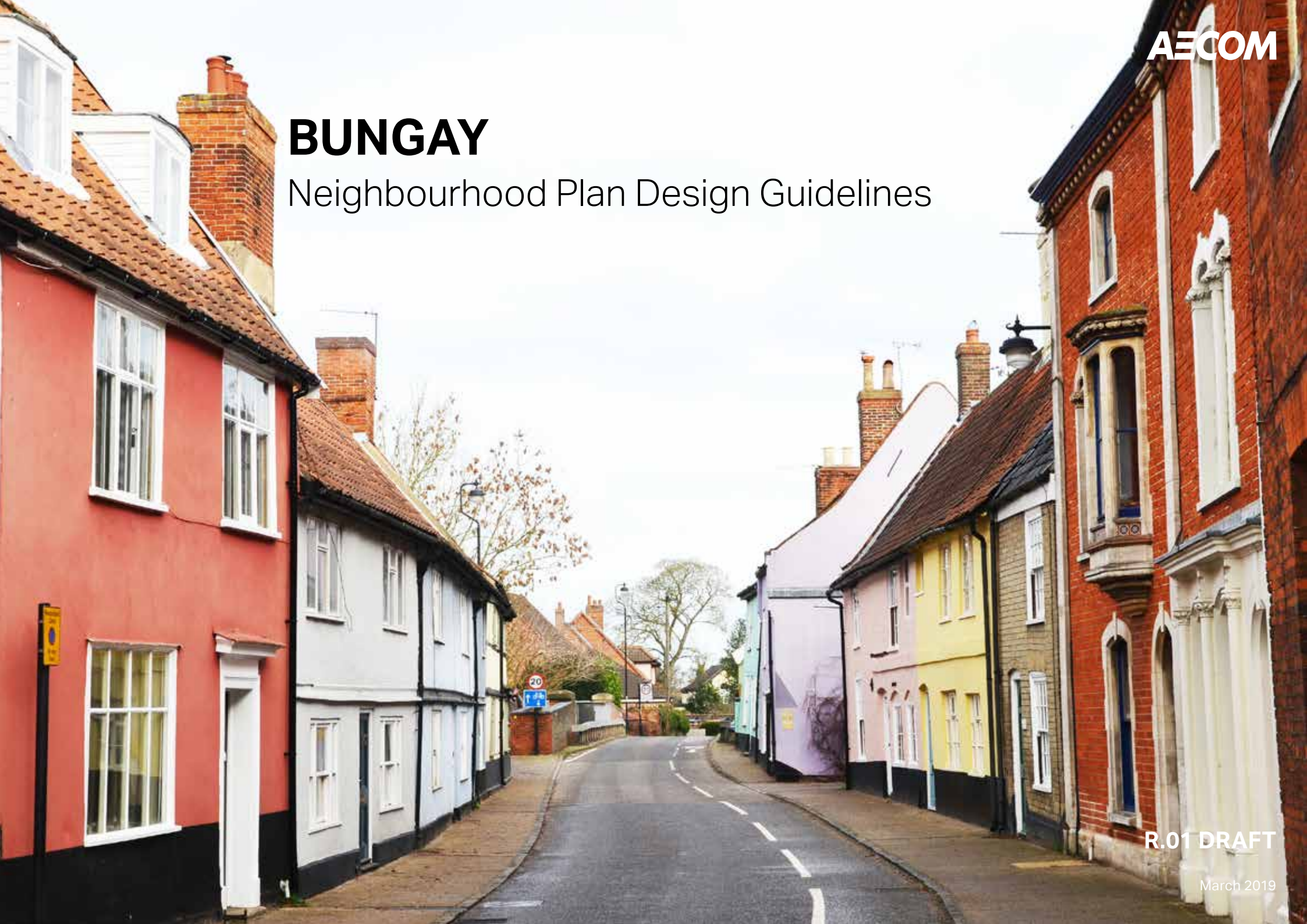


BUNGAY

Neighbourhood Plan Design Guidelines



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Quality information

Project role	Name	Position	Action summary	Signature	Date
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Blue lines
Restricted
parking
ZONE

East Anglia's Children's Hosp...

each
each

NO ENTRY



Introduction

01

1. Introduction

1.1. Background

Through the Department of Communities and Local Government, Neighbourhood Planning Programme, led by Locality, AECOM has been commissioned to provide Masterplanning support to Bungay Town Council. The support is intended to provide design guidelines based on the character and the special qualities of the town, with particular reference to new housing.

1.2. Objectives

The support has two main objectives, which are reflected in the structure of this report:

Design Guidance

Chapter 4 provides general design guidance that will influence the form of development in the neighbourhood plan area by advising on how it can reflect local character. The guidance is based upon observations of town character and feedback from engagement already undertaken by Bungay Town Council.

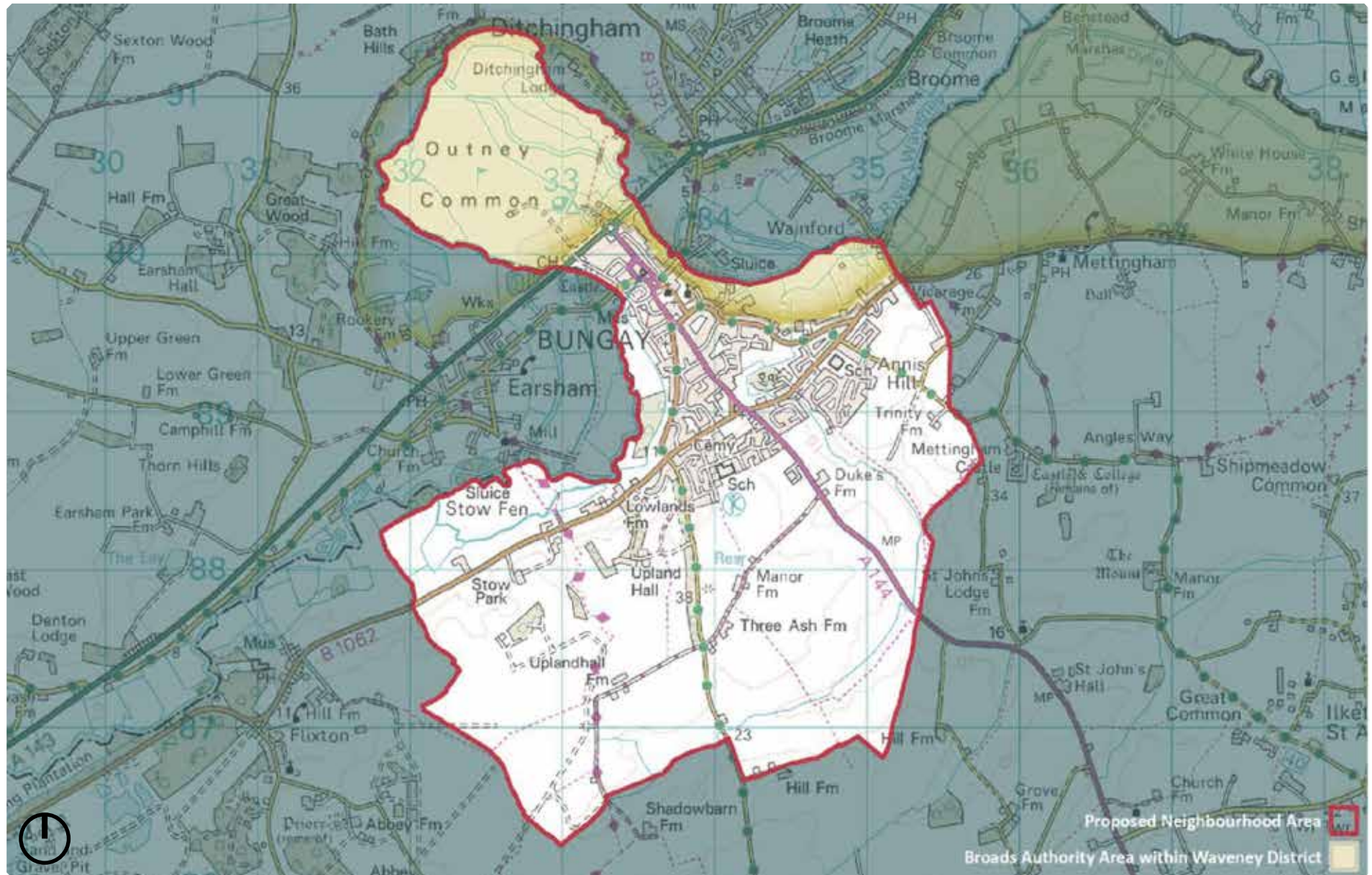
Masterplanning Framework

Chapter 5 provides masterplanning principles and high level concept plans for sites that are allocated in the emerging Waveney Local Plan and a further site investigated at the request of the Bungay Neighbourhood Planning Group. A large number of new housing is being proposed within the neighbourhood planning area and it is crucial to both existing and future residents of Bungay that any new development is planned and designed in a way that makes them proud of its high quality.

1.3. Process

The following steps were undertaken to produce this report:

- Initial meeting and site visit;
- Desktop research and policy review;
- Preparation of draft design guidance and site concept plans;
- Preparation of a draft report, subsequently revised in response to feedback provided by the Bungay Town Council; and
- Submission of a final report.



Map showing the Bungay Neighborhood Plan area within the local context

1.4. The importance of good design

As the National Planning Policy Framework (paragraph 124) 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, such as for the Government’s Commission for Architecture and the Built Environment (now part of the Design Council; see, for example, The Value of Good Design at <https://www.designcouncil.org.uk/sites/default/files/asset/document/the-value-of-good-design.pdf>) has shown that good design of buildings and places can:

- Improve health and well-being;
- Increase civic pride and cultural activity;
- Reduce crime and anti-social behaviour; and
- Reduce pollution.

The consultation responses presented in chapter 4 below show that Bungay residents appreciate the high quality environment, particularly in the town centre, and believe that it should inform any new development. A good proportion also believe that high standards of sustainability should be designed into development from the outset.



Houses along Bridge Street



Houses along Earsham Street



Houses along Earsham Street



Heritage buildings along Bridge Street



Houses along Bridge Street



Buildings along Earsham Street



Path opposite to Nethergate Steet



Views from the High Street towards St Mary's Church

1.5. The area of study

Bungay is a market town situated at the northern boundary of Suffolk. It is located 15 miles to the south of Norwich and 15 miles to the south-west of Lowestoft, at the neck of a meander of the River Waveney. The town developed at the southern bank of River Waveney around the historic castle and bloomed through river trade within the 17th century. It continued growing within the 19th century with its industries and expanded towards south with further housing in the 20th century.

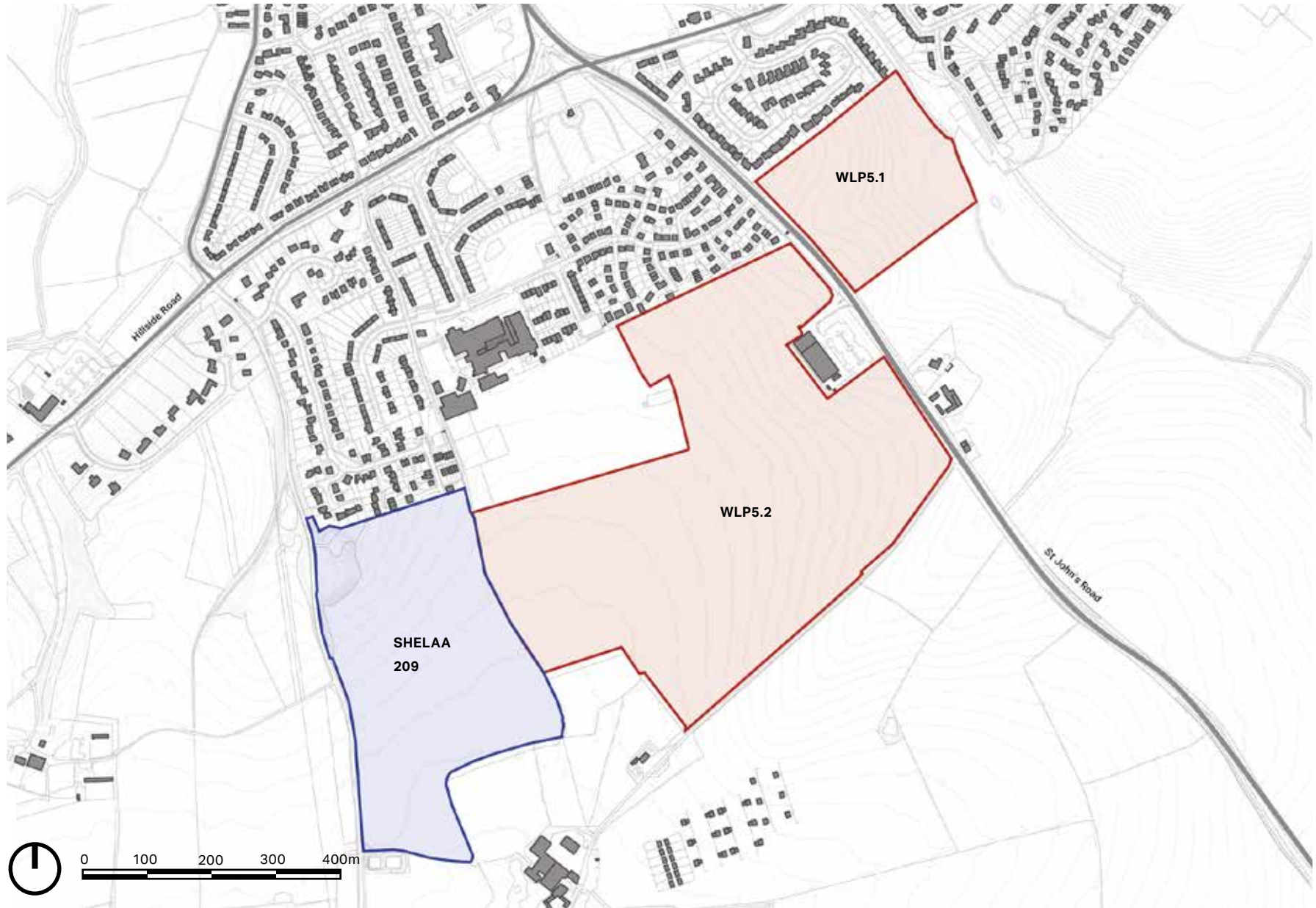
Bungay is well connected to the surrounding cities, towns and villages via A143 and A144. It has bus services to Beccles, Halesworth and Norwich where the nearest access to the railway services are.

The strategy for Bungay within the emerging Waveney Local Plan allocates a modest level of growth taking the sensitive landscape around the town into consideration. The local plan allocates two sites to the south of the town, WLP5.1 and WLP5.2, for 485 homes and 3ha of employment development to be delivered.

