LONDON BOROUGH OF BEXLEY

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Draft Design Guide

Supplementary Planning Document







Guidance for applicants, decision makers and the local community

July 2024

Design Principles

Contents

Foreword

The Bexley Local Plan sets out a blueprint for how the borough will change and grow over the next 15 years whilst protecting what we love most about the place.
High quality design will lie at the heart of achieving this objective as it is fundamental to the look and feel of new buildings and spaces and how they are used.

This draft guide, which is the first of a series of documents, sets out the key principles of good design and, provides practical support for those developing, commenting on and deciding applications for new buildings and public spaces within the borough.

The key objectives of the document are to 'be more Bexley', promote good design and provide clarity. Striving to 'be more Bexley' means supporting development that is rooted within the borough and draws upon the local distinctiveness of the area to ensure development complements its surroundings. The draft guide explores the design challenges and opportunities that exist across the borough and how these can be addressed by being clear about what good design means and how it can be achieved. In that way we can make sure the Council receives high quality proposals backed up by sound evidence which will make for quicker decisions, reducing costs and delays for everyone.

The benefits of good design are significant and far reaching not only making places in Bexley better but helping the environment, addressing climate change, improving the quality of life for all and supporting economic growth.

As such, I take great pleasure in presenting these draft design principles for your consideration and would encourage all interested in the development of Bexley to get involved in the consultation.

Councillor Munur
July 2024

Cabinet Member for Growth
Councillor Cafer Munur

Introduction

Introduction

Objectives of the Design Guide SPD

Be more Bexley

The Council encourages development that reinforces local distinctiveness and discourages generic designs that do not complement their surroundings. To support this, the Guide focuses on the design challenges and opportunities present in Bexley and provides targeted advice that is relevant to the local context. Examples of common forms of development will be used to illustrate and explain this guidance further and published as separate documents.

Promote good design

Good design leads to better wellbeing outcomes and a more sustainable form of development. The Guide seeks to improve the quality of proposals by establishing principles that should be followed but gives a degree of flexibility in how this is achieved so to not stifle innovation and exemplary design.

Provide clarity

The Guide is intended as a useful reference tool to reduce uncertainty for applicants looking to develop a site, thereby increasing the quality of submissions and reducing delay at the application stage. To achieve this, the Design Principles form overarching guidance that applies across all development for consistency. Specific information on typical sites, buildings and places will follow in documents published separately to clearly define and illustrate what is expected for well-designed places.

Policy context

The Bexley Local Plan sets out the fundamental role of high quality design in achieving sustainable development. National and regional policy place a clear emphasis on good design and the role of Local Authorities in determining what this looks like for their area. The Design Guide, of which these Design Principles form the first part, seeks to define and illustrate what good design means in Bexley in greater detail and provide codes and guidance in line with the objectives defined opposite.

The production of this document has followed best practice and been informed by a robust local evidence base. It has been shaped by effective engagement with stakeholders and will be informed further by the public consultation process.

The Design Guide is intended to aid the planning process and is applicable to both new built development and changes of use – particularly where the latter leads to an intensification of activity and associated impacts on the appearance of the site and wider area. The document is therefore, primarily for:

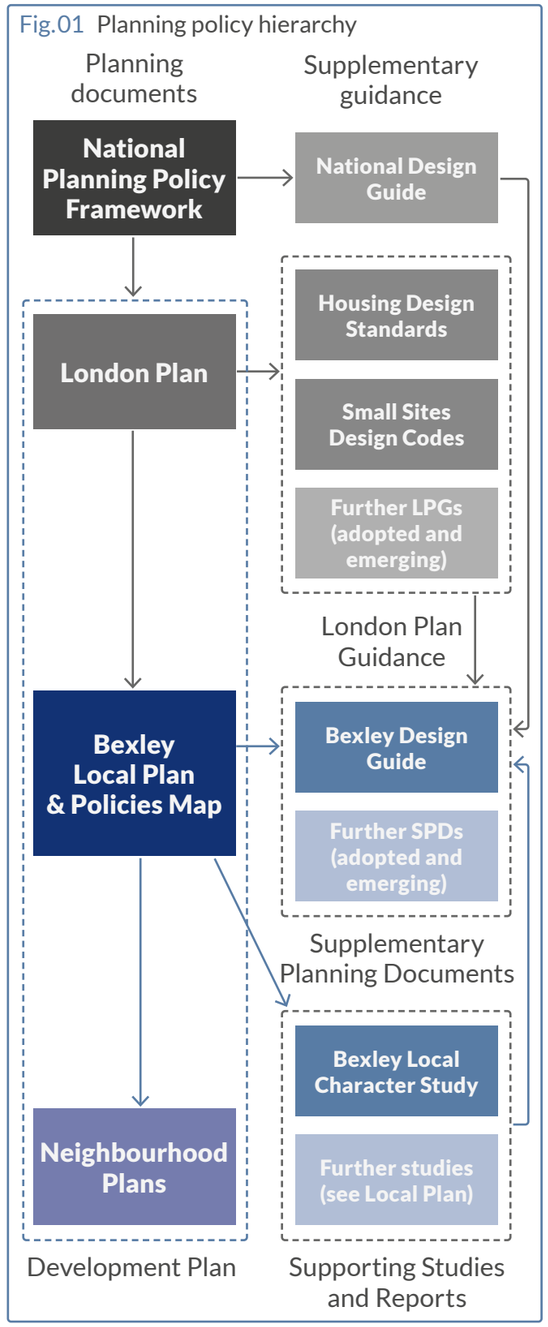
- Applicants and their design teams in the preparation for pre-application discussions and planning submission
- Decision-makers when considering whether to grant or refuse planning applications
- People in local communities and their representatives to assess proposals in their area

The guidance provided in this document will be supplementary to the Bexley Local Plan policies. It demonstrates ways to meet these policies through the use of illustrations and codes.

Where relevant, specific policies are highlighted in the text for ease of reference. However, it is assumed that all guidance is provided to help applicants meet requirements set out in the Local Plan. In particular, the guide supports the implementation of the following Local Plan policies:

- SP5 Placemaking through good design
- DP11 Achieving high-quality design

Fig.01 Planning policy hierarchy



The Design Guide is additional, borough-specific guidance for Bexley. It should be read in conjunction with national and regional design guidance on placemaking, such as the National Design Guide and the London Plan – see Fig.01.

This new Design Guide, once adopted, will replace the following Bexley planning guidance: Design for Living SPD, Bexley residential design guide, Bexley Sustainable Design and Construction Guide, Crayford Town Centre: Design and Identity Guide, Crayford Town Centre: A residential design code, UDP Design and Development Control Guidelines.

How to use this document

The Design Guide is separated into several distinct documents which will be developed and consulted upon in phases. The **Design Principles,** which are the first part of the SPD to be published for consultation, applies across all types of development in Bexley to ensure consistency and quality. This will be followed by additional guidance specific to certain types of development, including:

- **Small Sites** – sites below 0.25 hectares
- **Building Alterations** – extensions and alterations to existing buildings
- **Area Types** – common development types in Bexley e.g. industrial buildings
- **Site Design Codes –** design guidance for areas undergoing significant change

These documents will be supported by a **Technical Handbook** that will contain detailed specialist information and standards required for certain planning applications, including highways, waste, sustainability and biodiversity.

The documents are colour-coded to aid navigation and each section of design advice is given a sequential number for ease of reference. Design Principles are given the prefix **D**. Small Site codes will be given the prefix **S**, Building Alterations codes **B,** and Area Types codes **A**. The prefix for the Site Design Codes will be based upon the name of the area that is being planned.

Please note that references to these additional documents are included in the text but they do not form part of this consultation. They will be finalised and published for consultation in due course and all parts simultaneously adopted as a single SPD.

The **Design Principles** document is split into three chapters. Each begins with an overview of the advice being given and the structure of the chapter. This is then followed by design advice in the form of codes and guidance.

The codes either use the words *must*, *should* or *could*. These indicate the strength of the guidance and whether it is required to meet adopted policy or suggestive – see Fig.03. The codes only apply to relevant forms of development as judged appropriate by the planning officer assessing the relevant proposal.

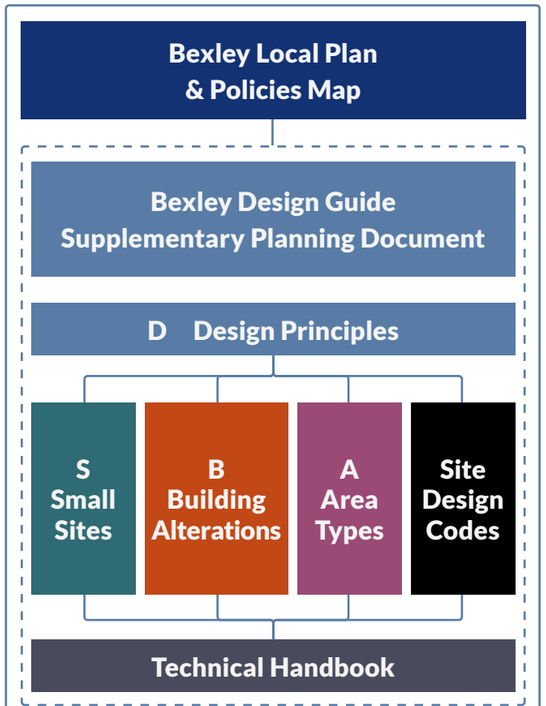


Fig.02 The documents that will form the Design Guide SPD. This consultation focuses on the first document: Design Principles

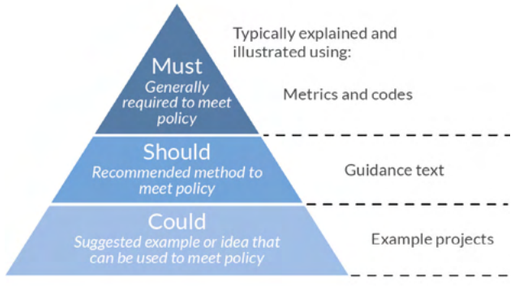
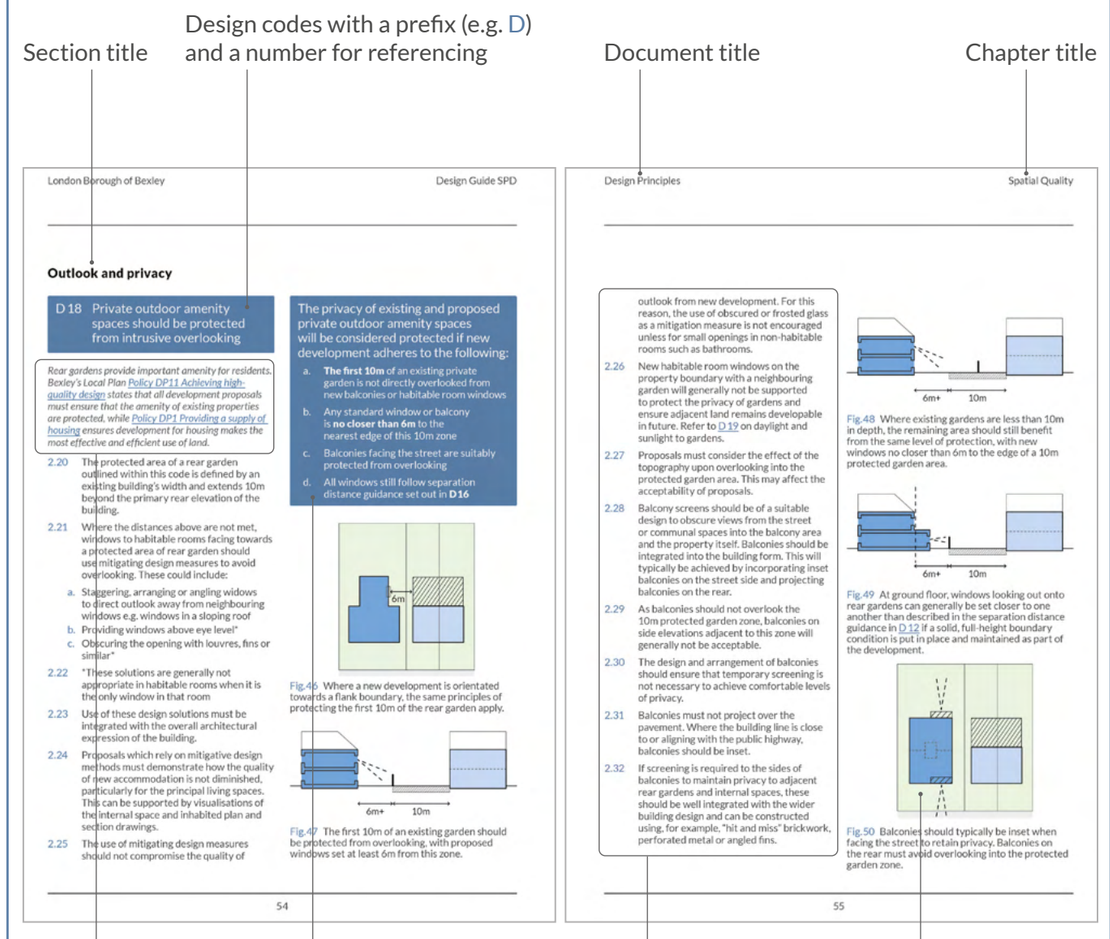


Fig.03 The strength of the guidance is indicated in the use of the words *must*, *should* or *could*.

Fig.04 Example pages of the Design Guide with annotated features



Summary of relevant policies for ease of reference

Metrics that can be used to meet the code

Implementation text including guidance on when the code applies

Numbered figures, including diagrams, example projects, tables, and maps to illustrate the text

Where underlined, highlighted text is used, this is a link to external resources. Where *italic text* is used, this word or phrase is a technical term and is included in the Glossary. Highlighted text indicates a link to information elsewhere in the document.

Design Principles

1 Local character

Does the development respond well to the existing setting?

Context

Designs respond to the natural and built context of the site and the needs of stakeholders.

Townscape

Building forms create well-proportioned streetscapes that improve views and minimise blank walls.

Materials and details

The materiality of proposals reflect both character and sustainability, and details enhance the quality of the design.

2 Spatial quality

Does the development create generous spaces for both people and nature?

Outlook and privacy

Buildings are arranged and designed to protect outlook and privacy while optimising the capacity of development.

Comfort and wellbeing

Internal spaces are spacious and the massing of buildings allows sufficient daylight and sunlight into neighbouring spaces.

Natural environment

Outdoor spaces are well-designed and functional for inhabitants and help restore the natural value of sites.

3 Public realm

Does the development contribute positively towards the neighbourhood?

Movement

Development creates permeable, safe and accessible places with a clear street hierarchy.

Layout

The layout of proposals balances land uses such as parking, storage and natural spaces and suitably addresses flooding issues.

Legibility

Public spaces are street-based, clearly signposted and well managed with suitably activated ground frontages.

The Design Principles apply across all forms of development in the Borough. They are organised into three sections that set out a vision for growth.

The sections each focus on three cross-cutting issues that typically occur within development in Bexley. For this reason, topics such as sustainability, biodiversity or transport are featured across these chapters where relevant, rather than separated into distinct specialisms to reflect a holistic approach to design.

These chapters seek to address all of the ten characteristics of well-designed places as defined in the National Design Guide and are categorised to aid applicants and decision-makers working in Bexley.

1 Local Character

The design guidance for Local Character is separated into three chapters – **Context, Townscape and Materials and Details**. Within these chapters are a series of codes that can inform the development of a design. Each is supported by guidance, diagrams and tables that offer advice on how to meet the aims of the code.

Context

Designs respond to the natural and built context of the site and the needs of stakeholders.

D 01 Design proposals must be informed by a comprehensive understanding of the local context of Bexley

D 02 Proposals should respond positively to the character of Bexley's local environment and be supported by the Design Review process where required

D 03 All applicants must assess the wildlife and ecology of the site at the beginning of the project

D 04 The design of the landscape must respond positively to local character and existing features

D 05 Locally significant features should be identified, retained, and incorporated into the design to maximise placemaking opportunities

D 06 Engagement with stakeholders should be undertaken at a stage where feedback can meaningfully influence design

Townscape

Building forms create well-proportioned streetscapes that improve views and minimise blank walls.

D 07 Applicants must demonstrate the massing of developments responds positively to the site context to create a legible and sustainable built form

D 08 Development must optimise site capacity relative to the designated principle of growth and the nature of the proposal

D 09 New development should form a clear spatial hierarchy appropriate to the urban layout of Bexley

D 10 Applicants should demonstrate that development will not negatively affect local views

D 11 Proposals should avoid creating large areas of blank frontage

Materials and details

The materiality of proposals reflect both character and sustainability, and details enhance the quality of the design.

D 12 The selection and use of materials should form a clear response to local character as defined in **Context**

D 13 Applicants must demonstrate that the whole life carbon of proposals has been minimised through the strategic design approach

D 14 Development should follow a fabric first approach to reduce operational carbon and support wellbeing

D 15 Items affixed to proposals should not compromise their appearance or use

Does the development respond well to the existing setting?

Context

D 01 Design proposals must be informed by a comprehensive understanding of the local context of Bexley

Bexley Local Plan Policy SP5 Placemaking through good design outlines the expectation for new designs to respect the evolving local character, contribute positively to the local environment and protect the best elements of the existing context. Policy DP14 Development affecting a heritage asset sets out the expectations for proposals within the setting of and including heritage assets.

1.1 Applicants should demonstrate a clear and meaningful understanding of the local character through the provision of a Character Appraisal for the site and its surroundings, the detail of which should be relative to the stage of design development – see Fig.05. Typical studies describing the site context will be expected at each design stage to comprehensively assess proposals.

1.2 Responding positively to existing character is a fundamental requirement of successful development. Applicants should refer to the Bexley Local Character Study for detailed analysis of each area and building typology. This information can be used as a starting point for Character Appraisals.

1.3 Historical buildings should be retained and features of the local vernacular incorporated into designs where appropriate – see D 05. Specific guidance for development within a *Conservation Area* can be found in the relevant Conservation Area Appraisal and Management Plan.

1.4 Character appraisals should include an assessment of repeated features and forms. The typical spatial conditions across the borough can be categorised by the building type and the floor area ratio of the plot. These building typologies are a useful starting point for character appraisals - see Fig.06 and Fig.07 (next page). The Bexley Local Character Study describes each typology in greater detail and summarises common design issues and opportunities.

The urban structure of Bexley has been partly defined by extensive inter-war housing development and settlement clusters along main routes out of London. Refer to the Bexley Local Character Study.

1.5 Character Appraisals should be written in a way that clearly communicates meaningful spatial analysis and demonstrates that the applicant has understood relevant aspects of the local character. This process should include the following conclusions:

a. Which features make a positive contribution to the setting and what will be protected, reinforced and/or enhanced
b. Which parts of the surrounding natural and built environment have a social or cultural importance
c. Negative aspects of the local character that should therefore be omitted or reinvented

Fig.05 Typical baseline character studies

Theme	Design stage	Typical studies
Urban form, townscape and landscape	Outline *massing* and capacity studies	• Urban grain and distribution of *massing* • Layout of streets and spaces • Historic layouts and uses • Existing land use • Social and cultural histories • Topography • Features in the area e.g. landmarks or physical barriers • Ecological features such as slopes, trees, hedges, woodlands and natural habitats – See D 03 for assessments of wildlife and ecology • Characteristics of the local geology and hydrology
Streetscape	Detailed *massing*, capacity and other feasibility studies	• Heights of existing buildings including ridges, eaves and parapets • Rhythm of a street including gaps between buildings, pattern of roof lines, length of façades, views through to greenery • Building line of front facade • Arrangement of entrances • Front gardens, including depth, green coverage, planting features, parking and boundary features • Significant views and features of local identity
Immediate site context	Detailed *massing*, capacity and other feasibility studies and outline architectural concept	• Approach on similar site types within the immediate context • Relationship between buildings within the site, including heights, spacings and roof forms • Purpose and use of external spaces • Characteristics of primary and secondary façades • Long views and views of natural spaces • Boundary treatments and changes in surface materials
Architectural design	Architectural concept	• Proportion and form of secondary *massing* features such as bays, dormers, and lobbies • Scale, arrangement, proportion, depth and style of windows, doors and other architectural features • Architectural details including (not limited to) window sills, headers and reveals, parapet copings and roof features • Materials including hardscaping and external walls • Soft landscaping including planting, use of water, green boundaries, green roofs and nature and wildlife – See D 03 for assessments of wildlife and ecology

The sparse bungalow typology, as shown on Dorcis Avenue in Bexleyheath, is rare and mainly found in the centre of the borough. They have consistent roof forms and materials.

The Drive in Sidcup has a number of medium density detached examples. These typically have large, regular proportioned plots with well-defined front garden boundaries.

Braundton Avenue near Sidcup is classified as a medium density semi-detached typology, common across central parts of the borough. They can have varied urban forms.

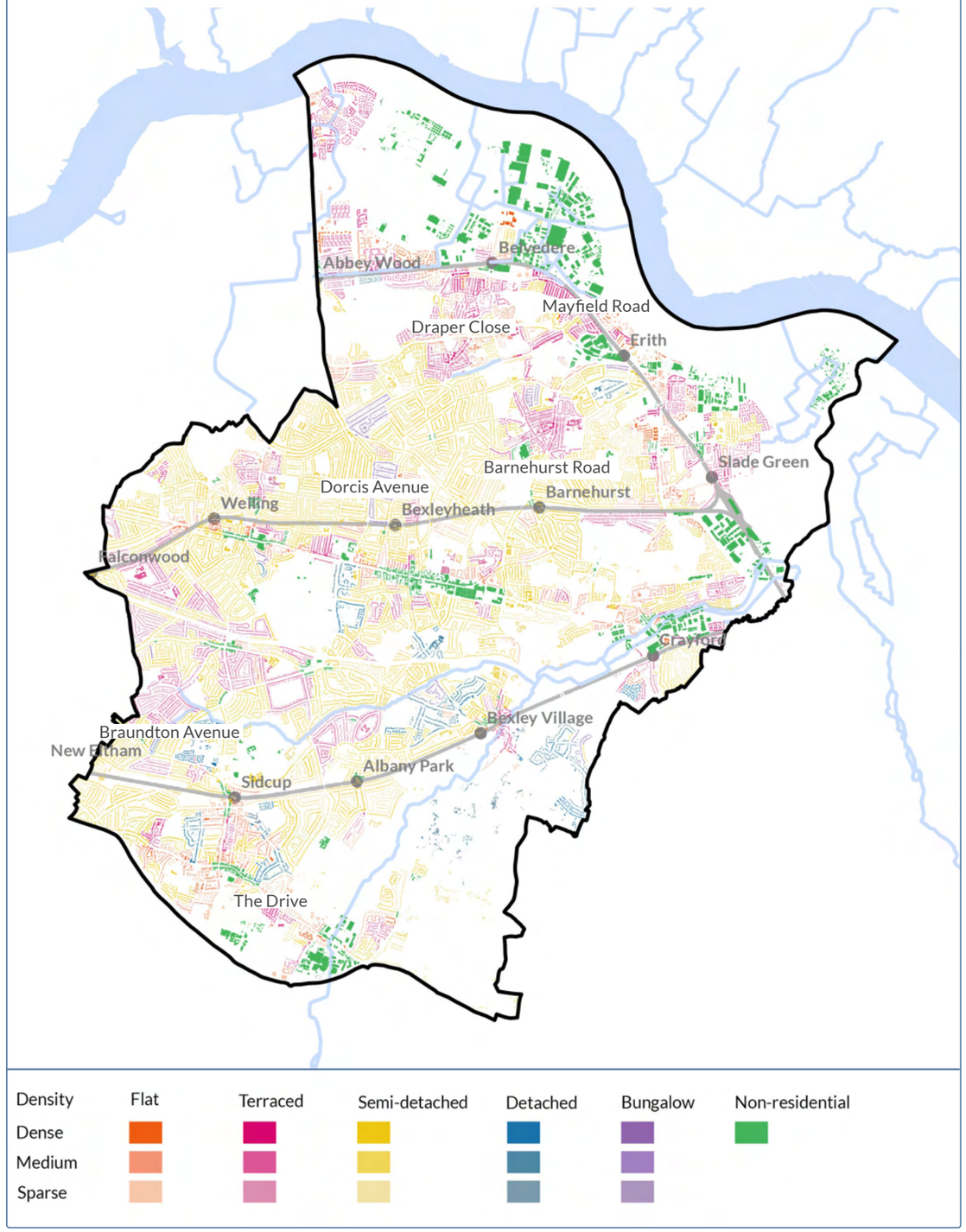
The dense terraced typology is rare and mainly found in the north of the borough, such as on Mayfield Road near Erith. The buildings have a consistent architectural expression.

Draper Close in Belvedere is a good example of the sparse flats typology. They generally provide generous spaces between buildings and long views.

Typical non-residential typologies include small-plot parades such as in Barnehurst. Often the building line is set back from the property line, creating large forecourts.

Fig.06 Example building typologies illustrating some of the typical building forms found in the borough. Refer to the Bexley Local Character Study for detailed information on each area and building typology.

Fig.07 Dominant building typologies across Bexley



Context

D 02 Proposals should respond positively to the character of Bexley's local environment and be supported by the Design Review process where required

Bexley Local Plan Policy SP5 Placemaking through good design states that proposals should respect the existing character but not be constrained by what already exists while following the principles of good design. The supporting information notes that development should aim to mend poor built environments and protect positive built environments.

The National Design Guide Policy C1 Understand and relate well to the site, its local and wider context explains that proposals need not to copy surroundings in every way but it should be demonstrated that development relates to context and local character.

Paragraph 133 of the National Planning Policy Framework states that Local Planning Authorities should make use of processes that improve design, including Design Review.

1.6 Applicants must be aware of and communicate their response to the site character and context. Bexley Local Character Study is a useful resource available to applicants to analyse the existing spatial qualities across the borough.

1.7 Based on the Character Appraisal, the individual site scenario and the requirements of the project brief, applicants should set out a strategic approach to character and context. This could follow one or a combination of the approaches described in Fig.08.

1.8 For certain schemes a *Design Review* is required to assess the design response. These reviews provide specialist design advice from an independent panel on how to improve the design quality of development.

1.9 It is encouraged that *Design Review* takes place early in the pre-application process prior to a planning submission. The number of reviews required may vary dependent upon the type or scale of project.

1.10 The panel reviews a limited number of schemes per year, so the selection of applications is guided by set criteria. Applications that would typically be referred to *Design Review* are:

a. Large scale developments, for example:
- Structures that would exceed the relevant recommended building heights in Policy DP12 Tall buildings and building heights and/or those considered a tall building, which is defined in this policy as any structure over 25m in height.
- 50+ units of residential accommodation
- Commercial development of 10,000+ sqm
- A change of use of 10,000+ sqm
- A development site area of 2+ hectares

b. Proposals of any scale in areas of sensitivity, complexity, or public interest for example:
- Site allocations in the Local Plan
- Developments affecting significant views
- Proposals affecting heritage assets including *Listed Buildings* and Locally *Listed Buildings*
- Public realm schemes
- Infrastructure projects
- Developments that are likely to have a major effect upon their surroundings
- Proposals that are likely to set a wider precedent or influence a recurring issue such as infill development

1.11 The selection of applications and type of review will be at the discretion of the planning officer. The length of review will be relative to the complexity of the proposals.

