

Stondon

Design Guidelines and Codes

Final Report

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Quality information

Prepared by	Check by	Approved by
Daniel Mather	Mark Hughes	Mark Hughes
Graduate Urban Designer	Director	Director

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A photograph of a residential street during autumn. On the left, there are brick houses with dark roofs and some trees. On the right, there is a sidewalk and a large, dense bush with yellow and orange autumn leaves. A green circular overlay is centered on the image, containing the text 'Introduction' and '01'.

Introduction

01

1. Introduction

Through the Department for Levelling Up, Housing and Communities (DLUHC) Programme led by Locality, AECOM was commissioned to provide design support to Stondon Parish Council.

1.1 The importance of good design

The National Planning Policy Framework (NPPF) (paragraph 126) notes, *'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'*.

Research for the Government's Commission for Architecture and the Built Environment (now part of the Design Council) has shown that good design of buildings and places can improve health and well-being, increase civic pride and cultural activity and reduce crime and anti-social behaviour.¹

This design code aims to show how good design, and the creation of great places, can make future development in Stondon attractive, popular and sustainable.

Based on our study of the Parish (via site visits and discussions with the Neighbourhood Plan Group) elements of good design have been identified and inform the design principles and codes set out below.

1.2 What is a design code

The Government's Planning Policy Guidance defines design codes as:

*'... a set of illustrated design requirements that provide specific, detailed parameters for the physical development of a site or area. The graphic and written components of the code should be proportionate and build upon a design vision, such as a masterplan or other design and development framework for a site or area. Their content should also be informed by the 10 characteristics of good places set out in the National Design Guide. They can be ...appended to a Neighbourhood Plan...'*²

1. <https://www.designcouncil.org.uk/sites/default/files/asset/document/the-value-of-good-design.pdf>

2. Paragraph: 008 Reference ID: 26-008-20191001 - Revision date: 01 10 2019.

1.3 The purpose of this document

The NPPF 2021, paragraphs 127-128 states that:

'Plans should... set out a clear design vision and expectations, so that applicants have as much certainty as possible about what is likely to be acceptable. Design policies should be developed with local communities so they reflect local aspirations, and are grounded in an understanding and evaluation of each area's defining characteristics. Neighbourhood plans can play an important role in identifying the special qualities of each area and explaining how this should be reflected in development...'

'To provide maximum clarity about design expectations at an early stage, plans ... should use visual tools such as design guides and codes. These provide a framework for creating distinctive places, with a consistent and high quality standard of design. However their level of detail and

degree of prescription should be tailored to the circumstances in each place, and should allow a suitable degree of variety where this would be justified.'

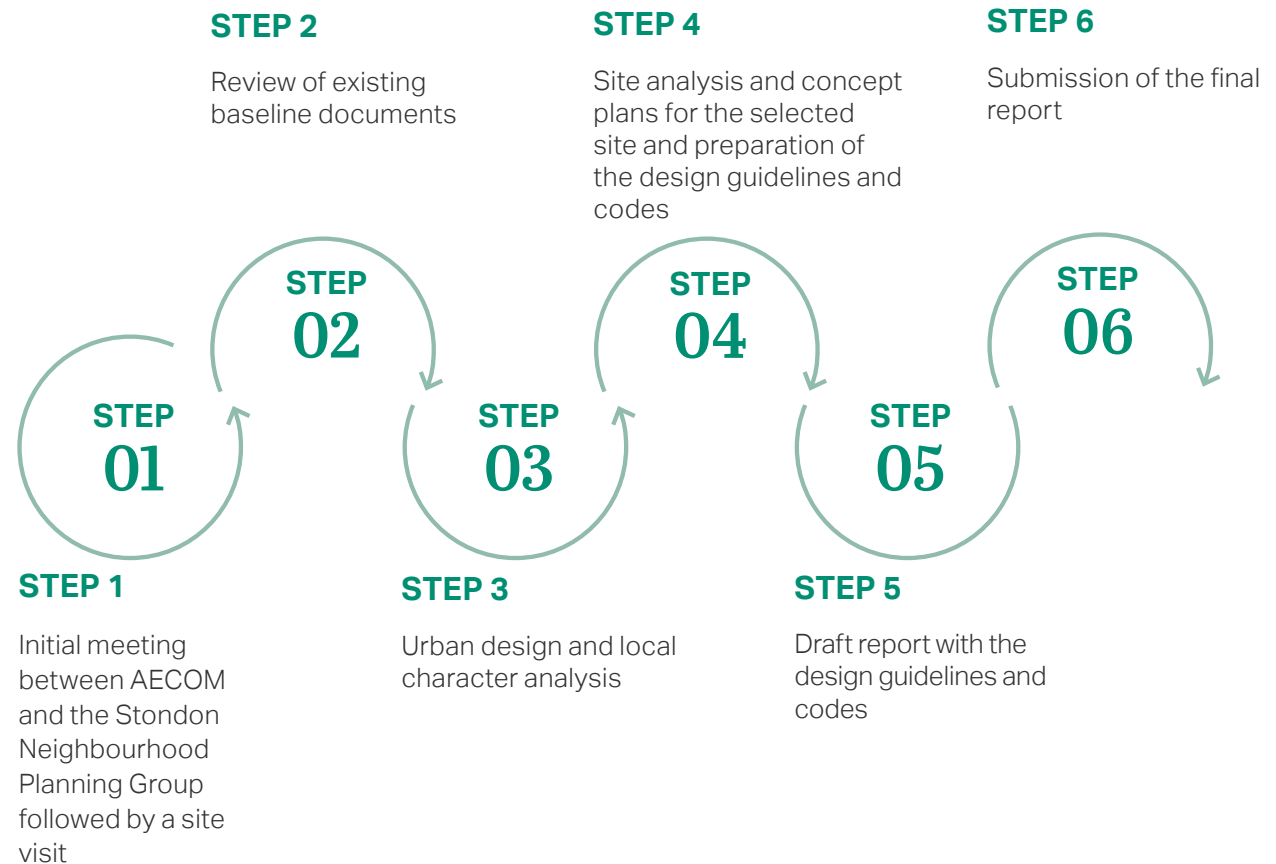
The Government is placing significant importance on the development of design codes in order to set standards for design upfront and provide firm guidance on how sites should be developed.

It is intended that the Stondon Design Guidelines and Codes report becomes an integral part of the Neighbourhood Plan and be given weight in the planning process. The Government plans to make it clear that decisions on design should be made in line with the policies and supporting evidence included within Neighbourhood Plans, including design codes.

1.4 Preparing the design code

Following an inception meeting with the Neighbourhood Plan Group, and a subsequent site visit, the following steps were agreed with the Group to produce this report:

The local residents of Stondon who have contributed to this design guide are: Ann Attwood, Terry Attwood, Nigel Benson, Neil Hansford and Harvinder Pahar.



1.5 Area of study

Stondon is a civil parish located in South Bedfordshire. There are a number of larger towns in relatively close proximity, including Hitchin, Luton, Letchworth Garden City and Stevenage.

The village is accessed via Bedford Road, in the south, which provides connections to Hitchin, the A1(M) and Stevenage. Hitchin Road provides connections towards Bedford and Stevenage, to the north and east, while Station Road/Shillington Road provides links west, towards the A6.

With regard to public transport, Hitchin and Arlesey are the nearest major railway stations (both approximately a 15 minute drive. From these stations, it takes approximately 40 minutes to get into London. There are a number of bus services connecting Stondon with locations as distant as Cambridge and St Albans, in addition to more local sites, such as Meppershall, Hitchin and Baldock. However, the reality is that most of these services are intermittent and do not provide a good level of connectivity.

Stondon is rich in history, with its name deriving from the Anglo-Saxon *ston* (Stony) and *dun* (hill), which accurately describes the setting of the village. As a result of the surrounding topography, and the elevation at which the village sits, there are some panoramic views across the wider countryside from key points within Stondon. During World War 1, in 1917, the Government purchased approximately 226 acres of farmland to provide a facility specialising in training of engineers to carry out the rapid repair of aircraft. Of the original list of RAF stations in 1918, Henlow now counts among only 7 other stations that still remain operational today as Royal Air Force sites, although it is scheduled to close at some point in 2022.

While the parish is just a short drive away from the town of Hitchin, and the relatively large quantum of lower and middle order services provided there, Stondon is relatively well served with local services and amenities.

In Lower Stondon, there is a local shop, a primary school, GP surgery (which has

some issues in terms of capacity as a consequence of the increased demand created by new development), a pharmacy, a local pub (The Bird in Hand) and a petrol station which has the Henlow Car Centre behind. Mount Pleasant Golf Club is a very well used amenity, providing not only sporting but dining opportunities for residents. Savins Nursery is a locally noteworthy business, attracting visitors from the surrounding area. Stondon Baptist Church and All Saints CoE (a predominantly mid-19th century building on a medieval site) provide both religious and community facilities for the wider parish.

There are five listed buildings located within the parish, all of which are Grade II listed.

There do not appear to be any statutory or non-statutory designations within the parish, such as Areas of Outstanding Natural Beauty, Sites of Specific Scientific Interest or Registered Parks and Gardens, although there is a small standalone section of the Chilterns AONB, focused on Barton Hill, located 2km or so to the south-west of the parish.



Figure 01: Stondon Neighbourhood Plan area of study (base from Google Earth)



Local character analysis

02

Stondon Low

"Every child, every ch

Tel: 01462

2. Local character analysis

This chapter describes the local context and key characteristics of Stondon Parish related to heritage, built environment, streetscape, views, landscape and topography.

This background context helps inform the design codes for Stondon, the aim being to identify and then retain and enhance those characteristics which give the village its sense of place.



Figure 02: Stondon introductory map

2.1 Land-based designations

Stondon civil parish is located in the rolling South Bedfordshire landscape. Much of the parish is given over to mixed, mostly arable farming. There is a scattering of deciduous woodland, often designated as woodland habitat protection zones, with some small, remnant areas of traditional orchard. There is relatively little in the way of woodland cover in the parish and those areas that do exist are important in terms of biodiversity.

The small traditional orchards sit to the northern side Station Road, which is a popular area for infill development. Given this development pressure, these areas might be considered for protection from development in any emerging plans.

Ditches and hedgerows further enhance the biodiversity of the parish by providing wildlife corridors which support a variety of wildlife species as well as creating escape cover from predators and shelter during bad weather.

While it is not designated, the golf course is a locally important asset. The landscape planting across the course contrasts with the surrounding farmland and adds a different element to the character and wider setting of the village.



Figure 03: The rolling hills and farmland to the north of Upper Stondon



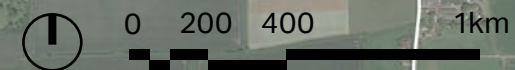
Figure 04: Front of the Golf Course



KEYS

-  Parish boundary
-  Main Roads
-  Golf Course
-  Traditional Orchards
-  Deciduous Woodland
-  Woodland Grant Scheme

Figure 05: Green Infrastructure



2.2 Heritage, views and landmarks

Stondon's Anglo-Saxon origins suggest that the parish is an area with a rich history and there are a number of Grade II listed buildings scattered throughout Upper and Lower Stondon, as well as other fine buildings, which have not been designated, but still add much to the character of the parish.

One of these listed buildings is All Saints Church, which is located in Upper Stondon and dates from the 13th Century. There are no other medieval buildings in the village, however, some of the more recent buildings are also important to the character of the parish, such as the Primary School, which was built in 1861 and followed shortly after by Stondon Baptist Church in 1863. The Old Rectory is another listed building located in Upper Stondon. The remaining listed buildings are two farmhouses located in Lower Stondon, along Station Road.

As can be seen in Figure 6, opposite, Stondon is situated at a high point in the landscape, with a number of significant views from the village out across the Bedfordshire countryside.

One locally important view is the one from Station Road towards the small outlying section of the Chilterns AONB, focused on Barton Hill (which also includes Barton Hills, Barton Springs and Pegsdon Hills and Hoot Bit Nature Reserves. This view, together with other important views, is shown in Figure 6, opposite.