The site annotated as 209 on the plan opposite was assessed in the Strategic Housing and Economic Land Availability Assessment March 2018 (SHELAA) as part of the evidence base of the emerging Local Plan. The assessment concludes that the site is suitable, available and achievable. Although the site is not allocated in the emerging final plan, this document explores the opportunity of using the site 209 together with WLP5.2 to deliver the allocated growth.

Local housing sites

Site Ref	Site Description	Dwelling Estimate
WLP5.1	Land east of St Johns Road, Bungay This site (4.65 hectares) is allocated in Waveney Local Plan Final Draft, March 2018 for residential development.	85 homes
WLP5.2	Land west of St Johns Road, Bungay This site (21 hectares) is allocated in Waveney Local Plan Final Draft, March 2018 for residential and employment development.	400 homes
209	The site (10.28hectares) was assessed in the SHELAA March 2018 as suitable to deliver residential development.	257 homes



Map showing Strategic Housing Sites





Policy Review

02

2. Policy Review

This section notes the existing and emerging planning policy context and highlights the relevant policies to which the development should comply.

2.1. Emerging Waveney Local Plan 2014-2036

Final Inspector's Report

The emerging Waveney Local Plan has recently been found sound by the Planning Inspector and formally adopted by the local authority. The Inspector has commented on the Strategy for Bungay (Paragraph 107-110) in relations to the selection of allocated sites.

The Inspector agrees with the justification of selecting the WLP5.1 site over a possible alternative site to the west of the WLP5.2 allocation (SHEELA 209, referred to as Site 5.2A in this document), based on the opportunity of landscaping on the WLP5.1 site. He also supports the Sustainability Appraisal's conclusions, which emphasises the importance of the 5m width landscaping requirement of policy WLP5.1. It is agreed that the landscaping strategy on the WLP5.1 site could soften and enhance the appearance of Bungay when approaching it along St John's Road.

In addition, the Inspector considers that the relatively low 30dph density of development is broadly consistent with the surrounding character, but seeks to prevent the density of development varying across the sites, through development management.

In relation to further development, the Inspector commented that it is unnecessary and would not be consistent with the NPPF's aim of making the effective use of land, to allocate more land, other than the allocated sites, for housing development in Bungay to enable even lower density development to take place. It is also of the Inspector's view that greater provision of employment land or allotments on the WLP5.2 site would not be justified in light of the current evidence.

Vision for Bungay

"Bungay will have continued to act as a service centre in the north west of the District supporting the large villages of Ditchingham and Earsham in South Norfolk as well as smaller villages in Waveney. It will have a larger number of employment premises which will help make the town more self-sufficient and will have experienced modest levels of housing growth which will have helped support the town centre. The open areas within the town will have been protected, as will the sensitive landscapes outside of the town." [p22]

Housing Requirements

Policy WLP1.1 Scale and Location and Growth states that Bungay will contribute 6% of housing growth in Waveney. The modest level is set to protect the sensitive landscape around the town which is well related to the Broads. The total growth in Bungay in the time period of 2014-2036 is expected to be 557 dwellings, with 485 allocated in Local Plan (which includes the sites in concern of this study, and of which 150 already have planning permission) in addition to the 72 on unallocated sites which already have permission or completed since the beginning of the plan period.

Housing Mix (Policy WLP8.1)

The Council believes that housing mix on any particular site should be based on local needs including the SHMA and in consultation with the local planning authority, and therefore did not indicate a District-wide standard. Proposals for new residential development will only be permitted where at least 35% of the new dwellings on the site are 1 or 2 bedroom properties, unless this can be satisfactorily demonstrated to be unfeasible. Neighbourhood Plans can set out a more detailed approach to housing type and mix which reflects local circumstances and is supported by evidence.

Affordable Housing (Policy WLP8.2)

All new housing developments in Bungay with over 11 dwellings must provide 30% affordable housing. Proposals which provide a higher amount of affordable housing than set out above will also be permitted. Of these affordable dwellings, 50%

should be for affordable rent. Sheltered and extra-care housing should be included as affordable units where needed and where practicable.

Affordable housing should be indistinguishable from market housing in terms of the location, external appearance, design, standards and build quality.

Neighbourhood Plans can set out higher requirements for affordable housing provision where local evidence of need and viability support this.

Self Build and Custom Build (Policy WLP8.2)

Developments of 100 or more dwellings will be expected to provide 5% self or custom build properties on site through the provision of serviced plots, unless this can be satisfactorily demonstrated to be unfeasible. Proposals which provide a higher amount than set out will also be permitted. Once completed and available for development, the serviced plots should be marketed for a period of not less than 12 months. Following this period, any of the serviced plots remain unsold may be built out by the developer.

New Employment Development (Policy WLP8.13)

Proposals for new employment development falling within use classes B1, B2 and B8 will be permitted adjacent to Existing Employment Areas and outside of Settlement boundaries where it would not have a significant adverse impact on surrounding land uses, and where an additional need for employment for employment development has been demonstrated; or there is no land available within Existing Employment Areas, existing employment allocations or within settlement boundaries to accommodate the proposal.

Where expansion of existing premises falling within use classes B1, B2 and B8 cannot reasonably take place within Existing Employment Areas, development will be permitted on adjacent land outside of Settlement Boundaries providing it does not have a significant adverse impact on surrounding land uses.

Design (Policy WLP8.29)

The Council expects development proposals to demonstrate high quality design which reflects local distinctiveness. Proposals should:

- Demonstrate a clear understanding of the form and character of the built and natural environment and use this understanding to complement local character and distinctiveness;
- Respond to local context and the form of surrounding buildings in relation to the overall scale and character, layout, site coverage, height and massing of existing buildings, the relationship between buildings and spaces and the wider street scene or townscape, and by making use of materials and detailing appropriate to the local vernacular;
- Take account of any important landscape and topographical features and retain and/or enhance existing landscaping and natural and semi-natural features on site;
- Protect the amenity of the wider environment, neighbouring uses and provide a good standard of amenity for future occupiers of the proposed development;
- Take into account the need to promote public safety and deter crime and disorder;
- Create permeable and legible developments which are easily accessed and used by all, regardless of age, mobility and disability;
- Provide highway layouts with well integrated car parking and landscaping which create a high quality public realm, avoiding the perception of a car-dominated environment;
- Include hard and soft landscaping schemes to aid the integration of the development into its surroundings; and
- Ensure that the layout and design incorporates adequate provision for the storage and collection of waste and recycling bins.

Lifetime Design (Policy WLP8.31)

All new housing developments on sites of 10 or more dwellings make provision for 40% of all dwellings to meet Requirement M4(2) of Part M of the Building Regulations for accessible and adaptable dwellings. It should also support the needs of older people

and those with dementia through creating familiar, legible, distinctive, accessible, comfortable and safe environments.

Housing Density and Design (Policy WLP8.32)

In market towns, development should aim for urban scale development at a density of at least 30 dwellings per hectare, unless local character indicates otherwise. Other relevant design specifications are:

- Buildings and structures should be used to enclose spaces and create places of individual and distinctive identity;
- Detached buildings which are narrowly separated should be avoided;
- A greater proportion of terraced and semi-detached properties than detached properties should be used.

Strategic site Allocations

WLP 5.1 Land east of St Johns Road, Bungay

WLP 5.2 Land west of St Johns Road, Bungay

2.2. Open Space Requirements

Open Space should be inclusive of people of all ages and abilities with regards to:

Location

- It should be integral to the new development and relate strongly to new and existing developments
- It should serve catchment areas that are not already served by existing open spaces

Access

- Accessible without crossing main roads
- Separated from areas of major vehicle movement

- Provide footpaths with suitable non-slip surfaces
- Provide good connections with local footpaths and cycle paths

Layout

- Incorporate existing landscape features such as trees and hedgerows
- Orientated to receive adequate sunlight
- Safe places with overlooking from nearby dwellings and other active uses and a strong relationship to the street and nearby properties
- Incorporate buffer zones to reduce the disturbance to immediate dwellings

Use

- Demonstrate a clear function and support formal and informal activities and biodiversity
- Provide opportunities for a range of recreational activities to appeal to different ages and abilities

Appearance

- Designed and landscaped to a high standard to enhance the public realm
- Contributes to the local distinctive character of the area

Open Space Provision and Developer Contributions – Open Space Supplementary Planning Document (January 2012; Waveney District Council)

The Council adopts a sliding scale approach with the amount of open space required per dwelling being reduced as density rises. As a general rule, 2.4 Ha of Open space is required per 1000 population. This includes:

Types of Open Space	Standard (per 1000 population, Ha)
Outdoor Sports and Recreation	1.6
Outdoor sport pitches	1.2
Other youth and adult playspaces	0.4-0.6
Children's Play Area	0.8
Informal children's play space	0.55
Equipped children's play space	0.25

The latest Open Space Needs Assessment (July 2015) indicates that there is a shortfall of allotments and parks and gardens in Bungay.





Local Character Analysis

03

3. Local Character Analysis

This section outlines the spatial and contextual characteristics of Bungay. It analyses the pattern and layout of buildings, hierarchy of movement, topography, building heights and parking. The information is interpreted both at a descriptive level and represented through images from the village. The features outlined in this section are used as the basis for the design guidance.

3.1. Settlement pattern and urban form

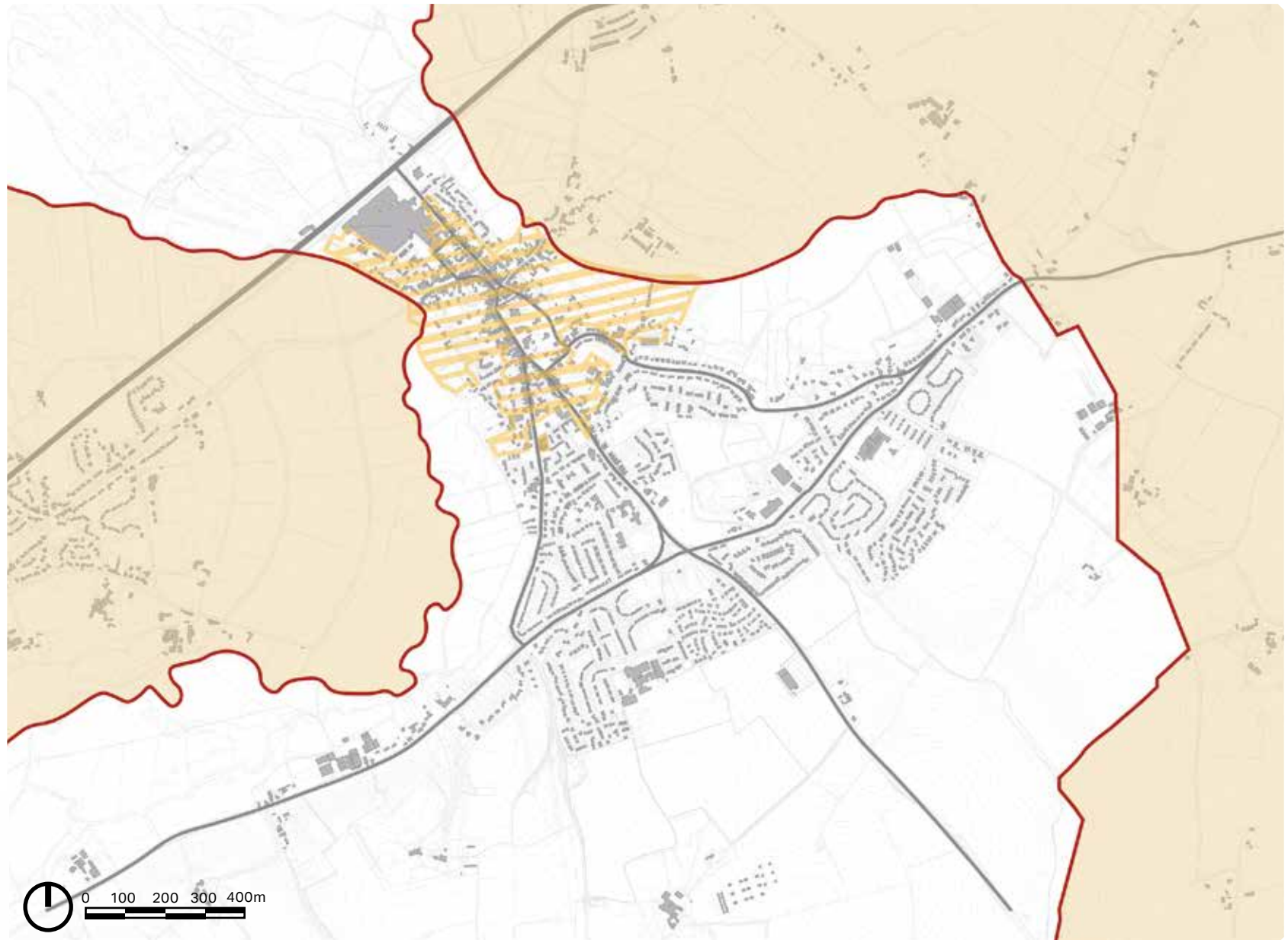
The historic core of Bungay, the Conservation Area, is shown on the map opposite.

Historically, the urban structure of Bungay town centre was defined by the juxtaposition of key places such as the castle, castle walls, St Mary's Church, Holy Trinity Church and the Market Place. It seems like the curved form of Earsham Street and the northern part of St Mary's Street reflect the curved shape of the castle wall and the moat surrounding it (source: Bungay Conservation Area Character Appraisal). These curving streets form the distinctive structure of Bungay town centre, giving it an enclosed and picturesque character. The curved linear form is evidently used throughout the further development of the town such as Staithe Road. There are also some historic grid patterns along Broad Street, Lower Olland Street and St Johns Road which create a variety of shapes of spaces when they join to the curved linear (Earsham Street, Trinity Street) and diagonal (Upper Olland Street) street structures.

Beyond its historic core, Bungay experienced relatively extensive residential development throughout the 20th century - focused mainly on the south and east of the historic core. As is evident through its designation as a Conservation Area, the more historic parts of the town tend to exhibit a strong character and locally distinctive architecture; many of the more recent developments have been introduced as partial measures over time, which has incrementally diluted some of the qualities of the historic town identity and 'sense of place'.

Some of the principal characteristics of the historic village core include:

- The curvy linear layout of the town centre characterises an unfolding pattern creating enclosed and open views and distinctive spaces.
- Built form defines the streetscape; the historic core achieves this in part through unity of building line, with the built form often accommodating varied architectural styles / typologies.
- A comfortable variation in the size and scale of buildings (two to three storeys) which enhances its character of variety and difference, as opposed to homogeneity.
- The mature landscape within the town centre is comprised of mainly the church yards and front gardens contrasting the enclosed and dense arrangement of the narrow streets.
- Within the conservation area most of the buildings are directly fronting the street without any private space.
- Outside the historic core, development during the 20th century and early 21st century has departed from this traditional pattern towards more peripheral 'cell' housing estates.