Fig.08 Examples of strategic design approaches

Approach	Guidance	Example
Traditional replication	• New development closely replicates existing features of notable character. Some divergence is acceptable to accommodate contemporary building standards. • This approach can be an effective response within areas of consistent and distinctive character. • Local context is closely analysed to enable a faithful and meaningful replication of architectural elements and building composition. • This approach can be appropriate where proposal is of a similar typology to the context.	 Queen Mary's Place by Berkeley © Timothy Soar
Contemporary translation	• New development shares some principles or elements of the historic fabric, while introducing contemporary architectural approaches. • This approach may be used in areas of consistent, distinctive character where the proposed building use requires a change in typology or sites are constrained. • It can also be appropriate in areas where local character is ill-defined and new development seeks to make the urban fabric more coherent. • This approach should not result in a poor imitation of historic features.	 House within a house by Alma-nac © Jack Hobhouse
Innovative reinvention	• New development takes a wholly new approach in responding to a site's particular constraints and opportunities. • This approach can be an appropriate response to areas of varied character. Heavily constrained sites may become developable using this approach. • Applicants taking this approach should communicate how the urban form, building composition and materiality respond to the building's programme, site conditions and constraints.	 Signal townhouses by AHMM © Timothy Soar

Context

D 03 All applicants must assess the wildlife and ecology of the site at the beginning of the project

The National Planning Policy Framework Paragraph 180 states that planning permission should be refused for developments that result in significant harm to biodiversity that cannot be avoided, mitigated or compensated for. Development resulting in the loss of irreplaceable habitats such as ancient woodland should also be refused.

Bexley Local Plan Policy SP9 Protecting and enhancing biodiversity and geological assets specifies that development that will significantly affect protected species will be resisted and biodiversity enhancements will be sought through new development.

London Plan Policy G6 Biodiversity and access to nature states that the effect on biodiversity should be informed by the best available ecological information addressed at the start of the development process.

1.12 To successfully protect and enhance the natural value of sites, a baseline assessment of the existing wildlife and biodiversity must be established prior to any type of development. Applicants must consider the time of year wildlife surveys are undertaken.

1.13 The Council will assess proposals against the five-point mitigation hierarchy (see Fig.09). Applicants should demonstrate that this hierarchy has been followed. Further guidance on what information should be submitted at each stage of work will be provided in the Technical Handbook that will form part of the Design Guide SPD.

1.14 Trees have a significant amenity value and can provide valuable habitats for local wildlife. Applicants must show consideration for existing trees, where necessary carrying out Aboricultural Assessments to BS5837 standards. Details of tree root protection areas will need to be stated for any retained trees, which may additionally be secured within a construction management plan. *Tree*

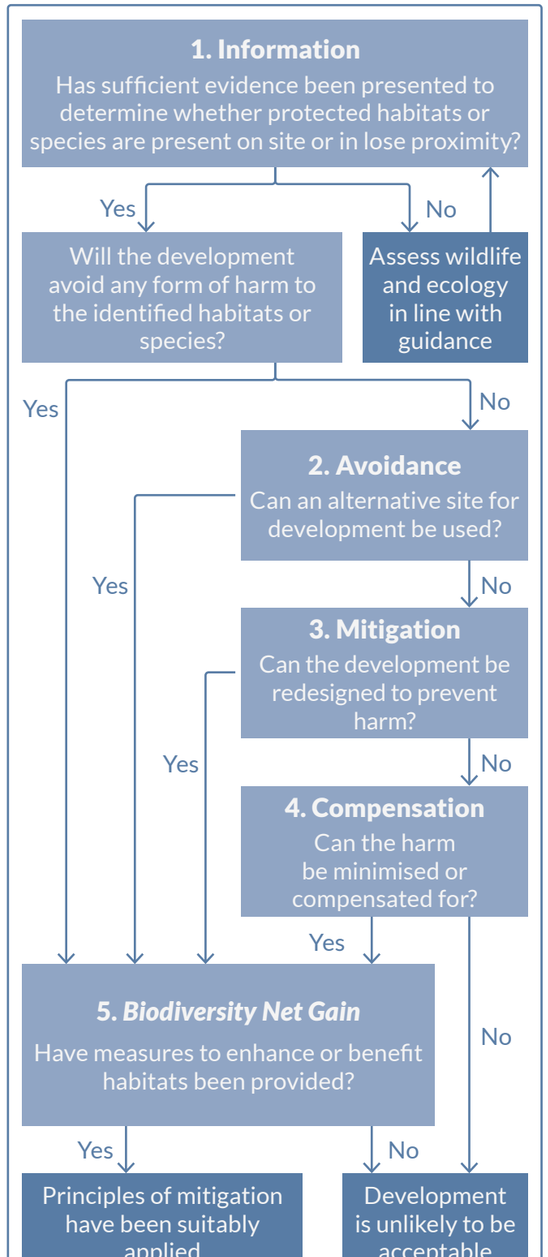


Fig.09 The five-point mitigation hierarchy

Preservation Orders (TPO) must be respected when designs are being conceived.

1.15 Many of Bexley's important habitats are protected from development as *Sites of Importance for Nature Conservation* (SINC), Ancient Woodland, veteran trees and historic parkland while other habitats are protected by other legislation. Protected species can be found throughout the borough.

1.16 Under UK and EU laws several endangered plant and animal species are fully protected (see Fig.10) and it is an offence to kill, injure, capture, disturb them or cause to damage their places of shelter.

1.17 Applicants should determine whether their site is within or adjacent to an area of biodiversity or geodiversity importance, protected habitat or priority species and submit the necessary surveys and reports.

1.18 Development proposals adjacent to irreplaceable habitats such as Ancient Woodland and ancient or veteran trees should follow established good practice for site assessment and design and should:

a. Establish likelihood and identify forms of harm
b. Implement appropriate and proportionate mitigation and compensation
c. Provide adequate buffers of at least 15m or greater depending on level of harm
d. Provide adequate supporting evidence demonstrating the above.

1.19 The protection of the whole habitat is necessary even though tree cover may be comparatively sparse. Development on open space between trees in an area of ancient wood pasture or historic parkland will likely not be acceptable.

1.20 An ecological survey trigger list will be provided in the Technical Handbook document that will form part of the Design Guide SPD to determine the type of surveys required for particular sites and the optimal time of year for these surveys. Use the Wildlife Assessment Check online tool to check if ecological advice is required for your development.

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Open spaces known to be important for bats are Erith Marshes, Franks Park, Hall Place, Danson Park, Foots Cray Meadows, Lesnes Abbey (including all open space and the ornamental gardens), The Glade, East Wickham Open Space, The Warren and Crayford Marshes (pictured above).

Fig.10 Wildlife in Bexley

Protected species occurring in Bexley include, but are not limited to:

- All species of bat – at least nine are recorded in Bexley
- Amphibians: Great crested newt, Common frog, Common toad, Smooth newt, Palmate newt
- Reptiles: Grass snake, Common lizard, Slow worm
- Mammals: Badger, Water vole
- Birds: Barn owl, Bearded tit, Black redstart, Cetti's Warbler, Firecrest, Hobby, Kingfisher, Little Ringed Plover. All wild birds and their nests are protected
- Plants: Stinking goosefoot
- Insects: Stag beetle

Context

D 04 The design of the landscape must respond positively to local character and existing features

Bexley Local Plan Policy DP11 Achieving high-quality design specifies that landscaping design is expected to be of a high standard and respond to the character of the area. Policy SP8 Green infrastructure including designated Green Belt outlines how the Council expects development to support the delivery and enhancement of open spaces while Policy DP21 Greening of development sites states that development is required to provide a high standard of landscaping design.

1.21 Applicants should consider and respond to the existing wildlife and ecology set out in D 03. Schemes should seek to retain the ecology that exists, rather than remove or replace it.

1.22 If a project involves any significant area of outdoor space, a landscape architect or specialist should be consulted from the initial design stages. Major schemes with no landscape design expertise on the project team are unlikely to be able to meet the necessary requirements for landscape, biodiversity and urban greening, which can result in a longer and more expensive application process.

1.23 All development schemes need to demonstrate how they add value to Bexley's *Green Infrastructure* Network indicated in the Bexley Green Infrastructure Study. Proposals should demonstrate how they connect to and enhance existing *green infrastructure* and maximise public benefit.

1.24 Applicants should demonstrate a positive response to the local character and existing features through the submitted evidence, as outlined in Fig. 11. For smaller sites, landscape design can form part of a *DAS*.

Fig. 11 Landscape submission requirements

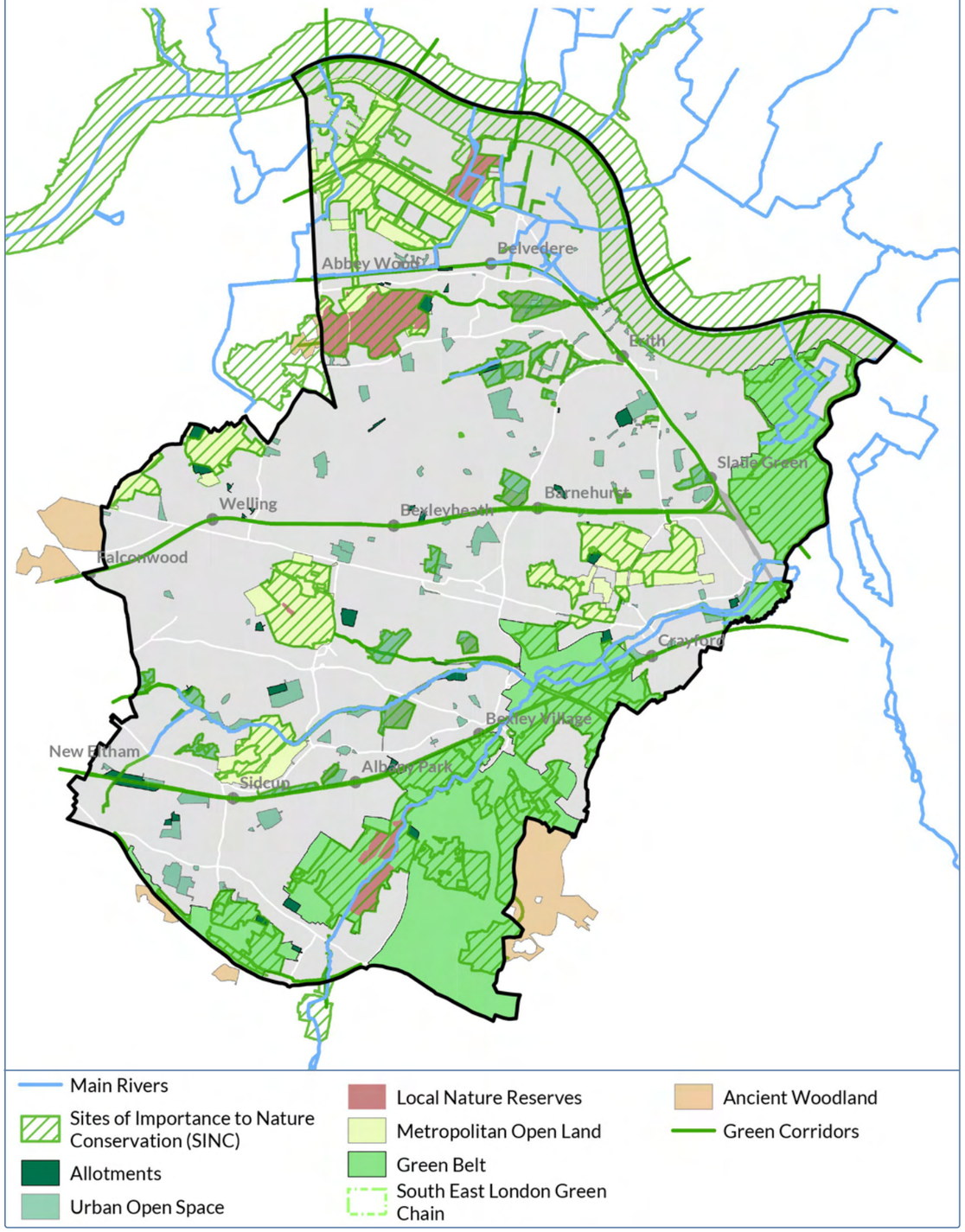
General requirements – the level of detail provided should be proportionate to the scale and nature of the development

- Landscape plan – see D 23
  General arrangement of landscape design with locations of trees, soft and hard landscape and other features. This should be coded, labelled and including area measurements for:
  - *Outdoor communal, private amenity and play spaces*
  - *Visual amenity planting or features*
  - *Wildlife protection areas*
  - *Boundary types and heights*
- Planting plan
  Arrangement for and species of proposed planting. Soft landscaping schemes could contain elements of seasonal interest and reflect the local climate. Native and wildlife friendly planting can be incorporated and schemes must not include artificial forms of greening.

Some development proposals may need to be supported by additional information including:

- Landscape Strategy and Open space Strategy
- Landscape and Ecological Management Plan
- Maintenance Strategy – see D 40
- Urban Greening Factor – see D 24
- Ecological Impact Assessment – see D 03
- Play space/sports area strategy – see D 23
- Tree strategy – see D 34
- Sustainable Urban Drainage (SuDS) Strategy – see D 25
- Wayfinding scheme – see D 38
- Street furniture and lighting specifications – see D 39

Fig. 12 Landscape features across Bexley



Context

D 05 Locally significant heritage features should be identified, retained, and incorporated into the design to maximise placemaking opportunities

The National Design Guide Policy C2 Value heritage, local history and culture explains the importance of the re-use and adaptation of local heritage assets and sets out how places and buildings should respond to the history and heritage of a site. Policy I1 Respond to existing local character and identity describes how well-designed development is influenced by distinctive features in the context.

Policy DP14 Development affecting a heritage asset in the Bexley Local Plan specifies that sites with existing heritage assets should incorporate these assets into the design and conserve the features that justify their identification. Heritage assets are defined in the Local Plan in Policy SP6 Managing Bexley's heritage assets.

1.25 Features of local and heritage significance should be identified through character appraisals and their retention and incorporation into new proposals is encouraged where appropriate.

1.26 Much of the borough is characterised by the repetition of standard house types. Where this occurs, the strong form of a single house often creates a consistent rhythm along streets and should be reflected in new proposals through:

- The dimensions of significant elements
- A horizontal or vertical emphasis created by the form and proportions of these significant elements
- Solid to void relationships between buildings and spaces between them
- The design of boundary features such as garden walls or planting

1.27 As detailed in the Local Plan, applicants must determine whether their site is within or adjacent to a *Conservation Area*.

Fig.13 Policy compliant and best practice approaches to working with heritage assets

Policy compliant
Proposal retains existing *Listed* or Locally *Listed Buildings* and alterations or extensions are in line with Policy DP14 Development affecting a heritage asset in the Bexley Local Plan. Proposals in *Conservation Areas* have due regard to the area appraisal in line with Policy DP14.
Best Practice
In addition to policy compliance, the character appraisal identifies features, structures or details present on site or in the local context that are retained and incorporated into the design to instil an authentic sense of place.

1.28 Bexley has 23 *Conservation Areas*, designated to protect the special architectural and historical value of the area. Specific guidance for development within each *Conservation Area* can be found in the relevant Conservation Area Appraisal and Management Plan. Applicants should also refer to Policy DP14 Development affecting a heritage asset in the Bexley Local Plan.

1.29 Applicants must also determine whether their proposals affects the setting of a *Listed Building* or Locally *Listed Building*. Bexley has over 150 entries on the National Heritage List for England (NHLE) including Registered Parks and Gardens. Buildings are listed for their special architectural or historic interest and are either Grade I, II* or II. Bexley also maintains a list of Locally Listed Buildings.

1.30 Listing covers the whole building, including both interior and exterior elements and any outbuildings that were in the curtilage of the building from 1st July 1948 when the planning system was formed. Specific guidance for the historic value of the building will be described in the listing information. Refer to Policy DP14 Development affecting a heritage asset in the Local Plan.

1.31 Generally, development through Permitted Development Rights is more constrained within *Conservations Areas* or when applied to *Listed Buildings*. It is a criminal offence to undertake works to a *Listed Building* which would require consent, although there are some exceptions for minor repairs or maintenance. Applicants should refer to up-to-date guidance on the Planning Portal.

1.32 Development that does not preserve or enhance the character or appearance of *Conservation Areas* or *Listed Buildings* is unlikely to be permitted. It is imperative that applicants address the effect of proposals upon the specific architectural and historical value of these areas within planning submissions.

Hall Place is one example of a Grade I *listed building* in Bexley. It is also a Scheduled Ancient Monument. Extract from the Bexley Local Character Study.

The Carnegie Library in Erith is Grade II listed. Building details sourced from the Bexley Local Character Study.

Context

D 06 Engagement with stakeholders should be undertaken at a stage where feedback can meaningfully influence design

The National Planning Policy Framework Paragraph 132 states that applicants should work closely with those affected by their proposals to evolve designs with regard to their views and should engage in discussions at an early stage.

1.33 Engaging with neighbours and those that will be affected by development is vital in identifying issues that may arise through the planning process. Identifying and resolving these issues early can prevent delays and result in a more sustainable development that has the support of the local community.

1.34 Development of larger, *major* schemes should make use of a variety of engagement methods to ensure all groups that will be affected by development are able to provide feedback (see Fig. 14).

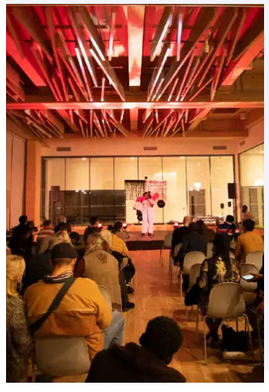
1.35 On smaller schemes, whilst there is no statutory requirement to consult or engage with neighbours when applying to extend or alter buildings, it is strongly advised to discuss any plans before submission to the Local Planning Authority.

1.36 Once an application has been received, it is the Council's legal duty to consult neighbouring landowners on applications once they have been validated. Advising neighbouring residents of proposals from the outset gives these residents notice before they are formally consulted by the Council.

Thamesmead, Bexley and Greenwich

Peabody

The majority landowner Peabody is leading a long-term regeneration of Thamesmead with the ambition to create 20,000 additional homes, new leisure facilities, and better transport connections. Engagement with the local community and other stakeholders is crucial to their 'whole place approach' to regeneration. They publish a plan every five years to set out priorities for improving the town. This has included projects such as the Nest Community Building and Library – shown below – that formed part of the first phase of the masterplan for South Thamesmead.



© Thamesmead Plan

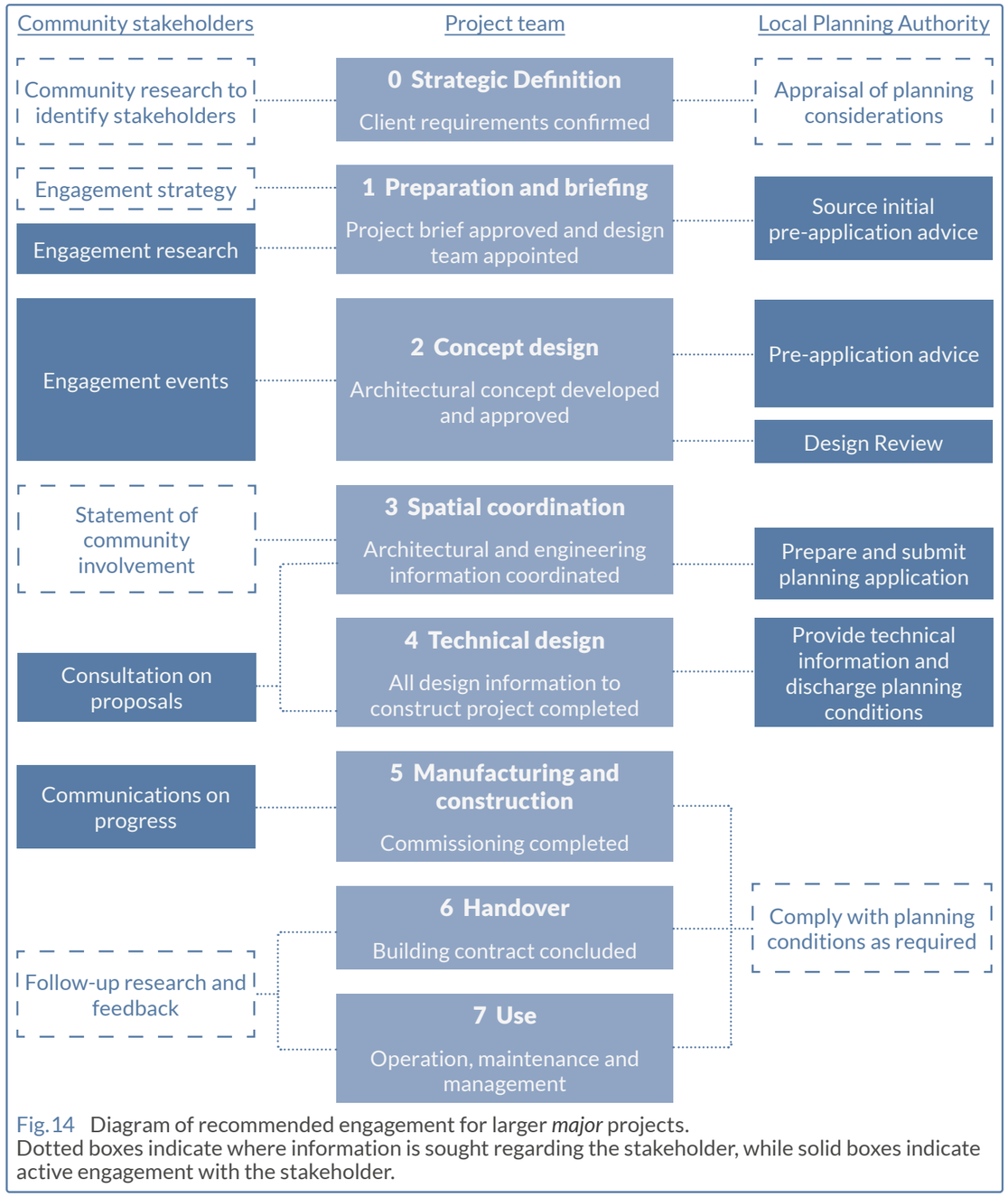


Fig. 14 Diagram of recommended engagement for larger *major* projects.
Dotted boxes indicate where information is sought regarding the stakeholder, while solid boxes indicate active engagement with the stakeholder.

Townscape

D 07 Applicants must demonstrate the development massing responds positively to the site context to create a legible and sustainable built form

Policy SP5 Placemaking through good design in the Bexley Local Plan requires development to protect the best elements of Bexley's character through design. Policy DP11 Achieving high-quality design states that the height, scale and massing of developments must be complementary to the surroundings.

London Plan Policy D3 Optimising site capacity through the design-led approach states that development proposals should positively respond to the local character through their form and layout and take account of circular economy principles at the start of the design process.

The National Design Guide Policy B2 Appropriate building types and forms describes the importance of using the right mix of building types, forms and scales to create well-designed places.

1.37 The *massing* of a development must be the outcome of a comprehensive design process that takes account of sustainability early in the design process. This is typically demonstrated through the *Design and Access Statement (DAS)*. Applicants should use the site analysis gathered for D 01 to determine an appropriate design response.

1.38 Building form should reflect the *form factor* for appropriate typologies set out in the LETI Climate Emergency Design Guide.

1.39 Designs with excessive stepping forms to maximise development area will likely not be supported as they will have a higher *form factor* and appear overly complicated and incoherent in appearance (see Fig. 16).

1.40 The *massing* of development should form a gradual transition between different scales or character areas. Changes of scale can be managed across streets and

Fig. 15 Tall buildings and building heights as defined by Policy DP12 in the Local Plan. See the Policies Map for boundaries of designated areas.

Area	Maximum height
a. Suitable Locations for Tall Buildings – refer to Policy DP12	**45m** – typically 15 storeys
b. Sustainable Development Locations – refer to Policy SP1 Strategic Industrial Locations (SIL) – refer to Policy DP7 Thamesmead and Abbey Wood Opportunity Area not within a.	**25m** – typically eight storeys
c. All other areas in the borough not covered by the above categories	**15m** – typically four storeys

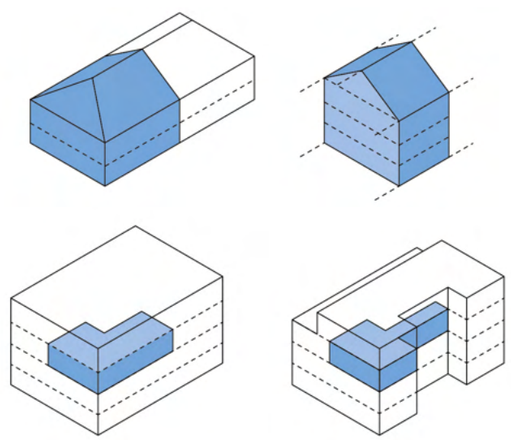


Fig. 16 A higher *form factor* of a building increases the energy needed to heat and cool the interior. For example, semi-detached forms have a higher factor than an apartment within a larger block.

open spaces. Sudden changes in scale and *massing* between adjoining plots of land are discouraged as they do not contribute towards creating a cohesive place.

1.41 Policy DP12: Tall Building and building heights in the Bexley Local Plan states that the proposed height of buildings should respond to the context of the area and have regard to other design factors. Building heights must consider all factors set out in this document.

1.42 Maximum acceptable building heights are defined in Policy DP12 in the Local Plan (see Fig. 18). This sets out how to measure building heights. Applicants must indicate the overall height of proposals on submitted drawings.

1.43 The building form should respond to analysis gathered for D 01. Close referencing of roof forms, roof pitches, datums and *massing* proportions within new developments can mediate and enhance visual relationships between new and existing buildings.

1.44 Existing pitched roofs can be considered as a single storey when compared with the heights of flat roof typologies – see Fig. 19.

1.45 Corner plots may be suitable to accommodate additional height in some locations. This could be in the form of one additional storey above the established datum of building heights of the immediate context, provided that it does not exceed maximum building heights and it is demonstrated how the design contributes to placemaking and wayfinding in the area and this additional height does not affect the amenity of neighbours.

1.46 On large sites of over 50 dwellings it is possible to create new character areas. Proposals should provide a suitably wide variety of dwelling types and streetscapes to form a successful place. The choice and placement of these building types should respond to the site constraints and opportunities.

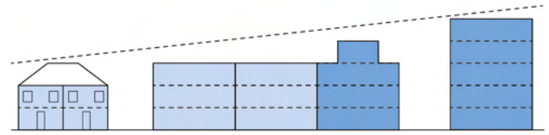


Fig. 17 New development forms a gradual transition between scales or character areas. Changes of scale are managed across streets or open spaces.

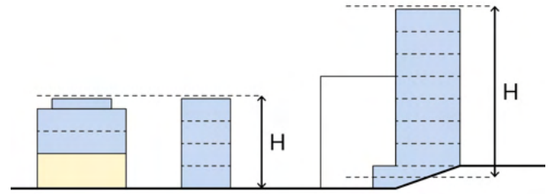


Fig. 18 The building height (H) is the vertical distance between finished grade and the highest point on the building, including any plant located on the roof. On sloped sites the building height is measured from the average finished grade to the highest point on the building.

Fig. 19 Pitched roofs can be considered a single storey when compared against flat roof buildings.

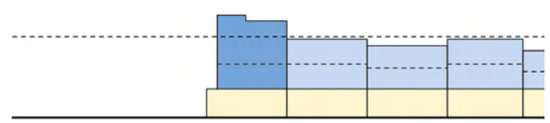


Fig. 20 A corner plot at the end of a row of shopfronts can be a suitable location for additional height in some locations.

Townscape

D 08 Development must optimise site capacity relative to the designated principle of growth and the nature of the proposal

London Plan Policy D3 Optimising site capacity through the design-led approach requires all applications to optimise the use of the land, and this is important in providing the sustainable new homes Bexley needs. As set out in Bexley Local Plan Policy SP1 Achieving sustainable development, some areas of the Borough are more able to accommodate growth than others.

The National Design Guide Policy B1 Compact form of development states that the appropriate density of a site will be determined through the application of good urban design principles and a positive response to the context.

1.47 Development should optimise the use of land through the design-led approach. The capacity of a site should be tested using the methodology outlined in Optimising Site Capacity: A Design-Led Approach LPG.

