Buckinghamshire Design Code

Draft 1.2

Consultation Version

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A. Introduction

THE PURPOSE OF THE BUCKINGHAMSHIRE DESIGN CODE

The Buckinghamshire Design Code ('the Code') aims to provide a framework for creating and maintaining beautiful, sustainable and distinctive places in Buckinghamshire. It aims to ensure all development will have a consistent and high-quality standard of design and will contribute positively to local character, walkability, civic life and long-term settlement quality.

The Code seeks to secure places that are attractive, coherent and locally rooted; that use land efficiently through appropriate gentle density; that support mixed-use neighbourhoods and thriving local centres; that provide strong tree lined street form, high quality beautiful public realm, and usable communal spaces; and that embed sustainability in urban form, movement, durability and landscape structure.

The NPPF advises that 'the creation of high quality, beautiful and sustainable buildings and places is fundamental to what the planning and development process should achieve. Good design is a key aspect of sustainable development, creates better places in which to live and work and helps make development acceptable to communities. Being clear about design expectations, and how these will be tested, is essential for achieving this. So too is effective engagement between applicants, communities, local planning authorities and other interests throughout the process' (NPPF para 131).

This code sets out requirements for selected key design topics and issues that are commonly discussed between the council and applicants in relation to development planning. These requirements will give applicants greater certainty from the start of the council's expectations for the approach to design and the quality of outcomes to be delivered in Buckinghamshire. Together with early engagement with the council's officers, the Code should enable decision-making to be more consistent and efficient.

This consultation version of the code includes the text only. The finalised version will also contain diagrams to illustrate the rules/ requirements as recommended by the Design and Placemaking Planning Practice Guidance 2026.

The Code has drawn upon design guidance published as SPDs by the former District Councils in Buckinghamshire which remains as background guidance.

NATIONAL PLANNING POLICY AND DESIGN GUIDANCE

The Code is intended to be read in conjunction with, and to complement, national planning policy and design guidance.

National policy and guidance on good design is contained in the National Planning Policy Framework ('the NPPF) and the Design and Placemaking Planning Practice Guidance ('the PPG'). At the time of writing (March 2026) the PPG is in draft form, but it indicates strong support for good design and

sets out a framework for guiding and determining good policy compliant design outcomes. The PPG consolidates current national design guidance into one document and incorporates an evolution of the National Design Guide 2021 and National Model Design Code 2021.

The National Design Guide is arranged into 10 characteristics:

- **Context**,
- **Identity,**
- **Built form,**
- **Movement,**
- **Nature,**
- Public spaces,
- Uses,
- **Homes and buildings,**
- **Resources,**
- Lifespan

This draft of the Buckinghamshire Design Code is structured around these and has specific rules/ requirements for the ones shown in **bold text**. It also incorporates the good design principles and features in the NPPF and draft PPG, and it is intended that the final version will be formatted so that they can all be easily read together. While there may be changes prior to the final publication of the PPG, it is felt that these design principles are likely to remain policy compliant.

OTHER CODES AND DESIGN GUIDANCE DOCUMENTS

The Buckinghamshire Design Code is a high-level code containing rules and some points of guidance for common issues countywide. It does not include location-specific rules. All planning applications are expected to comply with the Buckinghamshire Design Code.

It is also expected that a planning application for larger developments will be accompanied by a detailed design code or statement that builds on the principles set out in the Buckinghamshire Design Code and sets out a response to the unique location, context and features of the site. In broad terms, a detailed design code will be expected for new developments of a scale sufficient to require one or more new streets, regardless of whether these are to be adopted or not. The scope of the detailed design code should be agreed in advance with the council.

In addition to complying with the codes set out above, development proposals should respond to other relevant design guidance documents, including universal topics such as accessibility, crime-prevention and safety, as well as guidance on specialist topics relevant to the proposed development.

B. How to use this Design Code

This document contains a series of **rules/ requirements** and **guidance** which set out the councils' position on a range of design issues.

The title for each rule and text **in bold** and normal text with a background colour indicate mandatory rules/ requirements of this code and must be complied with.

Text *in italics* indicates guidance which is advice that applicants are strongly encouraged to follow.

This code is not intended to stifle good design and innovation. It is expected that in most cases development will be able to comply fully with the code. In exceptional circumstances consideration to other approaches will be given where designers can demonstrate their proposals follow the same principles and outcomes outlined in this code. Such alternatives must be evidenced through the design code compliance statement.

The code is intended to apply to a range of development sizes and types including:

- Strategic housing developments/ urban extensions (300+ homes)
- Major residential development (10 - 300 dwellings)
- Smaller residential proposals (2-9 homes)
- Brownfield and urban infill
- Commercial or employment & mixed-use schemes
- Individual houses within settlements
- Individual houses in rural settings
- Household extensions
- Building conversions

It is intended that the final version of the code will identify which parts of the code will apply to these different development sizes and types.

FIRST STEPS

Before any design decisions are made about a site, a comprehensive understanding of its context is crucial. This will allow an appropriate design response that delivers development that fits well with its surroundings and establishes/maintains or reinforces a positive local identity.

Two key elements should be drawn from this understanding of the site's context – the networks serving movement and green-blue infrastructure throughout the surrounding area. The first design response for a site should be to identify, connect with and extend these networks through the site as structural elements for the rest of the development and to enhance permeability and connectivity within the wider settlement.

M1 'Integrated movement networks' and N1 'Integrated green and blue infrastructure networks' set out the council's expectations– applicants must demonstrate how they have addressed these matters and how this has informed subsequent design decisions including site layout.

NEXT STEPS

The remaining rules/ requirements and guidance will guide subsequent design decisions where applicable**. The Buckinghamshire Design Code does not cover every single design topic and must**

be read in conjunction with the National Design Guide / Model Design Code and the Design and Placemaking PPG for additional direction, in addition to specialist design guidance publications.

Each rule includes references to the National Design Code 2021 (“NDC”) and other key parts of the Buckinghamshire Design Code (“BDC”) and references to other documents.

Detailed Design Codes:

It is recommended that an applicant scopes and agrees the content of a Detailed Design Code as part of pre-application advice, if one is to accompany the application. Otherwise, a design code compliance checklist / statement should be prepared and submitted with the application.

Sites identified in the Local Plan will specify whether a detailed site-specific design code is required. For other sites a detailed design code may be sought by a condition attached to a planning consent, for discharge prior to submission of any reserved matters applications. Compliance checklists / statements will then need to accompany subsequent reserved matters applications.

In instances where the delivery of reserved matters applications can take more than three years it may be suitable to revisit aspects of the detailed design code where both the council and applicant feel this is appropriate.

DESIGN CODE COMPLIANCE CHECKLIST / STATEMENT

The applicant must submit a compliance checklist/ statement. This must set out clearly and succinctly how a proposed development complies with the Design Code(s). Where it does not comply, this should be identified with clear, justifiable reasons given for noncompliance. Short statements and relevant illustrations are preferable to lengthy explanations.

The checklist/ statement should follow the design code(s) structure for ease of cross-reference.

Contents

NOTE: For issues related to Public Space, Uses and Lifespan refer to the National Design Guide and National Design Code 2021

Context is the location of the development and the attributes of its immediate, local and regional surroundings. An understanding of the context, history and the cultural characteristics of a site, neighbourhood and region influences the location, siting and design of new developments. It means they are well grounded in their locality and more likely to be acceptable to existing communities. Creating a positive sense of place helps to foster a sense of belonging and contributes to well-being, inclusion and community cohesion.

Well-designed places are:

- *based on a sound understanding of the features of the site and the surrounding context, using baseline studies as a starting point for design;*
- *integrated into their surroundings so they relate well to them;*
- *influenced by and influence their context positively; and*
- *responsive to local history, culture and heritage.*

Taken from National Design Guide 2021

Context

Context

C1 Use the site and its context as the foundation for a landscape-led approach

The best planning is landscape-led. This means planning places which respond to their existing environment, work with natural assets, and create Environmental Net Gain wherever possible. It is good for people, good for nature, and good for the planet. (Landscape Institute)

A landscape led approach *uses the landscape context of the proposed development, (its character, ecology, topography, hydrology, habitats, and cultural patterns) as the primary driver of the design of the development, rather than treating landscape as an afterthought to built form and highway layout. In other words, the landscape sets the rules and buildings and highways follow these.*

Site appraisal:

Alongside the **Character Study (Code I1 Character)**, carry out a **Site Appraisal** to identify and illustrate the physical aspects of the site and identify key constraints and opportunities to inform the proposal. Include topography, drainage, existing natural features, existing tree belts, hedgerows, woodlands, water courses, other Green Infrastructure corridors, walking/ cycle routes and connections and site access points.

Use the following checklist to ensure that all constraints and opportunities are identified:

Physical Environment

- *Topography and views:*

What is the topography of the site and how will this influence the proposals? How is the site viewed or overlooked from afar? Are there prominent overlooked areas that may be best left undeveloped? How can the development provide a well-defined external image to the countryside?

- *Geology, ground conditions and contaminated land:*

What is the existing geology of the site? Are there areas of the site which are difficult to build on, contaminated or potentially contaminated or less porous than others?

- *Orientation and microclimate:*

How is the site orientated? Can this be capitalised on?

- *Air quality, noise:*

Are there areas of the site which are affected by noise or poor air quality such as adjacent to major strategic roads or rail infrastructure or existing cultural or community buildings? Are there areas of the site which are within or near an Air Quality Management Area?

Context

- *Drainage and hydrology:*

How does the site currently drain? Are there locations where water collects? Are soils permeable? How will this affect the proposals and the potential for sustainable drainage systems?

- *Flooding*

Are there areas of the site within the flood plain? Are there areas of the site prone to fluvial, surface water and/or groundwater flooding?

- *Services*

Are there existing services and/or capacity to serve the development? Are there any existing utilities or service infrastructure that may constrain your development. For instance, overhead power lines or a significant sewer.

Heritage

- *Designated and non-designated heritage assets*

Are there any listed buildings, conservation areas, scheduled monuments or registered parks and gardens on site or is the site in the setting of any of these heritage assets? Are there likely to be any archaeological remains within the area? Are there any non-designated assets on or adjacent to site? Is the site located within the setting of a designated or non-designated heritage asset? Are any studies required?

Landscape

- *Trees and vegetation*

Are there any trees on or adjacent to the site with Tree Preservation Orders? Is the site located in a conservation area? Are there any hedgerows that could be protected under the Hedgerow Regulations? Has a tree survey to BS5837:2012 (or most recent equivalent) been carried out?

- *Existing features*

Are there any existing features such as trees, hedgerows, watercourses, or areas of woodland that contribute to the sites amenity value and should be retained?

Context

Ecology and biodiversity

- *Priority habitats and species*

What is the existing biodiversity value of the site? Are there particular areas or features which have a high biodiversity value that should be protected? Is there opportunity for habitat creation and enhancement?

Highways

- *Site access by all modes*

What are the existing access arrangements for the site? Does an alternative means of access have to be introduced?

- ***Connections and Links***

Are there existing rights of way across the site? Can the site connect back to an existing neighbourhood and be integrated with an existing street network? What existing cycle infrastructure is there? Can a footpath be upgraded to bridleway to accommodate cycling access?

REASON: Understanding the site and its context is an essential starting point to ensure that new development respects, responds to and enhances the area's unique characteristics. Successful development shares common characteristics with its locality and integrates and functions as a natural part, or extension of existing settlements.