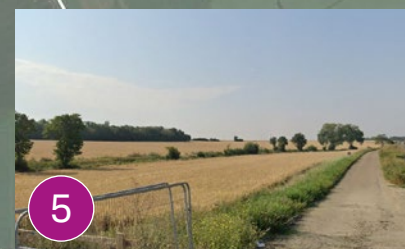
Another benefit to the topography of Stondon, beyond the good views out over the countryside, is that much of the development in the parish lies on higher ground, away areas of flood risk located in the lower lying parts of the landscape.



Figure 06: View from near water tower towards Shillington and the Pegsdon Hills



Figure 07: All Saints' Parish Church



2.3 Stondon village character

The village comprises several developments that extend along the length of Station Road and Bedford Road. There is a lack of interconnectivity between these developments, leading to limited permeability (i.e., the ability to move relatively freely and directly between different parts of the village). This lack of permeability is further compounded by the consistent use of the cul-de-sac street typology, as shown in Figure 10, opposite.

Figure 10 identifies seven different 'character areas' within the parish, each with its own identity, although there are some shared characteristics. The areas highlighted in red are 21st century developments consisting of 2 and 3 storey residential development schemes. The area in brown represents a residential estate built in the late 1980s. Station Road (green) has properties of different ages, all fronting onto the road with varying setbacks. The pink areas highlight the oldest part of the parish, in Upper Stondon, which contains the primary school, All Saints and Stondon Manor Farm.

The golf course, which was established in 1992, has played a huge role in shaping residential development parcels to the north and east. It creates a barrier in terms of connectivity between parcels of land within the village (for example, although development at Pollards Way and Meadowsweet are relatively close, pedestrian would have to take a much longer and ore circuitous route to move from one to the other).



Figure 09: An example of one of the modern residential roads in a development off Station Road



Figure 10: Poor connectivity between developments leading to the village feeling disjointed



Figure 11: Characterful building example in the historic Mepparshall Road area



KEYS

 Parish boundary

 Main Roads

 Secondary roads

 Places with a differing sense of place

 No connection

Figure 12: Village character



0 200 400

1km

2.4 Connectivity

The structure and layout of the village and the lack of public footpaths connecting between different areas has resulted in a series of discrete and disconnected developments. One of the by-products of this arrangement is a greater reliance on the car to move around the village, which puts greater pressure on Bedford Road and Station Road, especially at rush hour. Heavy traffic on these roads at peak times leads to a reduction in air quality, safety and the general quality of the environment.

Within the different developments the predominant street layout tends to be a cul-de-sac typology. As a consequence, although the residential roads are quieter and, in principle, safer for residents, there is a lack of interconnectivity between parcels resulting in pedestrians having to walk much longer distances, even when making their way from one part of their development to another. This lack of connectivity reinforces the sense of separation between different development parcels and undermines the overall sense of place which the village might otherwise enjoy.

There are some limited connections between parcels of development, both to other parcels and to the surrounding countryside. However, even these are often in the form of semi-formal footpaths that do not necessarily provide safe, easy passage throughout the year or even at different times of day.



Figure 13: Example of footpath in Lower Stondon behind the playing fields - Route 1



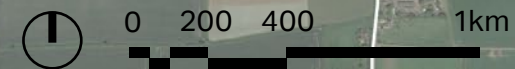
Figure 14: Some of the footpaths are not very well maintained as can be seen in the figure above - Route 1



KEYS

-  Parish boundary
-  Main roads
-  Secondary roads
-  Public footpaths
-  Bridleway
-  Settlements
-  Footpath route numbers

Figure 15: Connectivity



2.5 Flood risk

While the topography of the area allows for panoramic views for members of the parish, it also brings significant flood risk in certain parts of the parish.

There is a flood plain to the south of the golf course that runs across the Bedford Road. The only buildings that are within the flood risk zone are in the Mayfield Crescent/Maple Close area. This presence of the flood risk zone has curtailed and shaped the form of development in this location.

The flood risk in question is rated as Flood Zone 3 by the Environment Agency. This means that there is a 1% chance of flooding in any given year. Flood Zone 3 development requires a flood risk assessment (FRA) to be submitted as part of any planning application. The FRA determines whether the site is classified as Flood Zone 3a or 3b (i.e., land that is normally categorised as functional flood plain, with a 5% chance of flooding and is subject to much more stringent restrictions).

Any development proposals in Flood Zones 2 or 3 should be assessed in terms of the mix of uses proposed and their relative vulnerability to flood risk. Mitigation will, very often, be required, as part of any development proposals.



Figure 16: Golf course and the flood plain from Station Road in Lower Stondon



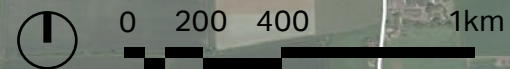
Figure 17: Example of flood mitigation in one of the new developments



KEYS

-  Parish boundary
-  Main Roads
-  Contour Lines
-  Flood Risk zone 3
-  Homes in danger of flooding

Figure 18: Flood risk map of Stondon Parish





Design guidelines and codes

03

3. Design guidelines and codes

This chapter provides guidance on the design of new development, setting out the expectations that applicants for planning permission in Stondon Parish will be expected to meet.

3.1 Place making

What urban designers and planners call 'placemaking' is about creating the physical conditions that residents and users find attractive and safe, with good levels of social interaction and layouts that are easily understood.

The placemaking principles set out in the following pages should be used to assess the design quality of future development or regeneration proposals.

These key principles should be considered in all cases of future development as they reflect positive place-making and draw on the principles set out in many national urban design best practice documents.

3.2 Walkable places

Creating new walking routes which are well connected to the existing network should be a prerequisite for any new development in Stondon Parish.

The success of a place is influenced by how walkable it is. It is good practice to plan new homes within a 400 metres walking distance (= 5 minutes) of bus stops and within 800 metres (= 10 minutes) of convenience stores or community buildings.

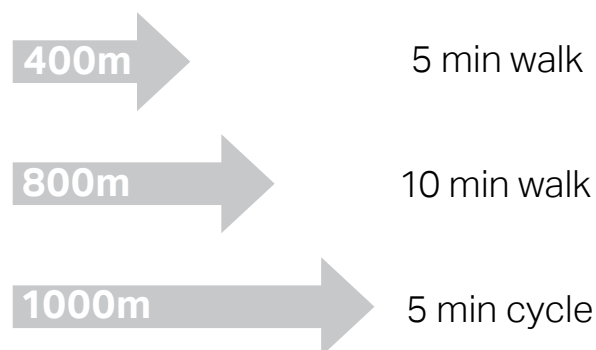


Figure 19: The 10 characteristics of well-designed places. (Source: National Design Guide, page 8).

3.3 General principles and guidelines

The design guidelines and codes for Stondon Neighbourhood Plan Area derive from the general design principles set out below.

The guidelines and codes set out in this document focus on residential environments including new housing development in Stondon.

Any consideration of design and layout must be informed by the wider context, with regard given not only to the immediate neighbouring buildings, but also the landscape and rural character of the wider locale. The local pattern of streets and spaces, building traditions, materials and natural environment should all help to determine the character and identity of any new development.

It is important that full account is taken of the local context and that the new design embodies the 'sense of place' and also

meets the aspirations of people already living in that area. Therefore, some design principles that should be present in any design proposal are:

- Respect the existing pattern of the village and the surrounding area to preserve the local character;
- Respect the heritage, landscape and key views identified in the parish;
- Aim for high quality design that reflects and respects the local vernacular within and outside the conservation area;
- Integrate with existing paths, streets, circulation networks and reinforce or enhance the established character of streets, greens and other spaces;
- Harmonise and enhance existing village in terms of physical form, architecture and land use;
- Ensure all the various components of the village, e.g., buildings, landscapes, access

routes, parking and open space, etc., are well related to each other;

- Incorporate necessary services and drainage infrastructure without causing unacceptable harm to retained features; and
- Aim for innovative design and sustainable buildings while respecting the architectural heritage and tradition of the area.

3.4 Stondon design guidelines and codes

This section introduces a set of design principles that are specific to Stondon Parish. These are based on:

- Baseline analysis of the area in Chapter 2;
- Understanding national design documents such as National Design Guide, National Model Design Code and Building for Healthy Life 12 Documents which informed the principles and design codes; and
- Discussion with members of the Neighbourhood Plan Steering Group.

The codes are divided into **6 sections**, each one with a number of subsections dealing with specific issues. Each section and subsection is numbered (e.g. DC.01) to facilitate its reading and use. The first section applies to any future development within Stondon village.

Theme	Code	Title
DC.01 In keeping with local character	1	Heritage, views and landmarks
	2	Patterns of growth within the rural landscape
DC.02 Access and movement	3	Accessible and attractive footpath network / access to the countryside
	4	Prioritise walking and cycling
	5	People friendly streets
	6	Street lighting
	7	Parking and servicing
	8	Cycle parking
DC.03 Landscape, nature and open space	9	Create a green network
	10	Biodiversity
	11	Water management
	12	Trees and planting
	13	Open spaces
DC.04 Built form	14	Boundary lines, boundary treatment & corner treatment
	15	Continuity and enclosure
	16	Legibility and wayfinding
	17	Building heights, density and housing mix
	18	Materials and architectural details
DC.05 Non-resi development	19	Minimising energy use
	20	Lifetime and adaptability
DC.06 Sustainability	21	Minimising energy use
	22	Lifetime and adaptability
	23	Minimising construction waste
	24	Recycling materials and buildings
	25	Electric vehicle charging points

Code.1 Heritage, views and landmarks

Stondon Parish has a rich built and natural heritage in terms of structures, buildings, landscape and views. Any new development proposals need to recognise these important assets and propose ways in which they might be retained, protected and enhanced. Some design guidelines are:

- Scenic value and tranquillity of countryside views should be retained and enhanced in future development;
- New development proposals should maintain visual connection with the surrounding landscape, including middle distance views across the built up areas of the parish and longer views towards important points in the wider landscape.
- Creating short-distance views broken by buildings, trees or landmarks helps to create memorable routes. Creating views and vistas allows easily usable links between places;
- Gaps between buildings, open views and vistas should be respected and aim

to demonstrate the significance of a landmark asset; and

- Development in the village core should respond to local distinctiveness.



Figure 20: Old turret discovered in Stondon.



Figure 21: The Stondon Baptist Church

Code.2 Patterns of growth within the rural landscape

The parish owes much of its character to the historic pattern and layout of the roads and buildings as well as its close relationship with the surrounding countryside.

Some design guidelines for small scale development within Stondon Parish include:

- New development in close proximity to designated and non-designated heritage assets must propose green screenings to mitigate any negative visual impact, while also preserving key views;
- New development should be within the village footprint or a modest development annexed to it, while also protecting important views as identified in Figure 6, above;
- New development must demonstrate a good understanding of the scale, building orientation and enclosure of the surrounding built environment (Item 1, on the plan, adjacent);
- Development densities should reflect the character of the village and surrounding development;
- The size of plots and their pattern should be varied to contribute to the rural character (item 2);
- New development should create a diversified building line to shape short and long-distance views (item 3);
- Any proposal that would adversely affect the physical appearance of a rural lane, or give rise to an unacceptable increase in the amount of traffic, noise, or disturbance must be avoided;
- Existing hedges, hedgerows and trees should be integrated into design, whilst more planting and vegetation is encouraged to form part of the green network strategy (item 4); and
- Appropriate signage should be incorporated along the road or in central 'village greens' to indicate the low speed limits or provide navigation (item 5).