Map showing the main road network and conservation area in Bungay

3.2. Building typology

The map opposite shows that the most frequent typologies include a typical mix of detached, semi-detached and terraced houses. The historic core of Bungay exhibits greater variety of building typology, including several examples of this range of residential buildings, as well as cottages, town houses, civic buildings and mixed-use buildings mainly in Georgian and Victorian style.

Pockets of terraced housing have generally developed in close proximity to the town centre, employment, or services, for example Bridge Street, Broad Street and the northern parts of the Upper Olland and Lower Olland Streets.

20th and 21st Century detached and semi-detached buildings are prevalent throughout much of the south and eastward expansion of Bungay. As one would expect, the development layout varies according to the planning approach and style of its time; from inter-war terraced housing, extensive post-war semi-detached housing to c.1970-80s self-contained housing estates, terminating in cul-de-sacs, and comprising largely detached dwellings. There have been no large developments built within Bungay since the early 2000's.



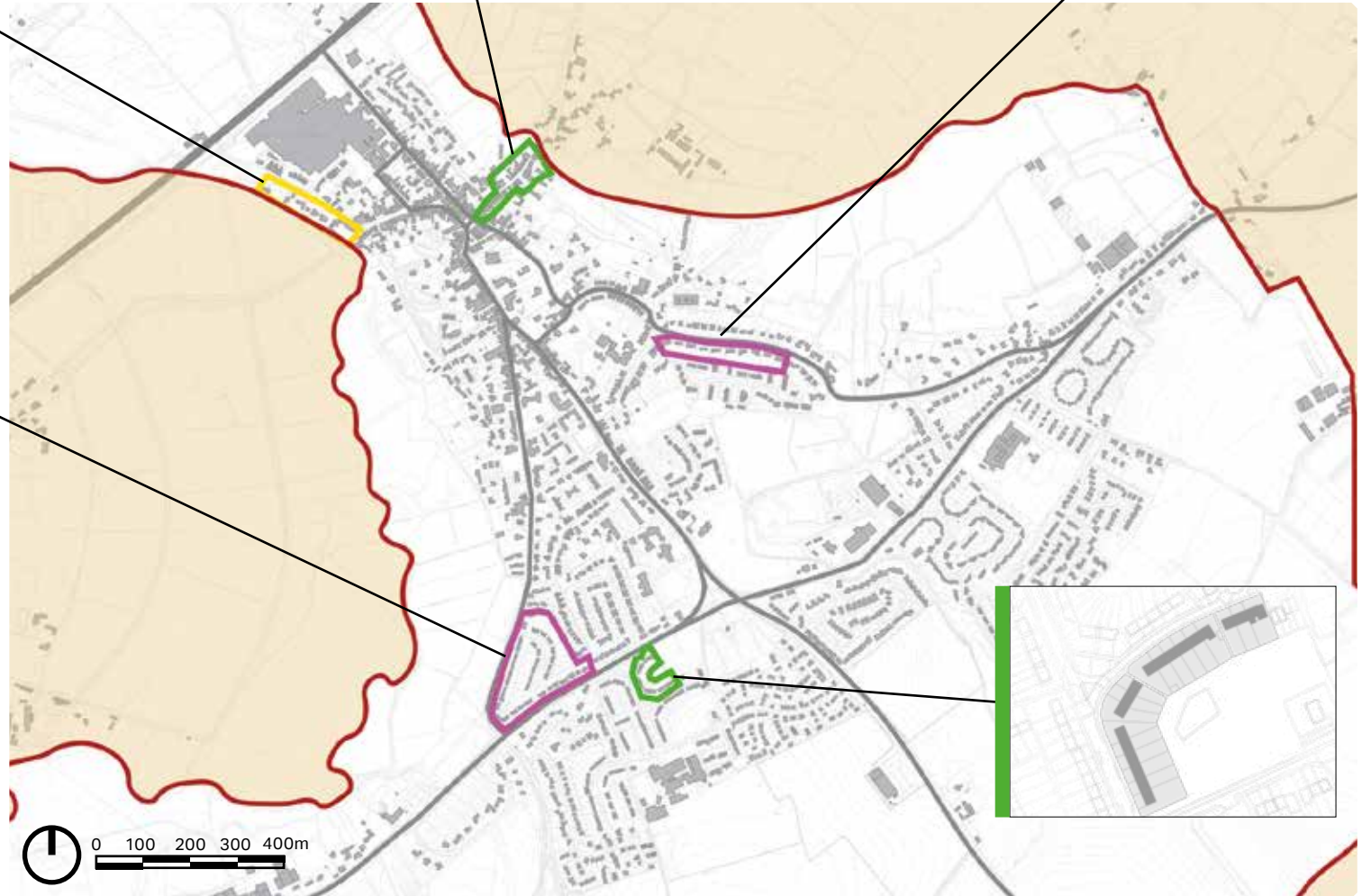
Detached houses on Outney Road



Semi - detached houses on St John's Road



Terraced Housing on Bridge Street



- KEY**
- Neighbourhood Plan area
 - Semi-detached house
 - Detached house
 - Terraced house
 - Main road
 - Secondary road

Map showing the buildings typologies in Bungay

3.3. Building heights

Across the majority of the settlement building heights vary mainly between two and three storeys, especially within the historic town centre. There are some areas of one storey bungalows within 20th-21st century housing estates to the south of the town.

Typically, the rooflines in Bungay are gabled or hipped with most buildings having chimneys. However, other roof types are also present, - albeit less common - particularly within the historic core of the village, such as cross-gabled and M-shaped gables.



One storey dwellings in Outney Road



Two storey dwellings in Earsham Street



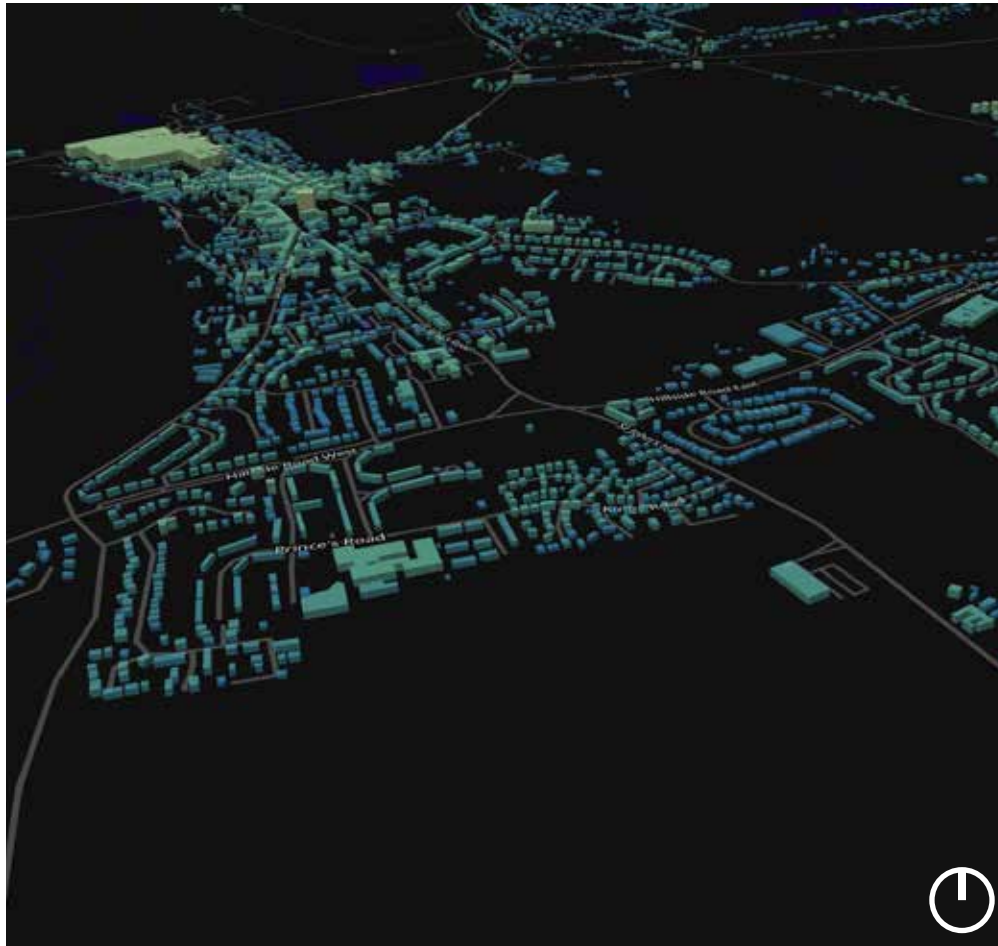
Three storey dwellings in Earsham Street



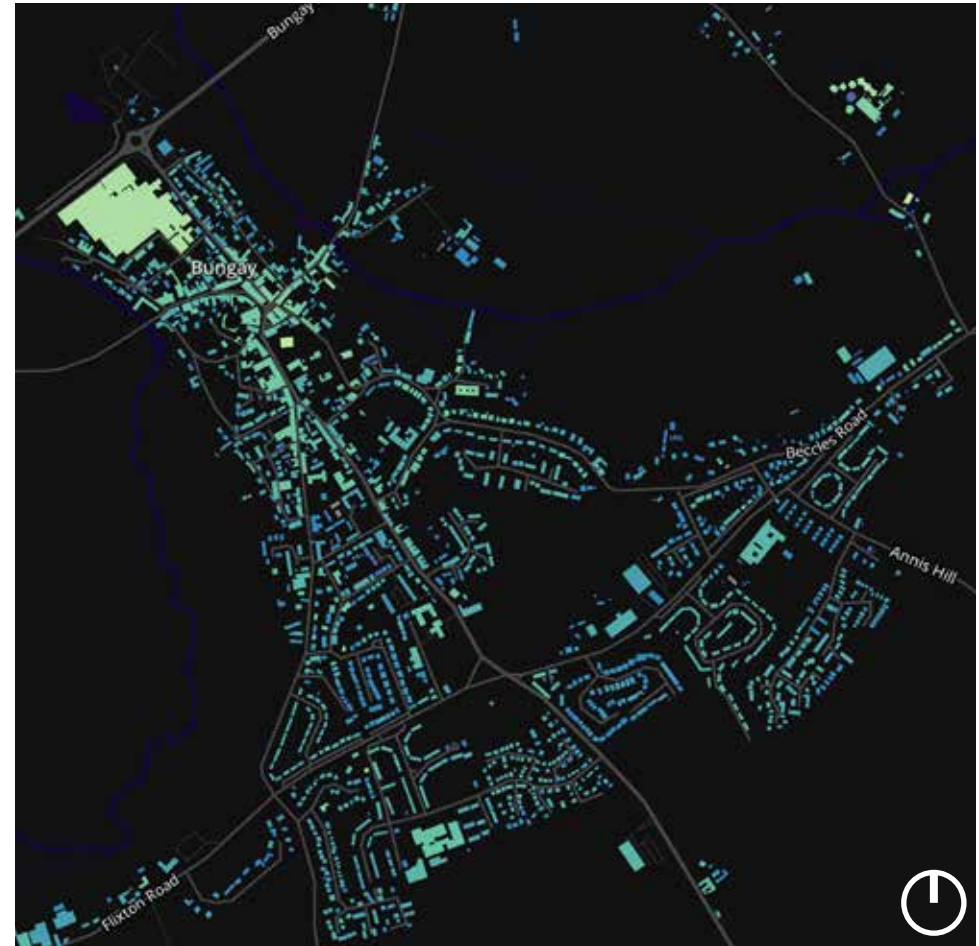
Two storey dwellings in St John's Road



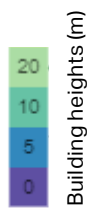
Two and three storey dwellings in Bridge Street



Three Dimension view of Bungay Area



Top view of showing pattern of development



Reference: Building Heights in England from EMU Analytics

3.4. Access and movement

This section of the Design Guidelines intends to describe the principal routes through Bungay and how, in turn, this informs the urban form, and character.

The plan opposite illustrates the hierarchy of streets in Bungay (the widest lines indicating more primary streets), and photos that describe their character.

The principal route through Bungay is the A144. Within the historic centre of the town the A144 (Broad Street, St Mary's Street, Lower Olland Street and St Johns Road) is well-defined by built form throughout the majority of it. Terminating features, such as the Wightmans building, the central Buttercross serve to create landmarks that aid legibility, while also subtly controlling traffic speeds within the urban area. Towards the southern end of Lower Olland Street the density starts getting lower and the enclosure gets looser with setbacks. When the road becomes St Johns Road the carriageway and the front gardens get wider and the road starts losing its urban character.

The B1062 cuts through A144 to the south of the town. This road has more suburban character. It is mostly fronted by semi-detached houses with large front gardens and access drive. At the western section of the B1062 the houses on the south side are backing the road up to Manor road which reduces the natural surveillance in this area. The eastern section of the B1062 after the St John's junction has also reduced surveillance due to some houses backing the road and large set backs of the employment premises.

Other routes to the town is Earsham Dam and Ditchingham Dam. They are both very rural in character and directly enter to the town centre after crossing over River Waveney and becoming streets with enclosed urban character.

Within the settlement the street layout is reflective of the historic development and expansion of Bungay over time. There is a good level of permeability within the core historic town centre. However, toward the south of the centre and the town there are limited number of through routes reduces the overall permeability.



