and pedestrians using the site can move around safely. It needs to take account of a limited compound and work area, its surroundings, and the type of vehicles generated, i.e., vans, lorries, excavators, site dumpers, etc.

It is accepted that there will usually be some disruption during construction; however, this needs to be minimised to protect the local community and the highway network.

These plans should comply with the requirements of Worcestershire Regulatory Services (WRS) Best Practice for Demolition and Construction Sites. WRS is a shared service delivering environmental health functions, including health and safety, as well as aspects of pollution control and licensing administration for the six District Councils in Worcestershire.

Local site conditions will dictate the range of considerations for inclusion in a CEMP, but a non-exhaustive list of considerations for construction activities relevant to the Local Highway Authority includes, but not limited to:

1. Duration of build.
2. Hours of operation (working hours restrictions that apply).
3. Number and size of delivery vehicles (average per day) and time restrictions when deliveries can be made.
4. Location of the site compound for storage and parking for operatives and site visitors.
5. A pre-commencement condition survey of surrounding roads.

6. Wheel washing facilities to be retained throughout the construction period by which means the wheels of vehicles may be cleaned before leaving the site.
7. A strategy to inform the local community of activities, including the provision of complaints procedures.
8. Any temporary access arrangements.
9. Temporary traffic management arrangements.
10. The routing of construction vehicles and deliveries to and from the site (suitability of existing network to cater for Heavy Goods Vehicles).
11. Monitoring regimes for noise and vibration levels.

The level of detail required in a CEMP will be proportionate to the scale of the development and to the level of risk presented by the development. The CEMP should state how the necessary level of detail has been determined.

It is recommended that contractors are registered with the 'Considerate Constructors' scheme' to conform to the Code of Considerate Practice.

Prior to work commencing onsite, the principal contractors should consult with WRS, to discuss methods of working and measures planned to minimise disruption throughout the construction works. In addition to this, further meetings may be held to discuss environmentally sensitive works which may occur due to the demand for night-time work or the use of certain types of construction techniques. The contractor should appoint a responsible person to liaise and engage with WRS, residents, businesses and other authorities to keep them informed of matters likely to affect them.

2. Green Infrastructure (GI)

Green infrastructure (GI) refers to a strategically planned network of natural and semi-natural areas designed to deliver multiple ecosystem services and enhance biodiversity. It includes both "green" (land) and "blue" (water) spaces, such as parks, woodlands, waterways, and even individual features like green roofs and street trees. GI is an approach that recognizes the value of natural systems in providing benefits to the environment, health and well-being.

The National Planning Policy Framework, 2024 (Annex 2: Glossary) defines green infrastructure as:

"A network of multi-functional green and blue spaces and other natural features, urban and rural, which is capable of delivering a wide range of environmental, economic, health and wellbeing benefits for nature, climate, local and wider communities and prosperity."

Natural England guidance called Green infrastructure, cites:

"Green infrastructure has an important role to play in our urban and rural environments for improving health and wellbeing, air quality, nature recovery and resilience to and mitigation of climate change, along with addressing issues of social inequality and environmental decline the following benefits of green infrastructure."

Green infrastructure, including trees, hedgerows, and other vegetation such as wildflowers and grassland, all have a valuable part to play in creating ecological networks, allowing biodiversity to thrive. The Vision in Worcestershire County Council's 'Planning for Green Infrastructure Strategy (2023 to 2028)' states:

"Worcestershire's high-quality natural and historic environment will fulfil a multi-functional role. It will underpin and enable sustainable growth of the economy, significantly improve the communities' experience of natural and historic places, deliver meaningful benefits to health and wellbeing, and underpin and act as the foundation for the county's resilience to climate change."

It is expected that proposals for developments will actively incorporate green infrastructure as an integral part of the development or to replace traditional infrastructure approaches with green solutions, where retrofit improvements to highways are planned.

The Worcestershire's Green Infrastructure Strategy 2023 - 2028 sets out the principles to consider when integrating green infrastructure within a new development. It is expected that proposals for investment in infrastructure will actively incorporate green infrastructure.

Further guidance for green infrastructure is also included in the Supplementary Planning Document called 'Planning for Health in South Worcestershire.'

3. Environmental and Ecological Impact Assessments

Environmental Impact Assessments (EIAs) and Ecological Impact Assessments (EcIAs) are crucial processes for evaluating the potential environmental and ecological consequences of proposed projects, ensuring that development decisions are made with a full understanding of their impacts. An Environmental Impact Assessment (EIA) is a procedure used to evaluate the potential effects of a proposed development on the environment and an Ecological Impact Assessment (EcIA) focuses specifically on the impacts of a development on habitats, species, and ecosystems. EcIAs are typically conducted in accordance with established guidelines, such as those from the Chartered Institute of Ecology and Environmental Management (CIEEM).