COVERAGE: Countywide

OTHER CONSIDERATIONS: NDC: C.1 & C2 Context; BDC: C2 Vistas, C3 LVIA, I1 Character, I2 Local character, M1 Movement networks, N1 Green and Blue networks

Context

C2 Identify and respond to vistas and borrowed landscapes to and from the site

Views and Vistas

i) **Identify** short and long-distance views, visibility from ridgelines and valley sides and any recognised key views and key landmarks that may be affected by the proposal.

ii) **Structure** development so that views are retained and where possible enhanced. Don't cause significant negative impacts particularly to and from the Chilterns National Landscape, or any other sensitive viewpoints.

iii) ***Assess the visual impact*** *using the following information:*

- *Cross Sections*
- *Detailed levels surveys*
- *Detailed roof plans*
- *Visual impact assessments*

iv) ***Reduce the visual impact*** *by adopting these principles:*

- ***Group*** *new development with existing buildings to minimise visual intrusion.*
- ***Avoid*** *siting buildings on the highest part of a site.*
- ***Avoid*** *breaking the skyline or ridgeline of hills.*
- ***Follow*** *the underlying topography in building heights on valley sides.*
- ***Use*** *the natural shape of the land to help visually contain and soften the appearance.*
- ***Maintain*** *existing tree belts and mature trees.*
- ***Plant*** *new tree lines/ woodlands on ridgelines/ and shoulders.*
- ***Use*** *views of significant cultural or civic buildings to inform the heights of new development e.g. churches, town halls, significant houses etc.*

Borrowed Landscapes

i) **Identify** surrounding features and landscapes that are visually connected to the site.

ii) **Ensure** these "borrowed features" remain connected to the site.

REASON: To avoid significant negative impacts from sensitive viewpoints. Retention of views and vistas will also improve the legibility and the setting of development. Use of the surrounding landscape as an asset can help enhance the character of the development.

COVERAGE: Countywide

OTHER CONSIDERATIONS: NDC: C.1 Context, BDC: C1Context, C3 LVIA, I1 Character, M2 legibility, N7 Trees, H1 Sloping sites. Guidelines for Landscape and Visual Impact Assessment (GLVIA3) 2013 and Notes and Clarifications on aspects of the 3rd Edition Guidelines on Landscape and Visual Impact Assessment (GLVIA3) LITGN-2024-01

Context

C3 Minimise the visual and landscape effects of large-scale developments

Assess the visual and landscape impact of large-scale developments by undertaking a **Landscape and Visual Impact Assessment** (LVIA). Include:

i ***Landscape character effects*** *(based on national and county assessments).*

ii ***Visual effects*** *from: Public rights of way, Highways, Settlements, Heritage assets, residential properties (where appropriate), Chilterns National Landscape, Long-distance views and skylines.*

iii ***Cumulative visual impact*** *with existing relevant developments.*

iv ***Night-time visual impact*** *for illuminated sites (not just sky glow).*

v *Visual assessments of* ***materials/cladding*** *for large scale buildings.*

Use tools *such as zone of theoretical visibility (ZTV) maps, photomontages (of agreed viewpoints), topographic & cross-section drawings.*

Use Landscape and Visual assessment as ***an iterative tool*** *from the early stages of design to minimise any impact rather than as a justification for development.*

Limit adverse visual and landscape effects with effective mitigation:

i **using existing topography** as a framework for structuring the layout of the site:

ii avoiding siting buildings on the highest part of a site and instead using the natural shape of the land to help visually contain and soften the appearance.

iii avoiding breaking the skyline or ridgeline of hills and escarpments.

iv grouping new development with existing buildings where possible.

v ***identifying important views*** *into and out of the site, including:*

vi long distance views to landscape features or buildings.

vii shorter distance views to attractive or distinctive townscape.

viii views towards important features and landmarks.

ix to and from the Chilterns National Landscape, and other sensitive viewpoints.

x ***locating development so that these views are retained*** *and where possible enhanced, to both improve legibility and the setting of development.*

xi ***structuring development to retain visual connectivity*** *to adjacent features to enhance legibility and identity.*

xii ***using recessive and non-reflective materials****.*

xiii ***using Green Roofs and Walls*** *to break up the mass of large buildings.*

xiv ***using Screen Planting*** *where the avoidance of the potential harm is not possible by other means of mitigation. The location and extent of screen planting should be informed by the landscape and visual impact assessment/appraisal and considered in conjunction with other mitigation measures. Screen planting itself can be harmful in a landscape where such planting would not be characteristic and/or where there are scenic views that would be*

Context

harmed. All screen planting should form part of a site's multi-functional green infrastructure.

The location and spatial requirements for screen planting (width and depth) will vary depending on the scale of development to be integrated into the landscape as well as local topography and public viewpoints.

- *Provide planting areas of sufficient width and depth to support several horizontal and vertical 'layers' of plant canopies at maturity.*
- *For large/tall developments, planting areas must be at least 20 metres deep to accommodate layered tree canopies at maturity. Effective screening will not be delivered by a single line of trees or shrubs.*
- *For larger sites, especially sloping ones, incorporate tall tree belts within/between development parcels as well as at the margins to break up the roofscape in wider views.*
- *Select plant species mixes that are predominantly native and informed by the site's context.*
- *Only incorporate SuDS into structural planting areas if this will not reduce the extent and effectiveness of planting for screening purposes.*

Make use of advance planting to mitigate impacts of new development:

Schedule the planting/ creation of woodland, tree screens, hedgerows, ponds and wetlands that mitigate visual and landscape character impacts in advance of the main works. This will ensure they are established before the rest of the development is completed.

Protect adequately any advance landscape infrastructure from damage during remaining construction period.

REASON: To ensure that large-scale developments are sited, designed and mitigated to protect landscape character and visual amenity.

COVERAGE: For example, data centres, solar farms, wind turbines, battery storage, other strategic utilities, distribution centres and other buildings over 4 residential stories in height.

OTHER CONSIDERATIONS: NDC: C.1 Context, BDC: C1 Context, C2 Vistas, I1 Character, N7 Trees, Guidelines for Landscape and Visual Impact Assessment (GLVIA3) 2013 and Notes and Clarifications on aspects of the 3rd Edition Guidelines on Landscape and Visual Impact Assessment (GLVIA3) LITGN-2024-01

The identity or character of a place comes from the way that buildings, streets and spaces, landscape and infrastructure combine together and how people experience them. It is not just about the buildings or how a place looks, but how it engages with all of the senses. Local character makes places distinctive and memorable and helps people to find their way around. Well-designed, sustainable places with a strong identity give their users, occupiers and owners a sense of pride, helping to create and sustain communities and neighbourhoods.

Well-designed places, buildings and spaces:

- *have a positive and coherent identity that everyone can identify with, including residents and local communities, so contributing towards health and well-being, inclusion and cohesion;*
- *have a character that suits the context, its history, how we live today and how we are likely to live in the future; and*
- *are visually attractive, to delight their occupants and other users.*

Taken from National Design Code 2021

Identity

Identity

I1 Use the special qualities of the local landscape and townscape to inspire new development so it maintains and enhances the local character

Use the special visually attractive qualities of the local landscape and townscape character to inspire new development that maintains and enhances the distinctive local character

Designing to improve or reinforce character does not imply copying what is already there or using a generic design approach. It is instead about creating visually attractive development to establish or maintain a strong sense of place and pride in keeping with local character. Use the special qualities that define the place to design settlements, buildings and spaces that maintain or enhance its character.

Where the existing townscape or landscape character of a site or area makes little or no positive contribution to local identity don't use this as an excuse for poor design. Instead take the opportunity through the new development to establish a more coherent and locally rooted character. Draw on the positive and enduring qualities of the wider settlement and landscape context to do this.

What is character?

Character is a distinct feature or special quality that defines a places identity. It's an essential element or elements that if transgressed dilutes the quality of an area. The key to a successful new development is to find what these essential ingredients are and make sure they are reflected in the new design.

Character is seen at different levels of scale from the wider landscape down through settlement pattern, streets, open space, trees, plot patterns and sizes, buildings, materials and details. Together these provide a framework within which new development sits and must respond to.

***Landscape character** includes landform, underlying geology, landscape features, woodland, trees, hedgerows, water, immediate, local and more distant views.*

***Townscape character** includes street patterns, block forms, building lines, enclosure ratios, and settlement morphology, building scale and proportion, roofscape, façade composition, materials, details, boundary treatments, and the way buildings shape streets, corners and spaces.*

Identify the character by:

- Using existing resources including landscape character assessments, conservation area appraisals, etc
- Undertaking a character study (see below)

Identity

Character Studies

Make the character study a concise summary of the key positive distinct features or special qualities that define the character of the site and its surroundings. Include how the new design will use them. Use illustrated plans with notes to communicate the character and design response.

Use the following checklist to ensure that all aspects of character are identified (references to codes where relevant are included):

1. *Wider setting:*
    - *What is the wider setting of the site and the location of the settlement in relation to other settlements within the region? C1, C2*
    - *What is the wider context within which the site is located? C1, C2*
2. *Settlement structure:*
    - *How is the settlement within which the site is located structured and laid out and where does it connect to? Does it have a linear structure along a main route or is part of a grid of streets for example? M1, N1*
    - *What is the existing and emerging hierarchy and network of streets and spaces within the settlement and how does this contribute to its character? M1, M2*
    - *Are there any places or uses that provide a focus for the settlement? M1, M2, M6*
    - *What is the prevailing density of the settlement? Does it vary and what would be appropriate for the application site or for different parts of the site? B7*
    - *How does the existing settlement mark arrival points or the meeting of routes? Can this be drawn upon to mark gateways and nodes within the proposal? M2*
    - *How large are existing plots or blocks within the settlement? Is the pattern regular or irregular? B1, B7*
3. *Landscape character/ natural features/ topography:*
    - *What is the landscape character, underlying geology and landform and how might this influence the development? Are there particular landscape, arboricultural, ecological or geological characteristics that give a place its essential character? I1, N1,*
    - *Are there landscape features (trees, hedgerows, ecological or geological), within the site that give the place its character and how can these be incorporated into the proposals? N5*
    - *Are there any important views to and from the site and beyond that are valuable and should be retained? C3*
4. *Streets and public spaces:*
    - *What is the prevailing level of enclosure for existing street types within the settlement? Does this contribute to their character? How are spaces enclosed? B2*
    - *Are there particular public realm characteristics, such as planting, form, materials to draw influence from? I1, N5*

Identity

- *How does the interface between private and public spaces contribute to the settlement's character? N1, B1, B2*
- *How does public art contribute to the settlement's character?*

5. *Built character:*
   - *What is the existing and emerging local built character and form (both plan and 3 dimensionally) and building uses and how do buildings relate to each other. How does this provide cues for appropriate design forms? I1, I2*
   - *Does the building frontage define the public realm or are there front gardens? What are the prevailing boundary treatments? B1, B2,*
   - *Are there common building types prevalent within the settlement? Can these be re-interpreted? I1, I2, B3, B4*
   - *Are there common building materials within the settlement which would be relevant to the proposal? I2*

The scope of the study depends upon the size and scale of development:

- *a development of several streets - look at the whole neighbourhood/village/ town.*
- *a group or new street of dwellings – look at the surrounding streets.*
- *one or two houses or one or two flatted blocks – look at the street.*
- *an extension – look at the house being extended.*

REASON: New developments that look, feel and function as if they belong in the place they are built, need to have a good understanding of the local landscape and townscape character.

COVERAGE: Countywide

OTHER CONSIDERATIONS: NDC: I1.i Local Character, BDC: C1 Context, I2 Local character,

Sources of information to help identify character:

Historic Character:

- Conservation Area Appraisals for definition of character within and adjacent to these areas.
- National Heritage List for England for Listing descriptions and other historic designations
- Historic Town Assessments (where available)
- Buckinghamshire Historic Landscape character assessment

Chilterns National Landscape:

- Chilterns Buildings Design Guide and technical notes and Making of the Chilterns Landscape and Changing Landscape of the Chilterns

Village Design Statements

Development Briefs/ Supplementary Planning Documents

Identity

Landscape Character:

- National Landscape Character Assessment
- County and district Landscape Character Assessments

Ecological information:

- Biodiversity and Planning in Buckinghamshire
- Green Infrastructure Networks
- Buckinghamshire and Milton Keynes Natural Environment Partnership website

Identity

I2 Use local building forms and materials to ensure all new buildings and structures reinforce the rich and varied character of Buckinghamshire.