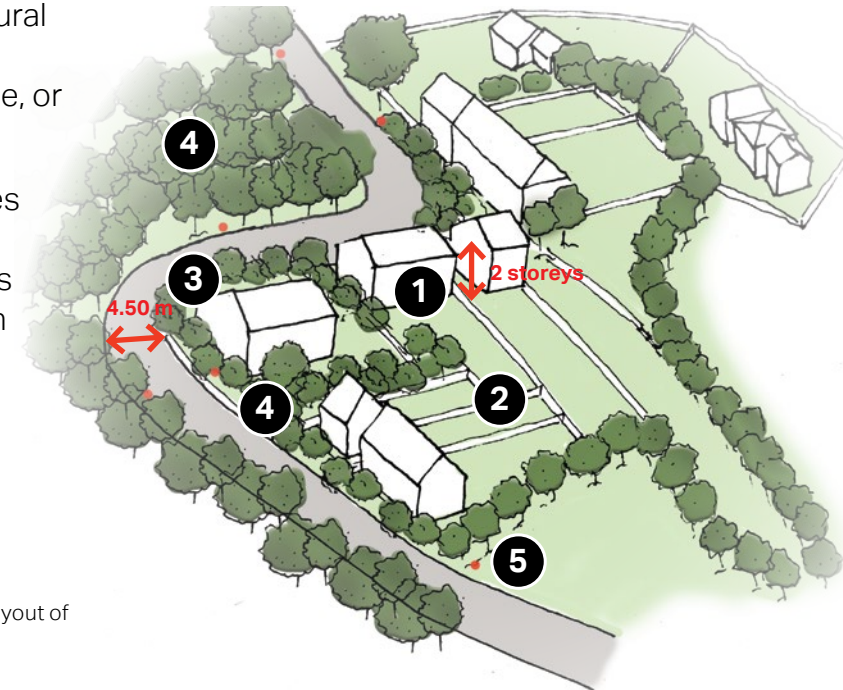


Figure 22: Illustrative plan for a rural edge development highlighting design elements, related to the pattern and layout of buildings.

Code.3 Accessible and attractive footpath network/ access to the countryside

Although there is a lack of footpath connectivity within the developed areas, there are numerous footpaths within Stondon Parish which link the settlement with the surrounding countryside. Footpaths allow people to get closer to nature, enjoy a tranquil environment and undertake physical exercise by walking. Therefore, protection, improvement and design of new footpaths should be considered in new developments and some design guidelines are:

- Where possible, newly developed areas must retain or provide direct and attractive footpaths between neighbouring streets and local facilities. Establishing a robust pedestrian network across new developments and among new and existing development is key in achieving good levels of connectivity and promoting walking.
- Where possible, new proposed footpaths should link up green spaces and woodlands to create a network of green walking routes and promote biodiversity. For example, the Strategic Wildlife Corridors, as shown in Figure 7, above, could include footpath connections and other green links that could connect new development and form part of an integrated green infrastructure network;
- Design features such as gates or barriers to footpaths must be kept at a minimum and the latter must be avoided;
- Strategically placed signposts can assist pedestrians and cyclists with orientation and increase awareness of publicly accessible paths beyond the parish. However, new signposts must respect the rural character of the parish and avoid creating visual clutter; and
- The footpath network needs to be in place before first occupation of houses on the site.

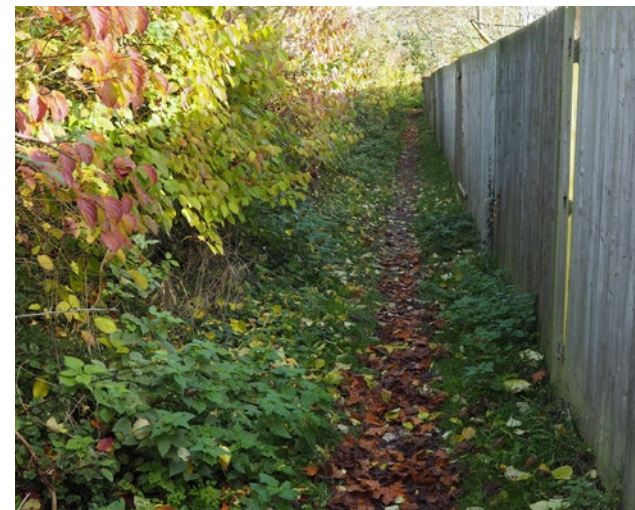


Figure 23: Rural footpath behind the recreation ground - Route 1



Figure 24: Appropriate signage to indicate the footpath/cycle lane within a rural landscape - Route 1

Code.4 Prioritise walking and cycling

As noted above, there are few public footpaths within and between development parcels in Upper and Lower Stondon. New developments should seek to introduce well connected and attractive pedestrian and cycling routes to encourage residents to walk and cycle. Some guidelines for future development are:

- Varied links should be enabled and created to favour pedestrian and cycle movement. These routes should be always overlooked by properties to create natural surveillance and offer good sightlines and unrestricted views to make people feel safer;
- Cul-de-sac development pattern should be avoided in new developments. However, if it is proposed then it should be connected to footpaths to avoid blocking pedestrian and cycle flow;
- Design features such as barriers to vehicle movement, gates to new developments, or footpaths between high fences must be avoided; and

- All newly developed areas must provide direct and attractive footpaths between neighbouring streets and local facilities. Streets must be designed to prioritise the needs of pedestrians; and
- Cycleways should be integrated into both existing and new developments to help promote active transport.



Figure 25: Footpath with a slight curve along Pollards Way creates a shared space feeling along the street, Stondon



Figure 26: Clearly defined footpath in Stondon

Code.5 People-friendly streets and green links

It is essential that the design of new development includes streets and road layouts that incorporate the needs of pedestrians, cyclists, and, where applicable, public transport. Some guidelines for future development are:

- Streets must meet the technical highway requirements, as well as being considered a 'place' to be used by all. It is essential that the design of new development includes streets and junctions that incorporate the needs of pedestrians, cyclists, and if applicable, public transport users;
- It is important that on-street parking, where introduced, does not impede the access of pedestrians and other vehicles and it is well vegetated;
- Within the development boundaries, streets should not be built to maximise vehicle speed or capacity. A range of traffic calming measures could be introduced by design;
- New streets should be linear with gentle meandering, while also providing evolving views to the surrounding countryside;
- Routes should be laid out in a permeable pattern, allowing for multiple choices of routes, particularly on foot. Any cul-de-sacs should be relatively short and provide onward pedestrian links;
- Streets must respect the existing vegetation, while also incorporating new opportunities for landscaping, green infrastructure, and sustainable drainage; and
- Any new development should provide well-connected streets of varied character. A legible street hierarchy should include primary, secondary, tertiary roads and edge lanes. The next pages present illustrations examples of those street typologies.

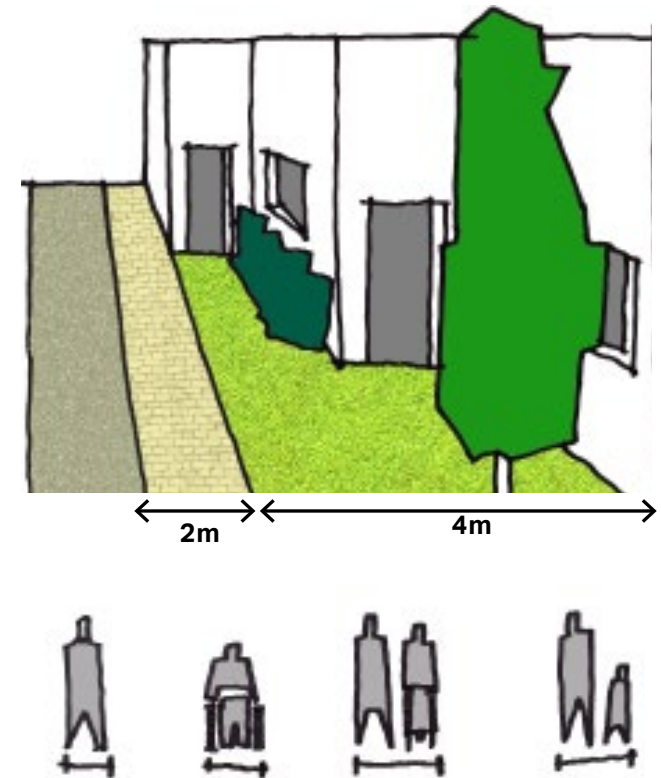


Figure 27: Graphic showing the structure of a generous street

Primary streets

- Primary streets are the widest neighbourhood roads and they are also the main routes used for utility and emergency vehicles, as well as buses;
- Primary streets must be defined by strong building lines. Primary frontages alongside the road should include taller and more dense developments; and
- Street trees and/or green verges along the road should be provided to contribute to local biodiversity, and provide cooling and shading.

Secondary streets

- Secondary streets should accommodate carriageways wide enough for two-way traffic. On-street parking may be on or accommodated on the street or inset into green verges;
- Carriageways should be designed to be shared between motor vehicles and cyclists. Vertical traffic calming features such as raised tables may be introduced; and
- Where possible, secondary streets should be tree-lined on both sides.

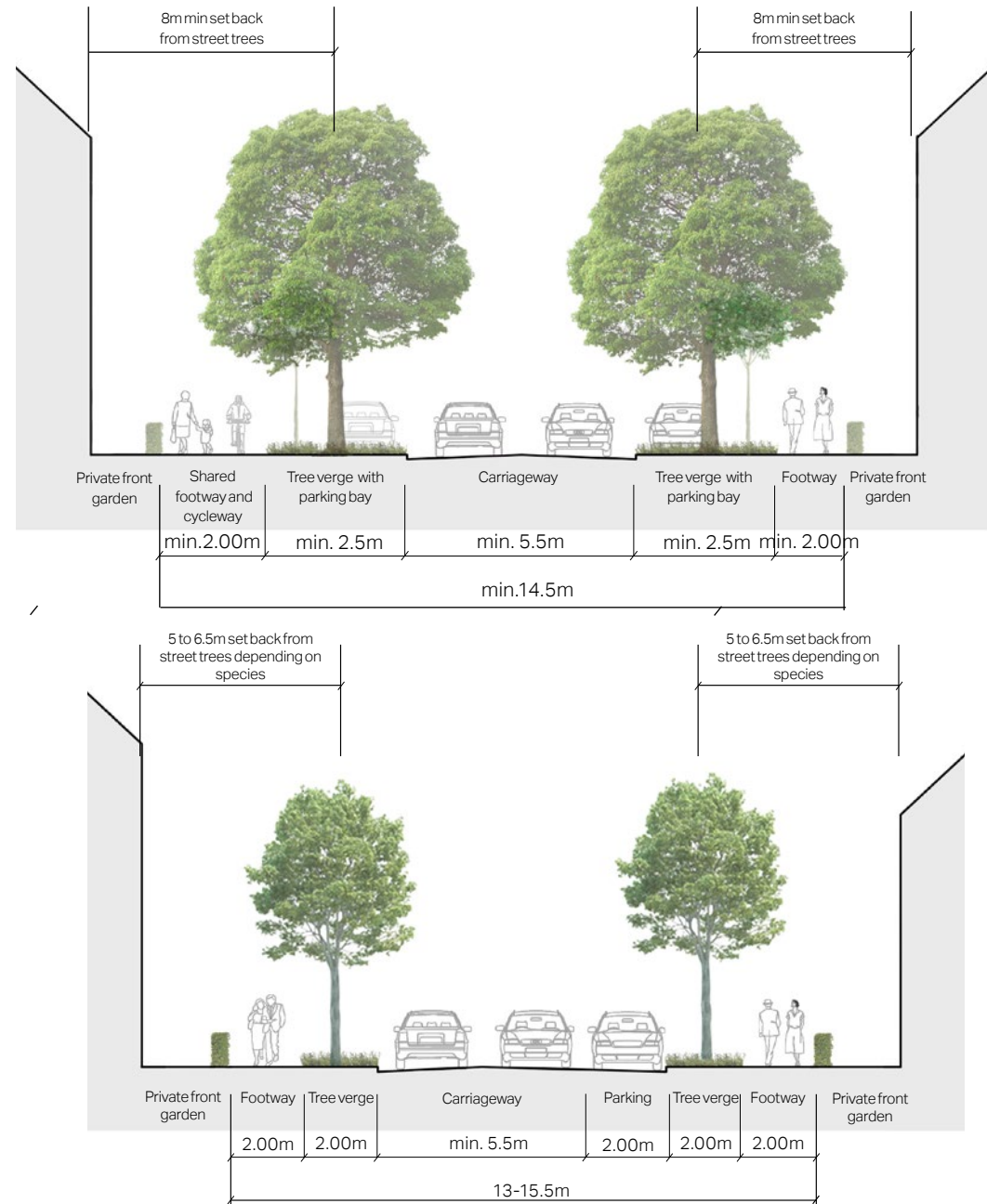


Figure 28: Cross-section to illustrate some guidelines for primary streets.