Both assessments help identify, quantify, and assess what these impacts might have, ensuring that any negative effects are minimised or mitigated. Example measures which developers and planners could incorporate into a scheme that can help mitigate impacts include:

1. Mammal passes (e.g. for safe otter and badger passage).
2. Inset kerbs (e.g. to prevent entrapment and drowning of hedgehogs).
3. Tunnels (e.g. for safe passage of reptiles and amphibians)
4. Drains with wildlife exit routes (e.g. to prevent entrapment and drowning of amphibians).
5. Arboreal hop overs (e.g. to promote safe passage and reduce collisions between vehicles, birds and bats).

The highway extent and configurations to it, may significantly adversely impact habitats, leading to habitat loss, fragmentation and degradation, for example, artificial light at night from street lighting can adversely impact feeding, nesting and roosting behaviours of various species that can negatively impact the species as a whole.

Some of Worcestershire's scarcest species have populations reliant on the careful management of the county's highway network. Therefore, careful consideration should be given to ecological risks and opportunities posed by highway development, for example: opportunities may be available which contribute towards a development's Biodiversity Net Gain (BNG) and Green Infrastructure target quanta.

As an iterative process, where highway proposals are subject to design modifications, supporting ecological assessments may need to be updated to ensure they remain valid.

In England and Wales, the requirements of the Environmental Impact Assessment (EIA) Directive (about road projects) have been transposed into UK Statute by Section 105 of the Highways Act 1980, as amended by the Highways Regulations 2007.

Developments classified as relevant under the EIA Directive Annex II will, therefore, need further assessment in accordance with the DMRB standards concerning Sustainability and Environment, to establish whether significant environmental impacts are likely to arise during construction and operation.

3.1 Worcestershire County Council datasets and tools

3.1.1 GIS

To inform the baseline of required assessments, consideration should be given to Worcestershire County Council's resources and datasets, with specific focus on the Green Infrastructure Framework 2 report.

Worcestershire County Council provides and maintains a mapping data resource at an overall spatial level, called Geographic Information System (GIS). GIS data is vital for establishing a robust baseline in ecological assessments by providing a comprehensive spatial understanding of the environment

before any development or change. It allows for the mapping and analysis of various environmental factors, and the baseline data then serves as a benchmark against which to measure future changes and impacts from a proposed project. Developers should seek early engagement with Worcestershire County Council for advice.

3.1.2 Worcestershire Landscape Character Assessment (LCA)

Worcestershire Landscape Character Assessment (LCA) is a tool used to identify and describe the unique characteristics of different landscapes within the county. It helps understand how various features, like hedgerows, fields, woodland, and settlement patterns, contribute to the distinct character of each landscape type. This assessment supports strategic planning and decision-making, ensuring the preservation and enhancement of Worcestershire's landscape.

Worcestershire's Landscape Character Assessment provides guidelines for the protection and enhancement of the rich and varied landscape character types. It indicates where pressures for change occur and what future planning and management needs to be incorporated into development plans.

To avoid detrimental effects on the landscape character of new developments and highway infrastructure, a full assessment of the existing character and its ability to accept change needs to be established.

4. Street Trees

The National Planning Policy Framework (NPPF) 2024, paragraph 136 states that:

"Trees make an important contribution to the character and quality of urban environments and can also help mitigate and adapt to climate change. Planning policies and decisions should ensure that new streets are tree-lined."

Worcestershire County Council recognises the significant importance to the contribution that a diverse mixture of tree planting can make to our environment. Trees are an important part of the natural environment and open spaces. They offer a unique contribution to visual amenity, and ecosystems and play a vital role in our response to climate change by capturing carbon, storing air pollution as they grow and providing areas of welcome shade in a streetscene.

Trees in the highway, often referred to as street trees, are an integral component of the overall streetscape design. Trees growing as part of the adopted highway are the responsibility of the Local Highway Authority and are managed and maintained in line with the maintenance of other highway infrastructure.

Trees with varying height, structure, and the appearance of trees (leaf colour, bark texture and flowering season) can create welcomed shaded areas, a greater sense of depth and softened views, therefore, adding to the experience of developments, which sets them apart from more formal streetscapes. Trees can also help alleviate flooding issues through several mechanisms:

- Interception of rainfall.
- Promoting soil infiltration rates.
- Removing water from catchment areas (reducing pressure on drainage systems and absorbing run-off) by slowing the flow of water during heavy rainfall events. For more information about flooding, please refer to Worcestershire County Council's website on Flood risk and development.