1.48 Optimising does not mean maximising development. New buildings must respond to their physical context and consider the capacity of local infrastructure necessary for new homes and other uses.

1.49 This is as relevant to the conversion of existing buildings as it is to proposals for new development. For example, the conversion of existing single family homes to multiple occupancy can impact the character and amenity of that area, its services and facilities and must be fully considered. This means that in different areas physically identical sites might require a wholly different design response.

1.50 Applicants should also consider how the capacity for growth will be influenced by improvements to supporting infrastructure.

1.51 The guidance in this document sets out how development can come forward depending on whether it will *Maintain*, *Enhance* or *Transform* the area it is in. The advice is, however, general, and is based on the most common conditions found in the borough. The applicant must ensure the surrounding context is considered in all development proposals.

1.52 Applicants submitting development proposals that go against the advice set out in this document must provide sound justification for their design approach.

Applicants should identify which principle of growth applies:

Maintain (The least capacity for growth)

Outside a Sustainable Development Location
Sites within this principle of growth should pay close attention to their context and respond carefully to the existing building typologies using an appropriate design approach. Capacity for growth is typically limited by pressures on local infrastructure.

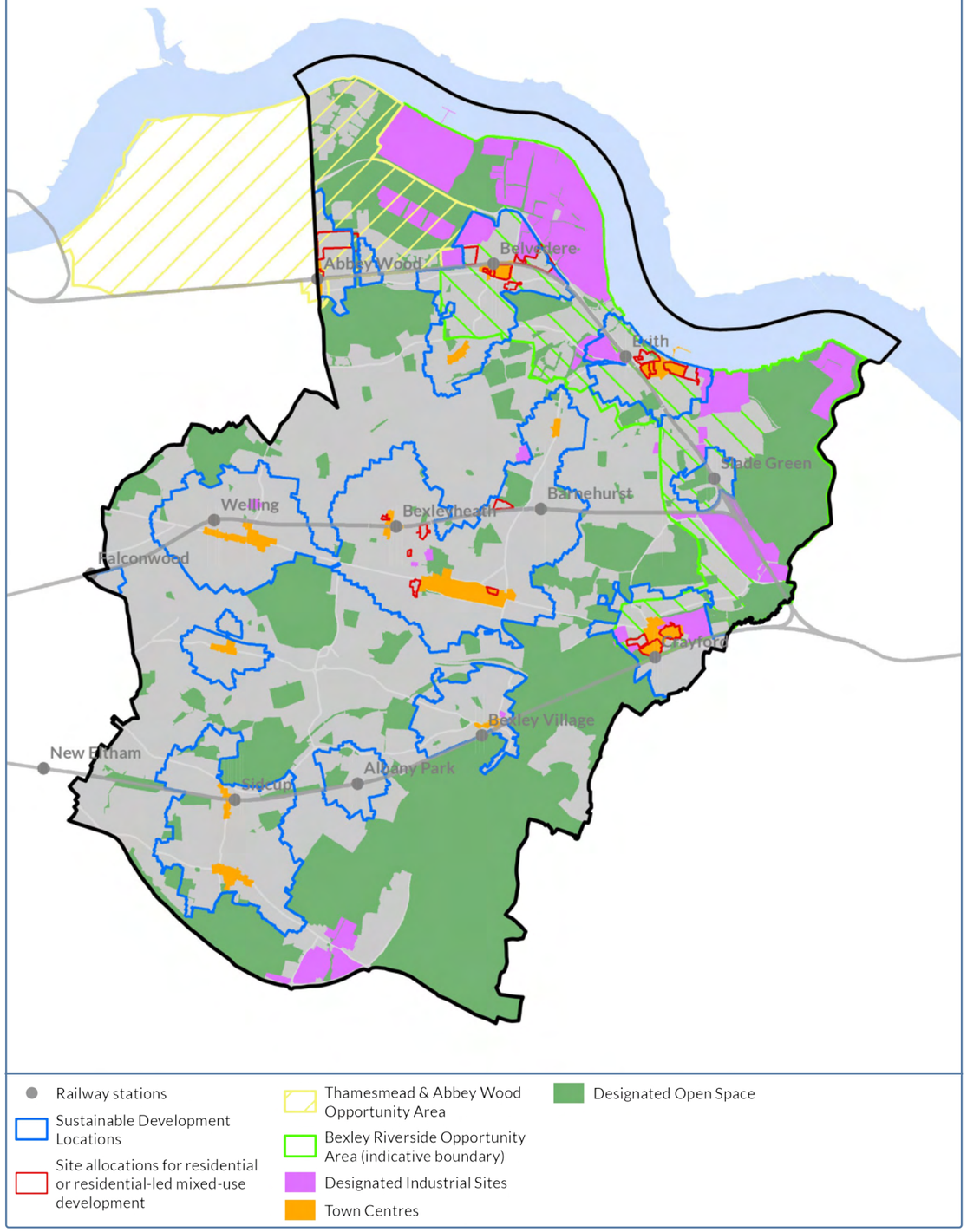
Enhance (Medium capacity for growth)

Within a Sustainable Development Location
Developments will typically incrementally evolve the area. New types of development that are marginally denser than the existing context are more appropriate here and these may take the form of appropriate additional height or alternative development types.

Transform (The most capacity for growth)

Within Sustainable Development Locations *and* **an Opportunity Area with an adopted Planning Framework,** *and/or* **a Suitable Locations for Tall Buildings.**
Development can form part of a wider change in density and typology in the area. Generally these areas have specific area strategies or masterplans set out which should be read alongside the advice provided in this document.

Fig.21 Principles of growth in Bexley



Townscape

D 09 New development should form a clear spatial hierarchy appropriate to the urban layout the local context of Bexley

Bexley Local Plan Policy SP5 Placemaking through good design specifies that proposals must consider the relationships between buildings and spaces and the shaping of the public realm. Policy DP11 Achieving high-quality design requires all development to contribute positively to the street scene through its massing and layout.

London Plan Policy D3 Optimising site capacity through the design-led approach states that the layout of development proposals should be street-based and positively respond to local distinctiveness with due regard to the emerging and existing urban hierarchy.

The National Design Guide Policy I1 Respond to existing local character and identity says that well-designed development considers the composition of street scenes, views and vistas, the scale and proportions of buildings, and the relationships between the buildings.

1.53 Proposals should have a positive relationship to the form, function and quality of surrounding streets, spaces, and buildings. This should be achieved through the placement and orientation of buildings and the design of building elevations.

1.54 The size of spaces around buildings should be proportionate to the height and *massing* of surrounding buildings. This should be informed by potential effects upon the microclimate of these spaces.

1.55 Consideration should be given to addressing isolation and loneliness through the design of the streetscape. Developments should shape spaces that encourage social interaction.

1.56 Applicants should assess the character and function of the streets and spaces within and around the selected site using the tools outlined in D 01.

Street hierarchy within a suburban context - Keelson Yard by 31/44 Architects © Nick Dearden

Street hierarchy within a Town Centre context - Bexleyheath Broadway by On Architecture © London Borough of Bexley

Fig.22 The form and *massing* of new buildings must respond to the scale of existing and proposed streets.

1.57 The *Design and Access Statement* must demonstrate how the design responds to site conditions and/or forms appropriate new streets where required as part of the development.

1.58 Established building lines should be respected and followed to create a consistent *street scene* if such exists unless there is convincing justification for an alternative approach. Where gaps exist in the rhythm of frontages, new development should look to address these gaps.

1.59 Where a strong rhythm of windows and doors exists within a street, new development proposals should attempt to follow established proportions and dimensions.

1.60 The width of the setback of a building frontage from the street should reflect the predominantly suburban character of Bexley. In many parts of the borough outside of Town Centres this will mean that building frontages up to the street boundary are generally inappropriate unless it is continuing an established building line.

1.61 Greater variation in built form and scale is more appropriate within designated Town Centres where minimal set-backs of building frontages to the street are also likely to be more appropriate.

1.62 Consideration should be given to established historical streetscapes in the borough. The design of elevations and views from each direction along these streets should be assessed in relation to their historical status.

1.63 Larger set-backs are required along rivers and culverts and next to sites of high natural value.

1.64 Further information specific to Town Centre development, historical streetscapes and development next to water bodies will be provided in the emerging Area Types document that will form part of the Design Guide SPD.

Mending the corner - Sidcup Storyeller by DRDH Architects © David Grandorge

Rhythm of frontages - 55 Leroy Street by Gort Scott © David Grandorge

Fig.23 Development should follow the established rhythm of the streetscape and address gaps in the building frontage and, where appropriate, create prominent corners within a Town Centre.

Townscape

D 10 Applicants should demonstrate that development will not negatively affect local views

Bexley Local Plan Policy DP13 Protecting Local Views outlines the criteria development must meet if it has potential to affect a Local Protected View. Refer to the Locally Significant Views within London Borough of Bexley report for information on the designated Local Protected Views.

1.65 A view is comprised of the viewpoint; the foreground and middle ground, the focal point, and the background. Development must not intrude upon the foreground or middle ground and must not harm the view composition if in the background.

1.66 Proposals should maintain and/or help to establish views of prominent buildings and features, including those that have not been officially designated. The character assessment in D 01, townscape assessments and visual impact assessments should identify locations in the wider urban context where the site will be visible from.

1.67 Applicants must provide visual documentation to justify the effect of proposals upon locally significant views including those identified as significant through the planning process.

1.68 Townscape assessments must include visualisations of the proposal in the context shown in winter. VuCity compatible models should be provided for schemes that will have a significant effect upon the townscape.

1.69 A relationship with the Borough's rivers and open spaces is one of the defining characteristics of Bexley. Developments that maximise opportunities to provide and maintain long views, enhance views of vegetation, open spaces and rivers, and provide visual connections to heritage assets from both new and existing homes and public spaces will be encouraged. Applicants can demonstrate this by providing interior views supporting the design.

Fig.24 The focal point is the landmark (usually a building or group of buildings) that is the main point of the view and in which the view culminates.

Fig.25 The background is the space or structures to the rear and sides of the focal point that frame the focal point.

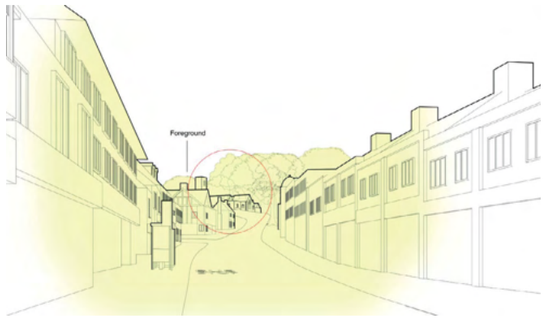
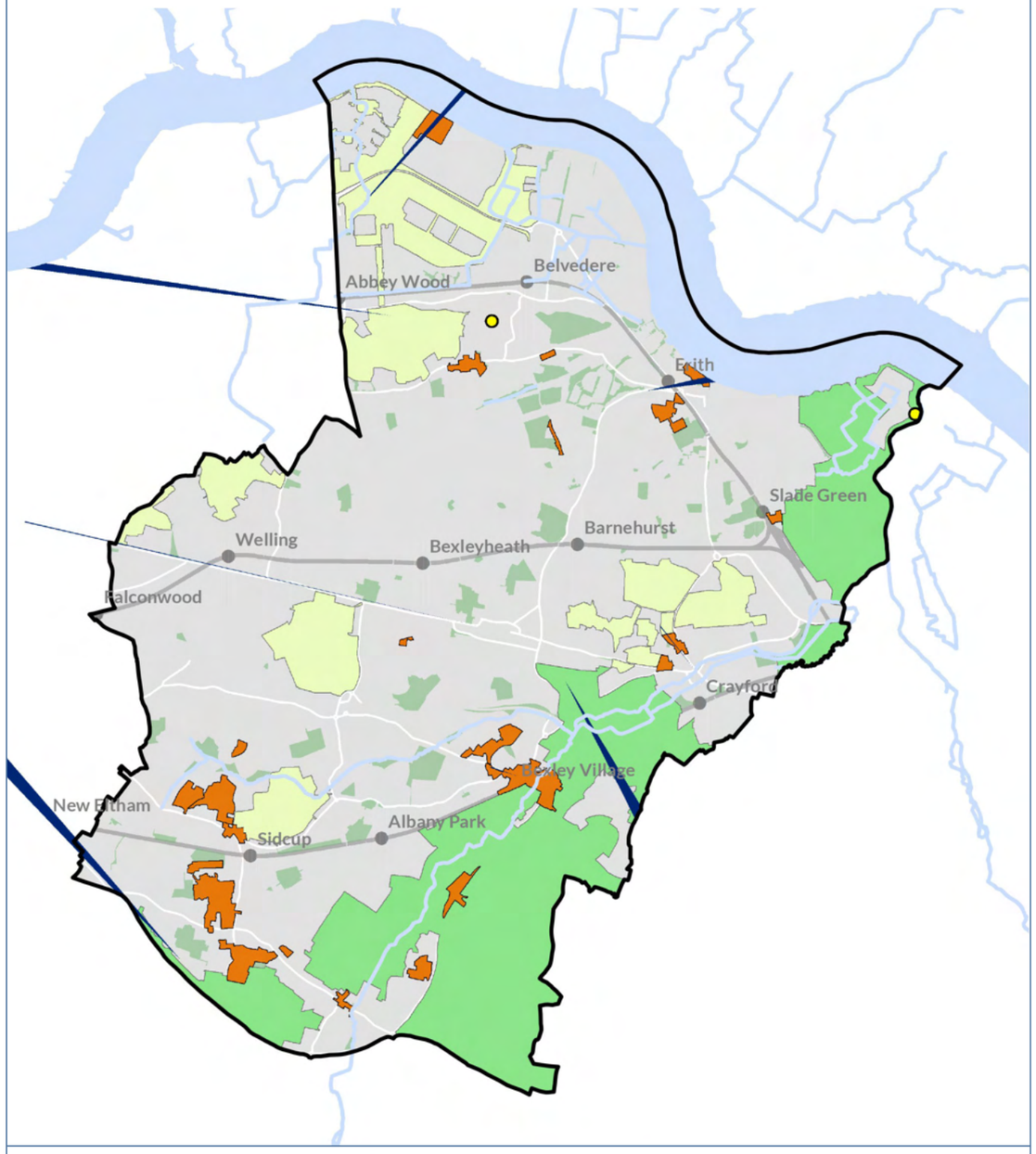


Fig.26 The foreground and middle ground is the area between the viewpoint and the focal point which is visible from the viewpoint.

Fig.27 Views and vistas in Bexley



Townscape

D 11 Proposals should avoid creating large areas of blank frontage

Bexley Local Plan Policy SP5 Placemaking through good design specifies that piecemeal development is considered unacceptable unless it can be demonstrated that the proposal can form part of a larger scheme that optimises the full site. This can result in blank frontages as sites await development. The policy also states that design should consider its contribution to the public realm.

1.70 A blank frontage is a wall with no openings or defining features that does not provide any visual interest or passive surveillance to the street.

1.71 The placement of openings should not prevent development coming forward in future to complete an established urban block. If a proposal is adjacent to a site that is suitable for development, designs must avoid placing windows looking over the boundary as this may result in gaps between buildings.

1.72 Where blank frontages are proposed, it must be demonstrated that this is a proportionate, positive and typical feature in the surrounding urban context.

1.73 Blank walls may therefore be appropriate if they form a flank wall that will be covered by a later phase of a development. If the future development is speculative, the material treatment of the wall should be of a suitable quality as set out below.

1.74 Where blank frontage is justified, applicants must demonstrate that the material treatment of the wall provides suitable visual interest to adjacent streetscapes or public spaces. Blank frontage consisting of the same material and/or colour in the same plane with no detailing will likely not be supported unless the materials are of a high specification.

New development may not be supported if blank frontages without sufficient detailing are created that are:

a. **Longer than 10m** and positioned **at ground level**

b. **Two or more storeys** of frontage of any length **at upper levels**

Addressing blank frontages to the end of a terrace whilst relating to surrounding context - Corner House by 31/44 Architects
© Rory Gardiner

Completing an urban block - Brentford Masterplan by Maccreanor Lavington
© Maccreanor Lavington

Fig.28 Applicants must ensure development does not create excessive areas of blank frontage

1.75 Blank walls that are created due to changes in level and steep topography should be avoided. Applicants must consider from the initial stages of the design how to arrange the site to minimise large blank walls. Where retaining walls are needed, these should be designed to be harmonious with the landscape character.

1.76 In some cases, blank walls are a positive feature in the streetscape, such as brick flank walls at the end of a terrace. In these cases, it should be demonstrated through the Character Study that this is a positive, typical feature that can be replicated in the development.

1.77 Where necessary, planting may be used to mitigate against the negative visual effect of blank frontages if the space receives sufficient sunlight.

1.78 Within Town Centres, blank frontages must be minimised and continuous *active frontage* must be provided adjacent to high streets and important routes through the Town Centre – see D 36.

1.79 The parameters outlined in this principle do not generally apply to Locally Significant Industrial Sites or Strategic Industrial Locations within reason unless the proposed building is not industrial in use. Further information specific to Industrial development will be provided in the emerging Area Types document that will form part of the Design Guide SPD.

1.80 *Private amenity space* should generally be placed to the rear of buildings rather than along the street to avoid fencing being installed by residents for privacy reasons.

1.81 If fences are provided, these should be permeable for small mammals such as hedgehogs. Gaps should be 13 x 13cm to allow wildlife through but maintain security in gardens for pets.

Erith Quarry, Erith
Anderson Group, Pollard Thomas Edwards

This new residential quarter and primary school is arranged in such a way that, although there are significant changes in level across the site, blank frontage is minimised. Parking courts are tucked into basements and accessed from the lowest point in the topography, and the necessary retaining walls are made into features such as Gabion baskets with planting. The masterplan creates residential streets with *active frontages* and well-overlooked open spaces.

© Anderson Group

Materials and details

D 12 The selection and use of materials should form a clear response to local character as defined in Context

The National Planning Policy Framework Paragraph 135 states that the quality of approved development should not be materially diminished between permission and completion as a result of changes to details and materials.

Bexley Local Plan Policy DP11 Achieving high-quality design requires the façade treatment and materials of a development including landscaping to be complementary to the surrounding area and streetscape.

Material choices and detailing must enhance local character and identity through following the principles set out in parts I1,I2 and I3 of the National Design Guide.

1.82 The selection and arrangement of materials should follow a clear strategy determined by the proposal's response to context, programme, and form.

1.83 To ensure the quality of materials and details at completion, large scale drawings and material samples should be provided at planning application stage and secured by condition. See Fig.29 for typical submission requirements.

1.84 Where the architectural expression of a building is reliant on subtle articulation of materiality or depth of the façade, typical bay studies should be developed at pre-application stage and included in the planning submission drawings. See Fig.29.

1.85 The details of a building should create sufficient depth in the facade suitable to the chosen material. For predominantly brick buildings, for example, window and door reveals should generally be more than 1.5 standard brick depth to create sufficient depth in the facade.

1.86 Details should typically be provided at 1:50 or 1:20 scale on an appropriate paper size. Samples of materials as specified in Fig.29

Hampstead Mansion Block
Sergison Bates

The arches and detailing articulate the facade and express the nature of the materials. This is an example of Contemporary translation.

© Sergison Bates

Black Stone House
6a Architects

The strong form of the stucco facade is an example of Innovative reinvention. The concept of stacked objects is expressed through the choice of materials and responds to the local character and constraints in an abstract way.

© Johan Dehlin

should also be provided where necessary.

1.87 The choice of main materials for both the public realm and buildings should be justified through their appropriateness to the site. Material choices should reflect the likely exposure to pollution and how the materials will weather.

1.88 For proposals that include works to the public realm, consideration must be given to the availability and ease of maintaining materials in the future, whether this is at private or public expense. In the case of the latter, a quantity of any special paving materials from the same batch may be required for this scenario.

1.89 Attention should be paid to parts of buildings and spaces where materials are directly experienced by users, such as entrances, windows, doors and balconies. Additional details as set out in Fig.29 may be required to ensure these elements are of suitable quality.

1.90 *Private amenity spaces* such as balconies and terraces should be well integrated with the overall design of the building using complementary materials and detailing.

1.91 The choice and application of materials should be informed by maintenance requirements. Glass balustrades, for example, should only be used where residents are able to easily clean these features and metalwork is therefore often preferred.

Fig.29 Building details that may be requested depending upon the scale and type of development:

Type	Details
Elevations	• Principal features on the façades shown through bay studies • Details of glazing and curtain walling systems including any manifestation • Important junctions and bonds between materials or finishes • Ground floor frontages including entrances, glazing and signage • Elevational location of all openings
Roof	• Details of each envelope / roof type • Parapets, roof edges, rooftop plant screening, lift over runs etc. • Details of green / brown roof system
Building elements	• Head, jamb and sill details • Details of architectural metalwork • Details of balconies and terraces including floor finishes and balustrades • Details of soffits and canopies • Details of external stairs • Junctions with neighbouring buildings • External signage details
Materials	• Façade and roof cladding materials • Brick and mortar type and profile • Window, curtain walls and door types, including finishes, glass types and any manifestation • Facing metalwork, e.g. balustrades • Items which are fixed to the façade, e.g. louvres, vent grilles, rainwater pipes, bird and bat boxes • Balcony and terrace floor finishes • Landscape materials

Materials and details

D 13 Applicants must demonstrate that the whole life carbon of proposals has been minimised through the strategic design approach

The National Design Guide R2 Careful selection of materials and construction techniques seeks to reduce the environmental effect of construction through more efficient techniques and material choices. Policy R1 Follow the energy hierarchy states that well-designed places follow the energy hierarchy.

Policy SI2 Minimising greenhouse gas emissions in the London Plan states that major development should be net zero carbon and sets out the energy hierarchy and associated targets. Policy SI 7 Reducing waste and supporting the circular economy sets out the principles of a circular economy that should be taken into account at the start of the design process.

Bexley Local Plan Policy DP30 Mitigating climate change describes the expected sustainable design standards for all development and states that developments must maximise potential to achieve zero carbon. Policy DP26 Waste management in new development requires all Major developments to be net zero waste and submit a Circular Economy Statement.

1.92 The strategic design approach refers to the approach to existing structures on the site, the form of construction and the specification of materials and systems.

1.93 *Whole life carbon* refers to the combination of *operational carbon* and *embodied carbon* of a proposal, including waste production. On all projects, *circular economy* principles should be considered from the outset to minimise waste from construction.

1.94 All development should follow the energy hierarchy (see Fig.30), with emphasis on the first point to "be lean" and use less energy by virtue of the design. Energy efficient buildings can minimise emissions

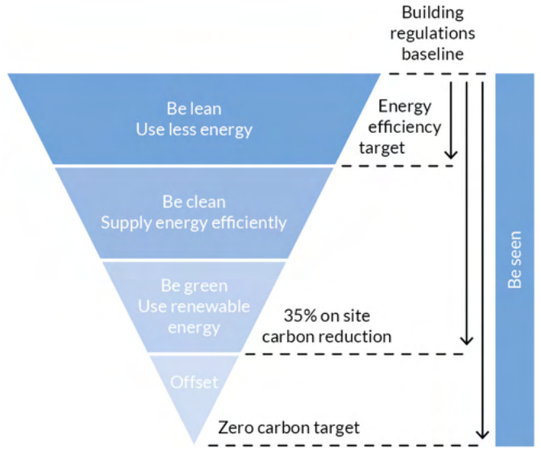


Fig.30 The energy hierarchy and associated targets. Source: Greater London Authority

Goldsmith Street, Norwich
Mikhail Riches, Cathy Hawley

The designers worked with the local council to create an ecological scheme using solar design principles within a Victorian street pattern. The result is a series of terraces oriented to maximise winter sun and minimise overheating in summer designed to Passivhaus standards. The proposal won the Stirling Prize for the best new building in the UK.

© Tim Crocker

as well as air pollution as they reduce the heat demand. Development in Bexley can approach this using the following:

a. Development sites with existing buildings should explore ways that all or part of the existing structure can be retained and the energy efficiency improved.
b. New development should consider the embodied energy of different design and construction strategies. Construction methods that have low *embodied carbon* will be looked upon favourably.

1.95 The second point refers to "be clean" or to use sustainable forms of operational energy. This can be achieved through the following:

a. Avoiding the installation of equipment that uses fossil fuels such as gas in favour of renewable energy
b. The use of Mechanical Ventilation Heat Recovery (MVHR) systems to provide fresh air and recover energy from outgoing stale air
c. Efficient electrical equipment such as LED lighting and smart/efficient appliances to reduce energy demand
d. Water resistors to reduce overall usage of water within taps and showers.
e. Smart metering enables monitoring of energy use and feedback to encourage behaviour change

1.96 The final point in the energy hierarchy is to "be green" and use renewable energy:

a. Solar thermal can be used in tandem with other water heating systems to raise initial water temperature.
b. PV panels are looked on favourably as on-site energy generation which can be stored locally or fed back into the electricity grid. See D 24 on how to integrate these into the design of rooftops.

1.97 Assessment of design options against *form factor*, orientation and overshadowing is required to demonstrate applicants have followed the energy hierarchy and are compliant with London Plan Policy SI 2. This assessment should be presented at the pre-application stage.

Fig.31 Policy compliant and best practice approaches to *whole life carbon*

Policy compliant

Major development

- Follow the energy hierarchy as set out in the London Plan Policy SI2 Minimising greenhouse gas emissions.
- *Circular Economy* principles are followed and demonstrated through a *Circular Economy* Statement – for details refer to the Circular Economy Statements LPG. Refer to the London Plan Policy D3 Optimising site capacity through the design-led approach for the design principles to follow.

Minor development

- Aim to achieve net zero carbon in accordance with the energy hierarchy as specified in the Local Plan Policy DP30 Mitigating climate change.
- *Circular economy* principles are incorporated into the design from an early stage.

Best Practice

Design meets benchmarks in the LETI Climate Emergency Design Guide:

- Housing – Reduce *embodied carbon* by 40% or to less than 500kgC02/m2 of GIA
- Commercial offices and schools – Reduce *embodied carbon* by 40% or to less than 600kgC02/m2

Applicants can use open-source tools to calculate carbon emissions of proposals. Examples include the FCBS Carbon Tool or H\B:ERT Emissions reduction tool.

Materials and details

D 14 Development should follow a fabric first approach to reduce operational carbon and support wellbeing

The National Design Guide Policy R1 Follow the energy hierarchy states that the first priority of the hierarchy is to reduce the need for energy through passive design measures such as orientation and fabric.

Policy SI2 Minimising greenhouse gas emissions in the London Plan states that major development should be net zero carbon and sets out the energy hierarchy and associated targets. Policy SI4 Managing heat risk sets out the cooling hierarchy that all major development proposals should follow to avoid reliance on mechanical cooling or ventilation systems where passive systems can be implemented. These principles can also be applied to smaller developments.

Bexley Local Plan Policy SP5 Placemaking through good design states that all forms of development should support good physical and mental health and wellbeing. Local Plan Policy DP30 Mitigating climate change describes the expected sustainable design standards for all development including expected BREEAM ratings.

1.98 Internal spaces must support the wellbeing of inhabitants through the provision of adequate levels of heat, space and light, mitigation of overheating, good outlook, and the protection from detrimental air and noise pollution.

1.99 Development should follow the energy hierarchy as described in D 13, the first priority of which is for proposals to reduce energy use and 'be lean'.

1.100 Proposals should follow a fabric first and passive design approach as set out in Fig.32 to enable adaptation to climate change and ensure the comfort of inhabitants is prioritised at an early stage of design.