Figure 29: Cross-section to illustrate some guidelines for secondary streets.

Tertiary streets

- Tertiary streets have a strong residential character and they should be designed for low traffic volumes and low speeds, ideally 20 mph;
- Traffic calming features such as raised tables can be used to prevent speeding;
- Tertiary streets should be formed with a high degree of built form enclosure, with consistent building lines and setbacks; and
- Street trees and lighting for pedestrians should be provided with suitable gaps, wherever possible.

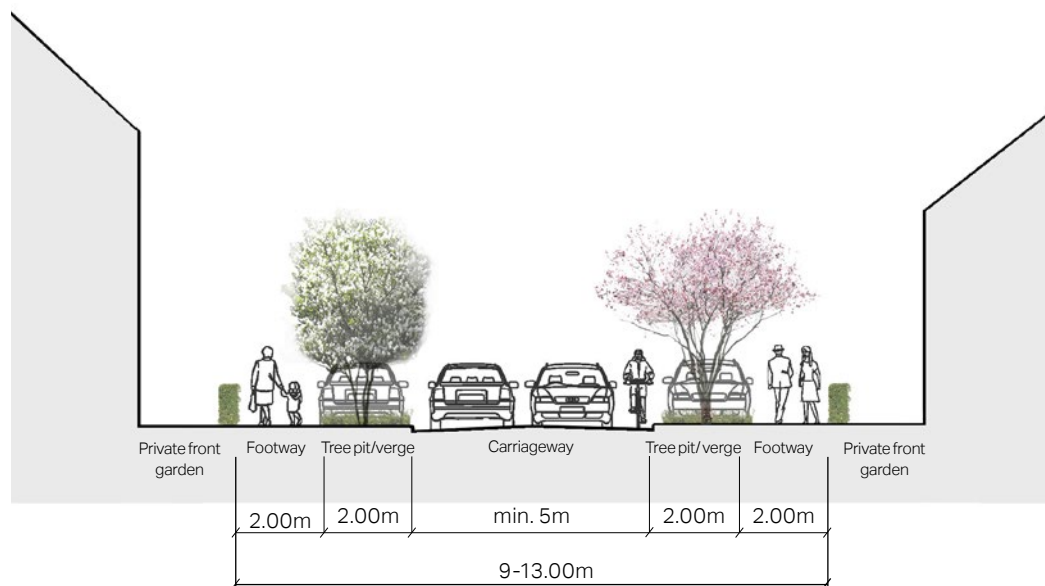


Figure 30: Cross-section to illustrate some guidelines for tertiary roads.



Figure 31: Example of a primary street with large street trees and green verges along the carriageway, Cambridge



Figure 32: Secondary street located in Lower Stondon.



Figure 33: Tertiary street with inset parking bays alternating with vegetation in the Orchards Way development, Stondon.

Edge lanes

- All the edges of new development areas should be served by continuous Edge Lanes to provide high level of connectivity;
- Edge lanes are low-speed streets that front houses with gardens on one side and a green space on the other. Carriageways typically consist of a single lane of traffic in either direction, and are shared with cyclists; and
- Variations in paving materials and textures can be used instead of kerbs or road markings.



Figure 34: Cross-section to illustrate some guidelines for edge lanes

Green links

- Green links should be located within minimum 7.5m wide corridor adjacent to retained green assets;
- Shared or segregated footpath and cycleway to be provided within corridor;
- Footpath and cycleway to be hard surfaced and constructed of bound material which may also combine with vehicle access;
- Combined width of unsegregated footpath and cycleway to be a minimum of 3.0m; and
- Where required, SUDs features to be incorporated into corridor beside the surface of shared footpath and cycleway.

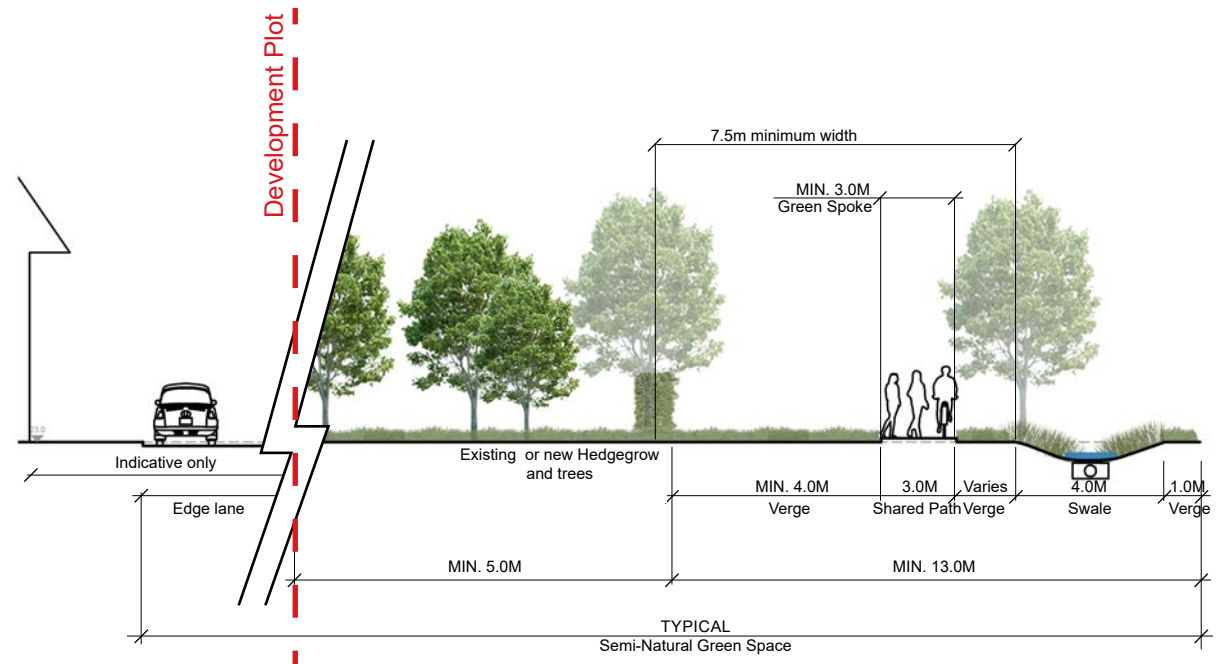


Figure 35: Section to illustrate some guidelines for green links

Code.6 Street lighting

Artificial light provides valuable benefits and it makes areas feel more welcoming on a night-time. However, in rural areas, like Stondon Parish, street lighting needs to be sensitive to the surroundings and issues of light pollution must be avoided. The 'dark skies' character of the countryside should be protected since it benefits both people and wildlife.

Therefore, any new development should minimise impact of lighting within the hamlets and reduce light pollution that disrupts the natural habitat and human health. The following guidelines aim to ensure there is enough consideration given at the design stage:

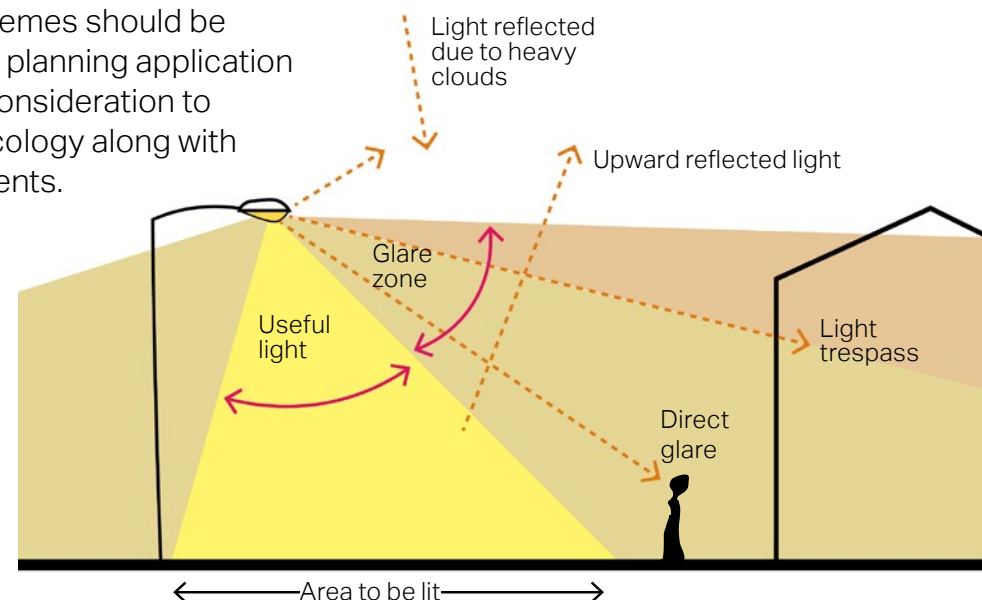
- Ensure that lighting schemes will not cause unacceptable levels of light pollution particularly in intrinsically dark areas. These can be areas very close to the countryside or where dark skies are enjoyed;
- Consider lighting schemes that could be turned off when not needed ('part-night lighting') to reduce any potential adverse effects;

- Foot/cycle path light should be in harmony with surrounding rural landscape. Lightings, such as solar cat's-eye lighting, reflective paint and ground-based lighting could be introduced;
- Choice of lighting should be energy-efficient and sustainable. The installation of motion sensors on the lights should be encouraged; and
- Any new developments and house extensions designs should encourage to use natural light sources.
- Artificial lighting schemes should be submitted as part of planning application including Lux level consideration to reduce impact on ecology along with clear design statements.



Figure 36: Example of a foot/cycle path which is lit by solar cat's-eye providing some light for pedestrian and cyclists without creating any disturbance to the nearby properties or unacceptable levels of light pollution

Figure 37: Diagram to illustrate the different components of light pollution and what 'good' lighting means



Code.7 Parking and servicing

Although, the aim to create a good network of walking and cycling routes within Stondon Parish is a priority, the demand for private cars still remains high, at the time of writing, and therefore car parking has to be carefully integrated into the design.

The car parking typologies found in the Parish are mainly on-plot parking; however, there are also cases of parking courts, on-plot garage parking and on-street parking.

Therefore, the design guidelines on the next pages will focus on the above mentioned typologies.

Guidelines for on-plot or on front car parking

- Parking should be well integrated into design so as not to dominate the public realm;
- High-quality and well-designed soft landscaping, hedges, hedgerows, and trees, should be used to increase the visual attractiveness of the parking and enhance the rural character of the Parish; and

- Hard standing and driveways must be constructed from porous materials, to minimise surface water run-off and therefore, help mitigate potential flooding.

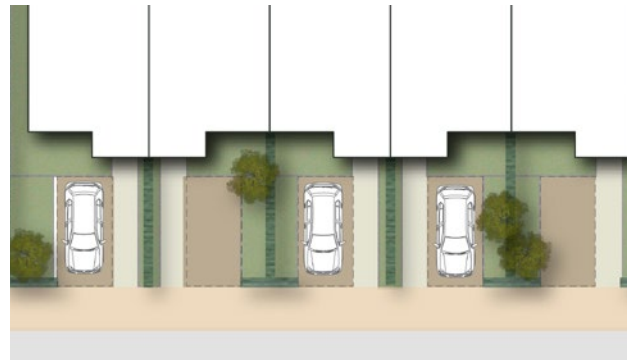


Figure 38: Illustrative diagram showing an indicative layout of on-plot front parking

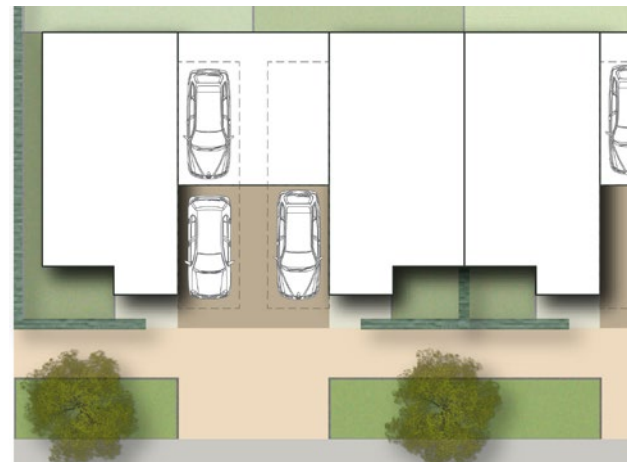


Figure 39: Illustrative diagram showing an indicative layout of on-plot side parking

Guidelines for parking courts

- Parking courts should be acceptable for small building clusters and permeable paving should be used where possible;
- Parking courts must be overlooked by properties to increase natural surveillance; and
- Planting and vegetation should be integrated into design to soften the presence of cars and preserve the rural character of the area.