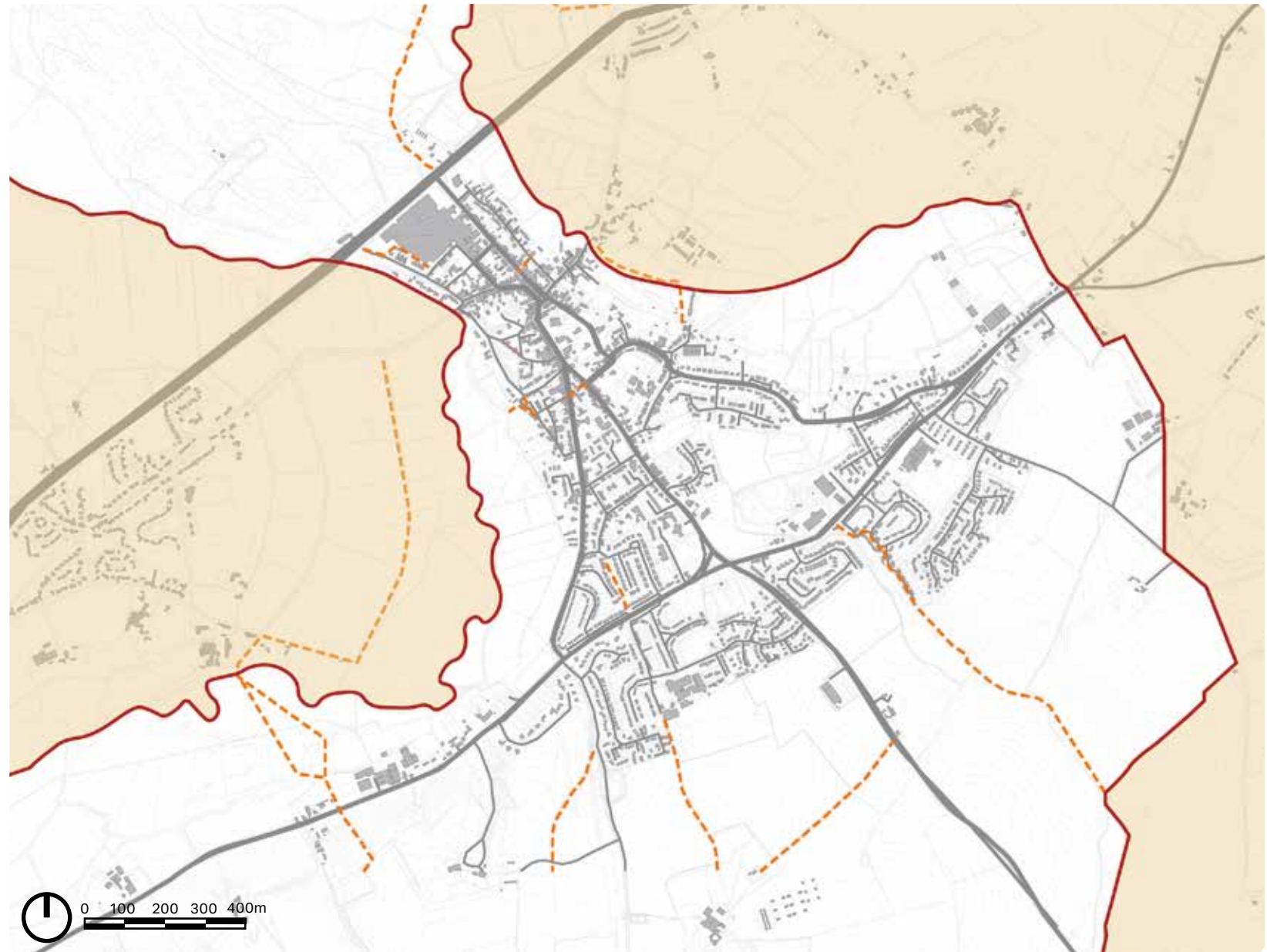
Bungay town centre



View to the river Waveney from Bridge Street



Paths connecting Lower Olland Street with Bigod Castle



- KEY**
-  Neighbourhood Plan area
 -  Main road
 -  Secondary road
 -  Tertiary road
 -  Public right of way

Map showing the streetscape character and street hierarchy in Bungay

3.5. Residential density

Using residential density is a measure by which the intensity of land use within a given area can be quantified. It is typically applied to residential contexts.

There are different ways to measure density. A standard measure is simply the number of units (dwellings) per hectare (dph); this approximates a 'gross density' i.e. it includes built plots, roads and other hard landscape areas, open space and soft landscape. It does not account for multiple occupancies / building heights, nor does it consider population. This method is best used for simple comparison of housing layouts.

The plan opposite illustrate a range of densities found across Bungay. The areas with the medium density areas within the town tend to be a variety of terraced, semi-detached properties and cottages with small and medium sized gardens. There tends to be less open space within these areas. Not all of these areas are central - which is more typical of modern urban design - e.g. Waveney Road being quite distant from the town centre.

Low densities are mainly found towards the south of the town. There are two different characteristics observed along low density areas. The block between Flixton Road Jubilee Road (23dph) is comprised of mixture of terraces and semi-detached houses within large plots. The block along Mayfair Road (18dph), on the other hand, is comprised of detached houses within medium size plots.

The new Local Plan anticipates development at 30 dwellings per hectare for allocated sites.



Low density area in Outley Road



Medium density area in St John's Road



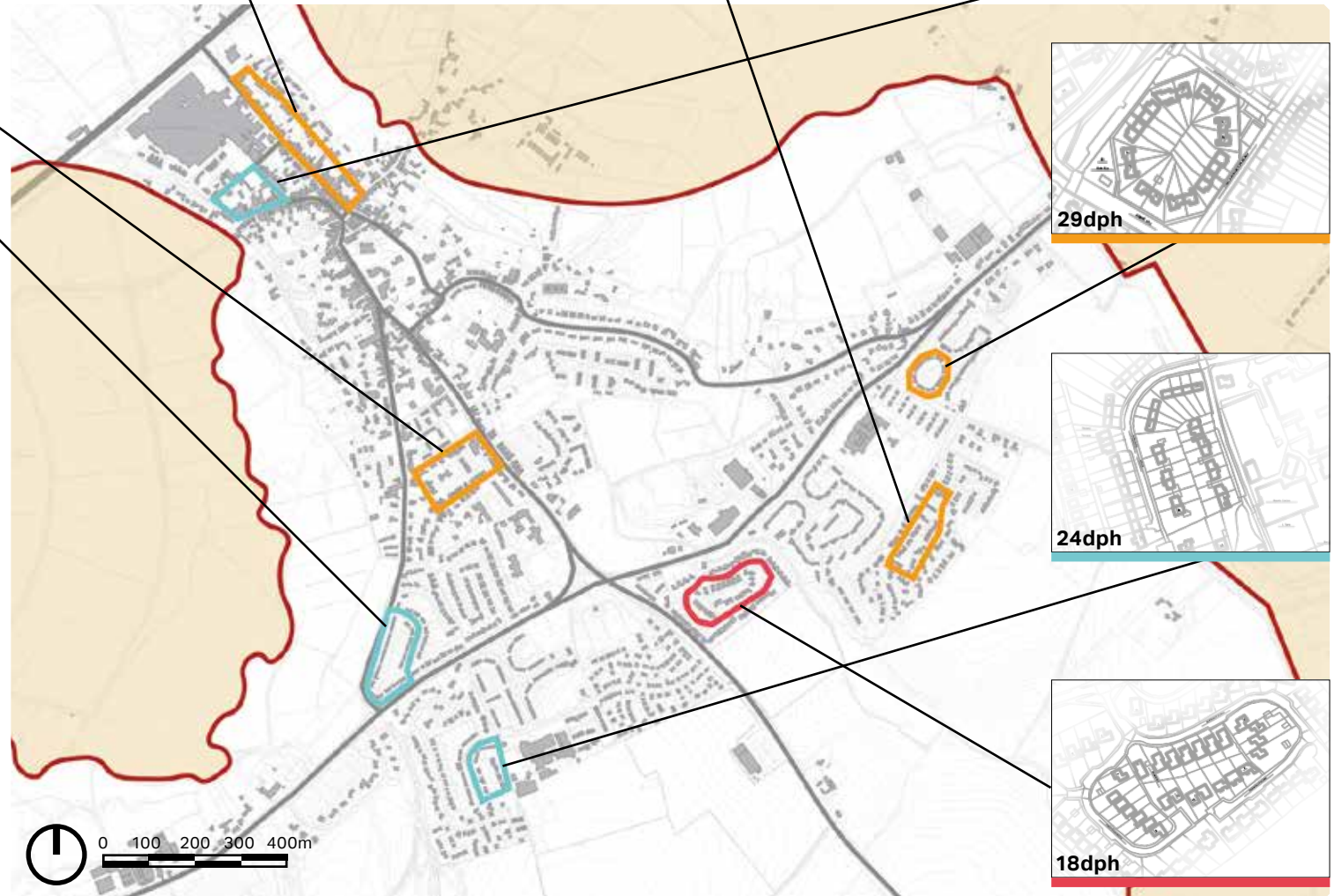
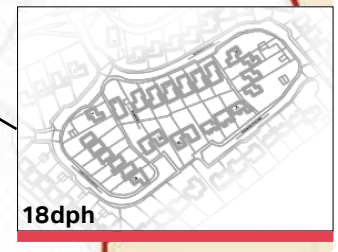
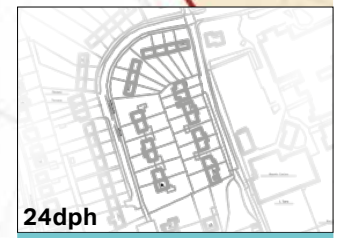
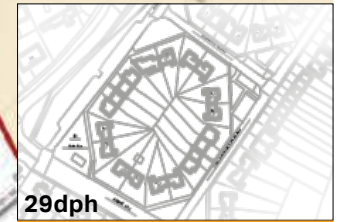
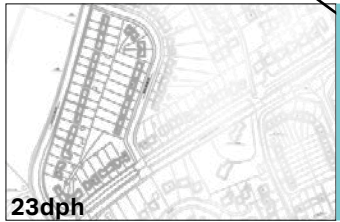
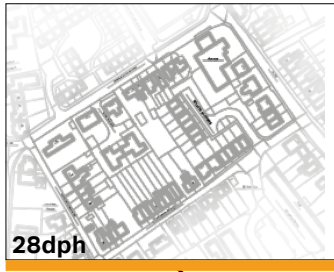
Density exemplar (18 dph). Site on Kerrison Road



Density exemplar (31 dph). Site on Broad Street



Density exemplar (29 dph). Site on Bigod Road



KEY

-  Neighbourhood Plan area
-  20 dph and under
-  21 dph- 26 dph
-  27 dph and over
-  Main road
-  Secondary road



Map showing the density in sites around Bungay





Engagement

04

4. Engagement

4.1. Online survey

The Bungay Neighbourhood Development Plan Steering Committee undertook an online survey between September 2017 and January 2018. 120 responses were received. The survey primarily addressed house building requirements, planning and design preferences in order to inform future development and inform the development of the Bungay Neighbourhood Plan.

The survey comprised a mixture of qualitative and quantitative questions with the aim of gathering the opinions of the community on matters relating to demand for new housing, housing types, housing delivery preferences, location preferences for new development, and general community matters.

The key themes and patterns emerging from these the survey responses are summarised below:

Size of New Homes

- 68% of residents generally agree that an increase in small homes providing between 1 and 2 bedrooms would benefit the community, indicating demand for smaller homes in the town.
- 50% of respondents generally agree that the development of larger homes providing 3 or more bedrooms would benefit the community, showing that there is some demand for larger family homes in the town. 22% of respondents generally disagreed that large houses exceeding 3 bedrooms would benefit the town.
- Survey findings indicate that increased provision of smaller homes catering for younger and older people seeking to downsize would work better to meet the needs of the current population of Bungay.

Tenure

- The majority of respondents were generally in agreement that the development of new social housing, starter homes, easy access housing and sheltered housing would benefit the residents of Bungay.
- Most notably, 55% of respondents believe that new developments providing starter homes contracts are 'vital' and should be delivered in the town. Of the suggested housing types, greatest demand was shown for the delivery of starter homes. 68% of respondents were in general agreement that Easy Access Housing would provide benefit to the residents of Bungay.

Design, Scale, Character and Heritage

- 95% of the sample of residents surveyed suggested that they have opinions on housing, urban design and historic buildings within Bungay, with 93% of respondents agreeing that the design of local housing, shops, and the public realm are important for establishing a "feel" for the area.
- Responses suggest that the residents of Bungay value the local character and heritage value of the town; with 65% in agreement that development should only be permitted where it is in conformity with the local character of the town.
- Respondents were in disagreement regarding large scale development proposing over 50 homes; 44% of respondents suggested that they would be happy with development of this scale, and 44% indicated a preference for development of a smaller scale.

Redevelopment/Development preferences

- Many residents expressed dissatisfaction with areas of the town, suggesting that certain areas would benefit from new development or redevelopment. Areas frequently mentioned include the community centre (for which 51% of respondents suggested they were 'very interested' in the development of a new facility), the King's Head site, the town centre and St Mary's Street, the Three

Tuns pub, Earsham Street, the area surrounding the co-op store, and the area surrounding the community swimming pool.

- Respondents raised opinions for areas in the town that should be protected from development, these areas include; Castle Hills, the old Grammar School field, Outney Common, Falcon Meadow, local green spaces and the Bungay Conservation Area.

Sustainability/Sustainable Design

- 77% of residents surveyed strongly agree that sustainable design features should be encouraged through planning for new development in Bungay, and 74% of respondents believe that access to green areas and countryside should be enhanced.
- The development of a policy promoting the expansion of pedestrian and cycle networks between the town and nearby villages would be supported in principle by 87% of respondents.

In summary, from the sample of 120 residents, it is identified that the community wish to see a range of housing types developed in the town, particularly to meet demand for small homes and starter homes. The community also identified that certain areas of the town such as the community centre and the town centre, are in need of redevelopment. Responses showed that the community greatly values the local character and heritage value of Bungay, expressing that new development should **ensure conformity with local character**.





Design Guidance

05

5. Design Guidance

5.1. Introduction

The aim of this Design Guidance is to ensure that future developments consider local character and can enhance local distinctiveness by creating good quality developments, thriving communities and prosperous places to live.

This chapter provides a set of solid principles that can be applied to all new development. The place-making principles that are considered to be fundamentally important to guide any development in Bungay are listed below.

The key principles are:

- Permeable and interconnected street network
- Legibility and way finding
- Development blocks
- Edges
- Fronts and backs
- Enclosure
- Corner treatment
- Building lines
- Active frontages
- Well-defined public and private
- Landmarks, vistas and focal points



Corner building with vertical vegetation in the centre of Bungay

5.2. Permeable and interconnected street network

The permeable and interconnected street network provides people with a choice of different routes, and allows traffic to be distributed more evenly across the network. A permeable layout generates a higher level of pedestrian activity, which makes social interactions more likely, and increases the level of security.

5.3. Legibility and Wayfinding

When places are legible and well signposted, they are easier for the public to comprehend and likely to both function well and be pleasant to live in or visit. People feel safer when they can easily memorise places and navigate around them. It is easier for people to orientate themselves when the routes are direct, and visual articulations and landmarks clearly emphasise the hierarchy of the place.



An illustration of a non permeable street network



An illustration of a well connected street network



View of the roundabout on Bridge Street and the relation to the focal buildings



The Market Place enhances legibility providing a clear view to focal buildings

5.4. Development blocks

A development block is the land area defined by streets, green spaces and pedestrian and cycle routes. They can vary in shape and size according to the configuration of the layout, topography and existing landscape features.

A perimeter block structure is a well proven, successful and flexible approach to the layout of residential and other areas. It provides clarity between the fronts and backs of buildings, between public and private spaces, and enables continuous overlooking of the street. It can also be very efficient in terms of development density.