Worcestershire County Council strives to retain as many healthy trees as possible, whilst encouraging the planting of new ones in new developments and green open spaces. We encourage the planting of the 'right tree in the right place', which is a principle that is not restricted by road classification. The aim of this guidance is to ensure the right tree and right technical design solution is included in street design. The guidance is not exhaustive but aims at encouraging and helping developers and planners to find the right place, choosing the right method for establishing trees and selecting the right species for a development that benefits the local community.

Key consideration for street trees should be given to the following points:

1. In accordance with guidance published in the Urban Tree Manual - Forest Research, Worcestershire County Council strongly advocates the principle of the 'right tree in the right place'. This means that the location should be suitable for tree planting in the first instance and the tree species selected, should be best suited to its environment. Applying this principle during the early design stage will minimise future onward maintenance and ensure trees are harmoniously incorporated into the landscape.
2. The height, habit, longevity and fruiting characteristics of the tree or trees should all be taken into consideration for the appropriate location. The canopy of a street tree needs to have a minimum clearance of 5.1m above a carriageway and 2.4m above a footway. Please refer to Appendix F.
3. Where possible, existing trees must be retained and integrated within new development proposals. This is particularly important where trees are subject to a Tree Preservation Order (TPO). It is important to engage a professional arboriculturist to carry out a tree survey in accordance with the British Standard BS: 5837 2012 'Trees in relation to design, demolition, and construction – Recommendations'. The removal of trees should be a last resort and should only occur following a collaborative process, determining that a tree's retention is impossible. The Government has specific advice and guidance on Tree Preservation Orders and conservation areas Tree Preservation Orders and trees in conservation areas - GOV.UK

4. It is often larger trees, in the context of the highway, which may cause issues to surrounding built infrastructure. The removal of a tree is only ever considered if it presents an unacceptable risk to the public or property, which is often associated with dying or diseased trees or where a tree is causing physical damage to its surroundings. However, there are a range of engineering and maintenance solutions that can be applied throughout a tree's lifecycle that allow both the tree and the highway to co-exist. These measures for developers and planners are referenced in the Highway tree management: operations note 51 - GOV.UK
5. It is preferable for streets trees to be planted in the verge, but where this is not practicable, it should be ensured that the tree is of the appropriate species and size for the location with an appropriate tree pit or engineering and maintenance solution, if required.

The design of street trees should, therefore, be considered in relation to drainage, utilities, and street lighting ensuring:

1. Proper tree selection and placement, along with careful consideration of root growth, can ensure harmonious coexistence with both utilities and lighting systems. This means selecting the appropriate tree species at the early design stage with predictable growth habits that will not interfere with utilities or street lighting as they mature. If necessary, root barriers should be considered to protect services.
2. There is allowance for some precipitation to reach the tree-rooting environment.
2. Stormwater run-off can be managed.
3. Surface water drainage is designed in line with best practice outlined in The SuDS Manual (C753) and the WCC Sustainable Drainage Design & Evaluation Guide

Early engagement with developers and planners is always welcomed to allow us to provide further advice about selecting appropriate tree species and the appropriate engineering and maintenance solutions. Recommendations can help to establish the health, longevity, root zone and tree works required, and will aid in the decision making of any road alignment. Trees in Hard Landscape, A Guide for Delivery by the Design Action Group (TDAG) explains the collaborative process to be adopted in designing with trees, providing technical design solutions and species selection criteria.

5. Wildflower Verges

Worcestershire County Council recognises the significant importance and benefits of wildflower verges on county council-owned highway verges. Where appropriately located, designed and managed, these verges contribute significantly to providing sustainable and biodiverse landscapes in our communities. Wildflower verges provide vital habitats for biodiversity, such as our important pollinators like bees and butterflies, and our foraging birds and hedgehogs. By allowing wildflowers to thrive on our highway verges, Worcestershire County Council is helping to meet its statutory responsibility to conserve and enhance the county's biodiversity. Wildflower verges offer many other environmental benefits:

- They help improve air quality, store carbon, and help manage water run-off by reducing the number of impervious surfaces.
- Wildflower verges have been shown to absorb rainwater more effectively than traditional grass verges, which reduces flood risks and eases pressure on our drainage systems.
- Traditional grass verges require expensive topsoil to establish and require regular mowing, consuming considerable energy and resources.
- Once established, wildflower verges require far less maintenance. This reduces our use of fossil fuels, minimises use of chemical fertilisers and pesticides, and in turn, this reduces the harm these products have on our natural environment and human health.
- The natural beauty of our wildflower verges also enhances the appeal of Worcestershire's roadsides and public spaces; it makes them a visually attractive and enjoyable location for Worcestershire's residents and visitors alike.
- Wildflower verges can also contribute significantly towards a location's quantitative Green Infrastructure and Biodiversity Net Gain value.