Figure 40: A courtyard with informal perpendicular and garage parking in Poundbury, Dorchester

Guidelines for on-street car parking

- The streetscape should not be dominated by continuous on-street parking spaces. Where possible, tree planting and grass areas can be incorporated between parking bays to improve aesthetics;
- On-street parking can be parallel, perpendicular, or echelon in relation with the traffic speed and the traffic volume;
- On-street parking must be designed to avoid impeding the flow of pedestrians, cyclists and other vehicles; and
- On-street parking should be wised to allow each bay to be able to charge electric vehicles.

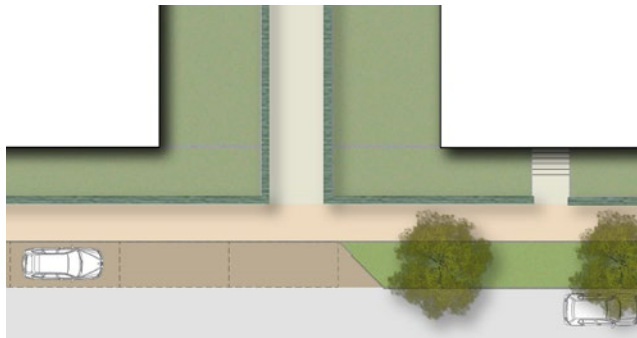


Figure 41: Illustrative diagram showing an indicative layout of on-street inset parking



Figure 42: Example of on-street parking with parking bays and street trees to mitigate the impact of the cars on the streetscape, Poundbury



Figure 43: Example of on-plot garage parking, Stondon

Guidelines for garages

- Garages must not dominate the appearance of dwellings and must not reduce the amount of active frontage to the street; and
- They should provide minimum 3m x 7m internal space to park a car and provide space for storage to avoid the garage to be used for storage purposes only.

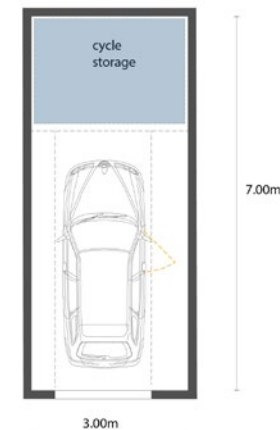


Figure 44: Indicative layout of a garage with a cycle storage area

Code.8 Cycle parking

Houses without garages

- For residential units, where there is no on-plot garage, covered and secured cycle parking should be provided within the domestic curtilage;
- Cycle storage must be provided at a convenient location with an easy access;
- When provided within the footprint of the dwelling or as a free standing shed, cycle parking should be accessed by means of a door at least 900mm and the structure should be at least 2m deep;
- The use of planting and smaller trees alongside cycle parking can be used; and
- Where possible create public secure cycle facilities adjacent to new/existing amenities and open spaces.

Houses with garages

- The minimum garage size should be 7m x 3m to allow space for cycle storage;
- Where possible, cycle parking should be accessed from the front of the building either in a specially constructed enclosure or easily accessible garage;
- The design of any enclosure should integrate well with the surroundings; and
- The bicycle must be removed easily without having to move the vehicle.

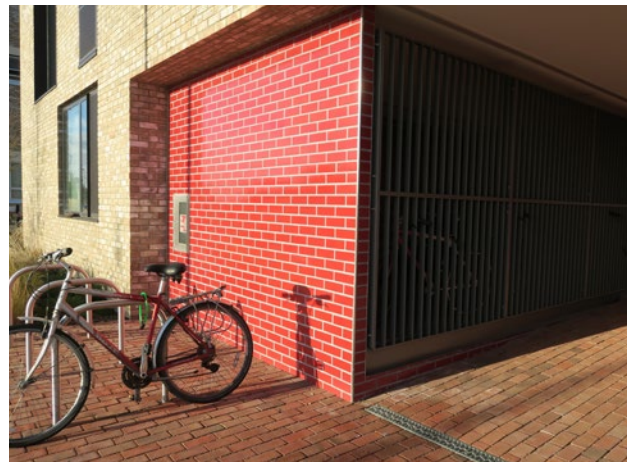


Figure 45: Example of cycle parking for houses without garages, Cambridge

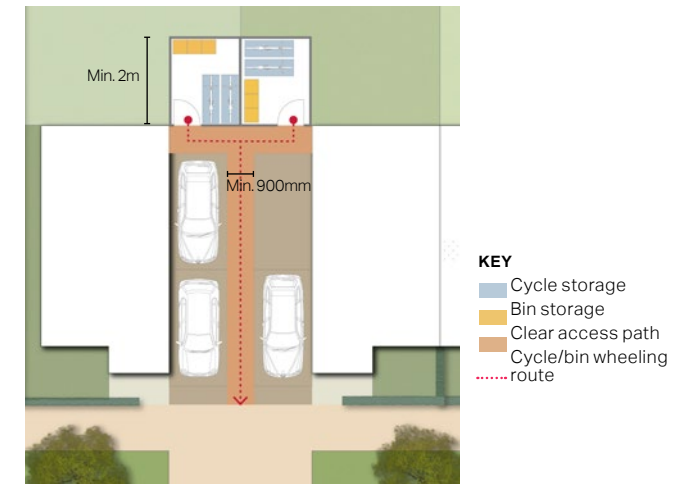


Figure 46: Indicative layout of a bicycle and bin storage area at the back of semi-detached properties

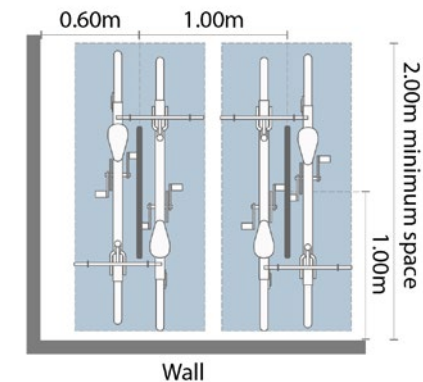


Figure 47: Sheffield cycle stands for visitors and cycle parking illustration

Code.9 Create a green network

A well connected green network should be created throughout the new developments to provide links to the countryside for people as well as habitats. Opportunities should be sought to introduce green assets into design and contribute to biodiversity. Some design guidelines on green networks are:

- Green networks should link existing and newly proposed street trees, green verges, open spaces, villages and the countryside together;
- SuDS should be introduced, where possible, and incorporated into design of the green network to mitigate any flooding issue;
- New development should front onto green assets and access should be granted for all groups of people;
- The proposed wildlife corridors and landscape gap could also taken into account when designing for a green network; and

- Green networks could contain some formal provision, such as a Neighbourhood Equipped Area of Play (NEAP), playing fields and an area for active recreation. Their many benefits include the improvement of the health and well-being of individuals and promotion of the development of inclusive communities.

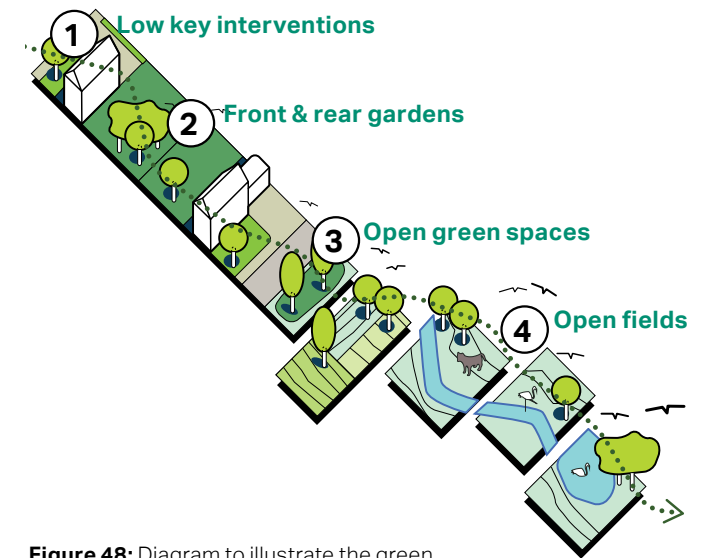


Figure 48: Diagram to illustrate the green assets that can play an important role as wildlife corridors



Figure 49: An example of a SuDS corridor - Upton Urban Extension, Northampton

Code.10 Biodiversity

The opportunity to avoid dangerous levels of global heating is closing and action is required swiftly at all levels from the international to the individual. Biodiversity could be highly affected and therefore new development should prioritise its enhancement through design. Some design guidelines are:

- Biodiversity and woodlands should be protected and enhanced where possible.
- New development proposals should aim for the creation of new habitats and wildlife corridors, e.g. by aligning back and front gardens or installing bird boxes or bricks in walls;
- Gardens and boundary treatments should be designed to allow the movement of wildlife and provide habitat for local species. For that reason, rich vegetation and plantation is suggested;
- Blue assets can also contribute to biodiversity connectivity. Therefore, the existing ditches and lakes should be

considered in design proposals when planning for wildlife corridors; and

- All areas of biodiversity that require further planting/ enhancement should be planted before start of construction.



Figure 50: Example of a structure used as a frog habitat corridor located in an outdoor green space.



Figure 51: Example of a bird-feeder located on a grass area opposite a public footpath.

Code.11 Water management

Sustainable drainage solutions (SuDS)

Due to the presence of a good number of ditches throughout the Parish, there are areas that sit within flood risk zones. Therefore, the use of sustainable drainage systems, known as SuDS, is needed to manage water, reduce flood risk and improve water quality.

The most effective type or design of SuDS would depend on site-specific conditions such as underlying ground conditions, infiltration rate, slope, or presence of ground contamination. However, a number of overarching principles that could be applied in new development are:

- Manage surface water as close to where it originates as possible;
- Reduce runoff rates by facilitating infiltration into the ground or by providing attenuation that stores water to help slow its flow down, so that it does not overwhelm water courses or the sewer network;
- Improve water quality by filtering pollutants to help avoid environmental contamination;
- Integrate into development and improve amenity through early consideration in the development process and good design practices;
- SuDS are often also important in areas that are not directly in an area of flood risk themselves, as they can help reduce downstream flood risk by storing water upstream;
- Some of the most effective SuDS are vegetated, using natural processes to slow and clean the water, whilst increasing the biodiversity value of the area;
- Best practice SuDS schemes link the water cycle to make the most efficient use of water resources by reusing surface water,



Figure 52: Example of swales check dam integrated with a crossing point, somewhere in UK



Figure 53: Example of SuD designed as a public amenity and filly integrated into the design of the public realm, Stockholm

Storage and slow release

Rainwater harvesting refers to the systems allowing the capture and storage of rainwater as well as those enabling the reuse in-site of grey water.

Simple storage solutions, such as water butts, can help provide significant attenuation. However, other solutions can also include underground tanks or alternatively overground gravity fed rainwater systems that can have multiple application areas like toilets, washing, irrigation. In general, some design guidelines to well integrate water storage systems are:

- Consider any solution prior to design to appropriately integrate them into the vision;
- Conceal tanks by cladding them in complementary materials;
- Use attractive materials or finishing for pipes; and
- Combine landscape/planters with water capture systems.



Figure 54: Examples of water butts used for rainwater harvesting in Reach, Cambridgeshire



Figure 55: Example of a gravity fed rainwater system for flushing a downstairs toilet or for irrigation.