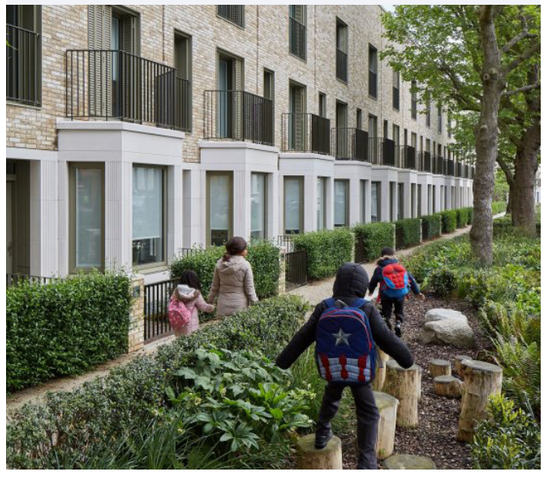
1.101 Passivhaus certification is encouraged and looked on favourably. As best practice, buildings should be designed to achieve the BREEAM or Passivhaus ratings as set out in the Local Plan Policy DP30 Mitigating climate change.

1.102 It is recognised that the composition of elevations following these parameters may differ from the prevailing context and should be justified through appropriate modelling and character analysis. This must be well resolved and follow other guidance within this document.

1.103 Residential development can follow the Overheating in New Homes guidance from Good Homes Alliance to ensure overheating risk is mitigated at an early stage of development.

South Gardens, Southwark
Maccreanor Lavington

The composition of elevations can be adjusted to ensure designs meet environmental standards as well as responding to the existing character. The architects on South Gardens applied Georgian proportions from the prevailing built context to Passivhaus standards to create energy efficient homes.



© Maccreanor Lavington

Fig.32 Fabric first considerations for new buildings

Factor	Policy compliant	Best practice
Building orientation	If site context permits, buildings are oriented to minimise energy requirements and cross-ventilation.	The ideal orientation is to provide the long façade of residential buildings within 30˚ of south.
Natural ventilation	The percentage of *dual aspect* dwellings in the development are maximised. Any mechanical ventilation includes filtration technology to remove pollutants.	Buildings are designed to naturally ventilate rather than relying on any artificial means.
Air tightness	Achieves a high degree of air tightness to limit leakage of warm air out and cold air in.	Air tightness follows the guidance for building typologies set out in the LETI Climate Emergency Design Guide. Passivhaus compliant design.
Optimise windows	Position of windows and glazing ratio prevents excessive overheating and heat loss to meet thermal comfort standards.	Glazing ratio follows the guidance for building typologies set out in the LETI Climate Emergency Design Guide. Windows are oriented vertically rather than horizontally as with skylights. Recessed balconies have appropriate amounts of glazing to provide sufficient light.
Dwelling layout	Single-aspect homes only provided where required to optimise the site and where it can be demonstrated that it has adequate passive ventilation, daylight and privacy, and avoid overheating. No north-facing single-aspect dwellings.	Dwellings orientated to provide smaller windows facing decks where heat loss should be minimised (e.g.. north) and living spaces with larger windows and balconies where heat gain is desirable (e.g. south).
Shading	External solar shading is provided to prevent unacceptable overheating. High performance glazing used to reduce heat gains.	Mitigate overheating through the use of fixed solar shading above south-facing windows and use deeper reveals to openings such as windows. Solar shading is integrated into the external expression of the building using elements such as balconies to create shade.
Insulation external fabric	U-values meet Building Regulation standards.	U-values follow the guidance for building typologies set out in the LETI Climate Emergency Design Guide, coupled with construction detailing that limits thermal bridging. Passivhaus compliant design.

Materials and details

D 15 Items affixed to proposals should not compromise their appearance or use

Policy D4 Delivering good design in the London Plan states that the design quality of developments should be retained through to completion, including by submitting details appropriate to the design stage to ensure later amendments do not compromise quality.

Bexley Local Plan Policy SP5 Placemaking though good design sets out the expectation that development within the Borough is of a high quality. This quality can be detrimentally affected by the placement and design of necessary features typically affixed to proposals.

1.104 Designs should demonstrate consideration for items typically affixed to proposals through submitting indicative plan and elevational locations of features such as those set out in Fig.33.

1.105 Whilst these elements are subject to detailed design, an indicative approach should be set out at application stage to demonstrate these can be appropriately accommodated within the design.

1.106 Applicants must account for whether the design of façades will result in building features overhanging beyond the boundary line, including objects attached to the facade. If the building line is close to the property line, then drawings of all items fixed to the façade such as gutters and pipes must be provided to ensure there are no overhanging features.

1.107 In locations with consistent building lines, *private amenity spaces* such as balconies should not overhang from the primary building line. Where the building line abuts the pavement, balconies should not overhang the public highway. In such locations, recessed or "loggia" balconies are more appropriate as these also provide more privacy (see Fig.34).

Fig.33 Typical features affixed to proposals

Ground level

Transport and utility-related street furniture such as junction boxes and other service infrastructure for utilities, traffic signs and lampposts should not compromise the appearance or use of the public space within reason.

Façades

Designs should integrate elements typically fixed to the façade that include but are not limited to:

- signage
- gutters, pipes and boiler flues
- lightning rods
- fins/louvres
- lighting
- CCTV
- alarms including provision for cables
- housing for technical equipment

Roof level

Space should be allocated for necessary features on rooftops, such as lift overruns, plant equipment or solar panels. These should be incorporated into the design .

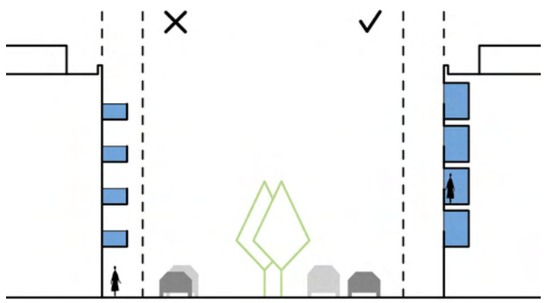


Fig.34 Balconies should not overhang the public highway or disrupt consistent building lines.

1.108 Where a development includes windows within 1 metre of the boundary line, the windows should be fitted so that they cannot open over the boundary line.

1.109 Technical equipment on the roof of buildings should be considered early on in the design process. The height of this equipment, such as lift overruns, are included in the calculation of the overall height of buildings - see D 07.

1.110 The appearance of equipment on rooftops should not be detrimental to the design of the building. Generally it should not be visible from the street or from points of higher ground level from which the proposal would typically be viewed.

1.111 If it is visible, the equipment should be incorporated into the design of the facade and *massing* and be comprised of materials that complement the façades. It should not disrupt the composition of the elevations as Fig.35.

1.112 Indoor air quality needs early consideration in building design. The location of ventilation inlets, flues, opening windows should be on higher floors away from the sources of air pollution at ground level, but also away from stationary plant at roof level.

1.113 Applicants should take care not to locate flues and exhaust vents in close proximity to recreational areas such as roof terraces or gardens.

1.114 Technical equipment should not affect the use of public spaces. The placement or relocation of objects such as junction boxes should be planned from an early stage in the design process. These features should be incorporated into the design and not obstruct walkways or the visual setting.

Eastside Quarter, Bexleyheath
Bellway Homes, RM_A

Each cluster of buildings within the Eastside Quarter development in Bexleyheath has a distinct character that is informed by the local architectural heritage. This in turn informs the execution of the details such as the dark metal balustrades and windows creating a contrast with light brick and mortar. On façades facing the street balconies are set within the line of the building and Art-Deco details are used to link to the style of this group of buildings.

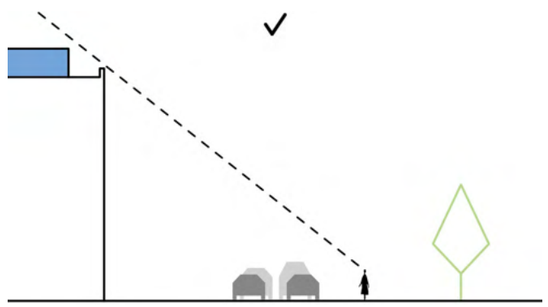


Fig.35 Rooftop equipment should generally be designed not to be visible from the street or nearby points of elevation. If it is visible then the materials and details should complement the elevations.

2 Spatial Quality

The design guidance for Spatial Quality is separated into three chapters – **Outlook and Privacy, Comfort and Wellbeing, and Natural Environment**. Within these chapters are a series of codes that can inform the development of a design. Each is supported by guidance, diagrams and tables that offer advice on how to meet the aims of the code.

Outlook and privacy

Buildings are arranged and designed to protect outlook and privacy while optimising the capacity of development.

D 16 Development must protect the outlook, privacy, and access to light for existing and new windows using appropriate separation distances

D 17 Separation distances can be reduced where mitigating design measures maintain an acceptable level of outlook, privacy, and access to light

D 18 Private outdoor amenity spaces must be protected from intrusive overlooking

Comfort and wellbeing

Internal spaces are spacious and the massing of buildings allows sufficient daylight and sunlight into neighbouring spaces.

D 19 Proposals must not obstruct reasonable levels of daylight and sunlight into neighbouring outdoor amenity spaces

D 20 The layout and massing of proposals must allow adequate levels of light into the windows of existing buildings

D 21 New housing should be dual aspect, particularly if adjacent to a source of significant noise or pollution

D 22 New homes must meet or, where possible, exceed space standards to allow sufficient space for internal storage and social interaction

Natural environment

Outdoor spaces are well-designed and functional for inhabitants and help restore the natural value of sites.

D 23 Applicants must demonstrate that outdoor amenity spaces are of a size and configuration fit for their intended purpose

D 24 Proposals should incorporate sufficient space for nature using locally-appropriate urban greening and habitats

D 25 Drainage solutions should improve site biodiversity and contribute towards placemaking

Does the development create generous spaces for both people and nature?

Outlook and privacy

D 16 Development must protect the outlook, privacy, and access to light for existing and new windows using appropriate separation distances

Development is required to balance the need to optimise land and the protection of existing amenity. The National Design Guide Policy B1 Compact form of development outlines the importance of making efficient use of land and optimising density with an appropriate mix of development and open space. Policy H1 Healthy, comfortable and safe internal and external environment states the importance of promoting the comfort, amenity and privacy of buildings to benefit the occupants' quality of life.

Bexley Local Plan Policy DP11 Achieving high-quality design states that all development proposals must ensure that appropriate levels of privacy, outlook, natural daylight and other forms of amenity are provided and the amenity of existing properties are protected. Policy DP1 Providing a supply of housing requires development for housing to make the most effective and efficient use of available land.

2.1 Proposals must optimise the use of land and avoid loss of light and amenity to surrounding buildings by means of separation distances, building orientation and configuration of openings. As buildings within the same development have more control over these factors, closer separation distances are acceptable within the same planning application than between existing and new buildings.

2.2 Where the building lines and fenestration patterns of the surrounding context do not follow these separation distances, replicating this existing condition is generally acceptable providing that it can demonstrate that it is not materially worsening the existing condition.

2.3 Distances between *habitable rooms* should be taken from the centre of windows.

New development adjacent to existing buildings should generally meet the following guidelines:

a. New *habitable windows* parallel to existing *habitable windows* should be at least **20m apart**

b. New blank walls parallel to existing *habitable windows* should be at least **16m apart**

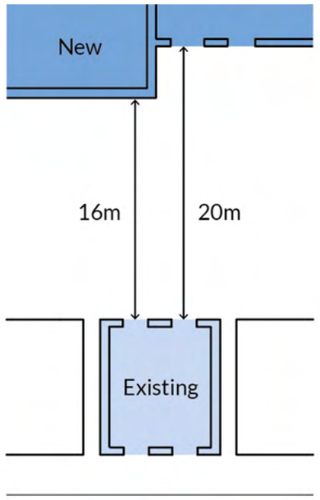


Fig.36 Separation distances between *habitable windows* of new and existing dwellings.

2.4 In terms of ensuring adequate access to daylight and sunlight, applicants should primarily refer to guidance set out within the rest of this section on Spatial Quality. Access to daylight and sunlight for new buildings will be deemed to have met the requirements if they comply with the guidance set out across these principles.

2.5 Tighter distances between *habitable room* windows may be allowed in certain locations. Bexley Local Plan Policy SP4 Supporting successful town centres states that separation distances may be closer in Town Centres. This will be judged on the existing context and the effect upon access to daylight and sunlight.

2.6 There may be more flexibility for separation distances between windows and blank walls for short lengths of facade. These pinch points will be assessed on a case-by-case basis – refer also to D 17.

2.7 In general, the acceptability of separation distances between buildings will depend upon the orientation of the buildings, their *massing* and arrangement. Buildings should avoid excessive overshadowing to other buildings from the south to enable solar heat gain in winter.

2.8 Applicants must also respond to the context and proposals should refer to the typical street typology to inform the suitability of proposed separation distances.

2.9 When developing a site that contains an existing building, the existing building's windows can be classified as 'new' windows as shown in the code if the development site falls under a single ownership. When dealing with a building under multiple ownership, an existing building's windows should generally be treated as 'existing'.

2.10 Where developments have a frontage onto the street it is important to incorporate some degree of defensible space, which will mainly serve as a visual amenity and buffer separating public realm from private property. Boundary treatments to front façades must be at a height complimentary to other low-level front boundary treatments within the vicinity.

New development within the same planning application should generally meet the following guidelines:

a. New *habitable windows* parallel to each other of different dwellings should be at least **16m apart**

b. New blank walls parallel to *habitable windows* of a different dwelling should be at least **10m apart**

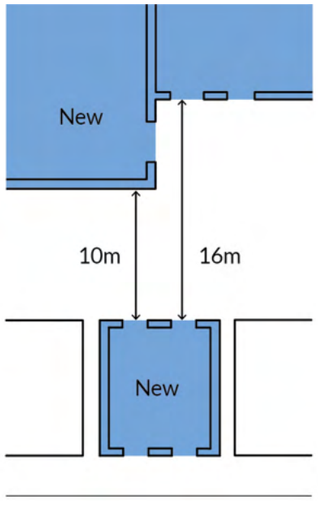


Fig.37 Separation distances between new dwellings.

Outlook and privacy

D 17 Separation distances can be reduced where mitigating design measures maintain an acceptable level of outlook, privacy, and access to light

The National Design Guide Policy H1 Healthy, comfortable and safe internal and external environment outlines the aspects of good design that can support the quality of life for occupants.

2.11 The negative effect that new windows may have on a neighbouring property's privacy can be mitigated using a variety of design solutions. These might include:

a. Staggering, arranging or angling windows to direct outlook away from neighbouring windows e.g. windows in a sloping roof (see Fig.38)
b. Providing windows above eye level
c. Obscuring the opening with louvres, fins or similar
d. Restricted opening.

2.12 Solutions **b** and **c** listed above are generally not appropriate in *habitable rooms* if they provide the only windows in that room.

2.13 The use of these design solutions must be integrated with the overall architectural expression of the building.

2.14 Proposals which rely on mitigative design methods must demonstrate how the quality of new accommodation is not diminished, particularly for the principal living spaces. This can be supported by visualisations of the internal space and inhabited plan and section drawings.

2.15 The use of mitigating design measures should not compromise the quality of outlook from new development. For this reason, the use of obscured glass as a mitigation measure is not encouraged unless for small openings in non-*habitable*

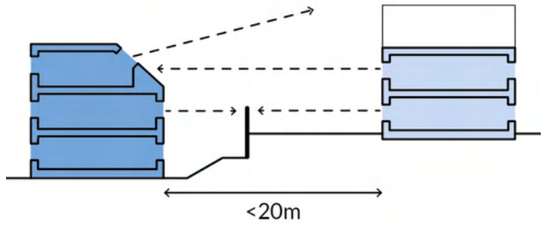


Fig.38 Proposals can use existing features such as changes in level to prevent overlooking or can direct views away from neighbouring dwellings by providing windows in sloping roofs.

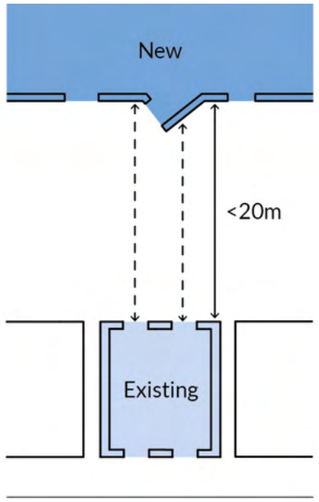


Fig.39 Typical separation distances can be reduced if windows are staggered or outlook is directed away from existing windows.

rooms such as bathrooms.

2.16 Façades with new windows that are fully obscured can be considered blank walls in terms of separation distances.

2.17 Outlook can be improved by looking out onto new or existing landscape features such as trees, natural habitats, and mature planting. Riverside developments should maximise views to the river, both from dwellings and from spaces within the development. Refer to the Townscape and Natural environment chapters for more detailed guidance on views and landscape.

2.18 *Habitable rooms* that have windows facing in at least two different directions are considered to have superior outlook to those that only look out in one direction. When rooms have windows in multiple directions, privacy and access to light is generally also improved. If two facing rooms in different new dwellings have windows facing in multiple directions, tighter separation distances may be possible.

2.19 The privacy of new windows on the ground floor that face onto public space needs to be suitably protected. This is typically best achieved through well designed boundary conditions and set backs from the street. Vegetation screening as the sole safeguard for privacy is not recommended.

2.20 Applicants should avoid the use of full-length windows to *habitable rooms* at ground level looking onto public areas, unless suitable screening is in place.

2.21 Proposals including predominantly full height windows must provide strong justification through character analysis described in D 01 and energy and daylight modelling. Full-height windows to *habitable rooms* – particularly bedrooms – should be avoided where the risk to overlooking is high, in accordance with section C4 in the Housing Design Standards LPG.

New Ground Cohousing
Pollard Thomas Edwards for OWCH and Anchor

This scheme for the Older Women Co-housing group balances the need for privacy and communal living. Planting creates screening for ground floor apartments but opens up to create views into shared facilities. The houses are close together to optimise the small site, so timber slatted screens both shade from the sun and screen balconies from overlooking. These measures are integrated into the architectural expression of the buildings.

© Galit Seligmann

Outlook and privacy

D 18 Private outdoor amenity spaces must be protected from intrusive overlooking

Rear gardens provide important amenity for residents. Bexley Local Plan Policy DP11 Achieving high-quality design states that all development proposals must ensure that the amenity of existing properties are protected, while Policy DP1 Providing a supply of housing ensures development for housing makes the most effective and efficient use of land.

2.22 The *protected garden area (pga)* is defined as the outside area immediately adjacent to the primary access between the dwelling and the main private outdoor space and will vary in size and shape depending on the character of the site.
Adequate privacy must be given to this amenity from newly developed neighbouring gardens and properties.

2.23 Windows to *habitable rooms* facing towards a *protected garden area* should use mitigating design measures to avoid overlooking as described in D 17 2.11.

2.24 The use of these design solutions must be integrated with the overall architectural expression of the building.

2.25 Proposals which rely on mitigative design methods must demonstrate how the quality of new accommodation is not diminished, particularly for the principal living spaces. This can be supported by visualisations of the internal space and inhabited plan and section drawings.

2.26 The use of mitigating design measures should not compromise the quality of outlook from new development. For this reason, the use of obscured or frosted glass as a mitigation measure is not encouraged unless for small openings in non-*habitable rooms* such as bathrooms.

2.27 New *habitable room* windows on the property boundary with a neighbouring garden will generally not be supported to protect the privacy of gardens and ensure adjacent land remains developable in future. Refer to D 19 for guidance on daylight and sunlight to gardens.

The privacy of existing and proposed private outdoor amenity spaces will be considered protected if new development adheres to the following:

a. Proposed separation distances from new balconies and *habitable room* windows do not result in an existing private garden being directly overlooked
b. Views from any *habitable window* or balcony are not directed towards the *protected garden area*
c. Balconies facing the street are suitably protected from overlooking
d. All windows follow separation distance guidance set out in D 16.

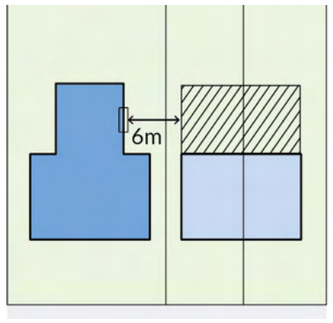


Fig.40 Where a new development is orientated towards a flank boundary, the same principles of protecting the *protected garden area* apply.

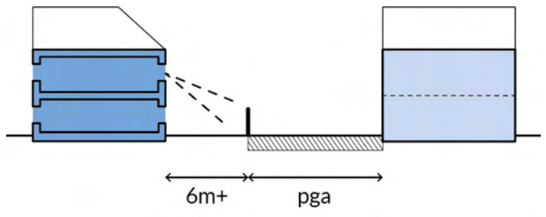


Fig.41 The primary useable space of the rear garden should be protected from overlooking, with proposed windows set at least 6m from this zone.

2.28 Where openings in existing buildings are reconfigured to accommodate internal changes to dwelling layouts and *habitable rooms*, this should not result in the unacceptable overlooking of neighbouring properties.

2.29 Proposals must consider the effect of the topography upon overlooking into the *protected garden area*. This may affect the acceptability of proposals.

2.30 As balconies should not overlook the *protected garden area*, balconies on side elevations adjacent to this area will generally not be acceptable.

2.31 Balconies must not project over the pavement. Where the building line is close to or aligning with the public highway, balconies should be inset.

2.32 The design and arrangement of balconies should ensure that temporary screening is not necessary to achieve comfortable levels of privacy.

2.33 Where permanent screening is needed, balcony screens should be of a suitable design to obscure views from the street or communal spaces into the balcony area and the property itself. Balconies should be integrated into the building form. This will typically be achieved by incorporating inset balconies on the street side and projecting balconies on the rear (see Fig.44).

2.34 If screening is required to the sides of balconies to maintain privacy to adjacent rear gardens and internal spaces, these should be well integrated with the wider building design and can be constructed using, for example, “hit and miss” brickwork, perforated metal or angled fins.

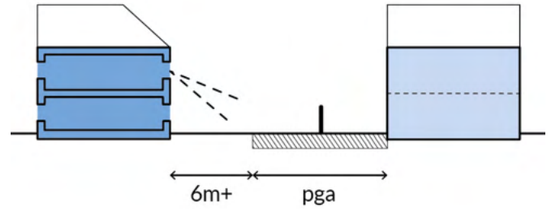


Fig.42 Where existing gardens are shallow, the remaining area should still benefit from the same level of protection, with new windows no closer than 6m to the edge of a *protected garden area*.

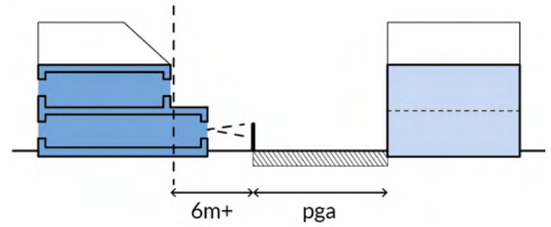


Fig.43 At ground floor, windows looking out onto rear gardens can generally be set closer to one another than described in the separation distance guidance in D 16 if a solid, full-height boundary condition is put in place and maintained as part of the development.

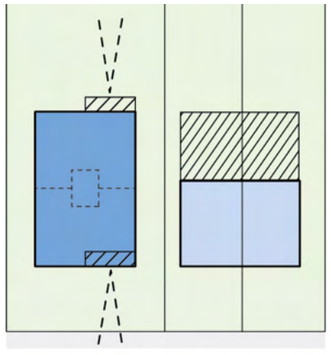


Fig.44 Balconies should typically be inset when facing the street to retain privacy. Balconies on the rear must avoid overlooking into the *protected garden area*.

Comfort and wellbeing

D 19 Proposals must not obstruct reasonable levels of daylight and sunlight into new and existing outdoor amenity spaces

BRE standards in Site Layout Planning for Daylight and Sunlight notes that it is possible to reduce the developable area and daylighting of adjoining land by building too close to the boundary. It recommends that if the massing of a development does not obstruct a 43° line, taken from a point 1.6m above the ground level at the property boundary then there will normally still be the potential for good daylighting in the adjacent site.

2.35 In addition to the above and to avoid obstructing light to the *protected garden area* outlined in D 18, *massing* of developments should not obstruct a 43° line, taken from a point 1.6m above the ground level at the boundary of the *protected garden area* – see Fig.45.

2.36 These 43° guideline will not apply to buildings up to 3m in height.

2.37 The 43° standard should not be used to generate the building form of the development. Designs with excessive stepping forms to maximise development area will likely not be supported.

2.38 If only a small portion of the building rather than a continuous elevation obstructs the 43° standards then this may be accepted. This will be determined on a case-by-case basis.

2.39 All developments will still be required to follow guidance elsewhere in this document, such as D 16 on separation distances and D 20 on protecting light into existing windows.

2.40 Private gardens to the north of buildings should be sufficiently deep to ensure the primary usable area of the garden receives sunlight in line with BRE Guidelines. Private gardens for houses should generally be sufficiently deep to accommodate typical garden furniture – see D 23.

The *massing* of developments should not obstruct a **43° line**, taken from a point **1.6m** above the ground level of:

a. The property boundary to the rear of the existing building and;

b. The boundary of the *protected garden area* to the rear of an existing building

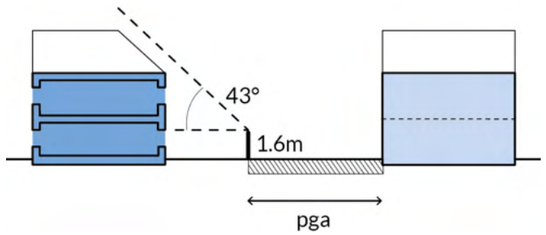


Fig.45 Developments should not obstruct a 43° line, taken from a point 1.6m above the ground level at the property boundary.

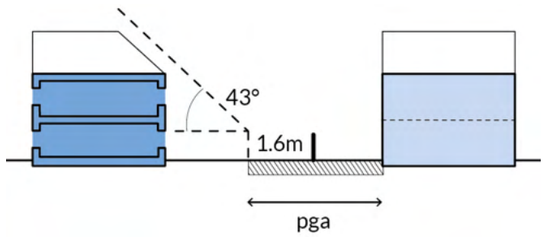


Fig.46 If the boundary is within the *protected garden area* then the 43° line should be taken from a point 1.6m above the ground level at the edge of the zone.

2.41 In large developments, the *massing* and arrangement of buildings should allow for sufficient light and air flow to reach courtyards and other amenity spaces. This can be achieved by creating breaks in the *massing* or lowering the height of buildings to the south of amenity spaces.

2.42 If the light levels of amenity spaces are in doubt, developments may be required to submit a two hour sun contour test, conducted on 21st March, showing adequate levels of light are being maintained to existing rear garden spaces.

2.43 Existing and proposed gardens should meet BRE Site Layout Planning for Daylight and Sunlight, which states that half the area should receive two hours of sunlight on the 21st March.

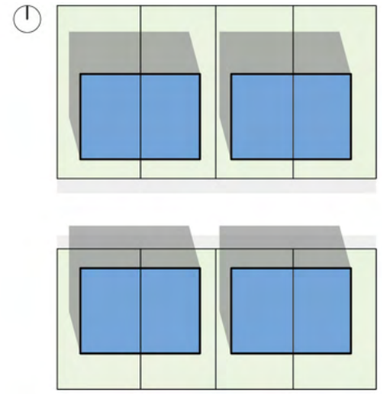


Fig.47 If new private gardens are placed to the north of buildings they should be sufficiently deep to ensure part of the garden receives sunlight throughout the year. South-facing gardens may be shallower, but still be large enough to accommodate typical garden furniture.

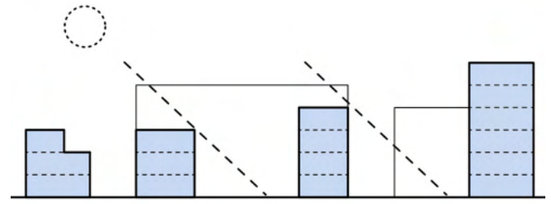


Fig.48 Buildings should be arranged to allow light and air flow into communal amenity spaces such as courtyards. This should be considered early on in the design process to ensure the site layout does not create uncomfortable or unusable spaces.