Creating variation in the shape and size of perimeter blocks helps to generate interesting and distinctive Character Areas.



A typical back to back garden perimeter block, Bungay

Mews and Courtyards

Mews and courtyards can provide interesting and efficient arrangements within development blocks. Buildings can be grouped around an area of open space or a well-landscaped parking area, or a combination of both. They should be flexible and respond to the location and context. They can accommodate a variety of uses such as car parks, service yards, play spaces, open spaces and gardens.

Mews and courtyards should be of an appropriate scale and size. The recommended ratio of building height is 1:2 in courtyards and 1:1 in mews. For residential-only uses 25m distance across the courtyard is the ideal dimension to ensure privacy and sufficient daylight.



Mews with on-street parking. Hampstead Garden Suburb, London

5.5. Edges

The interface of development edges to countryside, open space, routes or the boundaries of the site has a critical role in defining the character and quality of the place.



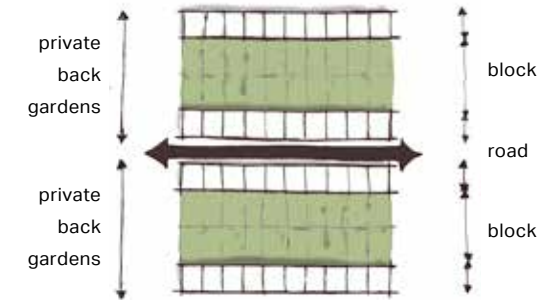
An illustration of an edge condition



Buildings and front gardens should respond to the edge context

5.6. Fronts and backs

Designing development blocks with a clear distinction between the front and back of the property is crucial in order to achieve best practice in place-making, and to create secure and coherent streets and places.



A traditional typology for fronts and backs



A perimeter block layout successfully fronting public spaces with active frontages and backs are backed with the neighbouring properties' back, London Road, Burgess Hill



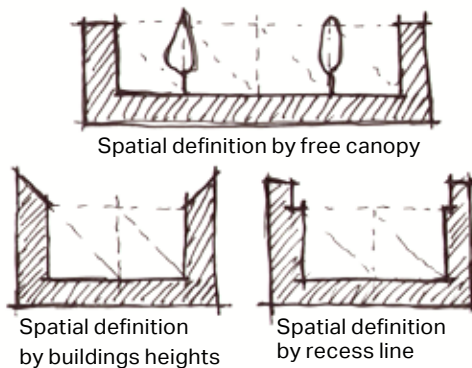
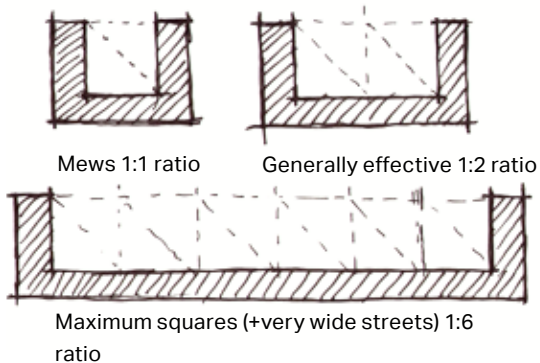
A road fronted by rear garden fences of properties

5.7. Enclosure

It is the sense of enclosure that creates an attractive environment. Therefore creating a coherent enclosure is one of the key principles of successful place-making. Buildings and/or large trees should define and enclose spaces that lie in between them. In order to achieve cohesive spaces the enclosure should be arranged in proportion.



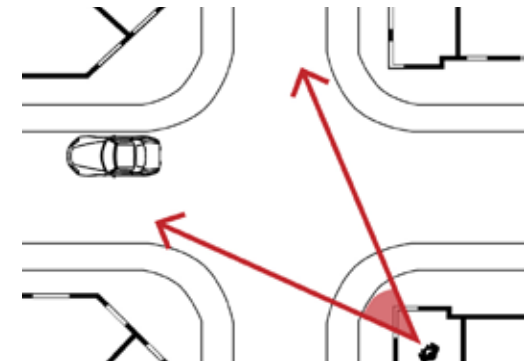
An example for 1:1 mews ratio



5.8. Corner treatment

An important townscape principle is for buildings to satisfactorily address the corner.

In lower-density areas, continuous built frontage should address the corner by using a series of linked dwelling where possible. When a terrace, detached or semi-detached house faces out onto the corner, the buildings should have the main entrance and habitable room windows facing both sides to create activity, and should overlook the street. This building can also be taller or have a distinctive architectural element, to ensure a greater presence than the neighbouring buildings to articulate the corner.



Natural surveillance should be fully achieved at the corners by addressing them with active frontages



Linked dwellings creating a continuous frontage at the corner with articulation



A corner address by a detached house

5.9. Building lines

The use of continuous building lines and setbacks contribute to the overall character of the area and the sense of enclosure of the streets and public spaces.

Continuous building lines with a minimum gap create a strong distinction between public and private spaces, and provide definition to the public realm. Where buildings step back from the building line, this should be designed in order to create usable and attractive spaces.



Setbacks responding to the alignment of the open space



An illustration for setbacks and continuous building lines



An illustration for an edge alignment responding to the context of the landscape

5.10. Active frontages

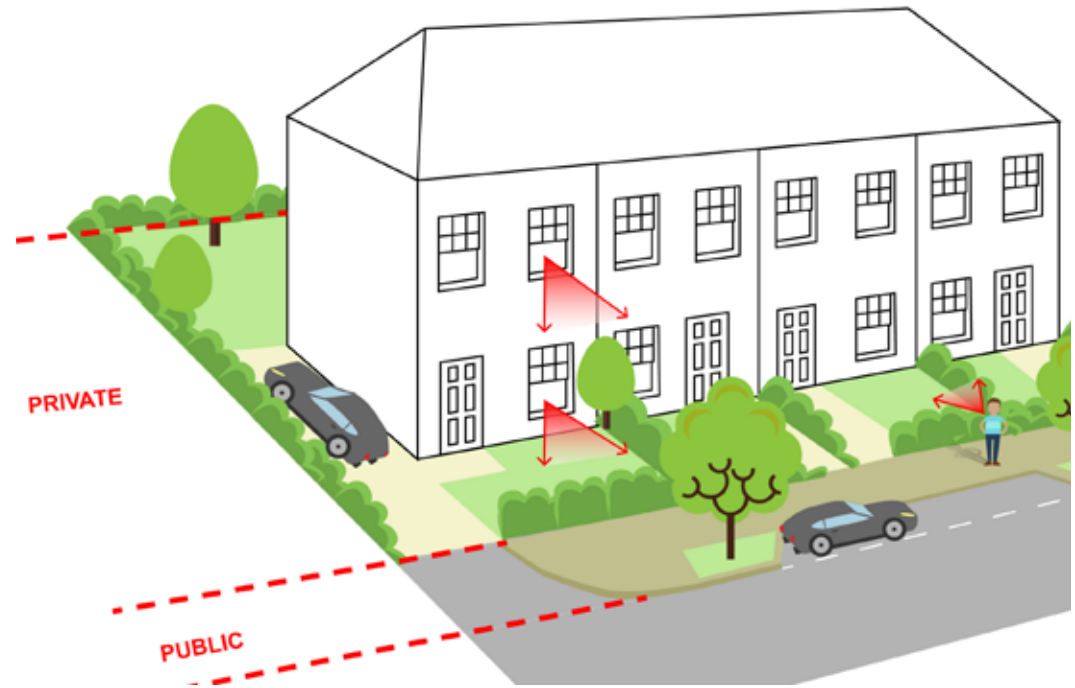
Active frontages bring life and vitality to streets and public spaces. Introducing regular doors, windows, front gardens and front parking can stimulate activity and social interactions. Narrow frontages with a vertical rhythm can create a more attractive and interesting streetscape, while articulation on facades and use of bays and porches can create a welcoming feeling.



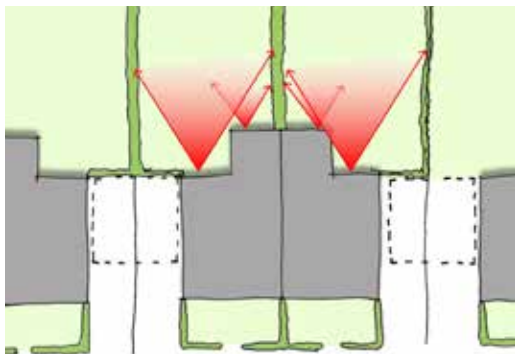
An example of active frontage on Prince's Road, Bungay

5.11. Well-defined public and private space

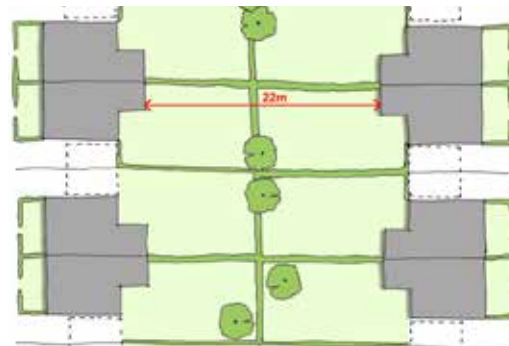
A clear definition between public and private space is a fundamental principle for good place-making. Buildings fronting the streets, squares and open spaces give life to the public realm, therefore primary access and principal frontages should always face onto public spaces. In residential areas, the distances between the backs- of the properties need to be proportioned in consideration with privacy.



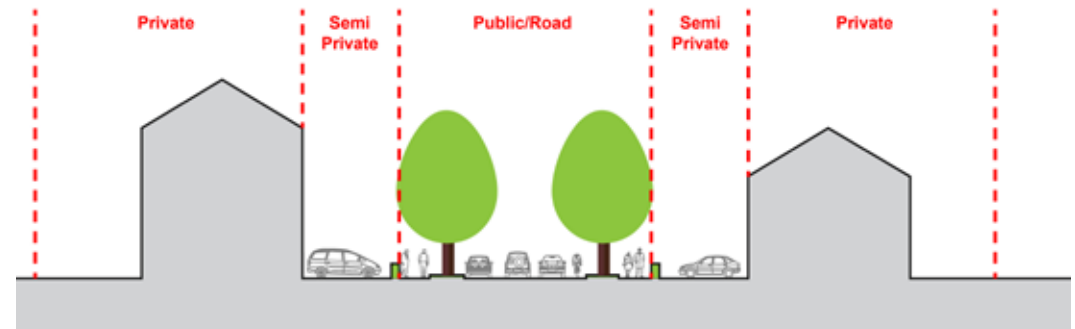
Distinction between public, semi-private and private spaces



Boundary planting helps to provide privacy



Distance of 22m between habitable rooms provides a good level of privacy



Section showing the distinction between public, semi-private and private spaces

5.12. Landmarks, vistas and focal points

Well-designed streets, open spaces and public realm together with building forms are crucial for places to create their own stories in people's minds. Landmarks, vistas and focal points are the tools to achieve places that are easy to read and allow users to easily orientate themselves.

Landmarks

Landmarks create a visual guide to help users navigate through places and reinforce the sense of identity. They are also used to emphasise the hierarchy of a place. Landmarks do not have to be high-rises or a large scale buildings. A piece of public art, a tree with a distinctive quality, an architectural element or an ornament on a building can be a landmark.



Saint Mary's Church helps people to navigate



The Bigod Castle is a landmark for the town

Vistas

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.

Focal points

Creating rhythm in the urban structure with sequences of spaces is an important element in designing attractive and interesting places. This can be done by creating a number of focal points and gateways with landmarks, squares and other landscaping features, or simply by pulling back the building line and increasing the green.



A small focal point creates a little break from the residential frontages

5.13. Parking typology

On-street parallel parking

On-street parallel parking should be designed in accordance with the Manual for Streets. A parallel car parking space should be 2.5m wide x 6.0m long. There should not be more than 6 spaces in a line without landscaping or tree planting to break them up.

On-plot frontage parking

This arrangement should be used for terraces and town houses on lane type streets. Only 1 car parking space should be provided per dwelling. There should be equal amount of landscape and car parking space provided within an enclosed landscaped front garden in order to avoid parked cars dominating the street frontage. Spaces should be overlooked by front windows of the property.



On-street parallel parking on Outney Road



Location map



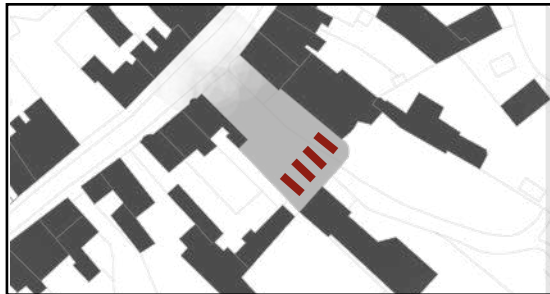
On-plot frontage parking on Outney Road

On-plot parking between dwellings

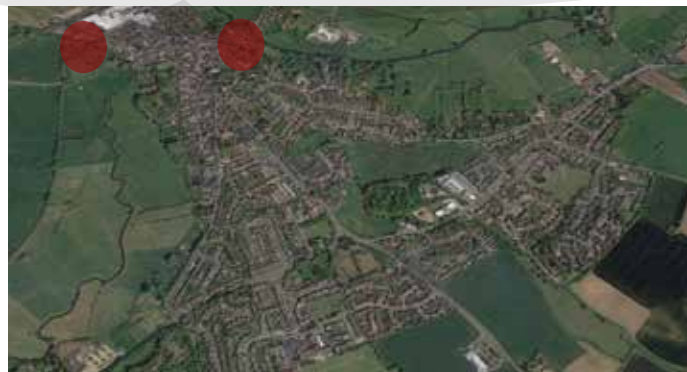
This type is most likely to be the most common arrangement for detached and semi-detached dwellings. Two tandem car parking spaces should be provided to the side per dwelling. Spaces should be overlooked by windows of the property and front gardens should be landscaped to soften the visual impact. The use of car parking ports should be promoted. If garages are used they should be set back as far as possible.

Parking Courts

Communal parking courts to be located at the front or side of dwellings to provide natural surveillance. Car parking courts should not be more than 8 spaces at one side and two-sided parking courts should be avoided. Soft landscaping and tree planting should be used to break up the dominance of the vehicles. Parking barns can also be used to help with the visual impact. On tandem parking there must be no more than 2 spaces and no more than 3 rows allowed.



On-plot parking between dwellings on Bridge Street



Location map



Parking courts at the end of Outney Road

5.14. Architectural details

This section includes showcases of a good amount of architecture detailing and building materials that contribute to the local distinctive character of Bungay and are considered as positive exemplars.

New development can draw inspiration from the varied details of Bungay's existing architecture that is presented on the next pages.