There are a variety of local traditional vernacular styles in Buckinghamshire. Only use building forms, details and materials that are traditionally expressed in the vicinity of the proposal.

To find the local traditional vernacular style, survey and analyse the local area and refer to the following sources of information:

- *Conservation Area Character Appraisals*
- *National Heritage List for England for Listing descriptions and other historic designations*
- *Historic Town Assessments*
- *Buckinghamshire Historic Landscape character assessment*
- *Village Design Statements*
- *Landscape Character Assessments*

Within the Chilterns National Landscape:

- *Chilterns Buildings Design Guide and technical notes*
- *Making of the Chilterns Landscape and Changing Landscape of the Chilterns*

Building forms and details:

Many traditional buildings in Buckinghamshire, in both urban and rural areas, adopt a very consistent, simple form, with rectangular floorplans and pitched roofs over narrow spans and generally arranged to present their long elevations to the street.

In most instances new development will adopt this simple form, with a rectangular floorplan and pitched roof unless a strong justification can be provided for an alternative approach.

Good contemporary design respects and positively reinforces the local context and character and sense of place. Successful traditional design is based on a good understanding of local materials, proportions and architectural character and details.

Poor pastiche approaches that aim to mimic traditional vernacular but that are inappropriately proportioned, poorly detailed and fail to incorporate local materials will not be acceptable. Poor visually unattractive contemporary designs that fail to enhance or maintain local character will also not be acceptable.

Use a consistent coherent language of details for the size, proportion, position and detailing of windows and doors.

Avoid visual clutter on buildings by hiding or carefully integrating service structures. Examples include lift overruns, solar panels, heating/cooling plant and domestic meter boxes.

Identity

Chimneys on buildings should either be executed properly or not included.

Materials:

Use good quality and locally appropriate materials to reference Buckinghamshire traditions in new buildings.

Traditional buildings in Buckinghamshire were made of locally available materials, such as flint, clay and hardwood. The most common materials are listed below.

Urban areas within Buckinghamshire now display a variety of materials which new buildings can reference where appropriate:

- *New buildings can include non-traditional items or innovative forms of architectural expression or those more suited to the changing climate where these are robust, visually attractive and fit with the local character.*
- *Modern materials may be acceptable, where these are robust, visually attractive, of good quality, and fit with the appearance and characteristics of the existing materials in the locality.*

i) Brick

Use different types of brick bond for new buildings and particularly in alterations to existing buildings. There are many types of brick bonding used locally. The type of bond enhances the overall appearance of buildings by adding texture and natural variations in colour.

Bricks are the most widespread traditional building materials. The texture, size and hue of these bricks vary throughout the county, especially where historically, bricks were manufactured locally and by hand. Typically, characteristic bricks are locally derived, relatively smooth faced and warm coloured, red-orange and red-brown while brickyards in the Quainton / Westcott and Pitstone area produced a distinctive light yellow (Gault Clay) brick.

Lime mortar is often used in historic buildings either complementing or contrasting with the colour and texture of the brick. Lime mortar creates a traditional appearance but also has important physical properties, such as its porosity, which need to be considered. The use of the wrong mortar can cause rapid deterioration of historic brick and stone, resulting in a loss of authentic historic fabric and ultimately local character.

ii) Stone

Between the foot of the Chilterns escarpment and the dip slope of the Cotswolds rise a series of low limestone hills. Within these areas limestone is the predominant building material, particularly in villages such as Turweston, Shalstone, Oving, Marsh Gibbon and Thornborough. The exception are villages such as Brill that are predominantly red brick. Throughout these areas, lime mortar and red brick are combined.

Identity

iii) Witchert

Witchert is a naturally occurring mixture of clay and chalk which, when mixed with chopped straw and water, achieves a malleable substance and can be built up in layers (or rises) on a stone or rubble footing (grumpling) as a building material. Witchert is found in the vicinity of Dinton, Lower Winchendon, Haddenham, Long Crendon, Chearsley and Cuddington, as far north as Ludgershall and as far east as Bierton. Witchert is susceptible to erosion and weather protection is provided by copings and a lime plaster or lime wash over vertical surfaces. Originally, witchert walls were thatched and some have old plain tile copings, with pantiles being a later tradition.

iv) Timber

Wide timber boards are a traditional cladding feature used on barns and outbuildings, typically with a black colouration. They can provide an excellent means of reducing the visual impact of garages and other ancillary structures.

v) Flint

Do not use flint in new buildings or boundary walls outside conservation areas. Avoid random token panels of flint and the use of pre-cast panels.

Flint from the Chilterns and the area west of Wendover is linked with the construction of buildings and boundary walls. 19th century farm buildings and churches frequently used flint with brick dressing and lime mortar. Both knapped and cobbled forms of flint construction can be found.

For more details, refer to the Chilterns Buildings Design. Chilterns Flint Supplementary Technical Note.

vi) Render

Strong, but subdued shades, off coloured lime-wash (white or cream) is commonly used in rendered buildings, found in many settlements across the area. Inappropriate use of modern paints has a negative impact on character and physical properties of render, resulting in damp issues and loss of historic fabric.

Identity

vii) Roofs

In the north of the county, old and recent buildings use steep dual pitched roofs in clay plain tiles. Slate and clay pantiles are widespread and a considerable number of thatched buildings. Long straw material is the most traditional thatch type.

Use the appropriate roof pitch for each roofing material:

- Thatch: rarely under 50 degree pitch
- Slate normally 20 - 35 degrees pitch
- Clay plain tiles between 40 - 60 degrees pitch
- Pantiles 40 degrees pitch

REASON: Local building forms, detailing and materials are an important part of identity

COVERAGE: Countywide

OTHER CONSIDERATIONS: NDC: I.1.i Local Character, I.2.i Design of Buildings, BDC: I1 Character, C1 Context, B2 Boundaries, B3 Ancillary buildings, B4 Building alterations & Extensions, B5 Roofscape.

Identity

I3 Retain the character of rural building conversions

Retain and reuse rural outbuildings (e.g., barns, cart sheds, stables) for functions such as garaging or storage rather than replacing with new structures.

i) Setting and layout:

Preserve the open character of farmyards. Limit domestic paraphernalia, and avoid clutter such as overly formal landscaping, suburban boundary treatments, or large parking arrangements. These undermine the rural context. Use native planting and informal arrangements typical of agricultural settings.

ii) Form

Retain the original rural form when converting agricultural, equestrian, chapel, school, and commercial rural buildings.

iii) Size

Ensure converted structures remain secondary in scale to principal dwellings. Maintain simple massing and avoid extensions that would make them visually dominant.

iv) Openings

Use minimal new openings and avoid introducing domestic features that compromise agricultural character.

v) Materials

Use locally appropriate visually attractive materials reflecting traditional rural building palettes.

For example, black timber cladding, brick, stone, witchert, and flint.

vi) Services (e.g., substations, utility structures, meter boxes, external pipes)

Site, screen, and design services to blend with rural settings and use muted tones and appropriate materials.

vii) Lighting

Use minimal external lighting with appropriate 'cut-offs' to avoid glare and preserve rural darkness.

REASON: To retain the character, appearance and heritage significance of the original building.

COVERAGE: Countywide

OTHER CONSIDERATIONS: NDC: I.2.i Design of Buildings, BDC: C1 Context, I1 Character, I2 Local Character, B3 Ancillary Buildings, B5 Roofscape

Built form is the three-dimensional pattern or arrangement of development blocks, streets, buildings and open spaces. It is the interrelationship between all these elements that creates an attractive place to live, work and visit, rather than their individual characteristics. Together they create the built environment and contribute to its character and sense of place.

It is relevant to city and town centres, suburbs, villages and rural settlements. It creates a coherent framework that forms a basis for the design of individual developments within a place.

Well-designed places have:

- compact forms of development that are walkable, contributing positively to well-being and placemaking;
- accessible local public transport, services and facilities, to ensure sustainable development;
- recognisable streets and other spaces with their edges defined by buildings, making it easy for anyone to find their way around, and promoting safety and accessibility; and
- memorable features or groupings of buildings, spaces, uses or activities that create a sense of place, promoting inclusion and cohesion.

- *Taken from National Design Code 2021*

Built Form

Built form

B1 Use an outward facing perimeter block layout by default unless site constraints or context demand alternatives.

Form perimeter blocks based on the following principles:

i Create strong active frontages with coherent building lines:

- Arrange blocks so public functions face streets and private functions face inward. Ensure fronts face fronts/streets and backs face backs, both within new places and the interface with existing streets.
- Make sure every new plot (including ground floor flats) has direct access to the street network.
- Arrange building plots to create a practical and coherent pattern of development within each block.

- *Create internal layouts that position rooms and uses that support activity and surveillance along the frontage. For example, avoid ground-floor bedrooms or living rooms facing streets without defensible space.*
- *Emphasise street corners*
- *Ensure that building lines create streets/spaces that respond to local character and do not just follow kerb lines.*

- Provide frequent windows and doors that face and connect with the street.
- Include windows in side elevations facing streets, parking areas, and private drives/ accesses
- Apartment buildings (excluding supported living) must not rely on a single communal access door to the street. Provide ground floor apartments with their own front door to the street and communal access doors to provide access to apartments at first floor and above.

- *Where the needs and vulnerability of residents (e.g. supported living) prevent direct access to the street, use active uses at ground floor. These include commercial uses. Where active frontages are provided fully or partly through the placement of day rooms, provide verandas for the benefit and enjoyment of residents.*

- Where buildings sit alongside more than one street and/or public open space, orientate the principal elevation to face the main street or public open space.

Built form

ii Establish block size based on immediate context and the following:

- Size blocks to maximise walkability, permeability and route choice, while maintaining privacy and security.

In general, large blocks (over 120m) can discourage walking and small blocks (under 50m) can reduce security by being too permeable and reduce privacy creating inadequate rear to rear distances. These dimensions should be informed by the local context and intended character of the development. For example, areas of higher density in town centres may have tighter block forms.

- Minimum back-to-back residential distance of 22 metres.
- Set buildings back 1–3 meters from footway/street for privacy and enclosure.
- Street width to height ratios of 1.15-1.3 unless local context suggests otherwise.

iii Create a clear positive settlement edge:

- Design frontages facing site boundaries with connected streets providing access.
- Avoid rear fences abutting countryside.
- Reveal and protect existing trees and hedgerows.
- *Soften with planting as needed.*

REASON: The perimeter block structure is regarded as the most robust and successful way to arrange residential layouts. It is efficient and promotes good connectivity and legibility. It clearly distinguishes between public and private realms creating active fronts and private backs and best ensures the retention of boundary planting by placing it in the public realm.

COVERAGE: Countywide

OTHER CONSIDERATIONS: NDC: B.2.i Blocks B.2.ii Building Line, U.1.iii Active Frontage, BDC: M1 Movement networks, M2 Access, Legibility, M3 Parking, M6 Street design, B2 Boundaries

Built form

B2 Use boundaries to define public and private spaces in a way that reinforces local character, achieves privacy but does not dominate.

Use boundary types that contribute to the local character:

Use brick walls, hedges and railings, limiting fences to internal boundaries. Use locally appropriate designs, materials and species. Walls must use appropriate bonding patterns and copings.

i Front boundaries:

- Maximum 1.1m high to ensure street is overlooked
- Use walls, hedges, post and rail or railings with reference to local character
- Avoid fences

Use shrub planting and/or hedges to the front of plots/buildings to soften their appearance and the transition between public and private

Use rain gardens, low level shrubs, gravel as an edge treatment where a more open boundary is needed or to offset the boundary from the street/ path.