Comfort and wellbeing

D 20 The layout and massing of proposals must allow adequate levels of light into the windows of existing buildings

Bexley Local Plan Policy DP11 Achieving high-quality design states that all development proposals must ensure that appropriate levels of privacy, outlook, natural daylight and other forms of amenity are provided and the amenity of existing properties are protected. Policy DP1 Providing a supply of housing requires development for housing to make the most effective and efficient use of available land.

2.44 Plan, section and elevation drawings should be submitted that demonstrate how the development performs relative to the guidelines outlined in this principle.

2.45 The 25° guideline protects the outlook and access to light of existing windows facing new development. The *massing* of a new development should not obstruct a line struck at 25°, drawn from the centre of the lowest window serving a *habitable room*, as set out in point a. shown adjacent.

2.46 The 45° guidelines shown in b. and c. adjacent protect the access to light of windows in buildings adjacent to new developments. They apply to any new *massing* above 3m that projects beyond the prevailing building line.

2.47 The 45° guidelines apply both to the layout (in plan) and the height (in elevation) of new development. A line should be struck from the centre of the lowest window to a *habitable room*, closest to the boundary as set out in Fig.51 and Fig.52.

2.48 This guidance is based on principles set out in the BRE Guidance, and therefore if an applicant can demonstrate that their development complies with the ambitions of this guidance in another way this may be acceptable.

Existing buildings will be considered to receive adequate levels of light when new development follows the **25° and 45° guidelines**:

a. New development **facing** an existing dwelling should not obstruct a line struck at **25° from the vertical centre** of an existing window **in section.**

b. New development **adjacent to** an existing dwelling should not obstruct a line struck at **45°** from an existing window **in elevation.**

c. New development **adjacent to** an existing dwelling should not obstruct a line struck at **45° from the horizontal centre** of an existing window **in plan.**

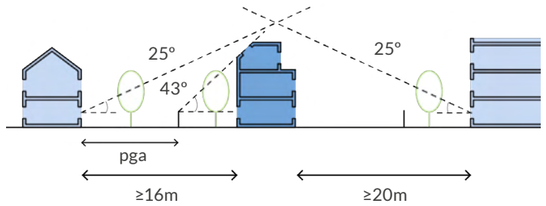


Fig.49 The combination of principles D 16, D 17, D 18, D 19 and D 20 is illustrated in the above diagram. Sufficient privacy and separation distances to existing neighbouring dwellings should be achieved through appropriate design solutions, such as having no rear facing windows above ground floor, first floor windows looking side to side, and windows in the roof slope at top floor.

2.49 When new development does not comply with these guidelines, a formal daylight and sunlight assessment should be provided in accordance with the BRE Site Layout Planning for Daylight and Sunlight publication to demonstrate that adequate consideration has been made. Where these requirements cannot be met, more detailed computational analysis may be required.

2.50 A new development that does not meet the guidelines may still be acceptable if it follows prevailing building lines and all other aspects of the principle are met.

2.51 Some sites, particularly street-facing sites, may not be able to follow the 25° and 45° rules whilst also maintaining prevailing building lines. Where this is the case, a design that carefully follows the adjacent building lines, whilst protecting the amenity of neighbours and providing acceptable living conditions for future occupants, and which deviates from these standards, may be acceptable.

2.52 Optimisation of some specific sites may be limited by the 45° guideline. Exceptions where the existing urban grain suggests a rigid 45° may not be appropriate will be viewed on a case-by-case basis.

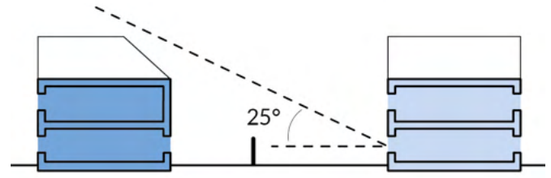


Fig.50 a. New developments should not obstruct a line drawn at a 25° angle from the vertical centre of the lowest *habitable room* window.

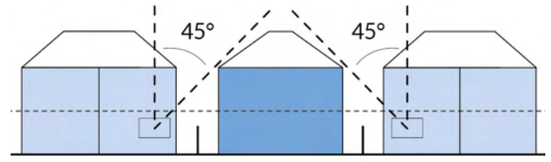


Fig.51 b. *Massing* of new developments that extend beyond the building line should not obstruct a line drawn at a 45° angle from the horizontal centre of the *habitable room* window closest to the boundary.

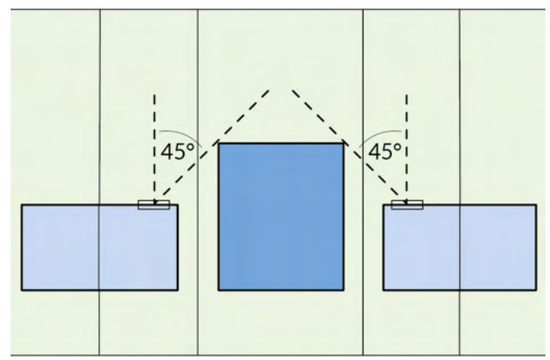


Fig.52 c. *Massing* of new developments that extends beyond the building line should not obstruct a line drawn at a 45° angle from the centre point of the lowest *habitable room* window that is closest to the boundary.

Comfort and wellbeing

D 21 New housing should be dual aspect and avoid facing sources of significant noise or air pollution

London Plan Policy D6 Housing quality and standards states that single aspect dwellings should normally be avoided and only provided where required to optimise the site and where it can be demonstrated that it has adequate passive ventilation, daylight and privacy, and avoids overheating.

Bexley Local Plan Policy DP11 Achieving high quality design states that the Council will use the agent of change principle so existing uses and conditions around the development should not adversely affect the proposed internal spaces. It also outlines the requirements for new development, including the provision of an appropriate level of outlook and daylight.

Fig.53 Policy compliant and best practice approaches to minimising single aspect dwellings

Policy compliant
Maximised provision of *dual aspect* dwellings. Single aspect dwellings only provided where required by Policy D6 Housing quality and standards in the London Plan. Single aspect dwelling facing noise or pollution source are avoided.
Best Practice
Efficient 100% *dual aspect* scheme oriented to ensure natural ventilation. Higher number of circulation cores provided and/or deck-access arrangement, with circulation adjacent to sources of noise or pollution.

2.53 Applicants should seek to develop an efficient 100% *dual aspect* scheme as a starting point for capacity studies. Layout options that maximise dual or multiple aspect dwellings should be explored early in the design process.

2.54 A significant number of sites suitable for development in Bexley are adjacent to sources of potential noise or air pollution, such as large roads, railways, and industrial areas. Applicants should consider the site constraints early in the application process to determine the proximity to the source and the level of pollution.

2.55 In general, development facing sources of noise or air pollution should be significantly set back from the source and be *dual aspect* to allow residents more choice of which side of the dwelling they would like to use.

2.56 In certain circumstances where the level of pollution or noise is excessive, no habitable window aspects should face towards the source to avoid unacceptable levels of

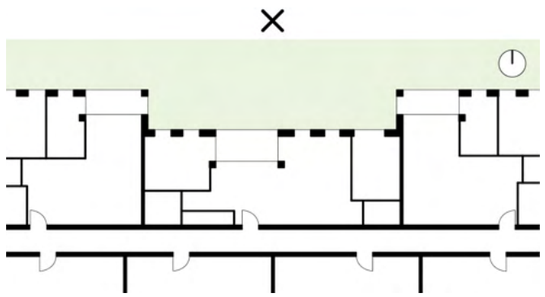


Fig.54 Example of an unacceptable north-facing dwelling. Its position, orientation and layout will make it difficult to ventilate and heat, and it will receive minimal direct light throughout the year.

exposure. In these cases, the orientation of the *massing* may need to be reconsidered.

2.57 All applicants should set out the proportion of homes that are *dual aspect* with regard to the illustrated definition in GLA Housing Standards LPG Appendix 3. Where single aspect homes use bay windows, stepped frontages, shallow recesses or projecting façades to improve the quality of homes these should be defined as 'improved aspect homes' and clearly differentiated from *dual aspect* homes.

2.58 The proportion of *dual aspect* dwellings can be increased by adding circulation cores, providing deck access layouts, creating multi-level apartments with circulation on alternate floors, or a combination of these approaches.

2.59 Where single aspect homes are proposed applicants must set out the circumstances that demonstrate compliance with GLA Housing Standards LPG.

2.60 Where exceptional circumstances do apply, single aspect one-bedroom homes on north and/or west facing elevations should still be avoided. Single aspect dwellings on these elevations are more challenging to heat and cool.

2.61 All dwellings within a basement or lower ground floor should be *dual aspect* and provide appropriate levels of daylight and ventilation.

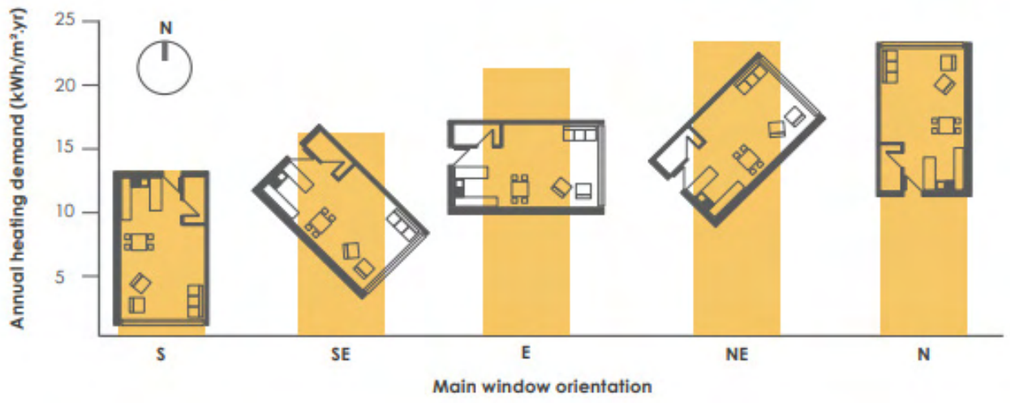


Fig.55 Applicants should consider the building orientation and glazing ratio from early design stages to determine the optimum design to minimise the energy demand of a development.
Source: LETI Climate Emergency Design Guide

Comfort and wellbeing

D 22 New homes must meet or, where possible, exceed space standards to allow sufficient space for internal storage and social interaction

All residential development must adhere to London Plan Policy D6 Housing quality and standards. This policy defines minimum internal space standards for new dwellings and sets out the qualitative design aspects that should be considered. These qualities are affected by the massing and layout of a scheme so should be addressed early in the design process.

Bexley Local Plan Policy DP5 Requirements for HMOs and live/work units states the expectation that live-work units should meet all London Plan living and space standards applicable to typical residential accommodation.

Policy DP26 Waste management in new development outlines the requirements for all new housing and includes adequate space for the separate storage of recyclables.

2.62 Housing is expected to comply with, and where possible, exceed relevant minimum space standards in the London Plan.

2.63 Minimum space standards include allocation for storage. Development should meet or exceed minimum standards to prevent balconies or communal spaces from becoming informal storage areas – see Fig.57.

2.64 Development must comply with the best practice space standards guidance in Appendix 1 of the Housing Design Standards LPG to be considered of high spatial quality.

2.65 Live/work units and build-to-rent proposals should follow the space standards outlined in the Housing Design Standards LPG.

2.66 Proposals for eight or nine dwellings should demonstrate that ten or more dwellings cannot be achieved on site. This is to ensure and efficient use of land in accordance with Policy D6 Housing quality and standards in the London Plan, paragraph 3.6.2.

2.67 When considering the quality of proposed HMOs, the Council will refer to legislation mentioned in this chapter as well as Bexley's Right to Rent: General Property Standards for Property Licensing to ensure such development is fit for purpose.

Fig.56 Policy compliant and best practice approaches to space standards in new dwellings

Policy compliant

Meets or exceeds minimum space standards as set out in Table 3.1 in the London Plan.

Adequate internal storage, usually within the kitchen, for the segregation of recyclable materials from other waste. This currently includes two types of recycling, food waste and non-recyclable waste. Space at ground floor is reserved for bulky waste storage prior to collection - refer to D 33.

More detail on waste collections will be provided in the Technical Handbook that will form part of the Design Guide SPD.

Specialist uses, such as housing for older people, require additional space as standard. This includes the safe storage and charging of mobility scooters. Refer to Policy DP23 Parking management in the Bexley Local Plan.

Best Practice

Complies with best practice space standards detailed in the Housing Design Standards LPG. Refer to the LPG guidance on how to qualify for the best practice space standards.

Common internal spaces within developments, such as hallways or lobbies, are generously sized and designed to allow for spontaneous social interactions between neighbours.

Fig.57 Minimum and best practice internal space standards for new dwellings

Type of dwelling		Minimum gross internal floor areas (GIA)						Minimum built-in storage	
Number of bedrooms	Number of bedspaces	1-storey dwelling		2-storey dwelling		3-storey dwelling		All	
1b	1p	39/37*	43/41*					1.0	1.5
	2p	50	55	58	63			1.5	2.0
2b	3p	61	67	70	76			2.0	2.5
	4p	70	77	79	86				
3b	4p	74	84	84	94	90	100	2.5	3.0
	5p	86	97	93	104	99	110		
	6p	95	107	102	114	108	120		
4b	5p	90	101	97	108	103	114	3.0	3.5
	6p	99	111	106	118	112	124		
	7p	108	121	115	128	121	134		
	8p	117	131	124	138	130	144		
5b	6p	103	115	110	122	116	128	3.5	4.0
	7p	112	125	119	132	125	138		
	8p	121	135	128	142	134	148		
6b	7p	116	129	123	136	129	142	4.0	4.5
	8p	125	139	132	146	138	152		

Key

London Plan/NDSS: black text (e.g. 50)
Best practice space standard: blue text (e.g. 55)
b: bedroom p: persons

*Where a shower room is used instead of a bathroom, the floor area may be reduced as shown.

Source: Housing Design Standards LPG

Natural environment

D 23 Applicants must demonstrate that outdoor amenity spaces are of a size and configuration fit for their intended purpose

The design of shared and public amenity spaces should follow the guidance set out in principle H2 of the National Design Guide.

Applicants should take into consideration London Plan policy requirements relating to play and additionally play space requirements within the Mayor of London's Shaping Neighbourhoods: Play and Informal Recreation SPG.

Bexley Local Plan Policy DP11 Achieving high-quality design outlines the Council's expectation for all development to provide sufficient and usable external amenity space. Policy SP8 Green infrastructure seeks for new development to provide new open space or play areas either as part of the development or through financial contributions.

2.68 Developments can provide a mixture of public, communal and private outdoor amenity space. The type of amenity space proposed should be suited to the use of the proposal and the site context.

2.69 Large residential developments over 50 dwellings should provide communal or public space such as garden squares or open spaces in addition to private amenity, particularly in areas where the access to or quality of open spaces has been identified as deficient – see Fig.61.

2.70 Where the conversion of a building into multiple residential occupancy is proposed, the applicant should demonstrate how the requirement for communal amenity for all residents will be met.

2.71 Outdoor amenity space should be considered from the outset and not be made up of leftover spaces. Calculations of amenity space must not include vehicle parking areas of storage areas for waste or

The amount of outdoor amenity space will be dependent upon the type of development. It should generally be demonstrated that:

a. All dwellings have access to a suitable **private outdoor space** that complies with London Plan standards.
b. For major residential schemes (+10 dwellings) the total amenity space is a minimum of **45% of the plot area**, including communal, public and *private amenity space*.

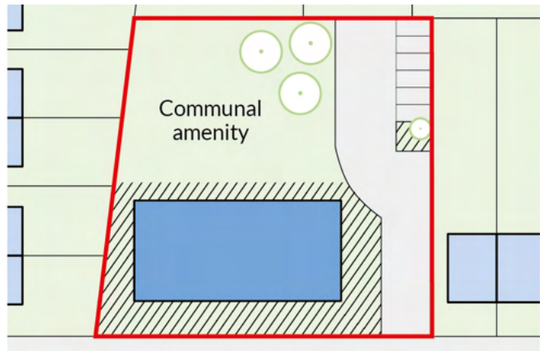


Fig.58 Small or narrow spaces **are not included (see hatched areas)** in calculations of communal amenity space. However these can contribute towards other needs such as greening or *private amenity space*.

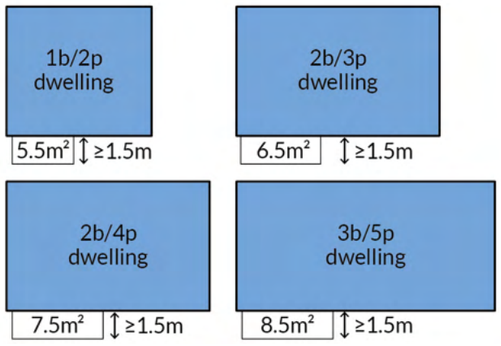


Fig.59 Private balconies should be the minimum size (or larger) required to be fit for their intended purpose.

Fig.60 Criteria for proposed amenity spaces

Type	Criteria
Communal space	• Efficient site planning should consolidate smaller spaces to make a larger, meaningful space suitable to the needs of the development. Spaces that are **small, narrow or in close proximity to ground floor windows should not be included** in the calculation of communal amenity space provision. These spaces can either be designed as gardens to ground floor dwellings or contribute towards biodiversity or urban greening (see Fig.58). • The total amenity space can include pathways and areas of hard landscaping if designed to be predominantly used by pedestrians. Access routes for vehicles are not counted as amenity space. • There should be **direct access to communal or public amenity spaces from the building** not via a road or parking area. Access for homes on upper storeys should be provided through the building, avoiding routes around the sides of buildings. • Amenity spaces intended for wider public use should not be secured by gates or fences to improve access to open space. • Access to communal spaces should be ***tenure neutral*** with appropriate management and service charge arrangements in place. • If the amenity is on upper levels, residents should not have to go to the lower floors to access a lift or stair that connects to the amenity space. • Communal outdoor spaces must be **suitably accessible** with step-free routes wide enough to cater for wheelchairs. London Plan Policy D5 gives further details on communal amenity space and inclusive design requirements. Inaccessible areas, such as sloped banks, cannot be included in the calculation of amenity space provision. These can instead contribute towards biodiversity or urban greening.
Balconies and terraces	• The main balcony area should be directly accessed from the primary living area rather than bedrooms following Para C10.3 in Housing Design Standards LPG. Additional outdoor spaces can be accessed from other rooms. • The size and depth of balconies and terraces should follow Para D6.9 in Housing Design Standards LPG that specifies a **minimum of 5sq.m of private outdoor space** should be provided for 1-2 person dwellings – with an **additional 1sq.m** added for each additional occupant – and these must have a **minimum depth of 1.5m** (see Fig.59). • The dimensions stated are minimums so where there are opportunities to extend balconies and terraces to better suit the building design these should be explored.
Gardens	• **Private gardens for houses should generally be more than 5.5m deep** to accommodate typical garden furniture. When positioned north of buildings, gardens should generally be **10m deep** to ensure part of the garden receives sunlight – see D 19. • Areas of private gardens that are light wells or positioned below ground are not included. • Private gardens should be **positioned to the rear** of buildings. Front gardens will not be counted as *private amenity space* but can be provided in addition to rear gardens and/or as a visual buffer to the street to contribute towards the total amenity space calculation.

Natural environment

other items.

2.72 Proposed amenity space should meet the relevant criteria in Fig.60 to be considered fit for purpose.

2.73 The suitability of amenity space will be assessed on a case-by-case basis taking account of both the quantum and quality of space provided.

2.74 To demonstrate compliance with the criteria, applicants should submit relevant landscape design information as specified in D 04.

2.75 Landscape plans should include measured distances from *habitable room* windows to boundaries and play areas.

2.76 Shared amenity spaces can help in forming close ties between residents and should be designed in a positive manner to facilitate relationships with opportunities for shared activities. Innovative approaches to fostering community such as playstreets, communal growing, outdoor cooking and dining are encouraged.

2.77 Adequate quantum and type of play space should be provided, based upon the GLA's Population Yield Calculator and an assessment of local provision, filling any gaps. Further guidance on *major* schemes will be provided in the Technical Handbook that will form part of the Design Guide SPD.

2.78 The design of play space should apply the principles of GLA publications Expanding London's Public Realm Design Guide and Play and Informal Recreation SPG.

2.79 Play space should be:

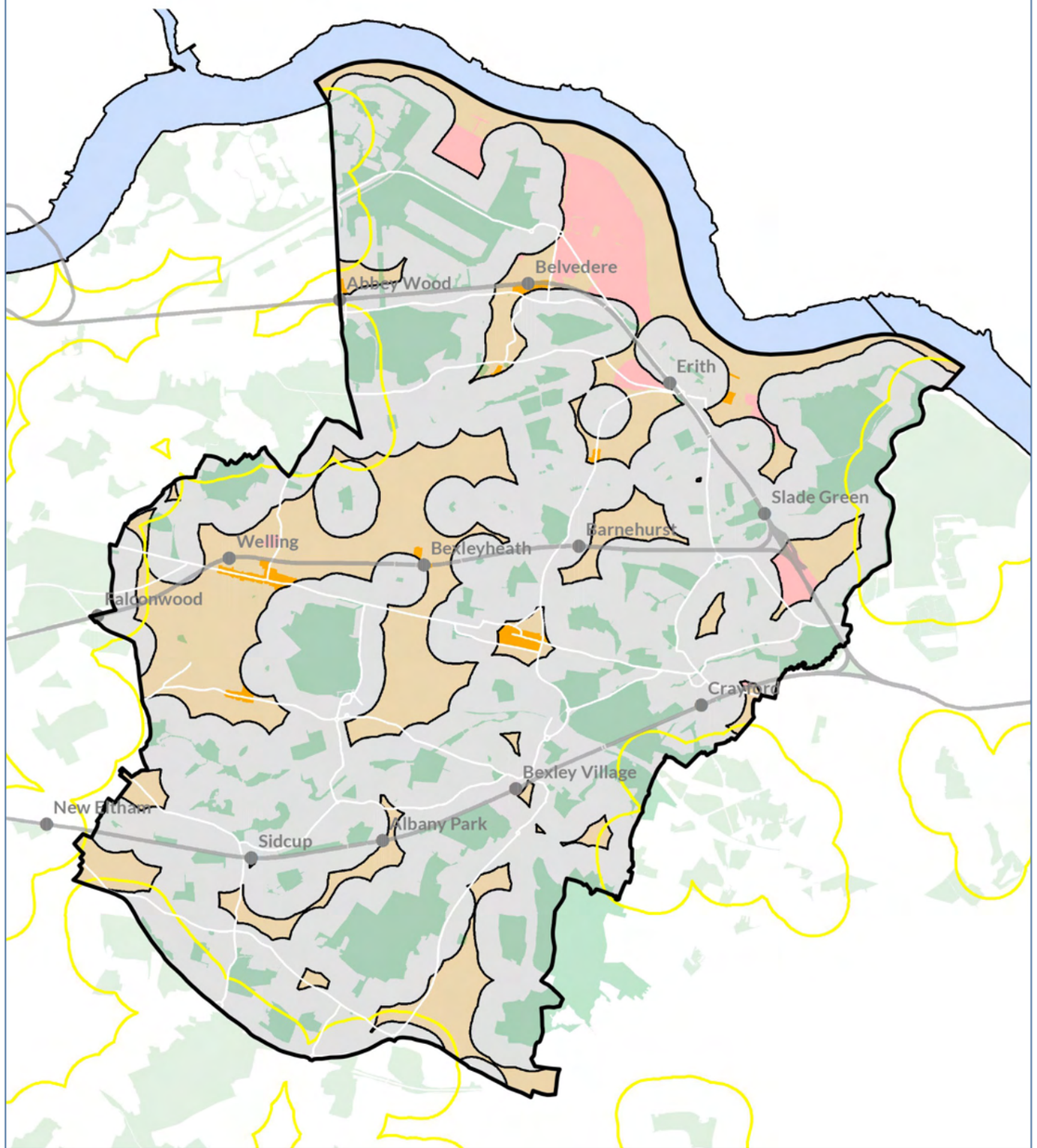
- Positioned within a suitable location away from sources of pollution and ground floor windows but connected to local facilities and well overlooked
- Accessible to all with suitable features for children with impaired mobility
- Safe and secure with managed opportunities for children to take risks
- Mentally stimulating for children. Play spaces should incorporate natural elements where possible
- Inclusive to all - spaces for older children in particular should include facilities that are attractive to girls to ensure these spaces serve all genders equally.

Erith Park, Erith
Broadway Malyan

The Erith Park masterplan incorporates a 'home zone' at the centre of the masterplan to create an incidental play space. A dedicated playground with natural play features connects to The Dell, a local area of ecological importance, and is open to the wider community.

© Broadway Malyan / Matt Livey

Fig.61 Borough-wide deficiency map of publicly accessible open space



Natural environment

D 24 Proposals should incorporate sufficient space for nature using locally-appropriate habitats and urban greening

Proposals will generally be considered to include sufficient space for nature if it can be demonstrated that:

The mitigation hierarchy has been accurately used to inform the proposed approach to development design, layout, materials used in the built structure and landscaping, including the selection of appropriate biodiversity and urban greening interventions.

The development results in more or better quality natural habitat and artificial habitat features than there were before development.

Biodiversity Net Gain, introduced as mandatory by the Environment Act 2021 and supported by Bexley Local Plan Policy DP20 Part 1b Biodiversity and geodiversity in developments, makes sure that habitats for wildlife are left in a measurably better state than they were before the development.

London Plan Policies G5 Urban greening and G6 Biodiversity and access to nature both require proposals to restore and regenerate the natural value of sites through development. G6 and Bexley Local Plan Policy DP20 require all proposals to demonstrate how biodiversity has been considered where a Site of Importance for Nature Conservation may be affected by development.

Policies DP21 Greening of development sites and G5 Urban Greening specify the urban greening requirements. Major developments should quanitify measures through an Urban Greening Factor (UGF) score, while Policy H2 Small Sites states that minor housing developments should achieve no net loss of overall green cover.

2.80 The Council will expect that development proposals result in improvements to the ecological value of a site through appropriate enhancement measures, *Biodiversity Net Gain*, and urban greening.