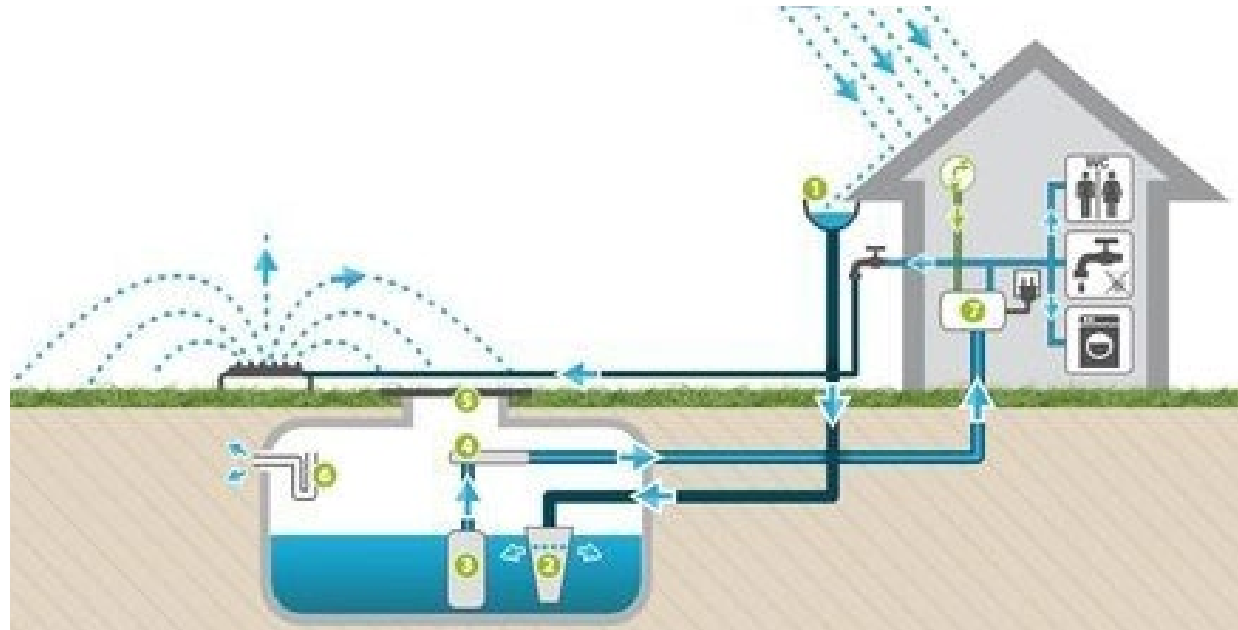


Figure 56: Diagram illustrating rainwater harvesting systems that could be integrated into open space and residential developments

Permeable paving

Most built-up areas, including roads and driveways, increase impervious surfaces and reduce the capacity of the ground to absorb runoff water. This in turn increases the risks of surface water flooding.

Permeable paving offers a solution to maintain soil permeability while performing the function of conventional paving. Therefore, some design guidelines for new development are:

- The choice of permeable paving units must be made depending on the local context; the units may take the form of unbound gravel, clay pavers, or stone setts; and
- Permeable paving can be used where appropriate on footpaths, private access roads, driveways, car parking spaces (including on-street parking) and private areas within the individual development boundaries.

Regulations, standards, and guidelines relevant to permeable paving and sustainable drainage are listed below:

- Sustainable Drainage Systems - non-statutory technical standards for sustainable drainage systems¹.
- The SuDS Manual (C753)².
- Guidance on the Permeable Surfacing of Front Gardens³.
- Lawns are preferred to stones and concrete in front gardens of new developments.

1. Great Britain. Department for Environment, Food and Rural Affairs (2015). Sustainable drainage systems – non-statutory technical standards for sustainable drainage systems. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/415773/sustainable-drainage-technical-standards.pdf

2. CIRIA (2015). The SuDS Manual (C753).

3. Great Britain. Ministry of Housing, Communities & Local Government (2008). Guidance on the Permeable Surfacing of Front Gardens. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/7728/pavingfrontgardens.pdf

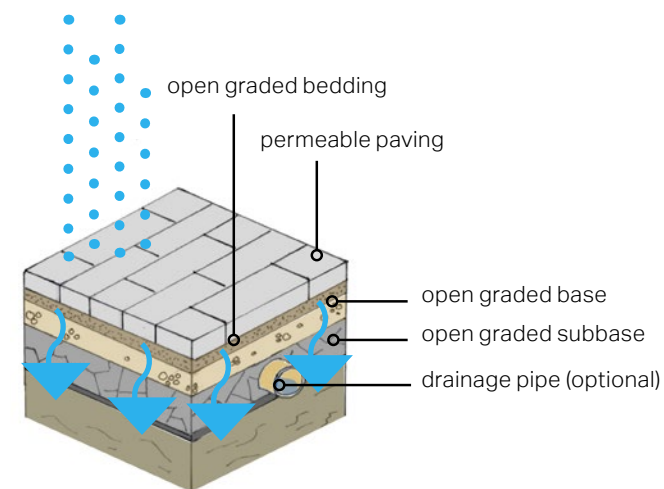


Figure 57: Diagram illustrating the function of a soak away.



Figure 58: Example of a permeable paving.

Code.12 Trees and planting

New street planting helps maintain visual consistency along the public realm. It is associated with better mental health and well-being by reducing stress, lessening heat islands, and providing protection from natural elements such as wind and rain. Some guidelines for new development are:

- Aim to preserve existing mature trees and hedges by incorporating them in the new landscape design;
 - To ensure resilience and increase visual interest, a variety of native tree species is preferred over a single one;
 - Flower beds, bushes and shrubs should be welcomed in new developments, since they contribute to the livelihood of the streetscape and create visual interest and colour to their surroundings;
 - Hedgerows can be planted in front of bare boundary walls to ease their visual presence or they can be used to conceal on-plot car parking and driveways within curtilages;
- Native trees can normally be used to mark reference points and as feature elements in the streetscape. Such examples include: English Oak (*Quercus robur*), Field Maple (*Acer campestre*), Holly (*Ilex aquifolium*; evergreen), Hawthorn (*Crataegus monogyna*; able to be coppiced to reduce height), Rowan (*Sorbus aucuparia*), Hazel (*Corylus avellana*; able to be coppiced to reduce height) and Common Alder (*Alnus glutinosa*; able to be coppiced to reduce height);
 - Native trees should also be present in any public open space, green or play area to generate environmental and wildlife benefits; and
 - The success of tree planting is more likely to be achieved when it has been carefully planned to work in conjunction with all parts of the new development, parking, buildings, street lights etc.



Figure 59: Example of street planting along main road with green verges and open views to the surrounding countryside encouraging walking and cycling , Northwest Cambridge.



Figure 60: Example of a mature trees which create a sense of enclosure and privacy to this property in Stondon.

Code.13 Open spaces

Open spaces play a vital role in creating a positive environment. These are places fostering community and gathering, thus creating lively places in neighbourhoods. Therefore, new development should prioritise the design of open spaces and some design guidelines are:

- The location of new open spaces within new development should be decided based on the location of the existing ones considering the needs of the existing population too;
- All recreational spaces should be designed to link up with each other and also link up with existing adjoining sites, particular note of enhancing green fingers and non-linear development;
- Substantial recreational space should be provided to include woodland walks, lake walks, sport pitches and play areas;
- Surrounding buildings should overlook play areas and public spaces to encourage movement and natural surveillance;
- Open spaces should be equipped with good quality street furniture to create pleasant seating areas, shaded spaces avoiding hidden spots; and
- The materials and style of any street furniture in the open spaces should be consistent throughout the Parish and aim to proudly represent the local character.
- Space allocated for allotments within new developments would add vitality to the area.
- Substantial recreational space should be provided to include woodland walks, lake walks, sport pitches and play areas;



Figure 61: Example of good quality street furniture that accommodate the open green space offering places for gathering and resting.



Figure 62: Properties overlooking a public open space which is equipped with grass areas, large green trees and street furniture, Stondon.

Code.14 Boundary lines, boundary treatments and corner treatment

Together with the creation of potential local landmarks, other important aspects of a successful streetscape and urban form include the treatment of corners, boundary lines and boundary treatments. Therefore, the following guidelines should be applied in new development.

- Buildings should front onto streets. The building line should have subtle variations in the form of recesses and protrusions but should generally form a unified whole;
- Buildings should be designed to ensure that streets and/or public spaces have good levels of natural surveillance from buildings. This can be ensured by placing ground floor habitable rooms and upper floor windows facing the street;
- Natural boundary treatments should reinforce the sense of continuity of the building line and help define the street, appropriate to the character of the area. They should be mainly continuous hedges and low walls, as appropriate, made of traditional materials found elsewhere in the Parish such as local bricks and tiles;
- In the case of edge lanes, natural boundary treatments can act as buffer zones between the site and the countryside and offer a level of protection to the natural environment;
- If placed at important intersections the building could be treated as a landmark and thus be slightly taller or display another built element, signalling its importance as a wayfinding cue;
- The form of corner buildings should respect the local architectural character. Doing so improves the street scene and generates local pride;
- All the façades overlooking the street or public space should be treated as primary façades; and
- Road layouts should be designed to slow traffic and advantage pedestrians over vehicles.



Figure 63: Residential road with low level vegetation creating a soft clearly defined boundary, Stondon.



Figure 64: Positive example of an edge lane where properties with well vegetated front gardens overlook the adjacent open space, Stondon.

Code.15 Continuity and enclosure

Focal points and public spaces in new development should be designed in good proportions and delineated with clarity. Clearly defined spaces help create an appropriate sense of enclosure - the relationship between a given space (lane, street, square) and the vertical boundary elements at its edges (buildings, walls, trees).

Some design guidelines that should be considered for achieving satisfactory sense of enclosure are:

- When designing building setbacks, there must be an appropriate ratio between the width of the street and the building height;
- Buildings should be designed to turn corners and create attractive start and end points of a new street or frontage;
- Generally, building façades should front onto streets. Variation to the building line can be introduced to create a more informal character;

- In the case of terraced and adjoining buildings, it is recommended that a variety of plot widths, land use, building heights, and façade depth should be considered during the design process to create an attractive streetscape and break the monotony of the street wall; and
- Trees, hedges, and other landscaping features can help create a more enclosed streetscape in addition to providing shading and protection from heat, wind, and rain.



Figure 65: The relationship between the buildings and width of the footway creates a sense of enclosure for the pedestrians, Stondon.

Code.16 Legibility and wayfinding

When places are legible and well signposted, they are easier for the public to understand, therefore likely to both function well and be pleasant to live in or visit. It is easier for people to orient themselves when the routes are direct and visual landmarks clearly emphasise the hierarchy of the place. Some design guidelines are:

- A familiar and recognisable environment makes it easier for people to find their way around. Obvious and unambiguous features should be designed in new development;
- Buildings which are located at corners, crossroads or along a main road could play a significant role in navigation. For that reason, the architectural style of those buildings could be slightly differentiated from the rest to help them stand out;
- Landmark elements could also be a public art, historic signage totem or even an old and sizeable tree;
- New signage design should be easy to read. Elements like languages, fonts, text sizes, colours and symbols should be clear and concise, and avoid confusion;
- Signage can also help highlight existing and newly proposed footpaths and cycle lanes, encouraging people to use them more;
- Signage could be strategically located along walking and cycling routes to signalise location of local and heritage assets and raise people's awareness; and



Figure 66: Example of signage that could be integrated along footpaths to navigate people towards important destinations

- Provision for people with visual impairment, for instance tactile paving or tactile lettering on signs.



Figure 67: Example of signage posts within the urban fabric to help navigate people, Diss.



Figure 68: Example of tactile paving to facilitate movement for people with visual impairment

Code.17 Building heights, density and housing mix

The concept of density is important to planning and design as it affects the vitality and viability of the place. The density within the Parish is quite low which is justified by its rural character. Therefore, some guidelines for new development are needed to ensure that the existing housing density numbers are respected.