Change the approach depending on position in an area. For example, in town centres use small set-backs that are typical of the public realm in that area; in urban neighbourhoods use a small front garden with boundary treatment and in suburbs use a larger front garden with landscaped boundary treatment.

ii Side and rear boundaries:

- Use boundaries that are head height (up to 1.8 metres)
- Use walls or hedges along public boundaries
- Avoid blank walls of greater than 5 metres length for public boundaries along both sides of the street/ path or more than 5% of one street edge.
- Limit use of close board/ solid fences to internal boundaries only (e.g. garden to garden)

Create a visually permeable zone at top (1.5-1.8m) of the boundary to aid surveillance where boundaries overlook a public space or parking area

Built form

iii Boundaries adjacent to open countryside/ open space and GI networks

- Avoid close boarded/ solid fencing and walls
- Use locally appropriate native species
- Retain existing rural boundaries

Use soft landscape led treatments e.g. native hedgerows and trees to create a positive development edge

iv Secure boundaries for schools and other public and commercial buildings

- Use boundaries of a maximum of 2 metres high
- Use boundaries that have visual permeability along public boundaries

Design them to be visually attractive and make a positive contribution to the streetscape, by for example integrating artwork or using hedges/ shrubs/ climbers.

REASON: Frontage development facilitates activity in the street and ensures it is actively overlooked to increase feeling of safety and reduce the potential for crime. It also creates a good living environment for residents so that they have a protected private area at the back that is secure and attractive.

COVERAGE: Countywide

OTHER CONSIDERATIONS: NDC: B1.ii Party Wall, H2.ii Security, BDC: B1 Perimeter blocks, B7 Redeveloping existing areas; N6 Street design

Built form

B3 Discretely design and locate ancillary* buildings

i Locate ancillary buildings

- within the development block or within/ adjacent to main buildings
- behind the frontage building line
- away from prominent edges, open spaces or ends of streets
- with planting to help provide screening
- to not compromise existing or new trees (above or below ground)
- where they are overlooked to ensure security and discourage misuse

ii Design ancillary buildings

- to be visually subordinate to main buildings
- to reflect/compliment local materials and character
- to reflect local agricultural forms and traditional materials in rural areas
- avoiding visually inferior materials such as plastic or GRP roofs
- with green roofs and walls to enhance SuDS and biodiversity
- to include biodiversity features where appropriate (e.g. bat boxes)

iii Reuse historic ancillary buildings rather than replacing them

*Ancillary buildings include outbuildings, refuse stores, cycle stores, pumping stations, substations and garages.

Requirements of specific types:

iv Refuse storage

- for flats, make refuse storage communal, secure and convenient, and to not detract from the character and appearance of public areas.
- for houses if storage is located at the front, integrate within the building

v Cycle storage

- locate closer to entrances than car parking and make weather-protected.
- ensure step-free, visible, well-lit access.

Built form

REASON: The ancillary buildings and services (e.g. external pipework, flues, vents, meter cupboards, satellite dishes and aerials) can detract from the design of an otherwise successful development.

COVERAGE: Countywide

OTHER CONSIDERATIONS: NDC B.1.iii Types and forms, I.2.i, Design of buildings, BDC: I2 Local Character, I3 Rural Building Conversions

Built form

B4 Make sensitive building alterations and extensions

Understand the design and character of the original building and work with it.

- The design approach to building alterations and extensions must be guided by the original building and its immediate setting. The proposals should be subservient to the original building and not dominate or detract from it or the general character of the area.
- Respond appropriately to the original building's overall scale, proportions, built form, roofscape, materials, details, outlook and relationship to the plot, surrounding buildings and open spaces.
- Either match the existing building or adopt a contemporary approach that successfully complements the original building.
- Retain and protect existing trees within the proposed development site unless there are compelling reasons not to.
- Do not significantly alter the daylight, sunlight or outlook of neighbouring residential properties.
- Side windows facing adjoining residential properties (typically for light only) must be high-level or fitted with obscured glass to avoid overlooking.
- Don't follow existing poor design in neighbouring properties.

i Front extensions

- Front extensions will generally not be permitted in residential areas. Form extensions to the side or rear of a property to retain an established building line at the front.
- Where permitted, make the front extension subservient to the main building and match form, proportions, details, and materials of the host building to preserve its character and that of the streetscape.

ii Side extensions

- Respect the scale and appearance of the host building, the sense of separation from adjoining buildings, and the rhythm and character of the streetscape.
- Set back a side extension from the building line.
- Avoid blank walls on visibly exposed side elevations by incorporating windows or other features.
- Retain an existing access to the rear of the building.
- Ensure a side extension's ridge line and eaves line is lower than that of the host dwelling.

Built form

iii Rear extensions

- In a residential context, make rear extensions no deeper than half the length of the original building or more than half the length of the original garden.

iv Roof extensions and alterations (including new windows)

- Place new windows in the roof on the rear of a building to preserve the character and appearance of the building from the street.
- Locate new windows in the roof symmetrically below the ridgeline, align with any windows below them where possible, and match existing proportions and materials.
- Roof extensions must not be bulky, extend above the existing ridgeline, create an unbalanced appearance or be unsympathetic to the prevailing roofscape.
- Extensions or alterations to provide a balcony will not be acceptable where this is likely to have an adverse effect on the privacy of neighbouring properties.
- Additional storeys may be acceptable where the resulting scale is not overbearing, and the design retains an appropriate sense of proportion and character.

v Garages, outbuildings and annexes

- All garages, outbuildings and annexes must be set back to the side or rear of the main building, sited sensitively to avoid visual clutter, subservient to the main building and employ matching or complimentary form, details and materials.

vi Boundaries

- Define boundaries between the public and private realm by a hedge, railing or wall, or a combination of these, and balance security with intervisibility between the main building elevation and the street. Do not use high fencing, including close-boarded timber fences in this situation.

REASON: To ensure building alterations and additions do not adversely affect the character and appearance of the original building and its surroundings.

COVERAGE: Countywide, Building / plot / street

OTHER CONSIDERATIONS: NDC: I.2.i Design of Buildings, BDC: C1 Context, I1 Character, I2 Local Character

Built form

B5 Avoid false roof pitches, crown roofs and large bulky roofs where they will be visible.

Create a varied but coherent roofscape, with consistent roof pitches and details of eaves and ridgelines.

Where roof-scape is visible, for example in a valley bottom location, use the following design principles:

i) Use roof plans and three-dimensional views to assess proposals.
ii) Keep residential building elements to narrow spans (up to 7metres deep) to avoid large bulky roofs. If a large span is unavoidable use a multiple-pitch approach or projecting gables or rear wings in preference to crown roofs.
iii) Avoid false roof pitches and crown roofs where they impact views from surrounding areas and/ or create odd wall to roof proportions.
iv) Ensure the flat/ crown roof is below the ridge so it cannot be seen.
v) Finish flat roofs in materials that are recessive and avoid plant and other services where visible from surrounding areas.
vi) Consider green roofs that can also contribute to SuDs.
vii) Use fully hipped roofs to reduce the impact where needed instead of gables but avoid half hips where they are not characteristic of the area.

REASON: Parts of the county are set within valleys or have views down onto buildings that make an important contribution to the distinctive identity of the place and so roofs must be carefully considered.

COVERAGE: Countywide

OTHER CONSIDERATIONS: NDC: I.2.i Design of Buildings, BDC: C3 LVIA, I2 Local Character

Built form

B6 Provide private, attractive, usable and conveniently located amenity space of an appropriate size for every dwelling.

Provide private amenity space that is accessed directly from the dwelling, is of a suitable gradient, orientation, shape and free from excessive shade.

i) Privacy and tranquillity:

Ensure privacy by arranging rear gardens so that they are bounded by other private activity like for example, other gardens or private communal space. Avoid areas that generate public activity like parking courts or streets. It is recognised that for a minority of garden boundaries this will not be possible. In these situations, consider the type of garden boundary carefully:

- *Where overlooking of an adjacent public space is required, make the boundary visually permeable by providing a trellis/railing above 1.5 to max overall height of 1.8 metres.*
- *In visually prominent areas avoid close-boarding fencing and use attractively detailed walls or railings or hedges instead.*

Provide an area within each garden that is not directly overlooked from the ground floor active rooms of neighbouring properties. In practice achieve this using above eye level fencing. Ideally locate this area close to the dwelling it serves and make it flat and large enough to allow residents to sit out.

ii) Size:

Ensure the size of the garden will accommodate its expected use. Relate the size to the type and size of dwelling and to the character of the local area.

Over a larger development consider providing gardens of a range of sizes that would suit different needs (e.g. gardener vs. non gardener).

Make gardens of sufficient size and shape to allow room for some structural planting such as trees, shrubs, and hedges.

iii) Sunlight:

Ensure that some of the space is sunlit for at least part of the day.

As a guide at least half of the space should be sunlit for 2 hours or more on 21st March. Assess this using software such as Sketch Up or by following the methodology in the guidance "Site layout for daylight and sunlight - a good practice guide third edition 2022".

The depths of gardens may need to be longer where they are north facing so that sufficient space can receive sunlight.

Built form

iv) Design:

Encourage wildlife-friendly gardening and use of climate-resilient native species planting. Create additional habitats through bird and bat boxes, bee bricks and dead wood. Use native plants and wildlife to enhance soil fertility, increase pollination, and provide natural pest management.

Create microclimates to protect gardens from climate-related weather extremes. Microclimates can be built throughout by taking advantage of retained natural features like shade trees, rocks, ponds and slopes.

Amenity space for flats

Create private amenity space that is accessed directly from the flat and sunlit as per iii)

The minimum sizes for private amenity space are 4m2 for a one-bed flat and 6m2 for a two-bed flat. Increase the size where the accommodation will be or is likely to be used by young families.

Above the ground floor provide amenity space using balconies that:

- are integral to the design of the building
- take advantage of good views where possible
- are inset; recessed or use screens to maintain privacy between flats
- at least 1.5m in depth to allow enough room for two people to sit out.

On the ground floor provide amenity space:

- located to the rear unless this is north facing/ heavily shaded
- designed as a garden or courtyard
- secure and clearly defined by planting and boundaries

Consider designing ground floor amenity space to take opportunities to appeal to a wider market (elderly/disabled/ families)

Where the amenity on the ground floor facing the street is unavoidable use a change in level, planting and boundaries, insets and setbacks to obtain a reasonable level of privacy and security.

Flats without their own private amenity space may be allowed where the flat is in a converted building or within the town centre or adjacent to a garden space.

REASON: Private, attractive, usable and conveniently located amenity space/ gardens are important in achieving a successful and attractive development.

COVERAGE: Countywide, residential dwellings

OTHER CONSIDERATIONS: NDC: H.2.iii Gardens and balconies, H.2.i Light, Aspect, privacy, BDC: H4 Communal areas, B7 Redeveloping existing areas, B2 Boundaries

Built form

B7 Developing residential areas so they successfully integrate with their surroundings

When developing residential areas:

i) Do not frustrate future opportunities for further development or result in an illegible or confused layout.

ii) Choose the right layout to fit the dimensions and shape of the site to ensure coherent frontages, clear public and private realms, and legible street patterns.

- ***Deep and wide blocks*** *(approximately greater than 80 metres* and wider than 60 metres): use two sided streets/ perimeter block forms.*
- ***Shallow and wide blocks*** *(approximately less than 80 metres* and wider than 60 metres): Use perpendicular streets/ single aspect or mews/ courtyards or frontage/ infill redevelopment.*
- ***Narrow blocks*** *(approximately less than 60 metres wide): Use frontage or infill redevelopment.*

Within this structure use terraces, mews, courtyards and small flatted blocks to increase density in ways that will complement the wider character. Flatted schemes may offer more flexibility for more constrained sites.

**Development depth is defined as the distance between rear facing elevations of existing dwellings. Where there are no existing dwellings to the rear of the block/ plot these distances can be reduced by 10 metres.*

iii) Ensure there is enough space for an attractive and legible site access:

The following taken from Manual for Streets part 1 (page 53) should be used as a guide to acceptable street access widths:

• Mews access: building to building 7.5 to 12 metres.
• Street access: building to building 12 to 18 metres
The best accesses have new or existing development on both sides that positively address it. It will then feel like a connected street rather than an access to somewhere else. Re-orientate or modify existing houses or provide new houses to address the new access arrangements to create a new street.