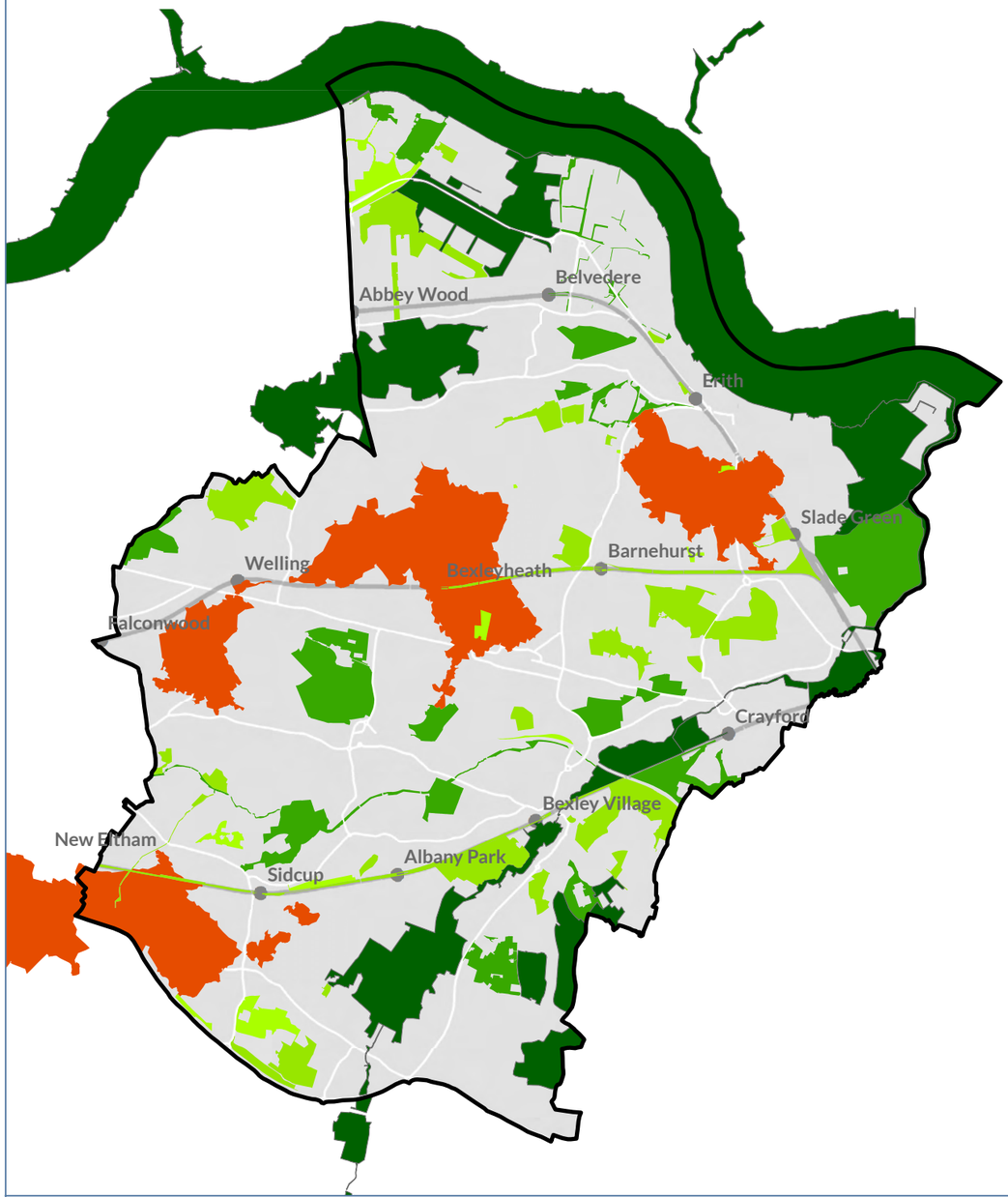
2.81 The selection of biodiversity improvement and urban greening measures should be informed by a sites existing ecological context and local nature recovery priorities. Applications will be expected to demonstrate how the mitigation hierarchy set out in the Context chapter D 03 has been used to make decisions on the approach to the design, layout and materials used in the development, and the appropriate biodiversity and urban greening interventions proposed.

2.82 Interventions should respond positively to opportunities and potential negative effects on protected/priority species on or near the site. Proximity to *Sites of Importance for Nature Conservation* (SINC) or ancient woodland (see Fig.62), strengthen wider ecological networks by creating local wildlife corridors, improve people's connection and access to nature, reducing deficiencies in open space and surface flooding risks.

2.83 There is a presumption in favour of retention and enhancement over removal and replacement of natural features to meet biodiversity and greening aims. Existing features of natural value should be enhanced and incorporated into the design and layout, and connections between ecological features enhanced.

2.84 Refer to Meet biodiversity net gain requirements: steps for developers' guidance by DEFRA, to find out what you need to do to meet the mandatory *biodiversity net gain* (BNG) requirements. Unless our development meets an exemption to the BNG requirements, the development must provide 10% BNG on all habitats within the redline boundary.

Fig.62 Borough-wide map of areas deficient in access to nature



Natural environment

2.85 For the purposes of BNG, biodiversity value is measured in standardised biodiversity units, using a calculator called the the statutory biodiversity metric tool. The tool calculates the value of a wide range of habitat types, such as vegetated gardens, individual trees within private gardens, woodland, grassland, hedgerows, ponds and watercourses. The metric records the area of habitat in hectares. However, for individual trees, the metric uses set values based on the root protection area to represent the trees canopy biomass, this value is dependent on the tree diameter at breast height. Refer to the metric user guide for detailed guidance.

2.86 For major developments, an ecologist should enter information about the existing baseline and any planned development or enhancements in the statutory biodiversity metric tool.

2.87 For minor developments, the statutory biodiversity metric can be used, or a simpler version of the metric tool, called the small sites metric (SSM). However, the SSM cannot be used if a priority habitat, protected site, or European protected species such as a bat is present. The information used to assess the wildlife and ecology of the site at the beginning of the project will help you determine which metric to use, see Context chapter D 03. If unsure, the statutory biodiversity metric is recommended.

2.88 Information on the existing habitat baseline and any post development interventions should be submitted with the application and reflected in the proposal.

2.89 The application should demonstrate that the design and layout has maximized opportunities for achieving BNG on-site. Should any offsite provision be necessary to achieve the full 10% BNG, this should be delivered as close to the application site as possible and within the borough, unless it

Cheney Row Park, Higham Hill
We Made That

Located within the Lee Valley Regional Park, the project transformed the previously empty 3ha site by providing playspace, a new BMX track and a flexible use events space for increased community use. A new nature space supports the existing biodiversity by introducing new soft landscaping and add 400+ new trees to the park, creating more seasonal variation in the planting within the park.

© We Made That

can be demonstrated that no suitable sites are available within the area.

2.90 In addition to BNG, the introduction of artificial habitat features such as bat and bird bricks, bee bricks, log piles, bug hotels, or artificial reefs, are also required by Local Plan Policy DP20 Part 1c. Artificial nest sites are particularly important in urban areas where there are fewer natural nesting sites available. A range of artificial nest and root enhancement measures should be incorporated within the design of all new building development and refurbishments

2.91 Residential schemes should provide at least two artificial bird nesting, bat roosting and invertebrate features; plus, one bird nest, one bat roost box and one invertebrate feature for each additional residential unit, unless an alternative approach is justified. Tall buildings over 20m should also include Peregrine Falcon nest boxes.
The design of artificial features should be appropriate for the target species, suitable to the scale of development, in the correct location and be integrated into the building fabric.

2.92 Active management of existing or new features and habitat should be used to maximise value over the long-term.

2.93 Given the requirement to provide both *Biodiversity Net Gain* and Urban Greening, it is recommended that schemes use measures that achieve both aims to maximise the natural value of sites. Urban Greening for Biodiversity Net Gain: A Design Guide by the GLA and London Wildlife Trust sets out the urban greening factors for different surface coverings and their design considerations.

2.94 All major development should contribute towards London's *green infrastructure* by ensuring that urban greening is incorporated into proposals during the early design stages. The Urban Greening

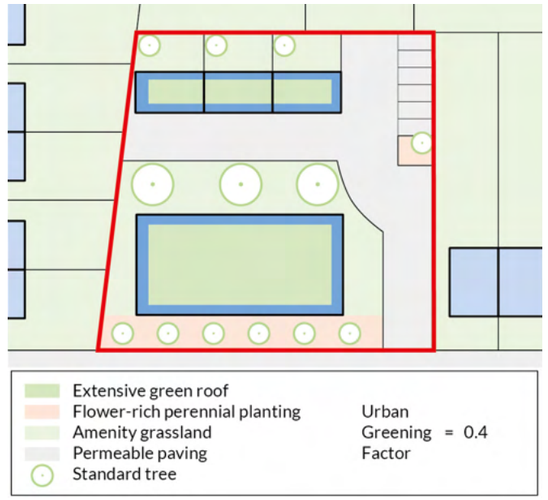


Fig.63 Post development example of Urban Greening Factor plan with key for major proposals of more than 10 units.

Factor (UGF) is a tool that helps developers and designers identify how much and what type of greening they should be bringing forward as part of their proposals. Local Plan Policy DP21 requires that all major developments should have the aim of achieving a UGF score of at least 0.4 for major residential schemes and at least 0.3 for major mixed-use or commercial schemes.

2.95 For major proposals applicants must submit an UGF plan, which is a site plan colour coded according to surface cover types with a key. The plan should be supported by a table demonstrating to officers how levels have been achieved (see Fig.63). Refer to the Urban Greening Factor LPG for information on calculating UGF scores

2.96 For minor development, applicants are still required to set out what measures have been taken to achieve urban greening. Applicants should submit a simplified colour plan of the existing and proposed greening with a table showing how existing levels of greening have been retained. Refer to Fig.64 and Fig.65.

2.97 When deciding the appropriate type of greening, consideration needs to be given to how the greening measure can help to address environmental issues that are specific to that location. For example, if the site is in an area that flood regularly then rain gardens could be considered or if it is next to local woodland then native trees could be used to extend green links into the site. Some types of greening carry a greater UGF value than others, with those that contribute most to nature and the environment scoring higher.

2.98 The Council will expect that designers actively seek opportunities to plant trees within the site – see D 34. There are many benefits to including trees even if space is at a minimum. Collectively this approach will make a valuable contribution towards greening and will help to provide environmental corridors for wildlife.

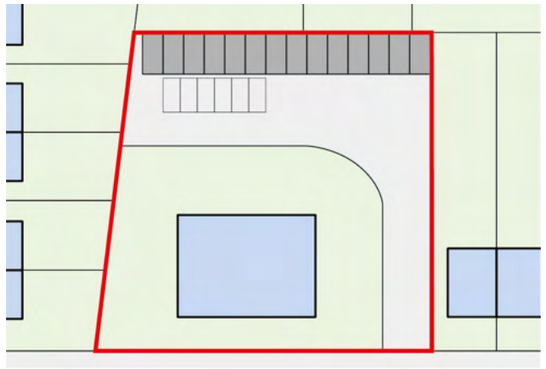


Fig.64 Pre-development scenario. Example backland site with existing garages and parking area.

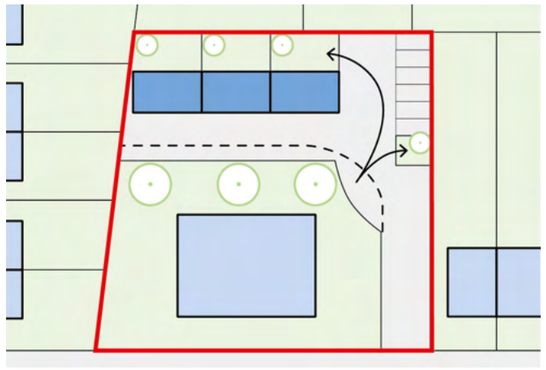


Fig.65 Post development simplified urban greening plan for minor proposals of fewer than 10 units.

2.99 Artificial lawns do not contribute towards biodiversity or urban greening, have a relatively short lifespan and are currently often not recyclable. Their use within development will generally not be considered appropriate.

2.100 Green roofs can be used to provide greening and enhance biodiversity. Design considerations for types of green roof will be included in the Technical Handbook. For further information refer to GRO – Code of Best Practice for UK.

2.101 Green roofs can be designed to cater for many different needs or situations. Biodiverse green roofs designed to support local wildlife should be a priority. Due to limited biodiversity gain, sedum only roofs will be considered appropriate only if there is no other viable alternative.

2.102 Roof space may be required for energy generation. Green roofs and photovoltaic (PV) panels are mutually beneficial technologies and can be combined to create a biosolar roof.

2.103 Biosolar roofs are considered appropriate for industrial buildings given their lighter weight. It is important to explore opportunities in the early stages of the design process.

Clapham Park, Lambeth
PJMA Architects

Due to limited available space on the roof, the renewable energy system and green roof were provided in the same area, creating a biosolar roof. This maximised the space to provide both sustainable energy for residents of the five-storey building and British native species of pollinators to support local wildlife.

© Bauder

Natural environment

D 25 Drainage solutions should improve site biodiversity and contribute towards placemaking

Bexley Local Plan Policy DP33 Sustainable drainage systems states that all development proposals are required to manage surface water through sustainable drainage systems (SuDS). It specifies additional criteria that development is required to meet adding to the requirements set out in the London Plan Policy SI 13 Sustainable drainage.

Policy DP18 Waterfront development and development including, or close to, flood defences requires proposals to de-culvert watercourses and naturalise existing river channels.

In areas at risk from flooding, Bexley Local Plan Policy DP32 Flood risk management requires development proposals to be used as an opportunity to reduce the causes and impact of flooding, making as much use as possible of natural flood management techniques as part of an integrated approach to flood risk management.

Grey to Green, Sheffield
Sheffield City Council, Robert Bray Associates, Nigel Dunnett and Zac Tudor

A multi-functional regeneration project designed to manage water flow and prevent future flooding. The planting increases urban biodiversity, reduces air and water pollution, and revitalises a previously harsh urban environment.

© Nigel Dunnett

2.104 *Sustainable drainage systems* (SuDS) work by capturing rainfall and slowly releasing water into either an existing drainage system or directly into the ground. Bexley's Level 1 Strategic Flood Risk Assessment (SFRA) identifies and assesses flood risks from different sources within the borough, such as surface water from rainfall.
The Council has also co-produced detailed guidance titled Sustainable Drainage Design & Evaluation Guide for information on how to design and evaluate SuDS at each application stage.

2.105 The four objectives that proposed SuDS should meet as defined in the guidance are:

a. Quantity – manage water flow
b. Amenity – help form attractive spaces
c. Quality – prevent water pollution
d. Biodiversity – maximise wildlife habitats

2.106 Due to significant flooding issues throughout the borough, the Council requires development to include, where relevant:

- Natural SuDS with multi-functional purposes that improve water quality, biodiversity and manage surface water
- Permeable paving for all car parking areas and footways
- Water reuse on site either for indoor or outdoor purposes with evidence of suitable use
- For development involving existing watercourses, these should be de-culverted or kept exposed and incorporated as natural features

2.107 Artificial water features such as rills in place of naturalised watercourses are unlikely to be acceptable.

2.108 Adequate provision must be made to ensure that surface water does not drain onto the highway, particularly footways, as this is an offence under s163 of the Highways Act 1980. Equally, any new access should be designed to ensure that highway run-off does not drain onto the development site.

2.109 Applicants should consider future maintenance and ensure easy removal and replacement if features have finite lifespans.

2.110 Example features that can be used include:

- Rain gardens – see Designing Rain Gardens - A Practical Guide by Urban Design London
- Open water bodies, such as ponds
- Swales and areas of open landscape planted with grasses, and drought and flood tolerant plant species
- Green and blue roofs, which can either slow down or store rainwater
- Planting of trees, particularly species with light foliage

2.111 Drainage solutions should consider the infiltration potential of soils/geology, groundwater levels and vulnerability along with the location of Source Protection Zones (SPZs) in relation to the site. Refer to Level 7 of the Bexley Level 1 SFRA and its flood risk maps to inform SuDS suitability.

Moore Brook Green Link, Enfield
Enfield Council Watercourses Team

SuDs measures are incorporated into the highway design in the form of roadside rain gardens. The rain gardens are designed to capture run off from the surrounding hard surfaces and reduce the threat of surface water flooding whilst also transforming the streetscape by introducing attractive planting to the highway. The rain gardens also provide passive traffic calming measures within the streetscape.

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3 Public Realm

The design guidance for Public Realm is separated into three chapters – **Movement, Layout, and Legibility**. Within these chapters are a series of codes that can inform the development of a design. Each is supported by guidance, diagrams and tables that offer advice on how to meet the aims of the code.

Movement

Development creates permeable, safe and accessible places with a clear street hierarchy.

D 26 The design of streets should respond to and improve the street hierarchy

D 27 Proposals should increase permeability and provide new connections where required

D 28 Access to waste facilities must be convenient and accessible for both the building's occupiers and waste operatives

D 29 The public realm must be designed to prioritise the safety of all road users, including during construction

D 30 Landscape and public realm features should contribute towards a healthy environment

Layout

The layout of proposals balances land uses such as parking, storage and natural spaces and suitably addresses flooding issues.

D 31 Proposals must balance demands on land use and allow this to inform the site capacity

D 32 Car parking should not dominate the public realm and its design should allow for alternative future uses as public transport connectivity improves

D 33 The design of bin and bike stores should promote their proper use without detracting from the street scene

D 34 Existing trees must be protected and new development should increase street canopy cover

D 35 In areas at risk of flooding, building layouts should be optimised to form a positive streetscape without compromising safety

Legibility

Public spaces are street-based, clearly signposted and well managed with suitably activated ground frontages.

D 36 Ground floors frontages must be suitably activated relative to the location and building type

D 37 Entrances should be designed to be legible, accessible and clearly private or communal

D 38 Signage should enhance the use of the public realm and not detract from the visual environment

D 39 The effect of lighting upon wildlife should be minimised while ensuring safety after dark

D 40 The management of public spaces should ensure they are welcoming, inclusive and encourage social interaction

Does the development contribute positively towards the neighbourhood?

Movement

D 26 The design of streets should respond to and improve the street hierarchy

Applicants please note: Any works to the highway require permission from the Highway Authority and this is separate to the Planning Permission process. The Council is both highway and traffic authority for all roads in the borough apart from the A2 and the A20. This includes the strategic road network for London, although Transport for London also have a network management role in respect of these roads.

No works can be carried out on an existing highway before they are formally approved by the Highway Authority and the requisite Notices/Licences under the Highways Act 1980 or the New Roads & Street Works Act 1991 have been formally served on and agreed by the Council and any fees paid. Information on each type of formal agreement required by the Highway Authority will be provided in the Technical Handbook that will form part of the Design Guide SPD.

3.1 Bexley supports the principles of street design contained in Manual for Streets, which recognise the role of streets in making a positive contribution to the quality of life.

3.2 Bexley's street network has been classified by a matrix of place and movement functions following the Transport for London (TfL) Street Types matrix – see Fig.66 and Fig.67 – and was adopted in the Bexley Local Implementation Plan.

3.3 The TfL Street Types have been adapted to suit the Bexley context (see Fig.68) and are based upon the Department for Transport Road Classifications defined in Table 11 in the Bexley Local Plan.

3.4 The matrix can be used as a tool to inform the design of streets within developments and the public realm. If a development involves an existing or proposed highway, applicants should map the street types according to the Bexley Place and

Fig.66 Transport for London's Street Types matrix

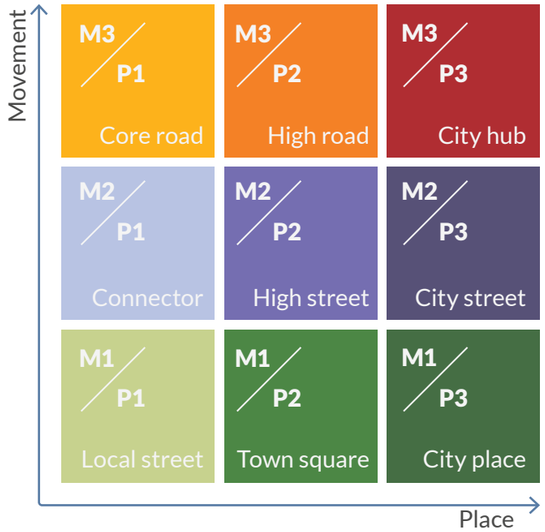


Fig.67 Place and Movement categories in Bexley

Movement categories		
M1	**M2**	**M3**
Major and minor access roads	Borough Distributor Roads	Strategic Road Network (SRN)
Shared surface streets and mews courts	Bus Routes	TfL Road Network (Red Routes)
Access ways		London Distributor Roads

Place categories		
P1	**P2**	**P3**
Residential areas	Neighbour-hood centres	Town Centres
Industrial areas	Primary schools	Secondary schools
	Local parks	Major parks and leisure centres

Fig.68 Street types in Bexley *Source: Bexley Local Implementation Plan*

Movement

Movement categories. Clarification of the status of existing roads should be confirmed at the earliest opportunity with the Highway Authority.

3.5 The Movement and Place functions should inform the design of the streetscape. The street hierarchy should be reflected in the street widths, level of enclosure, footway widths, types of street furniture, lighting, material treatments and other relevant design features. Refer to the Streetscape Guidance by Transport for London.

3.6 If a street has a high Place function and low Movement function – such as a City Place – the design should prioritise spaces to dwell, play, and pedestrian and cycle access.

3.7 If a street has a high Movement function and low Place function – such as a Core Road – designs should prioritise the efficient movement of traffic, the safety of pedestrians and cyclists and reduction in exposure to pollution.

3.8 Recommended dimensions for the physical configuration of some of the different street types, and the junction type and maximum number of residential dwellings likely to be permitted relating to each road category will be provided in the Technical Handbook that will form part of the Design Guide SPD.

3.9 Applicants should explore opportunities where the Place or Movement functions can be improved through the design of the proposal and its surrounding public realm. This will typically be through consolidating necessary movement functions, such as bus routes, and enhancing the place function through Healthy Streets principles, such as providing places to sit.

3.10 Improvements may result in a change to the street types map, which is encouraged if this results in a logical enhancement to the overall network.

3.11 It is vital that street designs that include

Local street — Local streets are the dominant street type across Bexley.

High street — Neighbourhood parades are classed as high streets and are common across the borough.

City hub — Several high streets, such as in Sidcup, are categorised as a 'city hubs' as they are on strategic roads.

carriageway narrowing still accommodate safe and convenient routes for all, without undue risks or hazards. Street design should ensure adequate inter-visibility between drivers, cyclists and pedestrians, and consideration must be given to reducing speeds of motor vehicles to acceptable levels, particularly when cyclists are expected to share carriageways.

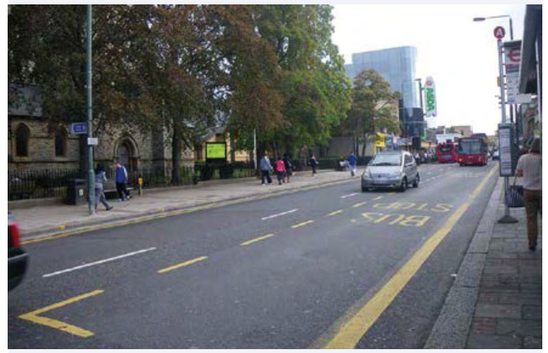
3.12 Adequate sight lines that meet existing guidance requirements must be provided. These can be viewed in Manual for Streets.

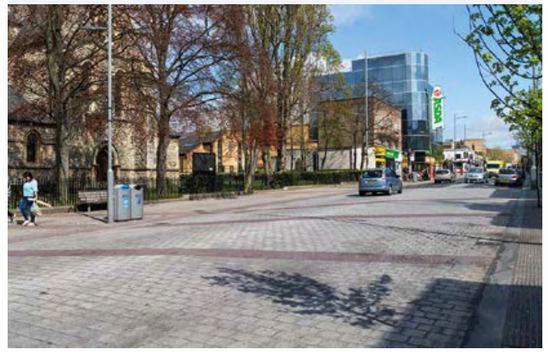
3.13 An evaluation of the travel implications of proposals will need to be submitted, the form of which will depend on the complexity and scale of the scheme. Further information will be provided in the Technical Handbook that will form part of the Design Guide SPD.

3.14 It is important to provide evidence of any highway capacity or congestion problems, as caution must be taken if the existing highway has traffic flow or safety issues. Guidance on how to provide this evidence will be provided in the Technical Handbook that will form part of the Design Guide SPD.

Bexleyheath Broadway, Bexley
Phil Jones Associates, Choudhury Lichfield & Associates and Feria Urbanism

The public realm and street improvements to the highways surrounding the pedestrianised area of the Broadway create a more attractive spaces that enhance the Place function of these streets while maintaining its use as a Movement corridor.





© Transport for London

Movement

D 27 Proposals should increase permeability and provide new visual and physical connections where required

The Council aims to make active travel an attractive and realistic choice for short journeys in Bexley. Manual for Streets advises that walkable neighbourhoods need a range of facilities within ten minutes walking distance. Routes should connect with one another seamlessly to form a comprehensive, permeable and logical network.

Bexley Local Plan Policy DP19 The River Thames and the Thames Policy Area recommends improved access to nature across the Thames Policy Area and Policy DP17 Publicly accessible open space requires new developments to provide new or improved access to open spaces.

3.15 New connections through sites must minimise distances for active travel routes between existing and new development and local facilities. When providing paths and access routes designs need to reflect desire lines and need to be traffic-free where appropriate. Applicants should refer to Secured by Design guidance on implementing new pedestrian and vehicular routes.

3.16 Development should encourage active means of travel and demonstrate the following order of priority:

a. Walking
b. Cycling
c. Public transport
d. Commercial vehicles
e. Private car travel

3.17 Improvement in conditions for travel modes lower in the priority list should not be brought forward at the expense of creating unacceptable conditions for modes higher in the list.

3.18 Important destinations that should be served by active travel networks include homes, shops, schools, transport interchanges, bus stops and other community facilities. Walking journeys are typically less than two miles whereas cycling journeys are typically up to five miles.

Fig.69 Disconnected places don't offer a variety of routes and restrict access to public amenities such as green spaces and rivers.

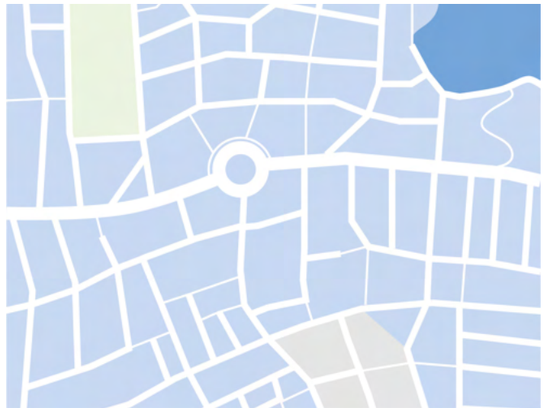


Fig.70 New connections through sites, including industrial developments, can increase the permeability of an area and reduce journey times.

3.19 Proposals must enable connections to green and open space including rivers and lakes if in the local vicinity to reduce deficiency in access. Where feasible, crossing points should be designed near known wildlife commuting routes in the form of eco-passages.

3.20 The cycle lane network should link all places cyclists want to start and finish their journey, with a route quality that is consistent and easy to navigate. Where possible, routes for cyclists should aim to provide the fastest and most direct route from origin to destination.

3.21 Street layouts should directly serve new buildings. Public access to streets and spaces to the front of buildings should be maintained or created and gated access to these areas should be avoided.

3.22 All public footpaths must be linked with the adjacent adopted footway to ensure a suitable access to the development.

3.23 Applicants should seek to support the use of public transport and should seek to improve access to public transport for everyone. Applicants should consider the existing connectivity of the site using tools such as the Public Transport Accessibility Level (PTAL) or WebCAT.

3.24 If public transport provision is not adequate to serve a development and the absence of such provision would make the development unacceptable, the Council may seek a contribution to public transport provision. This can apply to smaller developments due to their cumulative effect. Details will be provided in the Technical Handbook that will form part of the Design Guide SPD.

3.25 Where the development site is affected by an approved safeguarding line for new public transport, or where part of the site could facilitate improvements to the local transport network, the Council will seek to ensure that the layout of the scheme does not preclude such improvements in the future. Requirements will be provided in the forthcoming Technical Handbook.

The Ridgeway, Thamesmead
Thames Water

A dedicated footpath with cycle access covers a historic sewer and runs from Plumstead to Crossness. The path provides access to the River Thames through areas of nature conservation and also features events such as running competitions and the Thamesmead Light Festival.

Movement

D 28 Access to waste facilities must be convenient and accessible for both the building's occupiers and waste operatives

Policy H3 Attention to detail: storage, waste, servicing and utilities in the National Design Guide sets out the expectation for waste and cycle storage to be conveniently positioned and well-integrated into the design of streets, spaces and buildings.

Policy DP26 Waste management in new development in the Bexley Local Plan sets out the waste storage requirements for all residential developments.

London Plan Policy D6 Housing quality and standards specifies that waste storage areas should be easily accessible and suitable in size. Designs should follow BS 5906:2005 Waste management in buildings.

3.26 Detailed guidance on the design and capacity of waste storage will be provided in the Technical Handbook that will form part of the Design Guide SPD.