The conservation charity Plant Life has published best practice guidance on the management of highway verges Managing Grassland & Green Space - Plant life.

6. Biodiversity Net Gain (BNG)

Biodiversity Net Gain (BNG) in the UK aims to halt and reverse the decline of wildlife by creating new habitats, increasing access to green spaces, and building healthy and resilient places. It requires developers to ensure their development sites deliver at least a 10% increase in biodiversity value. This means a project must result in more or better-quality natural habitats than existed on the site prior to development. BNG became a mandatory requirement for major developments and minor developments in England in 2024. Guidance is available about Biodiversity Net Gain on the Government website.

Developers must submit a Biodiversity Gain Plan to the relevant Local Planning Authority, which must be approved before development can begin. The primary goal of BNG, as required by the Environment Act 2021, is to achieve a measurable net gain in biodiversity, following the mitigation hierarchy outlined in the National Planning Policy Framework (2024). This involves avoiding, minimising, mitigating, and as a last resort, compensating for any adverse impacts to biodiversity. As part of the BNG process any mitigation or compensation should follow the Biodiversity Gain Hierarchy, which requires habitat creation and enhancement to be prioritised on-site before any off-site habitat options are explored.

In addition to BNG, developers will still have to address any protected species concerns through a series of steps, including ecological surveys, mitigation measures, and potentially obtaining necessary

licenses. Planning Authorities play a crucial role in Biodiversity Net Gain (BNG) by overseeing the implementation and enforcement of BNG within the planning regime, including assessing biodiversity gain plans, and habitat management and monitoring plans by securing obligations through legal agreements, such as section 106 agreements. The statutory requirement of +10% Biodiversity Net Gain (BNG) can be achieved on-site, off-site ('offsetting') or through a combination of both. In addition to BNG, developers will still have to address any protected species concerns through a series of steps, including ecological surveys, mitigation measures, and potentially obtaining necessary licenses.

7. Historic Environment

Protecting and enhancing existing sensitive historic environments in Worcestershire for everyone's enjoyment and making them more accessible for the social, economic and health benefits they can bring is a crucial element of the planning process.

The National Planning Policy Framework 2024, (section 16, paragraph 203) states:

Plans should set out a positive strategy for the conservation and enjoyment of the historic environment, including heritage assets most at risk through neglect, decay or other threats. This strategy should take into account:
d) the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation.
e) the wider social, cultural, economic and environmental benefits that conservation of the historic environment can bring.
f) the desirability of new development making a positive contribution to local character and distinctiveness; and
g) opportunities to draw on the contribution made by the historic environment to the character of a place.

The National Planning Policy Framework 2024, (paragraph 135c) also states:

"Planning policies and decisions should ensure that developments:

> *c) are sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change (such as increased densities)"*

Local Plans in Worcestershire highlight the importance of preserving and enhancing the historic environment in planning and development and, therefore, developers are advised to consult with guidance published by Historic England.

Worcestershire County Council works closely with Historic England and local conservation colleagues in sensitive locations of historic importance around the county to encourage and facilitate new

development which is based on an understanding of each site's unique history, character and context, and thus creating distinctive new neighbourhoods.

Historic England advises those involved in the planning process to look at making improvements to public spaces and highways without harming the valued character of historic environments. It includes specific recommendations for works to surfaces, street furniture, street lighting, new equipment, traffic management infrastructure, and environmental improvements. It draws on experience of Historic England's planning teams in highways and public realm schemes, including case studies showing where highway works, and other public realm schemes have successfully integrated with and enhanced areas of historic or architectural sensitivity. For reference, Historic England have published this Good Practice for Design in the Historic Environment: Principles and Case Studies | Historic England.

7.1 Worcestershire's Landscape Assessment

Generally, an application for residential development should show that the key characteristics of the 'Landscape Type' of the intended site have been considered in the siting, design, scale and layout of any proposed change. Wherever possible, development should strive to strengthen landscape character, retaining and conserving existing features whilst seeking opportunities to restore or enhance others. Worcestershire's Landscape Characterisation Assessment tool provides a framework for assessing the Landscape character, which is an important factor that is considered in the assessment of planning applications to demonstrate that any change must be accompanied by considerable benefit to the landscape, rather than just mitigation.

8. Digital Connectivity and Infrastructure

As part of our Corporate Plan 2022 - 2027, it is important to ensure our residents are equipped to access future opportunities as we experience a shift in working patterns and value quality of life alongside earning potential. Ensuring people and places are connected, physically and digitally, is vital to supporting continued economic growth, and unlock further expansion in high-tech and knowledge intensive industries. All new developments will be expected to include the provision of full fibre gigabit capable network infrastructure / Fibre to the Premises (FTTP) to enable broadband services for all occupiers. Please see Appendix H for more information.