Integrate accesses with the existing street network to ensure the new development feels like a new street rather than a private rear space.

Built form

Where a boundary abuts an access, it must be formed with a wall or a hedge rather than a fence and have a setback to allow space for planting. The length of boundary walls/ hedges should be limited to less than half of the length of the access to ensure that the access is not dominated by them.

iv) Reinforce the existing character:

The higher densities required for redevelopment may result in some aspects that are different, but these should not detract from the current character of an area. Inserting new development within an existing residential area requires particular care so that the existing character of the street-scene is not harmed.

Pay particular attention to the scale, height and mass of the new development. Drawings illustrating the street-scene must always include adjacent existing dwellings as well as the proposed development.

v) Use gentle-density typologies where increased density is appropriate

Where increased density is appropriate, proposals should normally consider gentle-density typologies as a preferred means of accommodating growth.

For the purposes of this Code, gentle density means achieving a higher intensity of development through well-composed, street-based and locally appropriate building forms, rather than through disconnected sprawl, isolated bulky forms or poorly integrated height.

Typologies that may help achieve this include terraces, mews, courtyard housing, smaller flatted blocks, mansion-block forms and mixed-use perimeter blocks, where these are appropriate to the scale, character and location of the development.

The choice of typology should be informed by local character, the intended role of the place, and the need to create a coherent pattern of streets, spaces and buildings.

This section does not preclude other forms of development where these are better justified by context, including in larger centres where greater height or intensity may be appropriate, but proposals should clearly demonstrate how the chosen form contributes positively to local character, walkability and settlement quality.

vi) Take account of sloping sites:

New development within the existing green corridors of backland sites must be assessed for its wider visual impact.

A site can be more visually prominent where development is proposed in long back gardens along valley sides.

Built form

Ensure proportionally greater separation distances with neighbouring properties to take account of level differences to maintain privacy and amenity.

Include sufficient level ground in amenity areas to allow space for sitting and other amenity uses. Do not compromise the privacy of amenity areas by changes in level which could allow views from public vantage points.

REASON: Interweaving new development within an existing built environment raises many issues that if not addressed adequately can compromise the quality, character and amenity of existing residential areas. Comprehensive development avoids piecemeal development that may result in potential areas for redevelopment becoming “landlocked” or un-developable. How a site is accessed is crucial to the quality of the new development and its integration into the wider area. Experience has shown that narrow accesses bounded by fences are both unattractive and separate the new development from the existing residential area. Dense new development can significantly change the character of an area if it does not respect the existing residential pattern or does not maintain or enhance the existing landscape/townscape character.

COVERAGE: Countywide, redeveloped residential sites

OTHER CONSIDERATIONS: NDC: U.1.i Efficient land use, U.1.iii Active frontage, H.2.i Light Aspect, privacy, H.2.ii Security, BDC: B1 Perimeter Blocks, B2 Boundaries, B6 Private amenity space, C1 Context, C3 LVIA, M2 Access legibility, M3 Parking, M4 car storage, M5 Visitor spaces, M6 Street design

Patterns of movement for people are integral to well designed places. They include walking and cycling, access to facilities, employment and servicing, parking and the convenience of public transport. They contribute to making high quality places for people to enjoy. They also form a crucial component of urban character. Their success is measured by how they contribute to the quality and character of the place, not only how well they function.

Successful development depends upon a movement network that makes connections to destinations, places and communities, both within the site and beyond its boundaries.

A well-designed movement network defines a clear pattern of streets that:

- *is safe and accessible for all;*
- *functions efficiently to get everyone around, takes account of the diverse needs of all its potential users and provides a genuine choice of sustainable transport modes;*
- *limits the impacts of car use by prioritising and encouraging walking, cycling and public transport, mitigating impacts and identifying opportunities to improve air quality;*
- *promotes activity and social interaction, contributing to health, well-being, accessibility and inclusion; and*
- *incorporates green infrastructure, including street trees to soften the impact of car parking, help improve air quality and contribute to biodiversity.*

- *Taken from National Design Code 2021*

Movement

Movement

M1 Integrate new movement networks with existing networks

This is a **structural element that must be addressed first**, together with N1: Integrated Green and Blue Infrastructure Networks.

- Assess the existing movement networks in the surrounding area. Consider all modes of movement from pedestrians to public transport.
- Draw those network elements into and through the site, connecting with any network elements already within the site. Make additional connections between them to strengthen the network and extend to the edges of the site.
- Integrate sensitively with any existing public rights of way, bearing in mind their landscape setting.
- Do not frustrate future connections. Adopted streets must extend to the ownership boundary without ransom strips between the site and adjoining land.

In conjunction with Green and Blue Infrastructure Networks, use these structural elements as a framework for an initial development block structure. This framework may flex to optimise the scale, shape and layout of blocks, except where elements already exist on the site.

Allow for the varying spatial requirements of routes throughout the movement hierarchy, including their associated Green and Blue Infrastructure.

Show the evolution and final layout of structural elements and development blocks on a single integrated Framework Plan.

REASON: To ensure that existing movement networks are fully understood and that new development integrates with them well, extending and enhancing existing routes, and allowing for future connections with adjoining land.

COVERAGE: Countywide

OTHER CONSIDERATIONS: NDC: M.1.i Street Network, M.1.iii Street Hierarchy, N.1.i Network of spaces, BDC: N1 Integrated green and blue infrastructure networks; BDC M2 Legibility and wayfinding; M6 Street Design, BDC C1 Landscape-led design; Buckinghamshire Highways development management policies and standards.

Movement

M2 Access, legibility and wayfinding

Aid ease of movement throughout the site by:

i) Delivering development as perimeter blocks with continuous streets along all edges as required in B1 Perimeter blocks.

ii) Connecting streets to allow movement around blocks and between development parcels. These must be both connected and permeable.

iii) Only using cul-de-sacs or disconnected loops where through-connections are impossible due to topography, heritage constraints or existing barriers that cannot be overcome.

Provide additional connections for pedestrians and cyclists to accommodate likely desire lines and more convenient, safe or amenable routes to adjacent development parcels and local facilities. Avoid street clutter by providing minimal but effective wayfinding. Terminate vistas along streets by a distinctive building, specimen tree or appropriate borrowed landscape to aid wayfinding. Provide seats or another means to stop and rest at regular intervals to make streets more accessible for pedestrians with mobility impairments.

REASON: To ensure development is accessible to all and easily navigated by residents and visitors

COVERAGE: Countywide

OTHER CONSIDERATIONS: NDC: M.2.i Walking and cyclin, BDC: B1 Perimeter Blocks, B2 Boundaries, M3 Parking, M7 Communal parking.

Movement

M3 Locate parking to support activity in the street

Locate parking in the street or on plot to the front or to the side.

Avoid parking to the rear unless it is the only way to provide sufficient parking or it is needed to maintain a continuous building frontage.

i) Street / frontage parking:

Ensure street / frontage parking is overlooked by adjacent buildings and that the character of the street is defined by buildings and street trees rather than parking.

Ensure street/ frontage parking does not dominate the character and appearance of the street by:

- *integrating parking with the design of the street. Successful models include parking contained within squares and public spaces defined by street trees. A view of unrelieved parked cars in front of a terrace or building is unacceptable.*
- *adopting longer perimeter blocks to increase lengths of street available for parking*
- *adopting more formal street arrangements*
- *incorporating trees and shrub/hedge planting into the street to reduce the visual impact of cars. As a general rule separate every 5 spaces with trees or landscape features. Keep planting low and use trees with clear stems and higher canopies to maintain casual surveillance of the street from surrounding buildings. All planting (and other boundary treatments) to be set at least 500mm back from kerb lines when adjacent to parking spaces.*
- *using street trees or increased building heights to ensure street enclosure is maintained where the street width is increased to accommodate parking.*

Locate street parking along the kerb edge, as part of the central reservation or within squares, using arrangements such as:

- *Parallel parking*
- *Right angled parking*
- *Angled parking*

Make sure the roadway itself is wide enough to accommodate on street parking so that cars do not end up parking with two wheels on the road and two on the pavement.

ii) On plot allocated residential parking:

Use on plot parking to support parking provided in the street and provide dedicated spaces for individual units. Ensure on plot parking is overlooked by active windows of the dwelling it serves.

On plot parking is best suited to semi-detached or detached dwellings and wide fronted terraces.

Movement

Provide private parking on the plot of a dwelling using:

- *Drives at the side of dwellings with car ports to allow cars to be tucked into the plot. A maximum of two spaces in tandem (ensuring dimensions are equivalent to car spaces to discourage additional parking that overhangs adjacent footways/carriageways).*
- *Open drive-through archways through dwellings with car ports to rear.*
- *Parking on the frontage of the plots divided by hedges or walls between plots. Do not take up the entire width of the plot with parking as this leads to over dominance of car parking.*

iii) Rear residential parking:

Where rear parking is unavoidable or needed to maintain a continuous building line:

- *Ensure shared rear parking courts are small enough so that residents who use them can recognise each other. In practice this means serving a maximum of 7 dwellings or about 10 spaces or less.*
- *Design rear parking courts as a space first and a place for parking cars second incorporating trees and landscape features.*
- *Design rear parking courts so that they read as private property, are overlooked and protect them using electric gates.*
- *Ensure buildings surrounding the court positively address and overlook them.*
- *Define access to the parking court by an entrance feature – for example an archway, pergola or gate. Locate gates at least 5 metres back from the edge of the carriageway.*
- *Make them attractive to users by including plenty of manoeuvring space so they are easy to access and park in and by locating them close to the properties they serve.*
- *Ensure the rear parking court is well lit to B.S. 5489.*
- *Avoid including visitor spaces in rear parking courts as they will not be legible to visitors as the parking court is seen as private space.*

Individual on plot rear parking can be used on corner sites where it may be difficult to achieve frontage parking.

REASON: Supporting street activity and encouraging surveillance is best achieved by placing parking within or next to the street as long as this is achieved without reducing that character and appearance of the street. This approach has the added benefits of making the most efficient use of road space and being convenient for users.

COVERAGE: Countywide, commercial and residential parking

OTHER CONSIDERATIONS: NDC: M.3.i Parking, BDC: M5 Visitor spaces, M6 Street Design, M7 Communal parking, H5. Refer to Buckinghamshire Parking guidance for new developments 2022 for how much parking new developments should provide for bicycles, motorcycles, cars and blue badge holders and the dimensions of parking spaces.

Movement

M4 Ensure car storage does not dominate the building elevation street or plot.

The storage of cars within buildings can dominate the street and plot due to their size, position or use for other purposes like storage.

Ensure car storage does not dominate the building elevation, street or plot by:

i) Using car ports instead of garages to provide shelter/ storage for cars.

As with garages, car ports can also have additional storage areas integrated with them to accommodate other storage needs (refuse/ cycles etc).

ii) Locating car ports/ garages

- so, they are not set forward of the main dwelling.

  In these locations they reduce surveillance and can dominate the plot.

- not locating them at a visual stop or junction or bend in the road.

  This can have a damaging effect on the visual quality of the street.

iii) Reducing the scale of the roof by

- *spanning it across the narrowest plan dimension.*
- *using hipped rather than roofs with gable ends.*
- *using a lean-to roof where the car port/ garage is next to a dwelling.*
- *using flat green roofs.*

This will ensure the size and height of the roof is kept to a minimum.

Other types of car storage:

i) Integral garages

Use integral garages sparingly.

Use integral garages as part of a wide fronted dwelling to allow the provision of at least one active ground floor room along the frontage.

ii) Under-croft parking

Only use under-croft parking in combination with other dwellings which do have active ground floors or as part of a wide fronted dwelling that has active ground floor rooms.

Gate the space and finish the internal walls of the under-croft in the same material used for the external walls of the building and have planting outside.

Locate main entrances to dwellings outside of the under-croft to improve legibility and access.

Movement

iii) Underground car parks

Consider underground car parks in high density developments to reduce the visual impact of parking. Be aware they are expensive to build and water table problems may be encountered in some areas of the county.