3.27 The distance in point **a** listed adjacent excludes vertical travel distances to either a bin store or chute. The Council is generally not supportive of waste chutes in new residential development due to maintenance issues.

3.28 Where new homes are proposed on sites without a street frontage, communal bin storage is acceptable, provided that this is located no more than 10m from the public highway, and the siting of which is not detrimental to the quality of external spaces or the experience of pedestrians.

3.29 The distance in point **b** is measured from the rear wall of a communal bin store to the edge of the kerb. This distance is only acceptable if the route is of sufficient quality and there is a hard, smooth, clear and accessible path from the store to the collection point. The stopping point for the vehicle should be safe, legal and designed to

New residential development should meet the following guidelines:

a. The distance from any front door to the waste storage area must be **no more than 30m** excluding vertical distances

b. Waste storage areas must be **no more than 10m** from the agreed collection point

c. **In no circumstances** will it be permitted for waste or recycling bins to be permanently stored on public highway.

Fig.71 Waste facilities should be within 30m of any front door and no more than 10m from the collection point by Refuse Collection Vehicle (RCV), typically on the public highway.

minimise any obstruction to traffic. If these conditions are not met the arrangement is unlikely to be supported.

3.30 Communal bin stores should be secure from fly-tipping but able to be accessed by waste operatives using standard keys, which will be specified in the Technical Handbook.

3.31 If the waste storage area is further than 10m or within an underground store, a management strategy will be required to ensure waste is moved to an appropriate location by a third party on collection days. This will need to be agreed with the Council and secured through a planning agreement.

3.32 Applicants should demonstrate the ease of access to waste facilities through an annotated site plan with road dimensions.

3.33 Recycling and Waste Management Strategies should be provided for large or complex developments. Refer to the Template Recycling and Waste Management Strategy at ReLondon for guidance on how to provide this.

3.34 Site layouts should avoid the need for hazardous and unnecessary manoeuvres as set out in D 29. If refuse collection vehicles are required to reverse to access a site it should be demonstrated that there is no alternative solution.

3.35 In limited situations it may be acceptable for a refuse collection vehicle to reverse up to 20m from the public highway, provided that it is safe to do so and the roadway is of an appropriate standard. This will only be acceptable when there are a sufficient number of homes to justify it. Early engagement with the Council's Highways and Environmental Services teams is encouraged if this is being considered.

3.36 Where waste collection vehicles are required to reverse into a site for this purpose, there must be adequate width for pedestrians to pass safely at the same time. Swept path analysis should demonstrate that vehicles can enter and exit the site safely.

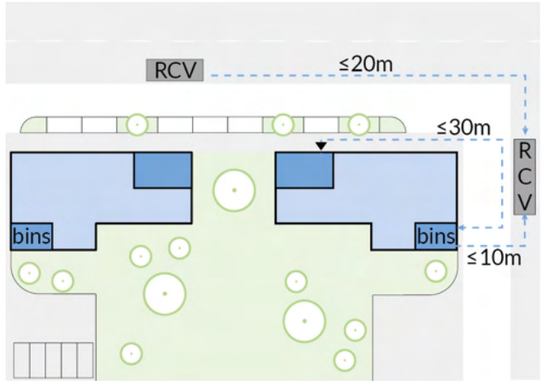


Fig.72 In limited situations, waste vehicles may be permitted to reverse up to 20m from public highways. Where this is acceptable, the 10m maximum drag distance for operatives still applies. Added to the maximum 30m distance for residents to carry their waste, these limits combined to make a maximum distance between the front door of a new dwelling and the public highway of 60m.

Movement

D 29 The public realm must be designed to prioritise the safety and enjoyment of all users, including during construction

The Bexley Local Implementation Plan confirms The Council's support for the Transport for London Vision Zero initiative, a strategy to eradicate deaths and serious injuries from all roads.

Manual for Streets provides guidance on the design of streets and junctions to ensure safety while improving placemaking.

3.37 Proposals should demonstrate that junctions and crossings are safe and convenient for all users and designed relative to the Place and Movement functions – see D 26.

3.38 Dependent upon the volume of traffic using the road, the kerb radii of junctions should be minimised to slow down turning speeds and reduce the width of junctions to make it easy to cross (see Fig.73).

3.39 In areas with a high Place function or low Movement function, such as Local Streets or a City Place, priority should be given to walking and cycling using features such as raised table crossings at junctions.

3.40 Variation in colour and surface materials could assist those with visual impairments. It may be appropriate to make a change in materials obvious to define different spaces or provide visual contrast.

3.41 Designers should not position street furniture in locations that will either cause obstruction or aid illegal entry into property following guidance in Secured by Design.

3.42 The use of bollards and other physical barriers should be avoided or minimised where possible. Where barriers are necessary, features should be used that provide other functions, such as planting or seating. Refer to Transport for London's Streetscape Guidance on removing street clutter and guardrails to lessen the negative visual and severance effects.

Fig.73 In some circumstances, when speeds on priority roads are relatively low and flows comparatively light, it may be acceptable to reduce the radii of kerbs at junctions to slow down traffic and make crossing easier for pedestrians. This should be informed by the Place and Movement functions of the streets.

© Enfield Council

Fig.74 Planting at junctions and around parking bays should generally be kept below 600mm and trees can be thin stem varieties to allow clear visibility for vehicle manoeuvres.

3.43 Developments should follow guidance for the provision of access for fire services, which can otherwise affect building control approval. This may require access of 3.7m wide for fire engines, suitably strengthened access ways, operating areas and turning facilities, which can also be used by other large vehicles such as servicing and refuse vehicles. Waiting restrictions may be needed to protect these areas.

3.44 Reversing distances should be minimised to avoid hazardous and unnecessary manoeuvres. Delivery vehicles, such as those for furniture or white goods, and waste collection vehicles should be able to reach acceptable carrying distances from the principal entrance of each dwelling or unit. Refer to D 28 for more guidance on waste collection.

3.45 Prior to the granting of planning permission for any proposed street the design will need to have satisfactorily passed a Stage 1 Road Safety Audit. Information on how to complete safety audits will be provided in the Technical Handbook that will form part of the Design Guide SPD.

3.46 All proposals should be designed with road safety in mind both within the site and adjoining street works. Temporary traffic management and road safety auditing of permanent works may form part of the scope of the Transport Assessment or Statement. Information on how to complete these statements will be included in the Technical Handbook. Casualty information can be obtained through the TfL website.

3.47 The effect of demolition and construction upon the surrounding area and transport networks should be mitigated and effectively communicated to all necessary parties through a Construction Management Plan. Submission requirements and thresholds will be provided in the Technical Handbook, including reinstatement and repair of any surfacing or other existing street infrastructure damaged during the demolition or building works.

Sidcup High Street, Bexley
Urban Movement and Untitled Practice

Improvements to the main shopping street create an accessible and attractive public realm. The design has extended the footway of the priority road across side road entry points to create a continuous level footway, sometimes known as 'Copenhagen' crossings. The corners have small kerb radii to slow vehicles as they turn off the high street.

© Urban Movement

Movement

D 30 The design of the public realm should contribute towards a healthy environment

London Plan Policy T2 Healthy streets states that development should demonstrate how improvements support the ten Healthy Streets indicators. Policy SI 1 Improving air quality sets out the criteria that should be addressed to ensure development does not reduce air quality or increase exposure to pollution.

The National Design Guide Movement chapter outlines how well designed street networks incorporate green infrastructure, mitigate against air pollution, and are inclusive to all users.

Bexley Local Plan Policy DP11 Achieving high-quality design includes reference to the vital importance of urban greening in improving air quality. Policy SP8 Green Infrastructure including designated Green Belt states that integrating green infrastructure into development can mitigate local poor air quality.

3.48 Public hard landscaped areas must be inclusive, functional, attractive and must either complement or enhance the surrounding environment.

3.49 As set out in the Bexley Local Implementation Plan, the Council supports the Healthy Streets approach adopted by the Mayor of London as shown in Fig.75. Applicants should use the Healthy Streets Check for Designers to measure the success of their proposals.

3.50 Pedestrian comfort is influenced by a range of factors such as width, gradient, quality of surface, step height, tactile paving, street furniture, drainage, cleanliness and lighting. Advice on the assessment of pedestrian comfort is given in TfL's Pedestrian Comfort Guidance for London.

3.51 Development should reduce the negative effects of poor air quality through design. This may be addressed through the size and arrangement of buildings, the use

Fig.75 The ten Healthy Streets indicators as defined in Transport for London guidance. These factors can be used to improve the place function of streets. Source: Lucy Saunders

Lesnes to Crossness, Thamesmead
Untitled Practice and Peabody

Incidental play space and new planting and lighting enlivens a connection to Southmere Lake in Thamesmead.

© Untitled Practice

of *green infrastructure* at street level and the positioning of sensitive uses such as playgrounds.

3.52 For large-scale developments, an Air Quality Positive (AQP) Statement should be submitted as part of the Environmental Impact Assessment. Refer to the Air Quality Positive LPG for information on how to produce and assess an AQP.

3.53 Development proposals should demonstrate how *green infrastructure* has been incorporated within the design to protect people from air pollution. The suitability of the approach will be dependent on the type of street and whether the priority is to protect people on the street or nearby uses such as playgrounds – see Fig.76-Fig.80.

3.54 Applicants should refer to the GLA guidance Using Green Infrastructure to Protect People from Air Pollution for more information on best practice guidance on reducing public exposure to air pollution.

3.55 New development should generally be set back from busy roads to allow for the incorporation of street trees and other appropriate types of vegetation to disperse polluted air. Certain plants with small leaves, fine hairs, and those which are grooved can also trap particulates.

3.56 Streets and public spaces should support the health and wellbeing of all users. The provision of incidental play space, seating, exercise features, and welcoming areas for young people are encouraged. These features should be integrated into the design of the public realm.

3.57 Refer to the GLA reports Making London Child-Friendly for best-practice guidance on designing places to support the independent mobility of young people, and Safety in Public Space – Women, Girls and Gender Diverse People for detail on how to design inclusive public spaces.

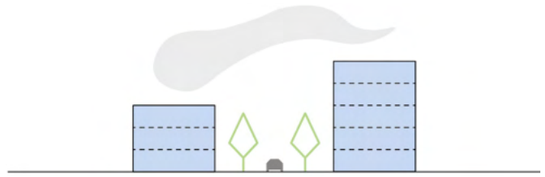


Fig.76 In street canyons with low traffic, avenues of trees protect from external pollution.

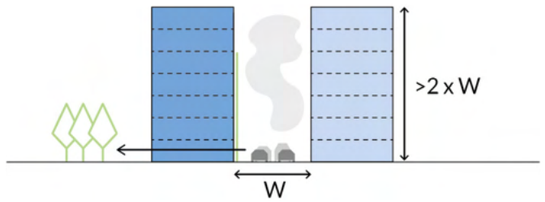


Fig.77 For street canyons with high traffic where the building heights are more than twice the width of the street, avoid trapping pollution by opening up a gap to green spaces or growing green façades.

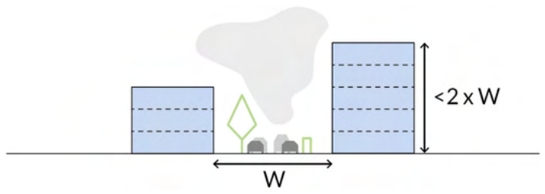


Fig.78 In street canyons with high traffic where the height of buildings is less than twice the street width, hedges or sparsely planted trees are recommended.

Fig.79 On more open streets with detached buildings or buildings on one side, hedges can be used to protect pedestrians or cyclists from pollution.

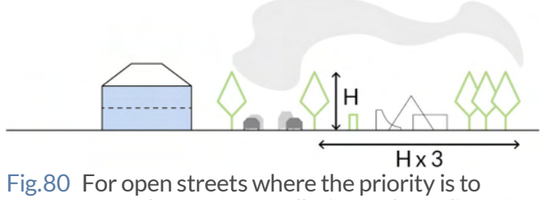


Fig.80 For open streets where the priority is to protect a nearby use from pollution, a dense line of trees combined with hedges can shield an area three times in depth relative to the height of the barrier.

Layout

D 31 Proposals must balance demands on land use and allow this to inform the site capacity

Bexley Local Plan Policy DP23 Parking Management sets out the parking provision standards for both residential and industrial development and explains how this relates to the London Plan standards in Policy T6 Car Parking. Cycle parking facilities should follow Policy T5 Cycling in the London Plan.

The requirements for waste storage is provided in Bexley Local Plan Policy DP26 Waste management in new development. Information on determining the suitable amount of amenity space and natural features is addressed elsewhere in this document in the Spatial Quality chapter.

3.58 In planning the layout of both new development or alterations to existing buildings, applicants must consider the balance between:

a. Building footprint
b. Amenity space related to the building
c. Access routes
d. Areas dedicated to wildlife and nature
e. Storage of waste, bikes and vehicles
f. Areas of public realm (see Fig.82).

3.59 The necessary space required for each of the above uses will be affected by several factors such as connectivity, adjacency to natural features, the size of dwellings, or whether it is located in a *Town Centre*.

3.60 Applicants should refer to the above policies to determine the appropriate quantum of car and cycle parking, waste storage and amenity space for the development. These standards differ from other locations in London, which may constrain the capacity of sites in comparison.

3.61 Applicants should demonstrate that these uses have been correctly calculated and how this informs the site layout and capacity – see Fig.81 for how to calculate these factors.

3.62 The provision of ancillary spaces for schemes should accurately reflect the quantum of development as per the standards defined in Fig.81. The accommodation of such spaces need not be limited to the ground floor and may be accommodated in innovative ways, for example the adoption of an underground waste system, or solutions such as undercroft parking. See D 32 and D 33 for more information.

3.63 The safe removal of waste and recycling is a significant constraint on the development of many sites. A strategy for the storage and collection of waste must be considered from the outset in any proposal. Refer to the Template Recycling and Waste Management Strategy at ReLondon for guidance on how to provide this.

3.64 Bin stores or dedicated space for bins should be designed in to all developments early in the design process. The type and number of waste collections may differ from other boroughs. Bin stores should not be too constrained to allow for potential changes to the types of collection that may be required in future.

3.65 The plot ratio can be higher within *Town Centres* and should generally be lower in *Maintain* areas. This should be informed by the urban grain and typical building types as covered in the Context section.

3.66 Developments that result in an a plot ratio that is not relative to the immediate townscape and context, and do not allow sufficient space for necessary ancillary uses are unlikely to be suitable.

Fig.81 Typical information included in applications to demonstrate quantum of ground floor uses

Information	Format	Reference
Building footprint	Plot ratio – ratio between site area and total floor area expressed as a number e.g. 0.25 Block plan	Refer to Context and Townscape sections on determining the building form and type.
Amenity space	Plan and details of private and communal outdoor amenity and play areas.	See D 23
Wildlife and biodiversity	Plan and details to meet urban greening and biodiversity requirements.	See D 24
Waste storage	Capacity of waste storage with the number and type of bins specified. Plan with waste storage facilities identified. Recycling and Waste Management Strategy for large or complex developments.	Tables to calculate the capacity of bin stores will be provided in the Technical Handbook. See D33 and D28. Refer to the Template Recycling and Waste Management Strategy at ReLondon.
Cycle parking	Number and type of spaces e.g. short-stay or long-stay. Plan of cycle parking arrangement.	Refer to the London Cycling Design Standards for guidance on dimensions and layout. Refer to London Plan Policy T5 Cycling for the minimum cycle parking standards.
Car parking	Number and type of spaces e.g. in-curtilage, communal, disabled, car club. Ratio of parking spaces to number of dwellings e.g. 0.4 parking spaces per dwelling. Colour-coded map showing locations for each type of parking bay.	Dimensions and arrangement of bays will be provided in the Technical Handbook. Refer to Bexley's Local Plan Policy DP23 Parking Management for details of the Council's adopted car parking standards

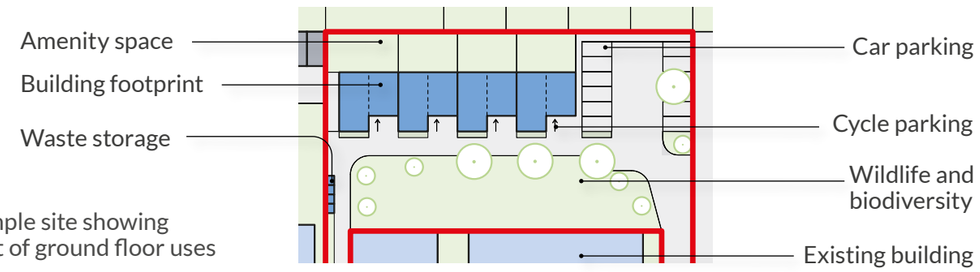


Fig.82 Example site showing arrangement of ground floor uses

Layout

D 32 Car parking should not dominate the public realm and its design should allow for alternative future uses as public transport connectivity improves

The Council seeks to encourage and prioritise travel by active modes and public transport over the private car and supports the redevelopment of existing car parking for alternative uses where the loss of parking does not result in harm or can be effectively mitigated.

Bexley Local Plan Policy SP10 Bexley's transport network promotes a transitional approach to the provision of car parking in developments and notes in the implementation guidance that parking layouts should be designed flexibly with less on-plot parking.

Policy DP22 Sustainable transport sets out the measures expected to be incorporated at pre-application stage, including electrical vehicle (EV) charging and car clubs.

M3 Well-considered parking, servicing and utilities infrastructure for all users in the National Design Guide outlines the important factors to consider in the arrangement of car parking, including measures to limit the negative effects upon buildings and spaces while ensuring parking areas are secure.

3.67 Development proposals should use a variety of approaches to accommodating private cars to reduce the visual effect upon the public realm - see Fig.83.

3.68 Proposals should demonstrate how the parking design relates to the approach to *massing*, the journey from the street to building entrances, the definition of public and private spaces, and street typology. These considerations equally apply to proposals where the use of existing buildings are being intensified, leading to the potential for additional parking activity.

3.69 Car parking should not overly dominate the building frontage or rear spaces. Car parking provision should consider the layout of homes and not negatively affect the use and enjoyment of *habitable rooms* or outdoor amenity spaces.

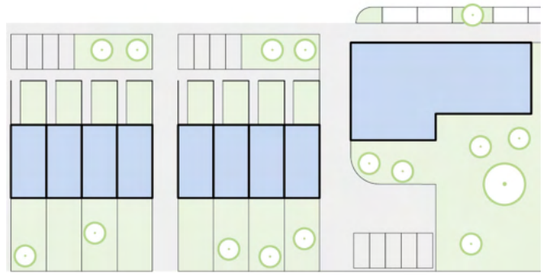


Fig.83 Proposals should use a variety of configurations to accommodate parking and avoid the use of on-plot parking. Landscape elements can be used to break up continuous lines of parking.

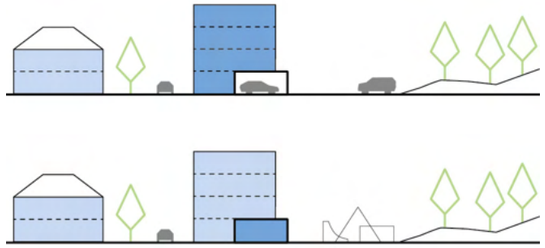


Fig.84 Developments can provide undercroft parking that can be converted into a new use in future. Parking provided along wildlife zones or adjacent to amenity spaces can be converted into other uses if car dependence reduces.

Fig.85 Where densities are higher, as in Town Centres, podium gardens can be used to accommodate parking. Maisonettes with ground floor front doors activate the street and prevent long blank frontages. Commercial uses can extend into the podium in future.

3.70 Where required, the introduction of car parking should not negatively affect the biodiversity of a site by removing existing greening, for example, the redevelopment of a front garden in lieu of on-plot parking.

3.71 Where the conversion of a building into multiple residential occupancy is proposed, applicants should demonstrate how the proposed approach to parking has been developed to avoid increased parking stress in the wider area to the detriment of amenity and highway safety.

3.72 Recommended dimensions and layouts of each type of parking space including disabled access, electric vehicle (EV) charging and garages will be provided in the Technical Handbook that will form part of the Design Guide SPD.

3.73 Applicants should demonstrate that parking provided as part of a development is flexible in use as outlined in Fig.86.

3.74 Arrangements such as on-plot parking layouts, where the parking spaces are located within the curtilage of individual dwellings, should be avoided where possible and should only be considered for family housing units. Parking spaces in the public realm should not be allocated to individuals and will not be permitted within the highway.

3.75 Where on-plot parking already exists, the frontage must be a sufficient size to avoid vehicles overhanging the public highway and causing obstructions or hazards to pedestrians.

3.76 The use of visually intrusive road markings for parking bays should be avoided, particularly for residential uses. There is a preference for bays to be marked by materials such as a change in sett colour rather than painted in bright colours.

3.77 Where undercroft or basement parking is provided, this should not result in long blank frontages and entrances should be integrated into the facade. Where relevant, changes in topography should be used to accommodate undercroft parking.

Fig.86 Options to improve the adaptability of parking layouts

Parking layouts should be discreet and designed to be re-purposed as other uses that would benefit both residents and the public as connectivity improves. This can be achieved through the following:

- Provide undercroft or podium parking that can be converted into storage or commercial space in future – see Fig.84 and Fig.85
- Consolidate existing parking areas. Often existing parking is not efficient in its use of space. New development can optimise layouts leading to wider benefits to applicants and residents.
- Separate multiple parking spaces with trees and planting that could be extended in future.
- Provide unallocated communal parking or parking courts to the rear of buildings that could be integrated into amenity spaces or wildlife zones. Paving should be permeable to allow for this transition.
- Provide on-street parking along potential public transport corridors to be removed when future transport links are provided.
- Prioritise publicly available EV charging spaces over privately accessible spaces.
- Substitute parking with car club spaces
- Non-curtilage parking should not be allocated through a freehold transfer and any lease for the parking space should be short-term so it will not prevent a reduction in parking as public transport connectivity improves and parking demand reduces, as identified by a review under the Car Parking Management & Reduction Plan (CPMRP).

3.78 The density of a site should not be used as justification for a car-dominated public realm.

3.79 It is preferable for sites within Town Centres to accommodate the majority of parking bays within the footprint of the building or within podiums.

3.80 Parking courts for five or more spaces to the rear of building should be avoided unless it can be justified that they are safe and well-overlooked.

3.81 Disabled parking spaces must take priority over other car parking needs. These spaces should be designed to ensure that disabled drivers and passengers can enter and exit vehicles with ease. Level routes to the building entrances should be provided and it is recommended that spaces for disabled people are located as close to these entrances as possible.

Temple Gardens, Bristol
Archio

The existing site hosted a large car park located at the centre of the plot and dominating much of the land. Through redevelopment to provide new homes, parking becomes ancillary to these new dwellings and communal amenity space provided for residents at the centre of the site.

Above: Existing

Above: Redevelopment
© Archio

Dujardin Mews, Enfield
Karakusevic Carson Architects and Maccreanor Lavington

Parking is incorporated into the design of the new street, with soft landscaping providing relief between the parking bays to avoid the dominance of vehicle parking within the streetscape.

© Tim Crocker

© Mark Hadden

Layout

D 33 The design of bin and bike stores should promote their proper use without detracting from the street scene

H3 Attention to detail: storage, waste, servicing and utilities in the National Design Guide sets out the expectation for waste and cycle storage to be conveniently positioned and well-integrated into the design of streets, spaces and buildings.

Policy DP26 Waste management in new development in the Bexley Local Plan sets out the waste storage requirements for residential developments and conversions. Policy DP22 Sustainable transport requires cycle parking to be integrated, secure and convenient.

London Plan Policy D6 Housing quality and standards specifies that waste storage areas should be easily accessible and suitable in size. Policy T5 Cycling states that cycle parking should be designed in accordance with the London Cycling Design Standards.

Designs should follow BS 5906:2005 Waste management in buildings.

3.82 Applicants should balance the negative aspects of storage areas with the need to encourage the proper disposal of waste, promote recycling, and incentivise cycling. Arrangements that are likely to result in fly-tipping, lack of use or poor security will not be supported.

3.83 Storage areas should generally be integrated into the footprint of the building and accessed from the street, especially in apartment blocks for security reasons. Corridor and door widths should be in accordance with requirements of the London Cycling Design Standards.

3.84 If it is not possible to integrate storage into the building, for example where an existing single dwelling house is being converted into multiple occupancy, these features should be positioned so that they are sympathetic to the existing building and the wider area and do not obscure the front façade or windows.

Anne Mews, Barking
Allford Hall Monaghan Morris and Maccreanor Lavington

Bin stores are incorporated into the frontage of each individual townhouse, creating an uncluttered public realm along this mews street.

© Timothy Soar

3.85 Communal bin stores should be safe, well-lit, on hard standing, easy to clean, away from windows or other sources of heat, and properly secured. They should be designed to be accessible to elderly and disabled residents and arranged to promote recycling. Further guidance on the design of the disposal, storage, and collection of waste will be provided in the Technical Handbook that will form part of the Design Guide SPD.

3.86 Apartment buildings with 25 dwellings or more should provide bulky waste stores in addition to general bin stores. For buildings with fewer than 25 dwellings, a bulky waste storage area can comprise designated space within a bin store for household waste.

3.87 Detailed information on calculating the number, size and type of bins required will be provided in the Technical Handbook that will form part of the Design Guide SPD.

3.88 Cycle parking should be arranged to prevent cycle theft and encourage use by residents. Refer to the London Cycling Design Standards for standard dimensions and arrangement of on-street cycle parking and guidance on cycle parking provision within buildings. Refer also to the Cambridge Cycle Parking Guide for New Residential Developments.

3.89 Doors should not open outward onto the public footway or cause obstructions when open but should be able to be easily held open when accessing bins or bikes.

3.90 Stores that are separate to the building should be of high-quality material which is sympathetic to the design and materiality of the host dwelling. Screening and soft landscaping can be used to improve their visual appearance.

3.91 Storage areas must be clearly shown on plans and sufficient design detail provided to ensure the facility will be sufficient in terms of size, access, layout, and materials, including an accommodation schedule.

3.92 The Council encourages the use of innovative waste systems for high density developments, such as Underground Refuse Systems or Automated Vacuum Collection Services. These should be discussed with the Environmental Services team at the pre-application stage.

Aura, Great Kneighton
TateHindle

Different arrangements for bins and bikes are used depending upon the type of street or building across this masterplan in Cambridge. Storage is integrated into the frontage of town houses arranged around small courtyards or placed in free-standing timber enclosures along generously planted play streets. These arrangements prioritise the visual quality of the streetscape while ensuring ease of use.

© Timothy Soar

Layout

D 34 Where possible, existing trees should be protected and new development should increase street canopy cover

The National Planning Policy Framework Paragraph 131 provides protection for new and existing trees and advocates for new streets to be tree-lined.

The aspiration of the Mayor of London is to achieve a 10% increase in canopy cover by 2050. The estimated canopy cover of Bexley is 14% (Green Infrastructure Study 2020). Policy G7 Trees and woodlands in the London Plan sets out the requirements for developments that involve new and existing trees.

Bexley Local Plan Policy DP21 Greening of development sites specifies that there is a presumption in favour of the retention and enhancement of existing trees, and proposals that adversely affect existing trees are likely to be refused.

3.93 All new and improved streets should be lined with trees to increase canopy cover across Bexley.

3.94 Applicants should consider and respond directly to the site information gathered as set out in D 03 in the development of tree strategies.

3.95 It is important to retain as many existing trees on site as possible. The Council does not support the removal of healthy trees within the public realm solely for the reason of facilitating development.