Painted facades



Roof detail



Red brick



Buildings as landmarks



Side passage positive boundary treatment



Paving material



Roof and chimney detail



Quality boundary treatment



Variety of glass material on the windows



Street furniture to improve the public space



Bay windows with interesting details



Bay window in a half brick building



Variety of materials and colors on the facades



Modern structures in the conservation area



Painted doors and windows



RED BRICK



ROOF DETAILS



BAY WINDOW



HALF BRICK/BAY WINDOW



HIGH QUALITY PUBLIC REALM



VARIETY OF COLORS



ACTIVE FRONTAGE



WELL KEPT FRONT GARDEN



NARROW PATHS



WELL KEPT FRONTAGES



FRONT GREEN SPACE



WELL KEPT PATHWAYS

5.15. General questions to ask and issues to consider when presented with a development proposal

This section states a general design principle followed by a number of questions against which the design proposal should be judged. 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 overview as to whether the design proposal has taken into account the context and provided an adequate design solution.

The Design Proposal should:

A. Harmonise and enhance existing settlement in terms of physical form pattern or movement and land use.

- What are the particular characteristics of this area which have been taken into account in the design?
- Is the proposal within a conservation area?
- Does the proposal affect or change the setting of a listed building or listed landscape?

B. Relate well to local topography and landscape features, including prominent ridge lines.

- Does the proposal harmonise with the adjacent properties?
- Has careful attention been paid to height, form, massing and scale?
- If a proposal is an extension, is it subsidiary to the existing property so as not to compromise its character?
- Does the proposal maintain or enhance the existing landscape features?
- How does the proposal affect the trees on or adjacent to the site?

- How does the proposal affect on the character of a rural location?

C. Reinforce or enhance the established urban character of streets, squares and other spaces.

- What is the character of the adjacent streets and does this have implications for the new proposals?
- Does the new proposal respect or enhance the existing area or adversely change its character?
- Does the proposal positively contribute to the quality of the public realm/ streetscape and existing pedestrian access?
- How does the proposal impact on existing views which are important to the area?
- Can any new views be created?

D. Reflect, respect and reinforce local architecture and historic distinctiveness.

- What is the local architectural character and has this been demonstrated in the proposals?
- If the proposal is a contemporary design, are the details and materials of a sufficiently high enough quality and does it relate specifically to the architectural characteristics and scale of the site?

E. Retain and incorporate important existing features into the development.

- What are the important features surrounding the site?
- What effect would the proposal have on the streetscape?
- How can the important existing features including trees be incorporated into the site?
- How does the development relate to any important links both physical and visual that currently exist on the site?

F. Respect surrounding buildings in terms of scale, height, form and massing.

- Is the scale of adjacent buildings appropriate to the area?

- Should the adjacent scale be reflected?
- What would be the reason for making the development higher?
- Would a higher development improve the scale of the overall area?
- If the proposal is an extension, is it subsidiary to the existing house?
- Does the proposed development compromise the amenity of adjoining properties?
- Does the proposal overlook any adjacent properties or gardens?

G. Adopt appropriate materials and details.

- What is the distinctive material in the area, if any?
- Does the proposed material harmonise with the local material?
- 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?

H. Integrate with existing paths, streets, circulation networks and patterns of activity.

- What are the essential characteristics of the existing street pattern?
- How will the new design or extension integrate with the existing 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?
- Do the new points of access have regard for all users of the development (including those with disabilities)?

I. Provide adequate open space for the development in terms of both quantity and quality.

- Is there adequate amenity space for the development?

- Does the new development respect and enhance existing amenity space?
- Have opportunities for enhancing existing amenity spaces been explored?
- Are there existing trees to consider?
- Will any communal amenity space be created? If so, how will this be used by the new owners and how will it be managed?

J. Incorporate necessary services and drainage infrastructure without causing unacceptable harm to retained features.

- What visual impact will services have on the scheme as a whole?
- Can the effect of services be integrated at the planning design stage, or mitigated if harmful?
- Has the lighting scheme been designed to avoid light pollution?

K. Ensure all components e.g. buildings, landscapes, access routes, parking and open space are well related to each other, to provide a safe and attractive environment.

- Has the proposal been considered in its widest context?
- Is the landscaping to be hard or soft?
- What are the landscape qualities of the area?
- Have all aspects of security been fully considered and integrated into the design of the building and open spaces?
- Has the impact on the landscape quality of the area been taken into account?
- Have the appropriateness of the boundary treatments been considered in the context of the site?
- In rural locations has the impact of the development on the tranquillity of the area been fully considered?

L. 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.

- Has adequate provision been made for bin storage?
- Has adequate provision been made for waste separation and relevant recycling facilities?
- Has the location of the bin storage facilities been considered relative to the travel distance from the collection vehicle?
- Has the impact of the design and location of the bin storage facilities been considered in the context of the whole development?
- Could additional measures, such as landscaping be used to help integrate the bin storage facilities into the development?
- Has any provision been made for the need to enlarge the bin storage in the future without adversely affecting the development in other ways?



A wide-angle photograph of a rural landscape under a cloudy sky. In the foreground, there is a green field. The middle ground features a large, long building with a grey roof covered in solar panels on the left, and several other farm buildings, including a white one, further back. The background consists of rolling green hills and a line of trees.

Masterplanning framework

06

6. Masterplanning framework

6.1. Introduction and background

The study areas which are subject to this section are the allocated sites in Waveney Local Plan, the land east of St Johns Road (5.1) and the land west of St Johns Road (5.2). This section also explores the opportunity of the use of the site to the immediate west of the land west of St Johns Road, which is named as 5.2A in this document for reference, in consideration of achieving a more comprehensive development without being fragmented by St Johns Road, better integration with the existing neighbourhoods and, if necessary, enough space for flood mitigation.

This chapter explores the main development constraints for each site (5.1, 5.2, and 5.2A) at a high level, and how a comprehensive masterplan can be developed to achieve the criteria defined by the relevant policies. There are two masterplan options tested using the same development criteria defined by Local Plan Policies, Neighbourhood Plan Policies and the urban design development principles established at the opposite page.

The process undertaken to inform these studies was:

- Site visits to understand the spatial context;
- Urban design analysis of opportunities and constraints;
- Review of policies relating to the sites (refer to Chapter 2)
- Preparation of concept plan for each site, based on urban design best practice and local context; and,
- Preparation of a conceptual layout to inform a capacity for guidance on how development may take shape.

The following development principles from the policies of WLP5.1 and WLP5.2 have guided the analysis and recommendations:

- Provision of 3 hectares of employment land to the south of WLP5.2.
- Vehicular access from St Johns Road.
- Provision of 2 hectares of land for the extension of Bungay High School playing fields.
- Provision of an area for bus parking and turning adjacent to Bungay High School.
- Provision of 1.2 hectares of open space including a neighbourhood equipped area for play (NEAP) and a levelled area for informal ball games.
- Provision of 0.25 hectares of allotment land.
- Provision of a 10 metre wide landscape belt along the southern edge of WLP5.2 and a 5 metre wide landscape belt along the southern edge of WLP5.1.
- Provision of pedestrian and cycle routes connecting to public right of ways, Kerrison Road and Meadow Road, swimming pool, the employment land, and existing residential areas.

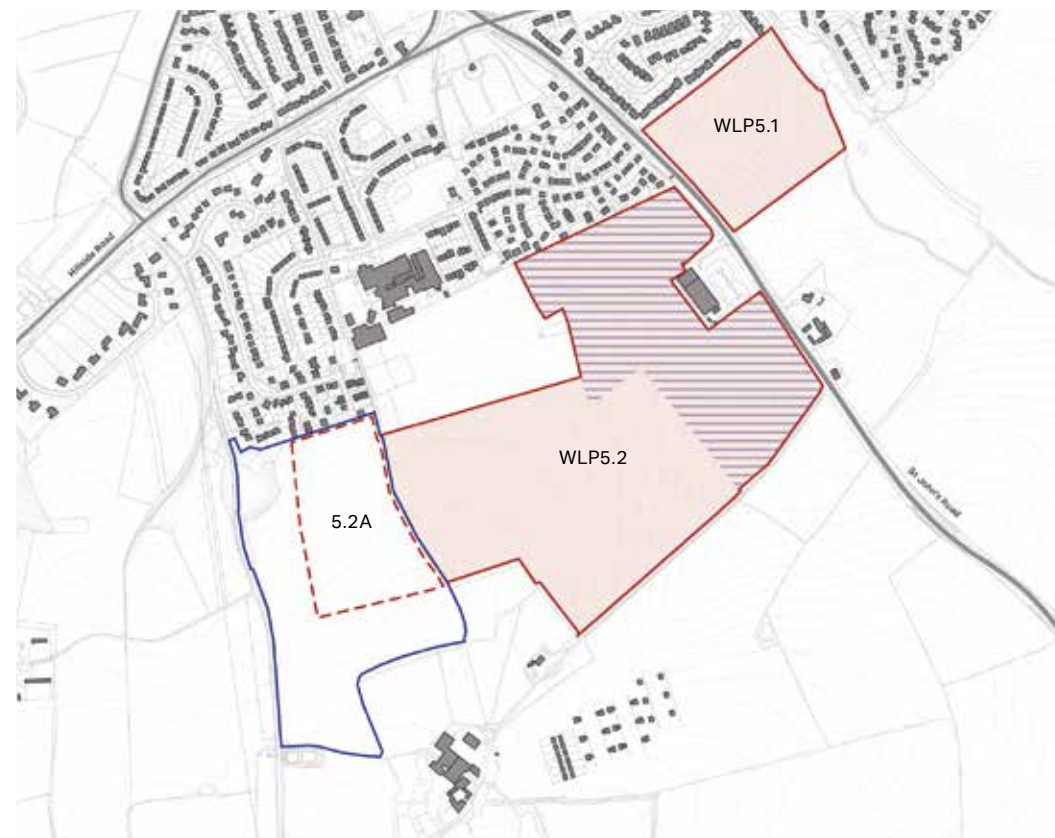
The development principles noted above are in line with the Neighbourhood Plan Policies such as greenspace and infrastructure, landscape character, flood alleviation, cycling and footpath network and pre-school education. In addition, the following criteria from the emerging Neighbourhood Plan Policy H1:Residential Design Functionality also guided the masterplan options:

- Developments to respond the surrounding context and setting and avoid over development;
- Provision of sufficient number of off-street and on street car park;




- Building footprint not to be larger than 50% of the plot;
- Provision of high quality public open space;
- Permeable and legible layout providing access to the all members of the community;
- Provision of surveillance to all public spaces such as parks, pedestrian and cycle ways and streets.

The key urban design and place-making principles used on both of the masterplan options include the following:

- Providing perimeter block structure layout to create public frontages and private backs to the buildings.
- The permeable and interconnected street network to provide a choice of different routes for pedestrians and bicycles, as well as vehicular movement.
- Legible structure that is easy to find your way around with focal points on key routes to aid orientation.
- Active frontages fronting onto any type of public area including vehicular, pedestrian and cycle movement corridors, and open space to create safe and well overlooked public spaces.
- High level of connectivity between existing and new residential areas, public rights of way, open spaces, and the other uses, such as swimming pool and the employment land, to achieve high level of integration.
- Green belt provision and the lower density development to the south of the site to create a smooth transition between the countryside and the urban environment.
- Create open spaces that are easily accessible and well connected by safe, attractive walking and cycling routes, to encourage active lifestyles and healthier living.



KEY

-  Site Allocations
-  SHELLA site 209
-  Concentrated development site
-  5.2A Potential development land
-  Road network

6.2. Site analysis for development sites

The site analysis plan opposite presents the key site analysis information associated with development sites that are explored in this section and those immediately around them. The analysis has been informed by technical desktop baseline and analysis, and the site visits.

Site 5.1 is bounded by the existing residential area to the north, St Johns Road to the west and the Tin River to the east. The immediate south of the site is an open field. The Grade II listed Dukes Farm and Barn are located further south of the site.

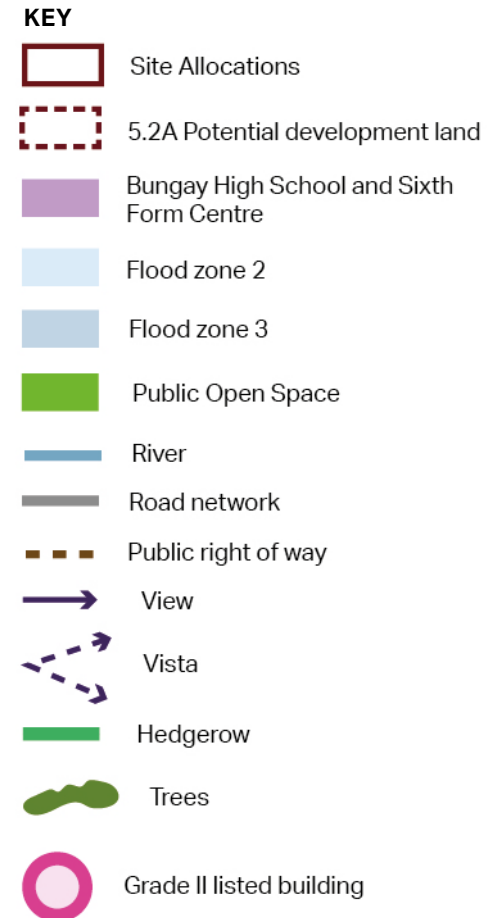
The topography of site 5.1 gently falls towards Tin River on the east. There is also a small area of flood zone to the east of the site.