Include access control measures in underground car parks to prevent unauthorised access.

iv) Basement Garages

On sloping sites consider basement garaging as this may offer a useful means of accommodating vehicles within the plot.

REASON:

Garages can be bulky, generate long drives and are often not used for parking but for other storage needs. Car ports link better with building lines, allow shorter drives and provide shelter between vehicles and entrances.

Integral garages can dominate the front elevation of a dwelling, can compromise the front door and the relationship of the dwelling to the street and are not efficient - integral garages that have internal access to the dwelling and are often not used for parking and used only for storage.

Under-croft parking creates an inactive and often unattractive ground floor. They can provide opportunity for crime and disorder as they restrict surveillance.

COVERAGE: Countywide

OTHER CONSIDERATIONS: NDC M.3.i Car parking, I.2.i Design of buildings, BDC: M3 Parking, M6 Street Design, B3 Ancillary Buildings, I2 Local Character. Buckinghamshire Parking guidance for new developments 2022

Movement

M5 Provide visitor spaces in legible locations

Provide visitor spaces on-street in clearly legible locations:

- *Locate visitor spaces on street or in bays in line with the street where they are visible and not associated with a particular dwelling.*
- *Distribute visitor parking throughout the site, not just at the edges.*

REASON: To ensure visitor parking is flexible, more efficient than allocated visitor spaces off street and is easier for visitors to grasp where they can park.

COVERAGE: Countywide

OTHER CONSIDERATIONS: NDC: M.3.i Car parking, BDC: M3 Parking, M7 Communal Parking, H4 Communal areas**.** Buckinghamshire Parking guidance for new developments 2022.

Movement

M6 Put buildings and spaces first when designing streets

Once the basic structure of the street network has been established in according with M1, use the following principles to create streets with a positive character and sense of place that will be attractive to pedestrians.

A variety of elements carefully considered and arranged will lend character and appeal to the street. Begin with established local character and patterns of development, reinforcing or enhancing these. Rhythm and balance rather than rigid symmetry should be the outcome

i) Buildings and spaces first

When designing streets, start first with enclosure, building lines, the shape and the character of spaces and trees. Then fit the highway and parking areas into this framework.

In residential streets and other areas with low traffic speeds, consider using shared surfaces to reduce the dominance of the road and incorporate parking within the street using squares and spaces lined with trees.

ii) Use corners and distinctive buildings

People use landmarks and distinctive buildings to help navigate around a place. Use these to help to make a place distinctive and memorable.

Junctions, corners and spaces are ideal places to place distinctive buildings that are detailed differently or higher or set forward or set back.

Avoid blank walls and unattractive blank gable ends by having windows on all public sides of buildings in these locations and using hipped roofs.

iii) Incorporate trees and spaces

Use squares, greens and other spaces to define key places and build richness and variety. Plant trees within these spaces where they have space to mature.

These spaces provide more opportunities for people to interact and places to locate seating to help those who are less able to rest.

iv) Use buildings to define the street

Use street width to building height ratio to vary street character and convey perceptions of openness or enclosure. Streets with a ratio of height to width of more than 1:3 will feel too open in most residential contexts unless squares or larger open spaces are being used. Avoid streets feeling too open by either repositioning buildings or by using street trees.

Street trees are particularly useful to ensure enclosure is maintained where car parking requirements result in a wider street.

Movement

Use setbacks from the street, stepped elevations and spacing between buildings to avoid harsh and relentless buildings lines.

Arrange buildings within each plot to relate well to each other, avoid clutter and leave space for open space, planting and movement. M6

Vary building heights with a clear design intent, to add or reinforce character to the whole street rather than draw attention to an individual plot.

REASON: Some streets of the past have erred on the side of being too open and homogeneous leading to a lack of a positive sense of place and identity.

COVERAGE: Countywide

OTHER CONSIDERATIONS: NDC: M.1.i Street Network, B.2.ii Building line, U.1.iii Active frontage, BDC: M1 Movement networks, M2 Access legibility, wayfinding, N7 Street trees.

Movement

M7 Design, locate and manage parking areas so they can be shared between different uses

Co-locate parking areas for different compatible uses. Avoid discrete separate parking areas that only serve one use and double up on the area needed for parking.

Suitable uses that can have shared parking areas include:

- *Schools*
- *Sports areas*
- *Community centres*
- *Shopping areas*
- *Health centres*
- *Open spaces / parks*

REASON: Co locating car parking reduces the amount of land devoted to parking and promotes combined trips.

COVERAGE: Countywide

OTHER CONSIDERATIONS: NDC: U.3.ii Community facilities, P.2.ii Multifunctional, M.3.ii Parking, BDC: M3 Parking, M6 Street Design, H5 Communal areas, Buckinghamshire Parking guidance for new developments 2022

Movement

M8 Discretely locate refuse storage areas and collection points

Ensure collection points are:

- located so residents can move bins easily to collection points.
- located away from public open spaces and structural planting areas.

Ensure facilities for refuse and recycling storage are:

- a suitable size to accommodate all the refuse and recycling containers to meet the needs of residents and be of a size acceptable to the refuse collection service.
- in a part of the site that is both accessible but not prominent in the street scene or entrance and where they won't obstruct passive surveillance of the street.
- where they will not be obstructed by car parking.
- within secure and well-ventilated areas.
- easily accessed from properties, but where they will not cause nuisance through unpleasant odours or noise.
- coordinated with cycle storage.

REASON: If not properly planned for refuse collection and storage can have a significant detrimental impact on the quality of the streetscape and wider development.

COVERAGE: Countywide

OTHER CONSIDERATIONS: NDC: M.3.iii Services and utilities, BDC: B3 Ancillary buildings

Movement

M9 Design residential streets to encourage and facilitate pedestrian movement in accordance with Manual for Streets.

Use the national guidance Manual for streets 2007 (MFS).

Specific detailed measures from this guidance are highlighted below:

i) Design streets so that they work for all ages and abilities. See MFS1 6.3.1-4 page 63 for more details.
ii) Reduce the speeds of vehicles: MFS1 6.3.19 page 67 and section 7 pages 79-97.
iii) Provide footpaths of adequate width for their purpose: MFS1 6.3.22 & 23 page 68.
iv) Provide crossing points directly where people want to cross: MFS1 6.3.6 page 64.
v) Keep pedestrian desire lines as straight as possible at side road junctions: MFS1 6.3.12 page 66.
vi) Minimise the radii of junctions to reduce speeds and make it easier for pedestrians to cross: MFS1 6.3.12-14 page 66.
vii) Design vehicle crossovers that do not interrupt footpaths: MFS1 6.3.28 & 29 Page 70 (but avoid tabled crossings).
viii) Deter parked cars from obstructing pedestrian routes by making sure road widths are wide enough for cars to park and providing adequate parking for residents and visitors: MFS1 7.2.2 page 79.
ix) Plant trees to soften the street scene and improve the microclimate: MFS1 11.3 pages 128-129 and refer to BDC N8

REASON: The street design details are key to achieving people friendly streets. Streets should be designed as public spaces that serve many functions, not only the circulation of traffic, but also walking, cycling, play and places for social interaction. Streets should provide shade and shelter, make people feel safe and relaxed, and provide interest and visual stimulus. As such the design of streets should not be led by engineering solutions or dominated by the car but instead have a strong emphasis on place-making and pedestrian movement.

COVERAGE: Countywide, residential streets

OTHER CONSIDERATIONS: NDC: M.2.i Walking and cycling, M.2.ii junctions and crossings, M.2.iii Inclusive streets BDC: M1 Movement networks, M6 Street Design

Nature contributes to the quality of a place, and to people's quality of life, and it is a critical component of well designed places. Natural features are integrated into well designed development. They include natural and designed landscapes, high quality public open spaces, street trees, and other trees, grass, planting and water.

Well-designed places:

- *integrate existing, and incorporate new natural features into a multifunctional network that supports quality of place, biodiversity and water management, and addresses climate change mitigation and resilience;*
- *prioritise nature so that diverse ecosystems can flourish to ensure a healthy natural environment that supports and enhances biodiversity;*
- *provide attractive open spaces in locations that are easy to access, with activities for all to enjoy, such as play, food production, recreation and sport, so as to encourage physical activity and promote health, well-being and social inclusion.*

- *Taken from National Design Code 2021*

Nature

Nature

N1 Integrate new development with green and blue infrastructure networks

This is a structural element that **must** be addressed first, together with M1: Integrated movement networks.

i) Assess the existing green and blue infrastructure networks in the surrounding area.

ii) Draw those network elements into and through the site, connecting sensitively with any network elements already within the site. Make additional connections between them to strengthen the network and extend them to the edges of the site.

iii) In conjunction with the site's integrated movement networks, use these structural elements as a framework for an initial development block structure. This framework may flex to optimise the scale, shape and layout of blocks, except where network elements already exist on the site.

iv) Allow for the varying spatial requirements for green and blue infrastructure networks throughout the site, including any integrated movement network requirements.

v) Show the evolution and final layout of structural elements and development blocks on a single integrated Framework Plan.

REASON: To ensure that existing green and blue infrastructure networks are identified and fully understood, and that new development integrates with them well, extending and enhancing existing networks, and facilitating future connections.

COVERAGE: Countywide

OTHER CONSIDERATIONS: NDC: N.1.i Network of spaces, BDC: M1 Integrated movement networks; BDC M2 Access, Legibility and wayfinding; BDC C1 Landscape-led design; Buckinghamshire highways development management policies and standards.

Nature

N2 Design hard and soft landscape areas to facilitate management and maintenance

Prepare a Management and Maintenance Plan covering soft landscape, hard landscape, SuDS and any other elements in the public realm.

Consider how landscape areas will be managed and maintained when designing them:

- *Ensure that there is adequate access to landscape areas for any necessary maintenance machinery/ operation*
- *Use habitat types (e.g. meadows/ shrub areas) appropriate to the landscape context that don't require frequent cutting.*
- *Select hard landscape materials (appropriate to the context) that are easy to maintain and clean*
- *Use native or climate appropriate species that will thrive without need for watering*
- *Take into account the location of existing utilities and locate new utilities so that their needs for future access/ repair/ maintenance are considered.*

Ensure it is clear who will be responsible for the management/ maintenance and that adequate financial resources have been set aside.

REASON: Schemes often work well when they are first completed but if they are not easy to maintain or if replacement materials are expensive or difficult to obtain then their quality can rapidly diminish. Careful thought must therefore be given to management and maintenance from the outset.

COVERAGE: Countywide

OTHER CONSIDERATIONS: NDC: L.1.i Management Plan, N.1.iii Design, BDC: N1 Green and Blue Networks

Nature

N3 Design suitable alternative natural greenspaces (SANG) that are attractive, accessible and encourage walking and informal recreation.