- Density should be appropriate to the location of any new development and its surroundings and enhance the character of the existing village and hamlets;
- Housing densities should be reduced towards development edges and along rural edges in order to create a gradual transition towards the countryside;
- Pedestrian and cycle movement should be a priority and taken into account in larger development schemes. Housing density should support a 'human scale'

development, thus meaning it is a development by the people and for the people; and

- Small scale development and in-fills are encouraged, because they follow the scale and pattern of existing grain and streets and therefore, retain the character of the area. In particular, design guidelines for those two scenarios can be found in Code 4.



Figure 69: Local example of a low density detached housing in the village.



Figure 70: Local example of a detached housing development with unique styles which make it stand out

Housing mix

The aspiration for the Parish is to create a strong rural economy based on farming, horticulture, services and other types of business with infrastructure to support education, health, commerce and entertainment. Therefore, a mix of new housing is proposed to attract a wide group of people. Some design guidelines for new development are:

- New development should proposed a mix of housing to include a range of house types and sizes, both developer and self built, to allow for a variety of options and bring balance to the population profile;
- Affordable housing should be a priority in new development and its quality and architectural design should be of high standards to complement the local vernacular; and
- As part of the housing mix some bungalows or other single storey should be included for use by elderly or disabled residents.



Figure 71: Semi-detached red brick buildings



Figure 72: Detached house in Stondon



Figure 73: Single storey semi-detached post war houses

Building heights

There is a low housing density in the Parish reinforcing the rural character of the hamlets. More specifically, properties tend to be 1- or 2-storeys high with decent-sized rear gardens. The rooflines are irregular and either continuous, where there are clusters of houses, or they get interrupted with nature, where gaps between buildings are generous. Chimneys decorating the roof also interrupt the roofline offering a visual interest.

Maintaining a consistent roofline within the Parish is important to allow for long-distance views towards the surrounding countryside and respect the existing context. Therefore, some design guidelines are:

- Monotonous building elevations should be avoided, therefore subtle changes in roofline should be ensured during the design process;
- Roof shapes and pitches must employ a restrained palette on a given building; overly complex roofs must be avoided;
- Locally traditional roof detailing elements such as roofing materials, chimney stacks and edge treatments should be considered and implemented where possible in cases of new development; and
- Roofline is set lower than the vegetation backdrop, avoiding hard lines of the silhouette against the sky.



Figure 74: Local example of continuous roofline, of 2-storey buildings, interrupted by chimneys.

Code.18 Materials and architectural details

Stondon Parish has a wide variety of architectural styles and details that can act as references for new development. In particular, the most notable building material within Stondon village is red brick and light colours of render.

- Architectural design shall reflect high quality local design references in both the natural and built environment; and
- Any new development should demonstrate that the palette of materials has been selected based on an understanding of the surrounding built environment.

Roofing



Grey slate tiles



Handmade clay peg tiles



Modern red tiles

Walling & building facades



Red Brick



White Render



Half timber framing and half render combined with yellow bricks



Yellow Brick



Dark painted timber

Windows



Casement windows

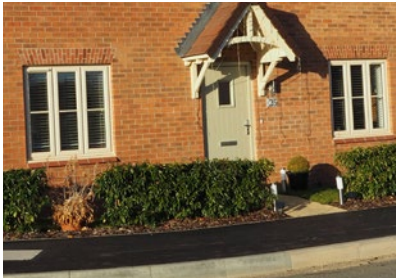


Sash windows



Bay Window

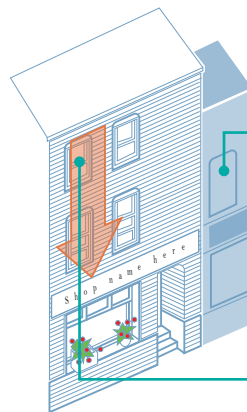
Front doors (timber and painted)



Code.19 Shop fronts

One the eastern edge of Stondon, at the end of Station Road, there is a group of retail uses. Given the level of development that is coming to Stondon, it is important to consider how retail uses should be designed.

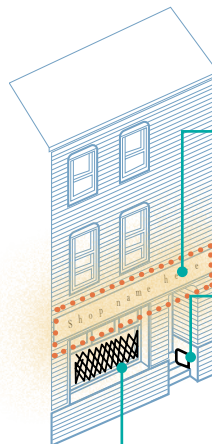
- The design of shop fronts should take account of rhythm and character of the street such as the width of building, the horizontal or vertical emphasis, the variety of style and architecture of the building itself. Where the shop front continues to another building, a change in its design may be required¹;
- The fascia is the most important area of a shop front for advertising the business. Signage within the established proportions and confines of the fascia board should be maintained. Large box signs or additional flat boards should be avoided as they create disproportionate depth and height;
- Box signs should generally be avoided and signwritten fascias preferred;



Character & Design

Integrate the shop front with the surrounding streetscape. Consider adjacent buildings and typical details in the area

Incorporate the overall proportion, form, and scale of the building's upper floors into the design of the shop front

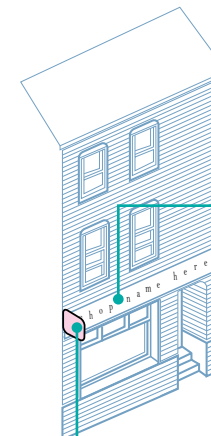


Lighting & Safety

Avoid using internally-illuminated box signs

Conceal alarms from the shop front façade and integrate them in the design

Avoid using external roller shutters and grilles. Favour the use of internal open grilles which cover only the glazed part of the shop front



Signage

Avoid unnecessary visual clutter

Signage should not be placed on upper floors

Use the fascia as the predominant position

Hanging signs should be in proportion to the building and street and should not dominate pavements



The top of the cornice should be at least 225mm below the first floor window cills

Fascia should be projected full width with shop sign lettering between 250-300mm to read well. A hierarchy of lettering enhances the readability and effectiveness of the signage

Display should be organised to promote visual connection to the interior of the shop

Stall risers must be designed to full width of the shop front and the height must be at least 500mm.

Shop names should be framed clearly above the ground floor, however should not impede the views of neighbouring properties.

Window frames, doors, pilasters and fascia should be of timber or metal construction with paint finish and not stain finish.

Figure 75: Local example of shop frontage in Lower Stondon.

Code.20 Nursery site design guides

Towards the centre of the village, just off Meppershall Road is Savin Nursery which is also host to the village garden centre. It is a large backland development, which could easily be adapted to allow for other retail uses in the future. If this is to be the case, it is important to take into account the following guidance;

- Any development should complement the current use of the site and not impact the rural and green feel to the nursery site; and
- Courtyards should be surfaced in a material that reflects its rural setting. Seating areas should be divided by hedges or other vegetation; and
- Developments should provide additional parking to make sure that the Nursery area parking doesn't overspill onto surrounding streets such as Meppershall Road; and
- Buildings should use local materials and not exceed 2 storeys in height.



Figure 76: Savin Nurseries, Stondon



Figure 77: Good example of retail use buildings with parking courtyard, Watlington.



Figure 78: Birds eye view of the Nursery Site.

Stondon Parish aspires to become a carbon neutral example in the next years. The codes 21-24, include some design guidelines that could have a positive impact to the environment.

Code.21 Minimising energy use

Buildings contribute almost half (46%) of carbon dioxide (CO₂) emissions in the UK. The government has set rigorous targets for the reduction of CO₂ emissions and minimising fossil fuel energy use.

There is a good number of energy efficient technologies that could be incorporated in buildings. The use of such principles and design tools is strongly encouraged to futureproof buildings and avoid the necessity of retrofitting.

Energy efficient or eco design combines all around energy efficient appliances and lighting with commercially available renewable energy systems, such as solar electricity and/or solar/ water heating.

E.102 features an array of sustainable design features. Those on the top show the features that should be strongly encouraged in existing homes, while those on the bottom show additional features that new build homes should be encouraged to incorporate from the onset.

Code.22 Lifetime and adaptability

The fastest route to building a functional, supportive, neighbourly community is to build homes that people can and want to live in for most of their lives instead of having to move every time domestic circumstances change.

'Lifetime' homes means designing in the flexibility and adaptability needed to allow for easy incorporation of wheelchair accessibility, addition/removal of internal walls, and ease of extension - both vertically and horizontally. This is particularly important for the aged, infirm or expanding/contracting families who may be dependent on nearby friends and family for emotional and physical support.



Figure 79: Use of shingle-like solar panels on a slate roof, with the design and colour of the solar panels matching those of the adjacent slate tiles.



Figure 80: Positive example of implementing solar panels since the design stage.

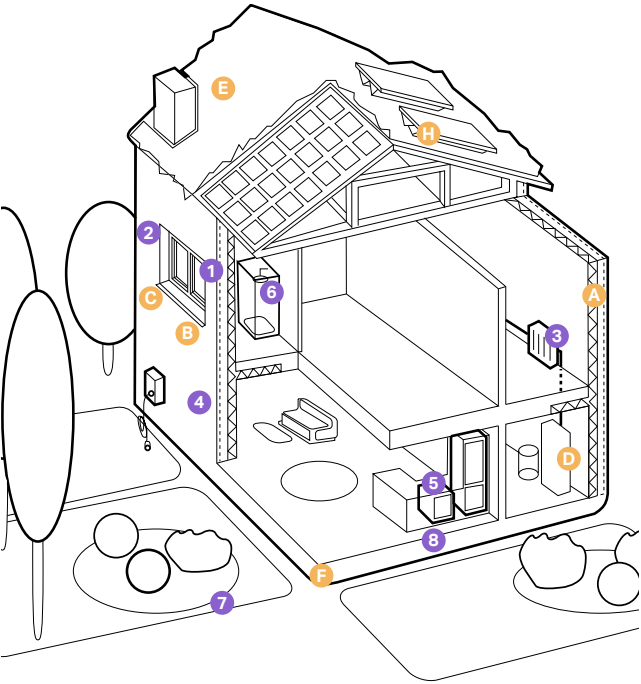


Figure 81: Diagram showing low-carbon homes in both existing and new build conditions.

Existing homes

- 1

Insulation
in lofts and walls (cavity and solid)
- 2

Double or triple glazing with shading
(e.g. tinted window film, blinds, curtains and trees outside)
- 3

Low- carbon heating
with heat pumps or connections to district heat network
- 4

Draught proofing
of floors, windows and doors
- 5

Highly energy-efficient appliances
(e.g. A++ and A+++ rating)
- 6

Highly waste-efficient devices
with low-flow showers and taps, insulated tanks and hot water thermostats
- 7

Green space (e.g. gardens and trees)
to help reduce the risks and impacts of flooding and overheating
- 8

Flood resilience and resistance
with removable air back covers, relocated appliances (e.g. installing washing machines upstairs), treated wooden floors

Additional features for new build homes

- A

High levels of airtightness
- B

Triple glazed windows and external shading
especially on south and west faces
- C

Low-carbon heating
and no new homes on the gas grid by 2025 at the latest
- D

More fresh air
with mechanical ventilation and heat recovery, and passive cooling
- E

Water management and cooling
more ambitious water efficiency standards, green roofs, rainwater harvesting and reflective walls
- F

Flood resilience and resistance
e.g. raised electrical, concrete floors and greening your garden
- G

Construction and site planning
timber frames, sustainable transport options (such as cycling)
- H

Solar panel
EPC certificates suggest the of solar water heating as well as solar panels to save energy.

Code.23 Minimising construction waste

As part of the environmental management system it is important that the waste generated during construction is minimised, reused within the site or recycled.

Developers should plan to re-use materials by detailing their intentions for waste minimisation and re-use in Site Waste Management Plans. The actions that this plan will include are:

- Before work commences, the waste volumes to be generated and the recycling and disposal of the materials will be described;
- On completion of the construction works, volumes of recycled content purchased, recycled and landfilled materials must be collated;

- Identify materials used in high volumes; and
- The workforce should be properly trained and competent to make sure storage and installation practices of the materials is done under high standards.