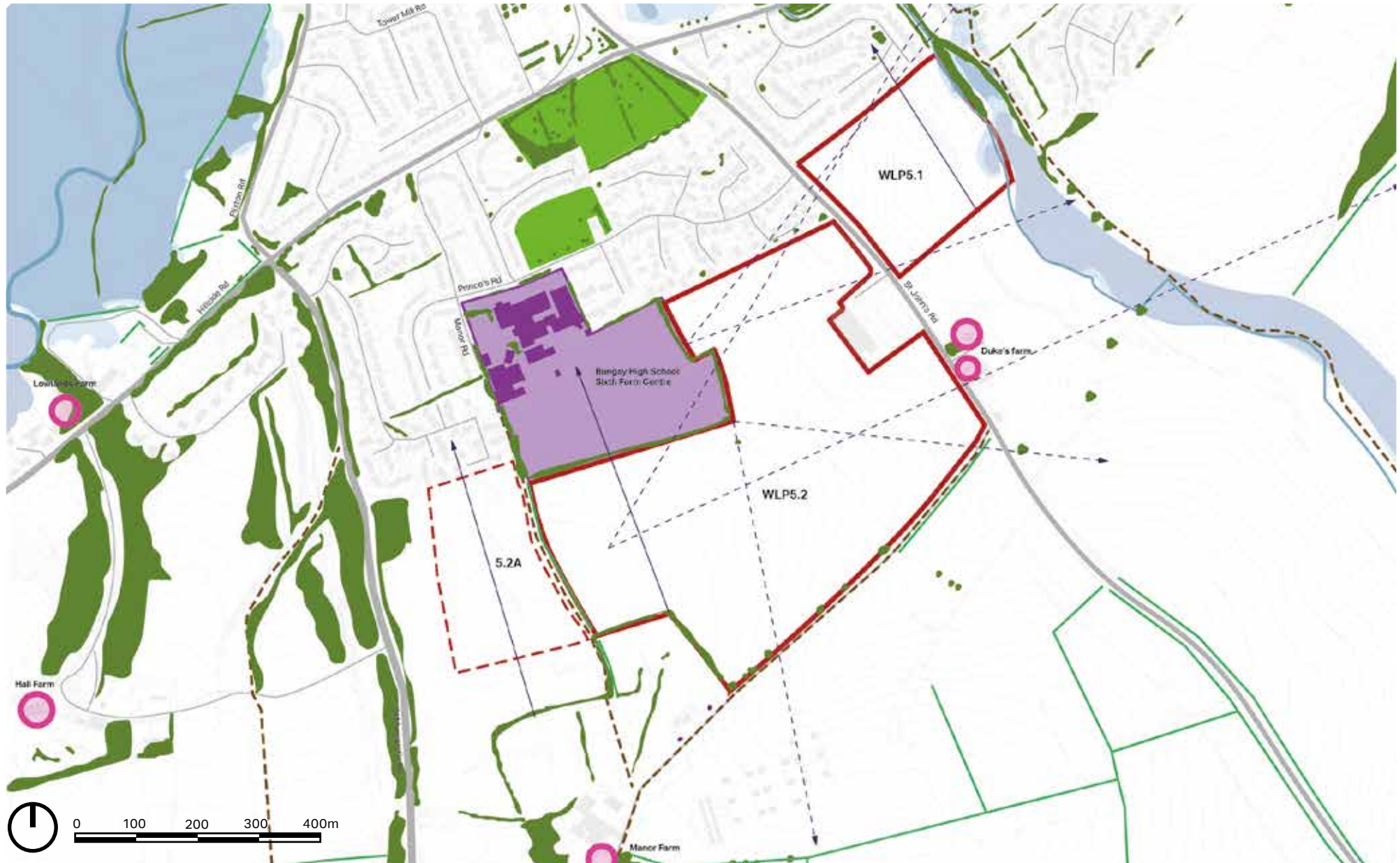
Site 5.2 and 5.2A are bounded by the existing residential areas and Bungay High School playing fields to the north. St Johns Road and the swimming pool bounds the land 5.2 to the east. The south and west of 5.2 is bound by open fields and a public right of way which provides a connection between Grade II listed buildings at Manor Farm and the town. Site 5.2A is also currently bound by open fields to the east, west and south.

The topography of the land 5.2 falls gently from west to east. This enables views from the site towards east and south-east, and also to the site from the public right of way to the south of the site and St Johns Road. The absence of continuous and large vegetation along the southern edges of the study area enables long distance views into the development site areas.

Site 5.2A, on the other hand, gently fall to the north west and lies on higher land than St Margaret's Road to the west.

The sites have a significant drainage requirement. This is reviewed in appendix 2.





Site analysis for the development sites in Bungay

6.3. Masterplan Option 1

The Masterplan Option 1 presented opposite tests a layout to achieve the requirements of WLP5.1 and WLP5.2 within the site allocation lands of 5.1 and 5.2 - it's starting point is Local Plan compliance. The average residential density is increased to approximately 34 dwellings per hectare to enable the provision of small homes (1-2 bedrooms) responding to the Bungay Neighbourhood Development Plan survey and Housing Needs Assessment, and the total area of open space is increased to 3.16 hectares.

This option estimates that the attenuation of both of the development sites would be accommodated either on the open space to the east of 5.1 (approximately 1.9 hectares of open space can be available) or off-site.

The key features of this masterplan option are listed below.

- Residential land to accommodate 485 dwellings at approximately 34 dwellings per hectare.
- Two access points to 5.2 and one access point to 5.1 from St John's Hill.
- 3 hectares of employment land to the south-eastern corner of the land 5.2.
- 2 hectares of Bungay High School playing fields extension and provision of bus parking and turning space to the south of the school.
- 0.25 hectares of allotments.
- Retention of the hedgerows along the development boundaries.
- Provision of parks, playgrounds and amenity of open spaces.
- Minimum 10 metres of green belt to the south of the 5.2 development site and 5 metres of green belt to the south of the 5.1 development site.

KEY

	Site Allocations
	5.2A Potential development land
	Bungay High School Sixth Form Centre
	Development parcels
	School extension site
	Bus park and turning area
	Employment land
	Public open space
	Green amenity space
	Allotments
	Key buildings
	Building frontages
	Existing network
	Vehicle movement
	Pedestrian and cycling movement
	Public right of way
	River Tin
	Hedgerow
	Existing trees
	Neighbourhood equipped area of play (NEAP)
	Potential location for pre-school setting



Secondary school bus parking and turning area

Direct connection to the existing housing creating a functional and visual integration.

Linear connection with a view to the open space.

Views

Curved primary route aiming to reflect the picturesque character of the town centre by creating serial visions and sense of enclosure.

Create architectural articulations on the buildings where the key views along the primary route terminates.

Linear streets connecting the development with the open countryside.

Option 1 for development sites in Bungay

6.4. Masterplan Option 2

The Masterplan Option 2 presented opposite tests a layout to achieve the requirements of WLP5.1 and WLP5.2 within the site allocation lands of 5.2 and and potential development land 5.2A. Similar to the option 1, the average residential density is increased to approximately 34 dwellings per hectare to enable the provision of small homes (1-2 bedrooms) responding to the Bungay Neighbourhood Development Plan survey, and the total area of open space is increased to 2.58 hectares.

This option estimates that the attenuation for the development on 5.2 will be accommodated on 5.1 and the attenuation of 5.2A will be acommodated on-site.

The key features of this masterplan option are listed below.

- Residential land to accommodate 485 dwellings at approximately 34 dwellings per hectare.
- Two access points to 5.2 from St John’s Hill.
- 3 hectares of employment land to the south-eastern corner of the land 5.2.
- 2 hectares of Bungay High Scholl playing fields extension and provision of bus parking and turning space to the south of the school.
- 0.25 hectares of allotments.
- Retention of the hedgerows along the development boundaries.
- Provision of parks, playgrounds and amenity of open spaces.
- Minimum 10 metres of green belt to the south of the 5.2 development site.

KEY

	Site Allocations
	5.2A Potential development land
	Bungay High School Sixth Form Centre
	Development parcels
	School extension site
	Bus park and turning area
	Employment land
	Public open space
	Green amenity space
	Allotments
	Key buildings
	Building frontages
	Existing network
	Vehicle movement
	Pedestrian and cycling movement
	Public right of way
	River Tin
	Hedgerow
	Existing trees
	Neighbourhood equipped area of play (NEAP)
	Potential location for pre-school setting

Secondary school bus parking and turning area

Direct connection to the existing housing creating a functional and visual integration.

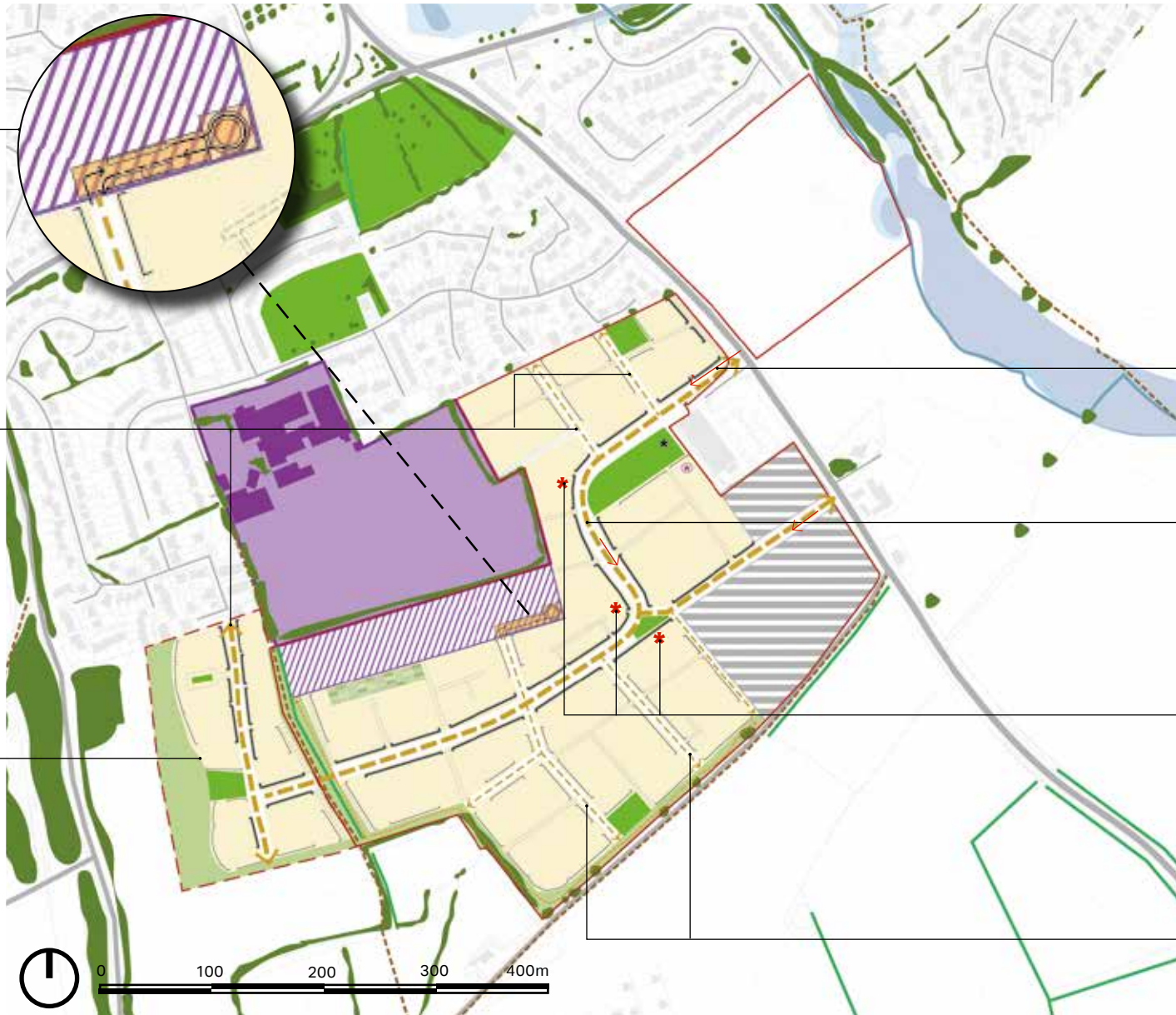
More informal development edge for a softer transition between the built environment and the open field.

Views

Curved primary route aiming to reflect the picturesque character of the town centre by creating serial visions and sense of enclosure.

Create architectural articulations on the buildings where the key views along the primary route terminates.

Linear streets connecting the development with the open countryside.



Option 2 for development sites in Bungay

6.5. Exemplar residential layouts

The following sketches illustrate how a residential layout can be achieved on two development blocks within 5.2. On each of the illustrations active building frontages provided along streets and open spaces. There are sufficient number of allocated on street and off street car parking spaces included. The layout mostly provides back to back housing with small number of side to back and front to back arrangements. At each type of arrangement a sufficient distance for privacy is aimed to be achieved.

On each of the option mixed housing typologies are used which is comprised of detached houses, semi-detached houses and terraced houses. Each of the layout achieves an average of 34 dwellings per hectare density. The example site 1 also illustrates the open space including a neighbourhood equipped area for play (NEAP) and a pre-school setting.



Exemplar residential layouts



Exemplar 1 residential layout in site WLP5.2 in Bungay



Exemplar 2 residential layout in site WLP5.2 in Bungay



A photograph of ancient stone ruins, possibly a wall or fortification, under a cloudy sky. The ruins are made of rough, weathered stone and are partially covered with green vegetation. In the foreground, there is a metal fence with several green trash bins. A large, white number '07' is overlaid in the bottom right corner. The word 'Deliverability' is written in white text above the number.

Deliverability

07



7. Deliverability

7.1. Delivery Agents

The design guidelines will be a valuable tool for securing context-driven, high quality development in Bungay. They will be used in different ways by different actors in the

Actor	How they will use the design guidelines
Applicants, developers and landowners	As a guide to the 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. Where planning applications require a Design and Access Statement, the Statement should explain how the Design Guidelines have been followed.
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.
Town Council	As a guide when commenting on planning applications, ensuring that the Design Guidelines are followed.
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

planning and development process, as summarised in the table below:

7.2. Deliverability

The National Planning Policy Framework (paragraph 35) emphasises that a proportionate evidence base should inform plans. Based on a 'positive vision for the future of each area; a framework for addressing housing needs and other economic, social and environmental priorities; and a platform for local people to shape their surroundings' (see paragraph 15). Policies should be 'underpinned by relevant and up-to-date evidence. This should be adequate and proportionate, focused tightly on supporting and justifying the policies concerned, and take into account relevant market signals' (paragraph 31). Crucially planning policies 'should not undermine the deliverability of the plan' (paragraph 34).

Neighbourhood Plans need to be in general conformity with the strategic policies in the corresponding Local Plan. Where new policy requirements are introduced (that carry costs to development) over and above Local Plan and national standards it is necessary to assess whether development will remain deliverable. The principles and guidance set out in this document and within the Neighbourhood Plan's policies are aligned with national policy and non-statutory best practice on design.

The values and costs of construction between new developments and within new developments will vary based on location, situation, product type, design (architecture, placemaking etc.) and finish; and the state of the market at the point of marketing the properties. The guidelines herein constitute place making principles and guidance to help interpret and apply the statutory policies within the Neighbourhood Plan. Good design is not an additional cost to development and good placemaking can result in uplifts in value.