Design for a Suitable Alternative Natural Greenspace (SANG) must deliver:

i) A safe, accessible and attractive network of footpaths, including a circular walk of at least 2.3km length, with unfinished or natural surfaces. Footpaths must not meander excessively and must be useable all year round.

ii) A tranquil natural character with few/no buildings or structures, incorporating a mosaic of habitats on larger sites such as grassland, scrub, woodland and open water

iii) Visitor parking at larger sites

iv) Safe unrestricted access for off-lead dog exercise

In addition, a SANG should include the following to maximise their appeal and accessibility:

i) Focal points, views and attractive landscape features
ii) Good visibility along walking routes
iii) Adequate signposted parking
iv) Signposted links to local footpaths
v) A choice of shorter and longer routes if space permits
vi) Opportunities for informal play and seating will also add to a SANG's appeal

REASON: Natural England provides comprehensive guidance on the design of a SANG and should be the first point of reference. However, poor design and delivery often result in contrived and convoluted footpath layouts in a landscape with little amenity interest. This Rule aims to ensure that SANGs provide an attractive and effective alternative to the protected habitat they are mitigating and make a valuable contribution to local public open space

COVERAGE: Countywide

OTHER CONSIDERATIONS: Natural England Guidelines for creation of Suitable Alternative Natural Greenspace. NDC: N.1.i Networks, N.1.ii Design, BDC: N1 Green and Blue Networks, N4, SuDs, N5 Local habitats, N8 Informal play

Nature

N4 Create SuDS that integrate with landscape and green infrastructure and maximise ecological and amenity benefits

Integrate SuDS with hard/ soft landscape and green infrastructure *by:*

i) Establishing key SuDS principles for the site at the start of the design process.
ii) following the SuDS hierarchy (ref NDC N.2.ii 73).
iii) incorporating source control measures at every plot or block.
iv) employing permeable surfacing, swales, rain gardens, reedbeds, wetlands, and rain capture at every opportunity.
v) only using attenuation basins as a last resort, integrating them into the landscape as semi-natural features mimicking natural rainfall and drainage patterns.
vi) integrating landscape, ecology, flood risk and water quality management with equal importance.
vii) taking every opportunity to be multifunctional to contribute to the quality of the public realm.
viii) *using shallow and small water features that avoid the need for fences and are easier to maintain.*

Incorporate SuDS in streets *by including:*

i) Rain gardens along verges.
ii) Permeable paving.
iii) Street trees.
iv) Swales within street corridors.

Design SuDS features with maintenance and management costs in mind.

Select features with both the lowest ongoing management and maintenance cost and highest ecological and amenity benefits.

REASON: To ensure SuDS features are attractive and not over engineered. So they feel part of the place and are characteristic of the area they are located rather than being a separate distinct element.

COVERAGE: Countywide

OTHER CONSIDERATIONS: The SuDS Manual by CIRA, NDC: N.2.ii SUDS, BDC: N1 Green and Blue networks, N7 Street Trees, N2 Management and maintenance

Nature

N5 Use local habitats and native species as the palette for new landscape proposals

i) Local Habitats:

Create visually attractive, distinctive and characterful landscapes within the new development using existing local habitats as the inspiration. Map existing habitats (type & species) within and close to the development. Use these as the foundation for structuring new Green Infrastructure and landscape areas within the site. Stitch together existing habitats both within and beyond the site boundary with new habitats to increase biodiversity.

Local habitats include woodland, hedgerows, meadows, rivers, streams, ditches, ponds, wetlands, fens, and other priority habitats.

ii) Native species

Use native and locally appropriate species adapted to local geology, soils, hydrology and climate change.

For example, black poplar planting in boggy areas near ditches and floodplains, chalk grassland species in chalk valleys and wetland species near ponds.

Use native species in development adjacent to the open countryside. This will encourage local distinctiveness and help to provide continuity with existing habitats.

In highly urban contexts like for example street trees, appropriate non- native species are permitted where there are no suitable native species that could perform the same function.

Refer to the following codes for details of some common local habitat types:

- *Structural woodland planting: see N7*
- *Meadow grassland: see N10*

iii) Native Hedgerows

Use species found in nearby longstanding hedgerows as a guide to which to choose, as this helps to retain local distinctiveness. If planting a relatively long length of hedgerow, aim to use a mix including at least 5 locally appropriate species. Consider using locally sourced, native species.

Locally common native hedgerow species in Buckinghamshire: Hawthorn, Guelder Rose, Dog Rose, Holly, Blackthorn, Hazel, Spindle Tree, Wild Privet, Field Maple, Wayfaring Tree

Typical hedgerow mix: Crataegus monogyna (Hawthorn) 60%, Acer campestre (Field Maple) 10%, Corylus avellana (Hazel) 10%, Viburnum opulus (Guelder Rose) 5%, Rosa canina (Dog Rose) 5%, Ilex aquifolium (Holly) 5%, Ligustrum vulgare (Wild Privet) 5%

Nature

Include trees in a new hedgerow where appropriate to reflect the surrounding context and to create a multi-level screen. Keep the range of tree species simple with one species dominant. For most situations randomly space the hedgerow trees.

Locally common native hedgerow tree species in Buckinghamshire: Malus sylvestris (Wild Crab Apple), Quercus robur (Oak), Acer campestre (Field Maple), Fraxinus excelsior (Ash), Crataegus monogyna (Hawthorn), Carpinus betulus (Hornbeam), Rowan, Prunus avium (Wild Cherry), Ilex aquifolium (Holly)

In low lying areas the following tree species may be appropriate: Alnus glutinosa (Alder) Betula pubescens (Downy Birch), Populus nigra betulifolia (Black Poplar), Salix alba (White Willow) Salix fragilis (Crack Willow)

In circumstances where a more uniform/ ornamental hedge or all year screen is needed non- native hedgerows can be used e.g. front garden boundaries. Locally common non-native hedges in Buckinghamshire: Carpinus betulus (Hornbeam), Crataegus monogyna (Hawthorn), Fagus sylvatica (Beech), Ilex aquifolium (Holly), Taxus baccata (Yew) (but beware Yew berries are poisonous and may be a danger to children and livestock)

Preparation

Create at least a 1m wide, weed free strip either by ploughing, digging or in limited cases, treating with a systemic herbicide. Ensure the bare roots of the plants do not dry out before planting.

Planting

- *Plant in trenches large enough to take full spread of roots (e.g. 20cm depth x 40cm width). Back fill with a previously prepared mixture of topsoil excavated from the pit, together with suitable compost and additional topsoil as required.*
- *Use 60-90cm high stock for hedge plants and a minimum of 6-8 or 8-10cm girth standards for hedgerow trees.*
- *Plant in at least a double staggered row approximately 30-45cm apart.*
- *The base of the hedge should be mulched with a 50-75mm layer of composted bark to stop weed growth and retain moisture in the soil.*
- *Where necessary, protect plants from damage and grazing by using temporary fencing, protective tubes or spiral guards.*
- *If using bare root stock, ideally plant in late autumn after mid-November, although planting anytime between October and March is possible, if the ground is not frozen.*
- *If planting at any other time use containerised stock and ensure good watering regime.*

Nature

Maintenance

- *Maintain weed control for at least 2 seasons.*
- *To encourage wildlife, trim the hedgerow no more than every 2nd year. This allows the shrubs and trees to produce more flowers, nuts and berries.*
- *Trim the hedgerow ideally between January and February. Never trim the hedgerow between the beginning of April and the end of August when it would be harmful to invertebrates and nesting birds.*
- *In the longer term consider hedge laying as a means to ensure hedge density and vigour.*

REASON: Maintains and encourages biodiversity and local distinctiveness

COVERAGE: Countywide

OTHER CONSIDERATIONS: NDC: N.3.ii Biodiversity, BDC: N1 Green and Blue Networks, C1 Context, I1 Character, N6 Verges,

Nature

N6 Establish and encourage wildflowers on highway verges

Establish species rich vegetation on new verges in urban and rural settings unless there is a specific reason why this would not be appropriate.

Encourage the establishment of species rich habitat on existing verges unless there is a specific reason why this would not be appropriate.

This can be achieved by:

- *Regular management to promote wildflowers*
- *Timing cuts to ensure wild flowers have time to set seed*
- *Collecting cuttings to reduce fertility*
- *Cut to a variety of heights with shorter vegetation closest to the road/ path/ edge*

Follow the advice given in

- *Bucks and Milton Keynes NEP – Wilder Road Verges toolkit*
- *Plantlife - Good_verge_guide_2021*
- *Plantlife - Managing grassland road verges- a good practice guide 2019*

REASON: To increase biodiversity and visual amenity value of road verges

COVERAGE: Countywide

OTHER CONSIDERATIONS: NDC: N.3.iii Biodiversity, BDC: N1 Green and Blue Networks, N5 Local habitats

Nature

N7 Include Street trees in every street

New streets must be tree-lined unless, in specific cases, there are clear, justifiable and compelling reasons why this would be inappropriate. Use street trees to add enclosure, structure and reinforce the human scale of the street.

i) Position, spacing and frequency:

- Locate street trees in public/adoptable space.
- Provide a minimum of one tree for every 20 metres length of street, to be distributed reasonably evenly and, at the very least, to frame each end of the street.
- Place trees between the carriageway and footway, or between parking bays depending on street type.
- In parking areas provide trees at regular intervals (at least every five linear spaces) to reduce the visual impact of parking and to enable the various benefits that trees bring to urban areas.
- Coordinate street lighting with street trees to ensure that appropriate light levels are maintained as trees grow (to avoid them being removed later) and to avoid conflict with lighting maintenance arrangements such as lowering columns

ii) Locate new trees so that they have enough space to mature:

- Make trees part of design thinking from the start rather than added at the end.
- Take into account both structures above and below ground to ensure new trees can fit and thrive within the residential environment. Ensure adequate space for root zones.
- Allow for a minimum of 0.6m3 soil volume per 1.0m2 of mature canopy area or 12m3, whichever is the larger volume.
- Decide the routes of services after tree positions have been finalised. Where possible use shared service ducts to limit underground constraints.
- Consider residents needs for light within gardens and the home.

iii) Standards:

- When planting individual trees ensure their size is at least: Extra Heavy Standard 14-16mm minimum girth in accordance with BS8545 and use underground guying/ rootball stabilisation.

Nature

iv) Species selection:

- *Address the design objectives for the location in terms of placemaking and character and whether larger species are required to help break up the roofscape in wider views when mature.*
- *Contribute to local distinctiveness by reflecting the local native species/varieties and selecting those best suited to the local soil conditions.*
- *Avoid large numbers of the same species to safeguard against the risk of tree losses through climate change, pest and disease. Select species with similar characteristics to create similar effects as single species planting or change species by street.*
- *Select species in parking areas that are not susceptible to aphid attack or branch shedding so that cars parking underneath are not unduly affected.*
- *Maintain casual surveillance in parking areas by selecting trees with clear stems and higher canopies.*
- *Refer to Tree Species Selection for Green Infrastructure for further guidance*

v) Surface treatment:

When planting within hard surfaced areas:

- Coordinate locations with underground services
- Ensure provision of adequate water and drainage
- Use below-ground engineered systems/ urban tree soil to provide a non-compacted rooting environment and adequate load-bearing capacity.
- Integrate with SuDS systems
- Allow and provide for the growth of the tree to maturity

vi) Sustainable Drainage

- Integrate tree pits as a key part of the sustainable drainage system for the site.

REASON: Street trees make an invaluable contribution to both the character and the structure of an area. They support human health and well-being, have biodiversity and environmental benefits and can mitigate the effects of climate change.

COVERAGE: Countywide – urban streets

OTHER CONSIDERATIONS: NDC: N.3.iii Street Trees, BDC B6 Street Design, N1 Green and Blue Networks, N2 Management and maintenance, N5 Local Habitats,

Trees in Hard Landscapes 2014 Trees and Design Action Group, BS 8545 Trees: from nursery to independence in the landscape – Recommendations, Tree Species Selection for Green Infrastructure

Nature

N8 Incorporate informal play into landscape spaces

As well as providing formal spaces for play (MUGAs, Skate parks, NEAPs and LEAPs) integrate informal play into Green Infrastructure areas, open spaces, SUDs and movement networks by:

- *using trees, planting, soft landscaping, topography and natural materials to create opportunities for climbing, exploring, balancing, imaginative play and small exploration spaces.*
- *providing street furniture, public art, low walls, edges and planting that facilitate spontaneous interaction and informal play along movement corridors.*
- *designing residential streets as people-friendly spaces where children can play informally by restricting traffic speeds and providing visual cues that streets are social spaces (trees, seating, planting)*
- *designing SuDS features (rain gardens, swales, basins) to be shallow and accessible to enable nature-based informal play.*
- *ensuring spaces are overlooked, safe and accessible.*

REASON: Facilitating informal play is essential for children's well-being, both physically and emotionally. The freedom for exploration and creativity enhances learning, problem-solving and interpersonal skills.