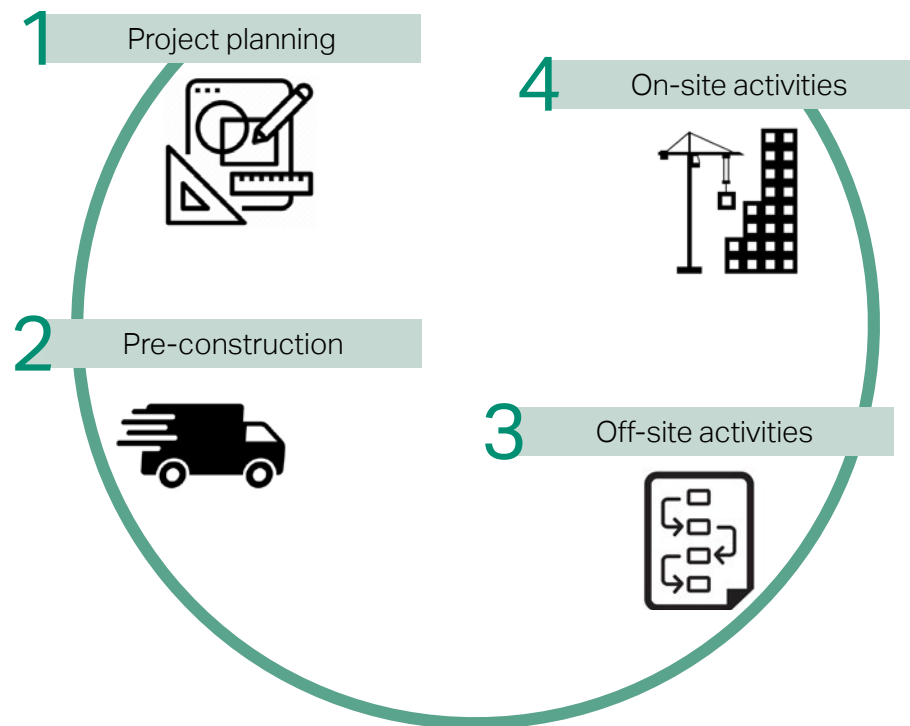


Figure 82: Diagram to illustrate the 4 main stages where waste management practices can be implemented.

Code.24 Recycling materials and buildings

To meet the government's target of being carbon neutral by 2050, it is important to recycle and reuse materials and buildings. Some actions for new development are:

- Reusing buildings, parts of buildings or elements of buildings such as bricks, tiles, slates or large timbers all help achieve a more sustainable approach to design and construction;
- Recycling and reuse of materials can help to minimise the extraction of raw materials and the use of energy in the production and transportation of materials; and
- Development should also maximise the re-use of existing buildings (which often supports social, environmental and economic objectives as well.

Code.25 Electric vehicle charging points

Stondon Parish strongly supports proposals for private transport using electric and other non fossil fuel powered vehicles. Those can be integrated both on and off street. Some design guidelines on how new development should design for electric vehicle charging points are:

On-street car parking or parking courts

- Car charging points should always be provided adjacent public open spaces. Street trees and vegetation is also supported to minimise any visual contact with the charging points;
- Where charging points are located on the footpath, a clear footway width of 1.5m is required next to the charging point to avoid obstructing pedestrian flow; and
- Car charging points within parking courts are highly supported, since they can serve more than one vehicles.

Off-street car parking

- Mounted charging points and associated services should be integrated into the design of new developments, if possible with each house that provides off-street parking; and
- Cluttering elevations, especially main façades and front elevations, should be avoided.

3.5 Checklist

Because the design guidance and codes in this document cannot cover all design eventualities, this chapter provides a number of questions based on established good practice against which the design proposal should be evaluated. The aim is to assess all proposals by objectively answering the questions below. Not all the questions will apply to every development. The relevant ones, however, should provide an assessment as to whether the design proposal has considered the context and provided an adequate design solution.

As a first step there are a number of ideas or principles that should be present in all proposals. These are listed under 'General design guidance for new development'. Following these ideas and principles, several questions are listed for more specific topics on the following pages.

1

General design guidelines for new development:

- Integrate with existing paths, streets, circulation networks and patterns of activity;
- Reinforce or enhance the character of streets, greens, and other spaces;
- Relate well to local topography and landscape features, including prominent ridge lines and long-distance views;
- Reflect, respect, and reinforce local architecture and historic distinctiveness;
- Retain and incorporate important existing features into the development;
- Respect surrounding buildings in terms of scale, height, form and massing;
- Adopt contextually appropriate materials and details;
- Provide adequate open space for the development in terms of both quantity and quality;
- Incorporate necessary services and drainage infrastructure without causing unacceptable harm to retained features;
- Ensure all components e.g. buildings, landscapes, access routes, parking and open space are well related to each other;
- Positively integrate energy efficient technologies;
- Make sufficient provision for sustainable waste management (including facilities for kerbside collection, waste separation, and minimisation where appropriate) without adverse impact on the street scene, the local landscape or the amenities of neighbours;
- Ensure that places are designed with management, maintenance and the upkeep of utilities in mind; and
- Seek to implement passive environmental design principles by, firstly, considering how the site layout can optimise beneficial solar gain and reduce energy demands (e.g. insulation), before specification of energy efficient building services and finally incorporate renewable energy sources.

2

Street grid and layout:

- Does it favour accessibility and connectivity? If not, why?
- Do the new points of access and street layout have regard for all users of the development; in particular pedestrians, cyclists and those with disabilities?
- What are the essential characteristics of the existing street pattern; are these reflected in the proposal?
- How will the new design or extension integrate with the existing street arrangement?
- Are the new points of access appropriate in terms of patterns of movement?
- Do the points of access conform to the statutory technical requirements?

3 (continues)

Local green spaces, views & character:

- What are the particular characteristics of this area which have been taken into account in the design; i.e. what are the landscape qualities of the area?
- Does the proposal maintain or enhance any identified views or views in general?
- How does the proposal affect the trees on or adjacent to the site?
- Can trees be used to provide natural shading from unwanted solar gain? i.e. deciduous trees can limit solar gains in summer, while maximising them in winter.
- Has the proposal been considered within its wider physical context?
- Has the impact on the landscape quality of the area been taken into account?
- In rural locations, has the impact of the development on the tranquillity of the area been fully considered?
- How does the proposal impact on existing views which are important to the area and how are these views incorporated in the design?
- How does the proposal impact on existing views which are important to the area and how are these views incorporated in the design?
- Can any new views be created?
- Is there adequate amenity space for the development?
- Does the new development respect and enhance existing amenity space?

3

Local green spaces, views & character:

- Have opportunities for enhancing existing amenity spaces been explored?
- Will any communal amenity space be created? If so, how this will be used by the new owners and how will it be managed?
- Is there opportunity to increase the local area biodiversity?
- Can green space be used for natural flood prevention e.g. permeable landscaping, swales etc.?
- Can water bodies be used to provide evaporative cooling?
- Is there space to consider a ground source heat pump array, either horizontal ground loop or borehole (if excavation is required)?

4

Gateway and access features:

- What is the arrival point, how is it designed?
- Does the proposal maintain or enhance the existing gaps between hamlets?
- Does the proposal affect or change the setting of a listed building or listed landscape?
- Is the landscaping to be hard or soft?

5 (continues)

Buildings layout and grouping:

- What are the typical groupings of buildings?
- How have the existing groupings been reflected in the proposal?
- Are proposed groups of buildings offering variety and texture to the townscape?
- What effect would the proposal have on the streetscape?
- Does the proposal maintain the character of dwelling clusters stemming from the main road?
- Does the proposal overlook any adjacent properties or gardens? How is this mitigated?

5

Buildings layout and grouping:

- Subject to topography and the clustering of existing buildings, are new buildings oriented to incorporate passive solar design principles, with, for example, one of the main glazed elevations within 30° due south, whilst also minimising overheating risk?
- Can buildings with complementary energy profiles be clustered together such that a communal low carbon energy source could be used to supply multiple buildings that might require energy at different times of day or night? This is to reduce peak loads. And/or can waste heat from one building be extracted to provide cooling to that building as well as heat to another building?

6

Building line and boundary treatment:

- What are the characteristics of the building line?
- How has the building line been respected in the proposals?
- Has the appropriateness of the boundary treatments been considered in the context of the site?

7

Building heights and roofline:

- What are the characteristics of the roofline?
- Have the proposals paid careful attention to height, form, massing and scale?
- If a higher than average building(s) is proposed, what would be the reason for making the development higher?
- Will the roof structure be capable of supporting a photovoltaic or solar thermal array either now, or in the future?
- Will the inclusion of roof mounted renewable technologies be an issue from a visual or planning perspective? If so, can they be screened from view, being careful not to cause over shading?

8

Household extensions:

- Does the proposed design respect the character of the area and the immediate neighbourhood, and does it have an adverse impact on neighbouring properties in relation to privacy, overbearing or overshadowing impact?
- Is the roof form of the extension appropriate to the original dwelling (considering angle of pitch)?
- Do the proposed materials match those of the existing dwelling?
- In case of side extensions, does it retain important gaps within the street scene and avoid a 'terracing effect'?
- Are there any proposed dormer roof extensions set within the roof slope?
- Does the proposed extension respond to the existing pattern of window and door openings?
- Is the side extension set back from the front of the house?
- Does the extension offer the opportunity to retrofit energy efficiency measures to the existing building?
- Can any materials be re-used in situ to reduce waste and embodied carbon?

9

Building materials & surface treatment:

- What is the distinctive material in the area?
- Does the proposed material harmonise with the local materials?
- Does the proposal use high-quality materials?
- Have the details of the windows, doors, eaves and roof details been addressed in the context of the overall design?
- Does the new proposed materials respect or enhance the existing area or adversely change its character?
- Are recycled materials, or those with high recycled content proposed?

9

Building materials & surface treatment:

- Has the embodied carbon of the materials been considered and are there options which can reduce the embodied carbon of the design? For example, wood structures and concrete alternatives.
- Can the proposed materials be locally and/or responsibly sourced? E.g. FSC timber, or certified under BES 6001, ISO 14001 Environmental Management Systems?

10

Car parking:

- What parking solutions have been considered?
- Are the car spaces located and arranged in a way that is not dominant or detrimental to the sense of place?
- Has planting been considered to soften the presence of cars?
- Does the proposed car parking compromise the amenity of adjoining properties?
- Have the needs of wheelchair users been considered?
- Can electric vehicle charging points be provided?
- Can secure cycle storage be provided at an individual building level or through a central/ communal facility where appropriate?
- If covered car ports or cycle storage is included, can it incorporate roof mounted photovoltaic panels or a biodiverse roof in its design?



Delivery

04

4. Delivery

The Design Guidelines & Codes will be a valuable tool in securing context-driven, high quality development in Stondon. They will be used in different ways by different actors in the planning and development process, as summarised in the table.

Actors	How they will use the design guidelines
Applicants, developers, & landowners	As a guide to community and Local Planning Authority expectations on design, allowing a degree of certainty – they will be expected to follow the Guidelines as planning consent is sought.
Local Planning Authority	As a reference point, embedded in policy, against which to assess planning applications. The Design Guidelines should be discussed with applicants during any pre-application discussions.
Parish Council	As a guide when commenting on planning applications, ensuring that the Design Guidelines are complied with.
Community organisations	As a tool to promote community-backed development and to inform comments on planning applications.
Statutory consultees	As a reference point when commenting on planning applications.

Table 01: delivery

About AECOM

AECOM is the world's trusted infrastructure consulting firm, delivering professional services throughout the project lifecycle — from planning, design and engineering to program and construction management. On projects spanning transportation, buildings, water, new energy and the environment, our public- and private-sector clients trust us to solve their most complex challenges. Our teams are driven by a common purpose to deliver a better world through our unrivaled technical expertise and innovation, a culture of equity, diversity and inclusion, and a commitment to environmental, social and governance priorities. AECOM is a *Fortune 500* firm and its Professional Services business had revenue of \$13.2 billion in fiscal year 2020. See how we are delivering sustainable legacies for generations to come at aecom.com and [@AECOM](https://twitter.com/AECOM).



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