Appendices

Appendices

Appendix 1: Parking requirements

Suffolk Guidance for Parking Technical Guidance (Second Edition, November 2015; Suffolk County Council)

Residential

Use	Vehicle	Cycle	PTW	Disabled
1 bedroom	Minimum* 1 space per dwelling	Minimum 2 secure covered spaces per dwelling.	Minimum N/A	Minimum* N/A if parking is curtilage, otherwise as Visitor/ unallocated
2 bedrooms	1.5 spaces (1 allocated and 1 shared between 2 units for flexible use); 2 spaces per dwelling when provided within curtilage (or where sharing a space between 2 units is not practical)	(Satisfied if garage or secure are provided within curtilage of dwelling to minimum dimensions)		
3 bedrooms	2 spaces per dwelling			
4+ bedrooms	3 spaces per dwelling			

Use	Vehicle	Cycle	PTW	Disabled
Retirement developments (e.g. warden assisted independent living accommodation)	Minimum* 1 space per dwelling	Minimum 1 stand per 8	Minimum 2 spaces and 1 space per 2 dwellings for mobility scooters	Minimum*
Visitor/ unallocated	0.25 spaces per dwelling (unallocated)	if no garage or secure area is provided within curtilage of dwelling then 1 covered and secure stand per dwelling in a communal area for residents plus 1 stand per 8 dwellings for visitors	1 space + per 20 car spaces (for 1st 100 car spaces), then 1 space per 30 car spaces (over 100 car spaces)	

Parking Guidance for Use Class B1:Business

Offices (other than those that fall within A2), Research and development of products and processes, Light Industry appropriate in a residential area

Standard

Use	Vehicle	Cycle	PTW	Disabled
B1	Maximum 1 space per 30 m ²	Minimum 1 stand per 200 m ²	Minimum 1 space +1 per 20 car spaces (for 1st 100 car spaces), then 1 space per 30 car spaces (over 100 car spaces)	Minimum* 200 bays or less= 2 bays or 5% of total capacity, whichever is greater. Over 200 bays=6 bays plus 2% of total capacity

Parking Guidance for Use Class B2:

General Industrial - Industrial process other than that falling with Class B1

Standard

Use	Vehicle	Cycle	PTW	Disabled
B2	Maximum 1 space per 30 m ²	Minimum 1 stand per 200 m ²	Minimum 1 space +1 per 20 car spaces (for 1st 100 car spaces), then 1 space per 30 car spaces (over 100 car spaces)	Minimum* 200 bays or less= 2 bays or 5% of total capacity, whichever is greater. Over 200 bays=6 bays plus 2% of total capacity
B2 Tyre and Exhaust drive in Service and Motor Vehicle Repair	3 spaces per service bay excluding the bay plus staff parking	1 stand per 300 m ²	1 space +1 per 20 car spaces (for 1st 100 car spaces), then 1 space per 30 car spaces (over 100 car spaces)	200 bays or less= 2 bays or 5% of total capacity, whichever is greater. Over 200 bays= 6 bays plus 2% of total capacity

Informative notes (for internal use):

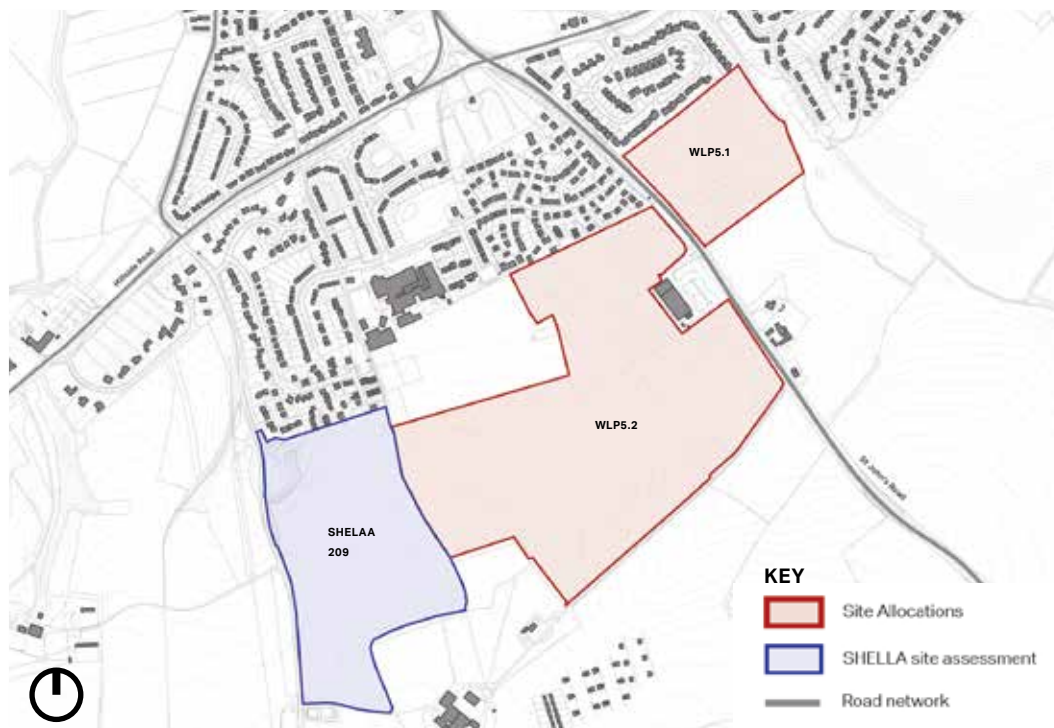
- Standards exclude garages under 6m x 3m (internal dimension) as a parking space but can include undercroft parking and car ports providing they have no other current or potential use.
- Only Garages of size 7.0m x 3.0m are considered large enough for the average family cars and cycle, and will be considered a parking space. A reduced minimal internal garage dimensions of 6.0m x 3.0m (internal dimension with additional fixed enclosed storage of minimum size 3m² is provided, will also be counted as a parking space.
- Visitor/unallocated vehicle parking can, subject to appropriate design, be located on street.
- Unallocated cycle parking for residents to be secure and covered, located in easily accessible locations throughout the development.
- Where grouped, unassigned parking is proposed, more flexible and efficient use of the parking may be achieved than with allocated parking. Subject to discussion with the Highway Authority this may potentially reduce the nominal on-street parking provision standards required by up to 25%.
- Where an individual dwelling may require more than two spaces these additional spaces may be provided as part of unallocated on street parking, providing this is designed in.
- Electric Vehicle recharging points to be provided to support the use of low emission vehicles.

Appendix 2: Surface water drainage

1. Introduction

This note considers the surface water drainage requirements of two Masterplan options currently being developed by AECOM for the Strategic Land Allocations, WLP5.1 and WLP5.2, designated to the south of Bungay under the Waveney Local Plan.

The layout of the Strategic Land Allocations from the Waveney Local Plan is reproduced below. WLP5.1 is described as Land East of St. John's Road and WLP5.2 is described as Land West of St. John's Road. The total allocation areas are 4.65 ha and 21 ha respectively.



Map showing Strategic Land allocations

The Masterplan options under development aim to meet the objectives of the Waveney Local Plan Strategy for Bungay, including the provision of 485 dwellings, in addition to employment land, education facilities, open space and other amenities.

Both Masterplan options incorporate a proposed development of 150 dwellings within WLP5.2, for which outline consent has been granted (DC/14/4193/OUT).

2. Surface Water Drainage Strategy

AECOM has not been commissioned to develop a surface water drainage strategy for the Masterplan options.

However, AECOM has reviewed the surface water drainage strategies provided within the Flood Risk Assessments submitted in support of the outline and reserved matters planning applications for the proposed 150 dwelling development. The outline and detailed FRAs were produced by Bidwells and Anglia Survey & Design (ASD) respectively.

The key conclusions identified in the surface water drainage strategies are:

- No evidence is available to confirm the suitability of infiltration drainage. It is therefore proposed that surface water shall be discharged to Tin River, a main river located to the east of WLP5.1;
- The detailed surface water drainage strategy assumes impermeable area percentages of approximately 56% for residential land and 58% for employment land;
- Restricted discharge rates have been agreed with the Lead Local Flood Authority, enshrined in Condition 9 of the planning consent, permitting a maximum discharge rate of 46.0 l/s in a 1% AEP design storm plus 30% climate change allowance;

- Volume control requirements are to be met by means of Long Term Storage (LTS), demanding that the calculated LTS volume of 269 m³ be discharged at not more than 18.6 l/s;
- Attenuation, incorporating LTS, is proposed in the form of an off-site attenuation basin and on-site underground storage;
- The proposed attenuation basin is designed to cater for the 150 dwellings residential land only, and shall hold a volume of approximately 2560 m³ and occupy a land area of approximately 0.32 ha and
- The proposed attenuation basin was originally to be located within WLP5.1, however an alternative location to the south east, adjacent to Duke’s Farm, is now proposed.

The veracity of these conclusions has not been assessed by AECOM. It has been assumed that these conclusions are valid, and the underlying principles may be extended to the Masterplan options for the purposes of an initial assessment.

3. Masterplan Options

Both Masterplan options currently under development aim to achieve the following:

- 335 dwellings at a typical density of 30 dwellings per hectare (DPH), equating to 11.2 ha, taking the total number of dwellings including the consented 150 dwelling development to 485;
- 3 ha of employment land;
- 6.8 ha of education land (Bungay High School extension and Sixth Form Centre).

Table 1 summarises the estimated impermeable areas which would discharge to the associated surface water drainage system. This is predicated on the assumptions established in the existing surface water drainage strategies, which would need to be verified in support of a specific surface water drainage strategy.

Other land use types, such as open space, are assumed not to contribute to the surface water drainage system, and as such are not included here.

Land Use Type	Land Use Area	Assumed Impermeable Area Percentage	Assumed Urban Creep Allowance	Assumed Impermeable Area
Residential - 335 dwellings	11.2 ha	56%	10%	6.9 ha
Employment	3 ha	58%	10%	1.9 ha
Education	6.8 ha	50%	10%	3.7 ha
TOTAL	21 ha	n/a	n/a	12.5 ha

Table 1. Masterplan Assumed Impermeable Area



Option 1 utilises fully both WLP5.1 and WLP5.2 to provide the required land use types

4. Masterplan Surface Water Drainage Considerations

Based on the assumed impermeable areas presented in Table 1, totalling 12.5 ha, a simplified surface water storage volume estimate has been carried out using the UK SuDS online tool (<http://www.uksuds.com/drainage-calculation-tools/surface-water-storage>). Using this tool, an attenuation volume of 10,500 m³ has been estimated for the Masterplan options.

The attenuation basin designed for the consented 150 dwelling development achieves an attenuation rate of 8000 m³ per ha. Assuming that the same efficiency of design can be achieved for the surface water system to serve the Masterplan Options, a land area of approximately 1.3 ha would be required to provide an equivalent attenuation provision.



Option 2 does not utilise WLP5.1. Instead, approximately 3.5 ha of alternative land to the the west of WLP5.2 is used

Surface attenuation features, such as attenuation basins, ponds, or wetlands are preferred over underground storage tanks. Neither Masterplan option includes any land availability within WLP5.2 for the provision of surface attenuation features. To accommodate a 1.3ha surface attenuation feature to serve the Masterplan options, suitable land needs to be identified, either off-site or within WLP5.1.

4.1 Masterplan Option 1

Masterplan Option 1 includes approximately 2.9 ha of residential land within WLP5.1, to accommodate 85 dwellings. Of the remaining 1.75 ha of land, the Environment Agency's Long Term Flood Risk Mapping (<https://flood-warning-information.service.gov.uk/long-term-flood-risk/map>) suggests that approximately 0.85 ha may be at risk of flooding from the adjacent Tin River, and would therefore not be suitable for the provision of surface water attenuation features. This leaves approximately 0.9 ha of land which could be allocated to the provision of surface water attenuation features.

The existing site topography falls throughout to the east / north east, towards Tin River. Therefore, it is assumed that the surface water drainage system would discharge entirely to Tin River. Therefore, surface water attenuation features would be required proximal to Tin River.

A maximum of 0.9 ha of land could be allocated to surface water attenuation features within WLP5.1. This would leave a minimum of 0.4 ha of land to be allocated off-site. Due to inefficiencies in hydraulic design which can result from fragmenting attenuation, it is recommended that the off-site land allocation be increased to 0.65ha. This would need to be between St. John's Road and Tin River, to suit the local topography.

4.2 Masterplan Option 2

Masterplan Option 2 does not utilise WLP5.1. As such, the entirety of WLP5.1 may be available for the provision of surface water attenuation features. This would comfortably accommodate the land area of 1.3 ha identified above.

However, Option 2 utilises land to the west of WLP5.2. The existing site topography in this area falls to the west, away from Tin River. Therefore, it would not be practical for surface water drainage systems serving this area to utilise surface water attenuation located within WLP5.1 without the use of a pumping station or very deep drainage, neither of which would be preferred.

Alternatively, the surface water attenuation land allocation could be split, with approximately 1.25ha allocated within WLP5.1 and 0.3 ha allocated in the land to the west of WLP5.2. This allows for inefficiencies in hydraulic design which can result from fragmenting attenuation.

A point of discharge for surface water from the land to the west of WLP5.2 has not presently been identified. There are no existing watercourses within this part of the site, and as such it may be necessary for surface water to be discharge off site. The land beyond this part of the site falls to the north west, towards Broad Water, a main river which is approximately 620m from the site boundary.

4.3 Conclusions and Recommendations

This note presents an initial assessment of the surface water drainage considerations for the two Masterplan options currently being developed by AECOM. This initial assessment uses a simplified approach and is based on numerous assumptions, principally established by the existing surface water drainage strategies developed for the consented 150 dwelling development within WLP5.2.

To progress the Masterplan Option development further, it is recommended that a conceptual site-wide drainage strategy is developed.

This would need to consider numerous factors, including but not limited to the following:

- Impermeable area proportions for the proposed land use types should be examined, based on proposed layouts;
- A conceptual surface water drainage model should be developed, utilising currently accepted methods;
- Potential points of discharge for surface water runoff from the land west of WLP5.2 (Option 2 only) should be identified;
- Land ownership and site constraints for potential off-site surface water attenuation feature locations should be investigated;

On the basis of the initial assessment summarised in this memo, the following recommendations are made for the allocation of land to surface water attenuation features in the current Masterplan Options:

- Masterplan Option 1 should allocate the following approximate land areas:
 - A maximum of 0.9 ha of land in the eastern part of WLP5.1;

- A minimum of 0.65 ha of land off-site, between St. John's Road and Tin River.
- Masterplan Option 2 should allocate:
 - 1.25 ha of land in the eastern part of WLP5.1, the whole or a proportion of which could alternatively be located south of WLP5.1, between St. John's Road and Tin River, if preferred;

0.3 ha of land on-site to the west of WLP5.2, the whole or a proportion of which could alternatively be located off-site at a location to be identified following further investigation, if preferred.

About AECOM

AECOM is built to deliver a better world. We design, build, finance and operate infrastructure assets for governments, businesses and organizations in more than 150 countries. As a fully integrated firm, we connect knowledge and experience across our global network of experts to help clients solve their most complex challenges. From high-performance buildings and infrastructure, to resilient communities and environments, to stable and secure nations, our work is transformative, differentiated and vital. A Fortune 500 firm, AECOM had revenue of approximately \$17.4 billion during fiscal year 2016. See how we deliver what others can only imagine at aecom.com and [@AECOM](https://twitter.com/AECOM).

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