COVERAGE: Countywide

OTHER CONSIDERATIONS: NDC: N.1.ii OS provision, BDC: N1 Green and Blue Networks, N4 SuDS, N9 Open space

Nature

N9 Make open space that is visually attractive, useful, integrated overlooked and accessible.

Open space must be visually attractive, useful, integrated, overlooked and accessible to all to be considered as suitable for public use. An area whose main function is screening or to provide engineered water management features will not be considered as open space as its function is only visual/practical.

Achieve this by:

i) ***Locate open space*** *to coincide with existing natural features such as streams/ponds/ tree groups and river corridors and integrate with SuDS features.*

ii) ***Front dwellings onto open space*** *to ensure it is overlooked. Provide play areas that are safe, accessible and overlooked by active rooms like kitchens or living rooms.*

iii) ***Provide a range of sports and active recreational uses*** *within larger open spaces.*

iv) Incorporate calm quiet spaces for anyone to sit and enjoy alone or with others.

v) ***Link open space with other community uses*** *to create a cohesive and active community centre.*

vi) ***Connect open space*** *using direct and attractive footpath and cycle routes. Facilitate Green Infrastructure and biodiversity networks by locating Green corridors along these links.*

vii) ***Frame open space*** *with building frontages or trees and connect directly to pedestrian desire lines. This will ensure squares, greens and courtyards are positive, enclosed public spaces rather than residual landscape spaces.*

Open space does not necessarily have to be 'soft green' space. It can be, for example a square or linear footpath if they are landscaped and functional spaces

Small incidental open areas (e.g. margins or verges) are not a substitute for the provision of open space. *Instead use these areas to supplement open spaces and contribute to the area's character and appearance.*

REASON: New or existing open space should form an integral part of the layout as it is as much a part of the community as the streets and buildings. Many of the most successful new developments have open space at their core helping to create a distinct and attractive sense of place.

It is important to provide open space with features that make it attractive and useful to everyone.

COVERAGE: Countywide

OTHER CONSIDERATIONS: NDC N.1.ii OS provision, BDC: N8 Informal play

Well-designed homes and buildings are functional, accessible and sustainable. They provide internal environments and associated external spaces that support the health and wellbeing of their users and all who experience them.

They meet the needs of a diverse range of users, taking into account factors such as the ageing population and cultural differences. They are adequate in size, fit for purpose and are adaptable to the changing needs of their occupants over time.

Successful buildings also provide attractive, stimulating and positive places for all, whether for activity, interaction, retreat, or simply passing by.

Well-designed homes and buildings:

- *provide good quality internal and external environments for their users, promoting health and well-being;*
- *relate positively to the private, shared and public spaces around them, contributing to social interaction and inclusion; and*
- *resolve the details of operation and servicing so that they are unobtrusive and well-integrated into their neighbourhoods.*

Taken from National Design Code 2021

Homes and Buildings

Homes and Buildings

H1 Take full advantage of the design opportunities afforded by sloping sites by fitting buildings into the slope and avoiding large level changes.

Use sloping ground as a design opportunity to create innovative solutions. Take advantage of sloping sites, using split levels and underground areas for storage.

Connect private amenity areas to living spaces on sloping sites by using terraces or balconies close to the dwelling.

There is no particular rule for developing either along or across the slope, as both types are common, but use the following guidelines to help achieve the best solution on sloping sites:

- *fit development along or across a slope against the hillside by integrating it into the slope rather than building up to provide a level surface.*
- *avoid significant level changes along building frontages such as exposed brickwork and retaining walls, especially where these are close to footpaths and roads*
- *ensure viable amenity space by taking care to avoid compromising the aspect, freedom from shade or enclosure when using retaining walls on sloping sites.*
- *make use of the lower half level, for example, for parking or utility rooms, cut partly into the slope if building up from the slope is unavoidable,*
- *minimise the visual impact on steeper slopes and development towards the tops of hills by fitting buildings into the slope and incorporating generous amounts of tree planting.*
- *allow site levels to fit naturally to the surrounding countryside and avoid large level changes. Work with the wider landscape form to get development to sit gently within the countryside.*
- *design tree belts and woodlands to follow the existing topography.*

REASON: Where development is on sloping ground it is vital that levels are considered properly. Too often sites are developed in an awkward manner as designs suited for a flat site are imposed on sloping sites using ugly retaining walls and over-large terraces.

COVERAGE: Countywide

OTHER CONSIDERATIONS: NDC C.1.ii Context, BDC: C1 Context, I1 Character

Homes and Buildings

H2 Avoid apartments with a predominance of single aspect flats.

Use dual and corner aspect flats wherever possible.

Flats can be single, corner or dual in aspect. Mix these aspects to create a diversity of living spaces and reduce the need for long corridors.

Where single aspect flats are unavoidable, follow these guidelines to avoid the problems of inadequate daylighting, ventilation, privacy and amenity:

- *ensure they are wide and shallow in plan, to ensure they are well lit and ventilated.*
- *ensure they are not facing north, so that they receive some direct sunlight but not where there would be a risk of overheating (e.g. south facing flats with large glazing).*
- *ensure they have generous window sizes*
- *do not locate them facing the street on the ground floor which creates inadequate privacy and amenity.*
- *locate them away from sources of noise*

Where single aspect flats are used it should be clearly demonstrated that they meet the above requirements.

REASON: Single aspect flats can create living environments with inadequate daylighting, ventilation, privacy and amenity.

COVERAGE: Countywide

OTHER CONSIDERATIONS: NDC: H.2.i Light, aspect privacy BDC: H3 Ground floor flats, B6 Amenity space

Homes and Buildings

H3 Design ground-floor flats with defensible space, good daylight and ventilation, a reasonable outlook and active and visually attractive street frontages.

Ground floor flats offer opportunities to broaden the appeal of flats to the elderly, disabled and families due to their easy level access and often better private amenity.

Ground floor flats are different from those on other floors. To design them successfully:

- Give each ground floor flat its own independent access to promote street activity and surveillance.

  Provide this in the form of a front door. Living room French windows/ doors will not read as a front door. Ground floor flats can still have a secondary access into communal entrance halls if needed to access shared facilities. Small flatted development (4-8 flats) designed to appear as a large dwelling can just have a central access where this reflects the character of the existing area.

- For privacy locate bedrooms of ground floor flats so they do not face the street.
- Use higher ceiling heights and taller windows to create ground floor flats that are well lit.
- Avoid flats that are both single aspect and face the street on the ground floor as these create a poor living environment.
- Ensure windows facing the street or other public areas have defensible space to protect privacy. This can be private amenity space and/ or planting, low walls or hedges.

Consider providing larger duplex units/ maisonettes arranged over two floors from the ground floor with flats above. This allows the ground floor to be just living accommodation with bedrooms on the first floor.

REASON: Ground floor flats have special requirements as they interact directly with the street unlike flats on other floors

COVERAGE: County wide

OTHER CONSIDERATIONS: NDC: U.1.iii Active frontage, H.2.i Light, aspect. Privacy, BDC: H2 Single aspect flats

Homes and Buildings

H4 Create communal areas in flatted developments that are safe, legible, visually attractive and promote interaction between residents.

i) Communal entrances and circulation spaces:

- Ensure communal entrances and circulation spaces promote interaction between residents and are legible to visitors.
- Organise the flat layout so that the number of flats accessed from a single core is a maximum of 10.
- Make communal entrances clearly visible from the street so that visitors can easily locate where they are.
- Express vertical access cores on at least one exterior face through fenestration which will also allow in natural light. Make stairs easily accessible to promote their use over lifts.

To further promote interaction and create legible entrances use the following guidelines:

- *Consider wider naturally lit corridors. The Lifetime Homes Standard includes a minimum width of 1200mm for corridors. Long and narrow, windowless corridors will be discouraged.*
- *External access corridors to upper floor flats can enable increased provision of dual aspect flats within a block. When designed well, each corridor serves only very small numbers of flats and restricts access to those residents, to provide security and protect amenity. Such corridors should be wide enough to accommodate personalisation by doubling-up as balconies.*
- *Mix single, dual and corner aspect flats. This enables a diversity in plan and can avoid the need for long corridors that often result from adopting just one form of flat.*

To ensure communal entrances are secure follow the guidance given in Secure by Design Homes 2025.

ii) Communal spaces:

In addition to private amenity space communal space can be provided to provide for a wider range of outdoor activities.

Design communal space using the following guidelines:

- *Prioritise soft landscaping over areas of hard standing.*
- *Facilitate more than one activity (e.g. sitting out; barbecues; growing vegetables) and provide some space that is secluded and offers a reasonable degree of privacy.*
- *Cater for the types of people that are likely to live in the flats the communal space serves.*
- *For spaces that cater for larger numbers of residents, provide several discreet spaces so that users can achieve some degree of privacy when using the space.*

Homes and Buildings

- *Associate spaces with particular groups of flats so that a degree of ownership and identification of each space can be fostered.*
- *Directly and legibly connect communal areas to communal entrances of the flats they serve.*

iii) Parking Areas:

Directly relate allocated parking areas to the communal access and ensure they are positively overlooked by the majority of flats they serve.

Ideally create allocated parking areas that serve no more than 7 flats as above this number it is more difficult for residents to recognise strangers. Where a parking area serving more than 7 flats cannot be avoided, gate and secure it in accordance with Secured by Design Guidelines.

Locate unallocated parking and parking for visitors in the public realm.

REASON: A single communal entrance serving many units can create a sense of anonymity and reduce the frequency of street activity. Residents sharing access with a smaller number of others tend to enjoy greater privacy and a greater sense of ownership of the space outside their flat.

Too often communal space ends up just being a landscaped setting for the building or for parking and never used by the residents. In contrast an appropriately designed space can offer significant opportunities for outdoor recreation and provide opportunities to build community within the flat block.

To ensure parking areas are convenient for residents that the allocated parking areas are secure and deter crime.

COVERAGE: Countywide

OTHER CONSIDERATIONS: NDC H.2.ii Security, M.3.i Parking, BDC: H2 Singel aspect flats, H3 Ground floor flats, B6 Amenity space, M3 parking

Well-designed places and buildings conserve natural resources including land, water, energy and materials. Their design responds to the impacts of climate change by being energy efficient and minimising carbon emissions to meet net zero by 2050. It identifies measures to achieve:

- *mitigation, primarily by reducing greenhouse gas emissions and minimising embodied energy; and*
- *adaptation to anticipated events, such as rising temperatures and the increasing risk of flooding.*

A compact and walkable neighbourhood with a mix of uses and facilities reduces demand for energy and supports health and well-being. It uses land efficiently so helps adaptation by increasing the ability for CO2 absorption, sustaining natural ecosystems, minimising flood risk and the potential impact of flooding, and reducing overheating and air pollution.

Well-designed places:

- *have a layout, form and mix of uses that reduces their resource requirement, including for land, energy and water.*
- *are fit for purpose and adaptable over time, reducing the need for redevelopment and unnecessary waste.*
- *use materials and adopt technologies to minimise their environmental impact.*
- *Taken from National Design Code 2021*

Resources

Resources

R1 Integrate renewables into building design to reduce the visual impact.

Adopt measures that have lower impact on external appearance before resorting to energy generation solutions e.g. building form/ design, higher levels of insulation, shutters, location/ orientation of windows.

i) Solar PVs

- Avoid prominent roofs and locations that would adversely impact on heritage assets
- Use integrated PV roof tiles in more visually sensitive locations
- Install PV panels or tiles uniformly within the roof area to avoid unnecessary visual clutter and impact to the character of the area.
- Install PV panels so they don't project more than 200mm beyond the plane of the roof
- Install at the same angle as the roof pitch

ii) Heat pumps

- Locate away from prominent areas and street frontage.
- Locate away from windows
- Attenuate with sound insulation to avoid noise impacts to neighbours

iii) Other apparatus:

- Use materials and colours that are muted or match adjacent building materials
- Locate in areas that are not prominent

REASON: to reduce the visual impact of renewables

COVERAGE: Countywide

OTHER CONSIDERATIONS: NDC: R Resources, BDC: I2 Local character.