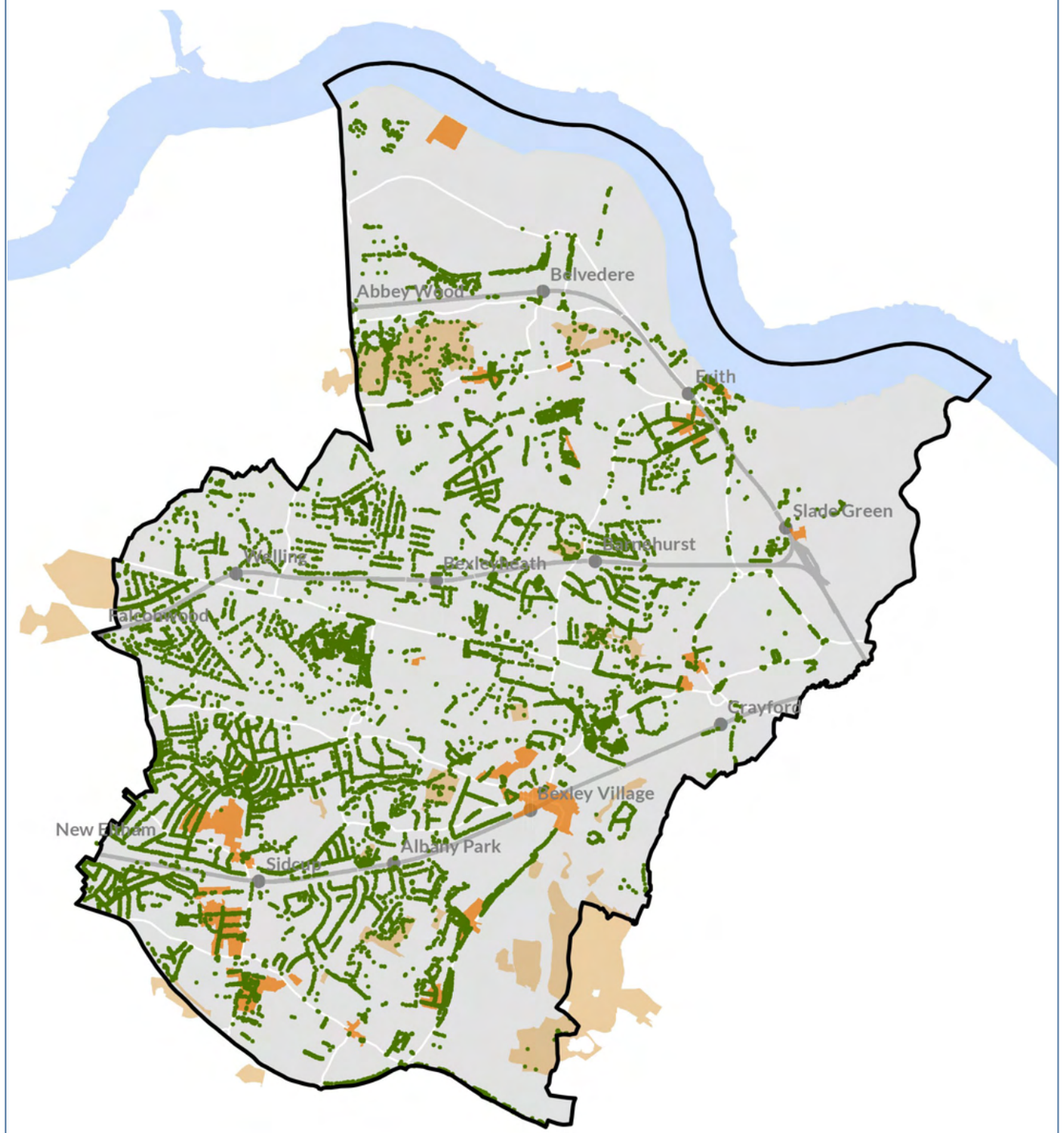
3.96 Advice should be sought from a Council Tree Officer on which trees should be protected and any proposed removal justified through a Tree Removal Strategy. See Fig.87 for a list of trees with additional protections. Developers must not pre-empt development by removing all trees from the development site.

3.97 Existing trees should be surveyed in line with British Standard BS5837 and proposals must seek to retain all good

Fig.87 Trees with additional legal protection

Type	Requirements
Tree Preservation Orders (TPOs)	Tree Preservation Orders (TPO) are put in place to protect either individual trees or a group of trees within a specific area. Written consent from the Council is required prior to any works to trees protected by a TPO.
Conservation Areas	Trees within *Conservation Areas* have similar protection to TPOs. The Council requires six week's written notice prior to works to trees within *Conservation Areas*. Further details can be found on the Council's website.
Ancient Woodland	Where trees fall within protected sites such as Ancient Woodlands the Council will seek a buffer zone of at least 15m – see Fig.88

Fig.88 Trees and Ancient Woodland in Bexley



Layout

quality trees. Where a tree is proposed to be removed, the applicant must justify this decision in terms of the tree's quality, health and age and the site conditions.

3.98 It is desirable for proposals to implement a one-for-one replacement rate for any trees affected by development.

3.99 New and existing street trees and planting should be planned to ensure they can thrive in their locations with a reasonable level of maintenance. Higher quality planting at a lower quantity is preferable to low quality provision with low retention rates.

3.100 The maintenance of street trees should be assessed from the outset to ensure high retention rates. The selection of species and layout should consider the risk of:

a. Foliage obstructing visibility
b. The canopy and leaf fall affecting pedestrian and vehicular movement
c. Root growth undermining services or underground structures.

3.101 The placement and species of new street trees should be considered alongside road safety requirements set out in D 29.

3.102 Provisions should be put in place to ensure trees are maintained. Street trees may incur a commuted sum for future maintenance or a licence to allow continuing upkeep.

3.103 Developments should ensure adequate soil volume that is free from significant soil compaction to avoid unnecessary tree removal. Refer to Fig.89 for recommended tree planting guidance in Bexley.

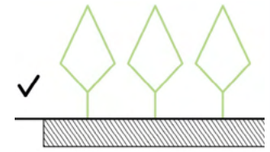
Eastside Quarter, Bexleyheath
Bellway

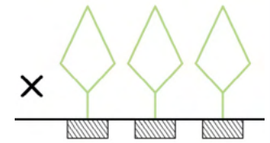
Street trees were retained in the development of the site and incorporated into the plans to enhance placemaking and create shade and shelter.

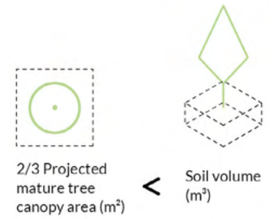
© Bellway

Fig.89 Recommended tree planting guidance

Factor	Typical requirements
Timing	Trees should generally be planted between November to the end of March, which is outside the growing season.
Species	Designers will need to consider choosing the correct species of tree for the locality following standards set out within British Standard BS5837. Block planting of single species should be avoided to protect from and offer resilience from disease.
Layout	Following guidance in British Standard BS5837, care should be taken to place new trees a certain distance away from built structures to avoid future pressure of removal. Depending upon the diameter of the mature tree, this may require new trees to be placed between 0.5m-3m away from buildings and paving. Where possible, cellular tree pits measuring **at least 1.5m x 1.5m** should be used in hard landscaped areas. Tree pits need not be square and connected tree pits are encouraged, which make rectangular tree pits the typical recommended shape in hard landscaping.
Installation	Adequate soil volumes should be provided to enable healthy and non-intrusive root growth, better tree establishment and long-term retention rates for trees, especially in hard standing but also soft landscaping. A minimum soil volume equivalent to **at least two thirds of the projected canopy area** of the mature tree is recommended. In hard landscaped areas tree pits should be used. The Council preference is for the use of cellular systems. In certain circumstances, engineered solutions may be required to provide greater soil volume underneath hard standing while still delivering sufficient load bearing above ground.
Establishment	Applicants should use available planting systems that ensure an acceptable soil volume and avoid over-compaction. Tree pits can be protected from pedestrian and other traffic through the design of tree grilles or upstands in the paving.







For example, a tree with a canopy area of 50sqm would require a soil volume of at least 33 cubic metres.

The required soil volumes and the approach taken may be tree species dependent – refer to advice from suppliers.

Layout

D 35 In areas at risk of flooding, building layouts should be optimised to form a positive streetscape without compromising safety

Policy DP32 Flood risk management in the Bexley Local Plan identifies the criteria for development to take place in flood zones and sets out the requirements that these developments must meet.

Applicants should refer to the Code of practice for property flood resilience by CIRIA for measures to reduce the amount of water entering buildings and limit the damage caused if water does enter a building.

3.104 Applicants for proposals in areas at risk of flooding should consider this constraint early in the design process and develop an approach that suits this type of site, both to ensure safety and create good streets and internal spaces.

3.105 Standard building types that have not been designed to be flood resistant and/or flood resilient within areas at risk of flooding will likely not be appropriate.

3.106 All *habitable rooms* within residential proposals such as bedrooms must be located above the flood water level. There should also be a safe, unimpeded route through buildings up to this safe level.

3.107 The internal layout and finishes of the building must be designed to minimise the negative effect of a flooding event, for instance by placing electrical and heating systems above the flood level and specifying appropriate construction materials below the flood level. Refer to the Code of practice for property flood resilience by CIRIA for further detail.

3.108 Applicants must ensure new developments are accessible regardless of flood risk requirements in accordance with Part M of the Building Regulations and Policy D7

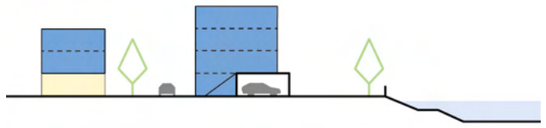


Fig.90 Ground floors in flood zones can be used for parking, commercial uses and non-principal living spaces. These should be designed to ensure there are no continuous blank frontages, for example by providing split-level maisonettes.

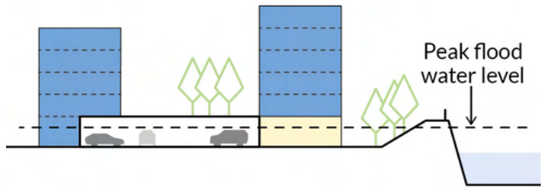


Fig.91 *Habitable rooms* in residential development within the fluvial flood zones, should be set 300m above the predicted 1 in 100 year plus climate change peak flood water level. Within the tidal flood zones, *habitable rooms* should be set above the predicted 1 in 200 year annual proability.

Accessible housing in the London Plan.

3.109 In buildings where living areas must be raised, developments must not create continuous blank frontages at street level or long ramps and podium areas to provide access to the building. These features do not typically contribute to a positive streetscape.

3.110 The preferred approach for dwellings is to incorporate maisonettes with 'own door' access from the street as an alternative to raised apartments on a podium. The ground floor area can be used for storage and other non-principal living spaces.

3.111 Where compliant with policy, some commercial and community uses may be suitable below flood levels in developments in flood risk areas because they do not have uses considered to be 'vulnerable' and they can create *active frontages*. Refer to the flood vulnerability classification list for more detail.

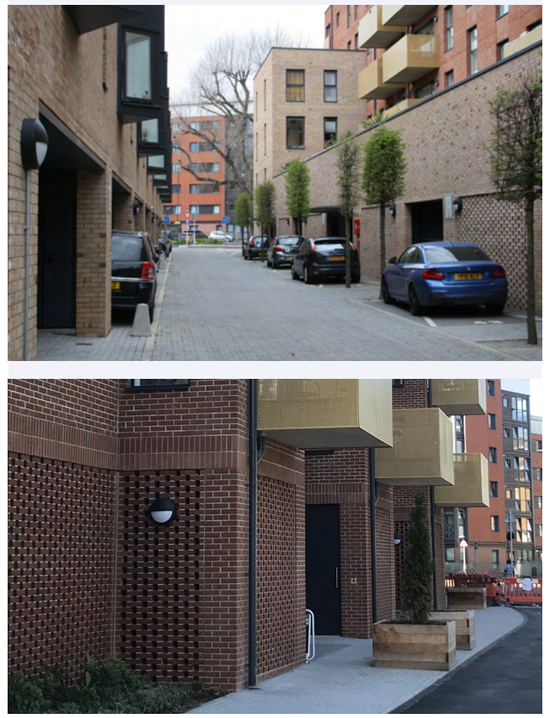
3.112 Refuse stores, bike stores and car parking can be placed in the ground level of buildings in flood zones, however this approach must not result in long blank walls as outlined in Townscape. See the wider Layout section for more guidance on ground floor arrangement.

3.113 Basements, including for parking, are not suitable in flood zones 2 or 3 regardless of use type. Refer to DP32 Flood risk management in the Bexley Local Plan for requirements for basements in other locations.

3.114 The design of flood defences should be incorporated into the public realm and allow for views of the water. This can be achieved by providing walkways above the flood level.

Erith Baths, Erith
Pollard Thomas Edwards

Through a combination of mews parking, sheltered undercrofts and spaces at ground floor, this residential scheme uses a variety of approaches to accommodate cars without dominating the public realm. The site is in an area of flood risk so the ground floor is partly used for parking behind perforated brick panels. Tree planting breaks up the mews parking and bays are demarcated using changes in the paving materials.



Legibility

D 36 Ground floors frontages must be suitably activated relative to the location and building type

Frontages will generally be considered suitably activated if the following applies:

Within Town Centres, Neighbourhood Centres and small parades

a. There is a continuous *active frontage* facing the main thoroughfare.

Within Primarily Residential Areas

b. Ground floor dwellings have front doors facing the main access street.

c. Communal entrances are evenly distributed along the main access street.

Within Industrial areas

d. The entrance(s) to premises are positioned to be clearly visible from the point of access to the site.

London Plan Policy D3 Optimising site capacity through the design-led approach states that development should be street based and provide active frontages, which should be maximised along the public facing sides of a development.

Bexley Local Plan Policy DP9 Development within town centres specifies that if a proposal within a town centre changes from Use Class E (shops, offices, restaurants etc.) to another use, the building should still have an active frontage facing the street. Similarly, Policy DP10 Neighbourhood centres and small parades states that the loss of Use Class E uses should not result in inactive ground floor frontages.

Use Class E – Commercial, Business and Service, was introduced to the Town and Country Planning (Use Classes) Order 1987 in September 2020. More information can be found on the Planning Portal.

3.115 The design of frontages can add interest, life and vitality to the street and public realm. Frontages are considered "active" if they have:

- Frequent doors and windows without continuous blank walls (see D 11)
- Internal uses visible from the outside, or spilling onto the street e.g. cafés.

3.116 The "main access street" generally refers to the street that is the building's main address. Typically it will be the longer frontage of the development. The "main thoroughfare" in a Town Centre or Neighbourhood Centre generally refers to the street onto which the retail frontages face that is located on the main pedestrian route through the Centre.

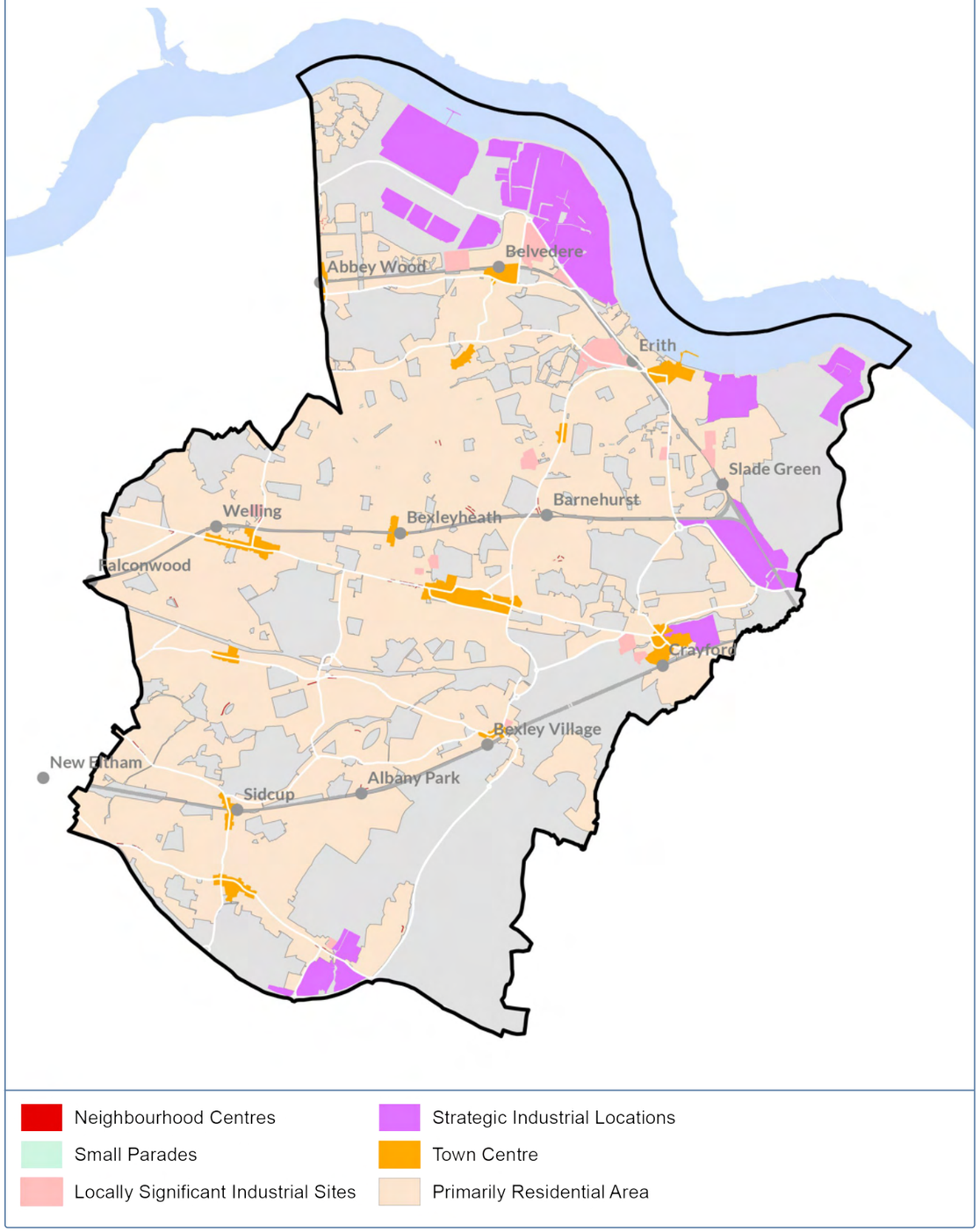
3.117 Where non-residential uses are proposed as part of a scheme in a Primarily Residential Area, these should be arranged with regard to new and existing patterns of movement through the site. *Active frontages* should be visible from a distance or from highly-trafficked movement corridors to ensure the viability of new businesses. Applicants should provide analysis of the patterns of movement and use this to justify the optimal placement of these frontages.

3.118 For projects that are to be delivered in phases, it must be demonstrated that each phase will provide adequate ground level uses to accommodate the occupation of completed zones.

3.119 Features such as roller-shutters can portray an inaccurate picture of crime which may distort the image and perception of a place. Other measures which are less visually intrusive would be the preferred option.

3.120 Further information specific to Town Centre development including shop fronts will be provided in the emerging Area Types document that will form part of the Design Guide SPD.

Fig.92 Frontages



Legibility

D 37 Entrances should be designed to be legible, accessible and clearly private or communal

Policy D6 Housing quality and standards in the London Plan specifies that all entrances regardless of tenure should be well-integrated into the development and be indistinguishable from each other in terms of quality. Policy D5 Inclusive design states that entrances should be easily identifiable and be accessible to all.

Policy DP11 Achieving high-quality design in the Bexley Local Plan highlights the importance of creating developments that contribute positively to the street scene and provide suitable levels of privacy.

3.121 The hierarchy of private, semi-private, communal, or public areas should be considered early in the design process and be evident in the final design. This can be achieved through the use of materials.

3.122 Entrances within mixed-use developments should be clearly differentiated as communal or private. Entrances should generally be provided to the front and not hidden to the rear of the building unless they are a secondary entrance. The scale of entrances should indicate if they are communal or private.

3.123 Boundary treatments must not dominate the environment and should be positioned and set at an appropriate height to suit the function and location.

3.124 The use of close-boarded or other solid fencing over 1.2m must be avoided along front boundaries of building plots. The design of the space between the building and the street should not encourage residents to erect temporary fencing to provide a suitable level of privacy.

3.125 There should be a direct walking route from the street to the front door of the building. Pedestrian access to building entrances from the street should not cross parking courts unless an alternative segregated route is not possible. The choice of materials, layout and landscape should reflect a prioritisation of pedestrians.

The Mallings, Newcastle-upon-Tyne
Ash Sakula

Low walls and planters create soft thresholds that encourages community life and a spatially rich public realm. Changes in surface material indicate private and public spaces to the rear of the buildings.

© Jill Tate

The Bourne Estate, Camden
Matthew Lloyd Architects

The journey of the pedestrian from the street to the front door is carefully considered in this estate renovation. The use of building materials breaks up the scale of the building and frames the public entrances.

© Benedict Luxmoore

3.126 Entrances to buildings should be sheltered from the elements. There is a preference for recessed entrances as these offer more shelter, add depth to façades and can be more easily integrated into the overall design of the building (see Fig.93 and Fig.94).

3.127 Proposals should also consider safety and natural surveillance. Awkward, hidden spaces should be avoided. These can be avoided by creating splayed entrances and by ensuring the height of covered spaces is suitable to the level of access.

3.128 Continuity of materials and features should be used to make the public nature of spaces legible to users. Delineation of areas through surface treatment and materiality, can help define areas for different use and suggest zones and create variety and interest in the urban realm.

3.129 Accommodation within basements or lower ground floors should not have a negative effect upon the *street scene*. Where a lightwell is provided to the front of the building all railings, retaining walls and planting must be incorporated within the overall landscape design and be in keeping with the character of the street.

3.130 Designers should also take into consideration the requirements of individuals with hidden disabilities such as autism, making spaces legible and looking out for opportunities to create quieter spaces within a scheme.

3.131 The importance of creating a hierarchy of spaces applies to public spaces such as parks and playgrounds. Entrances to play areas should be suitably visible and either be highlighted using a contrasting gate colour or through the layout of the space.

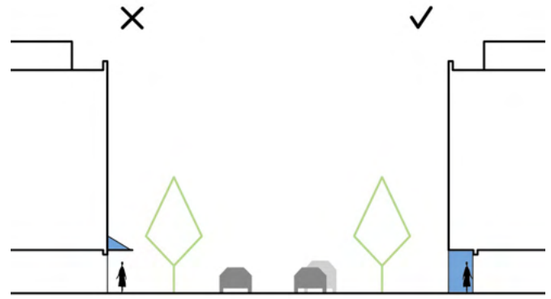


Fig.93 Canopies attached to buildings should generally be avoided in favour of sheltered building entrances that are integrated into the facade design.

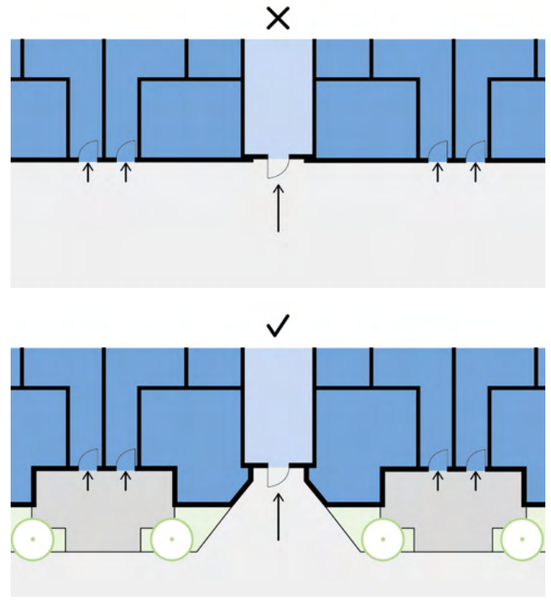


Fig.94 The transition between public and private spaces should be managed through a variety of means, such as the articulation of the building frontage, planted buffers and changes in material to indicate private entrances.

Legibility

D 38 Signage should enhance the use of the public realm and not detract from the visual environment

Bexley Local Plan Policy DP11 Achieving high-quality design requires development to contribute positively to the street scene. It states that advertisements should not detract from the character and appearance of the area or obstruct directional signs.

Policy D8 Public Realm in the London Plan outlines the guidance for public realm designs, including the removal of unnecessary street clutter. Refer to Expanding London's Public Realm Design Guide for further advice on the design of internal public spaces.

3.132 Routes should be clearly defined through the layout of a development. Where sight lines cannot be maintained, signage should be integrated within the design of landscape and buildings.

3.133 In town centres, near stations, and adjacent to complex road junctions, pedestrian signage should ensure routes are clearly legible.

3.134 Advice on the design and layout of advertising and signage for commercial premises will be provided in the emerging Area Types document that will form part of the Design Guide SPD.

3.135 All signage and wayfinding should be accessible to all. It should take into account the needs of all users, including residents, tourists, and business visitors. Designers should consider the positioning of wheelchairs and ensure signs can be easily viewed and read without exposure to hazards such as moving traffic.

3.136 Where introducing or amending signage, developments should prioritise minimising street clutter and visual noise. Fingerpost signs or map boards can be used to consolidate information onto one piece of

Fig.95 Generally new signs should use an established system to avoid confusion, such as those contained in the Traffic Signs Manual (mandatory for highway areas) or wayfinding similar to Legible London in town centres or near stations. Information included on directional signs should be specific and suitable for the needs of the intended user.

Fig.96 Signs that are generally **not required** unless required through a road safety audit.

- Warning signs and "give way" signs are unnecessary in areas where vehicle speeds are low
- "No waiting at any time" signs
- Yellow backing boards to signs unless specifically required
- "Cyclist Dismount" and "End of Route" signs. Cycle routes should be designed to eliminate the use of these signs

street furniture (see Fig.95).

3.137 The design of wayfinding should consider the cost of maintenance and arrangements for upkeep agreed prior to installation.

3.138 Repeated signs should be avoided where possible and several signs can be placed on lamp columns, particularly if a power supply is needed.

3.139 Signage should either use established public realm signage systems, such as Legible London, or be designed to complement the character and identity of the local area.

3.140 All traffic signs and road markings should be designed and lit in accordance with the latest chapter(s) of the Traffic Sign Regulations & General Directions (TSRGD). Any enquiries about non-standard traffic sign and markings should be raised initially with the Highway Authority at the pre-application stage.

3.141 Regardless of compliance with the TSRGD all highway signs require approval by the Highway Authority, whose requirements may be above those imposed by the TSRGD. Unauthorised signs are an offence under S132 of the Highways Act 1980.

3.142 Traffic signs must have a clear message to communicate to the road user to be permitted. See Fig.96 for a list of signs that are generally not required.

3.143 Traffic signs shall not give directions to individual businesses but, with the agreement of the Highway Authority, can include words such as 'superstore' but not a specific location to avoid being construed as advertising.

3.144 Parking signs must always be clearly visible to motorists to enable consistent unchallengeable parking control.

3.145 All signs should be located in a way that does not obstruct the footway. See Fig.9797 for guidance on the height of signs.

Lesnes to Crossness, Thamesmead
Untitled Practice and Peabody

The design of these playful wayfinding objects in the playground responds to the use of the space and doubles as a play feature and seating.

© London Borough of Bexley

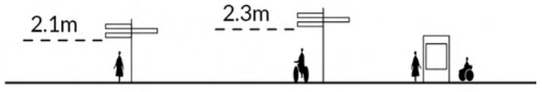


Fig.97 For safety, overhead signage should be 2.1m above a footway and 2.3m above a cycleway. Signs mounted on vertical surfaces should be at a suitable height to be read by all users.

Legibility

D 39 The effect of lighting upon wildlife should be balanced while creating a sense of safety after dark

Policy DP11 Achieving high quality design in the Bexley Local Plan outlines the expectation for development to contribute positively to the street scene, design out crime, and avoid adverse effects such as light spill.

3.146 Lighting designs should find a balance between the need for useful lighting and its potential negative effects, which include:

- The disruption of wildlife
- Light trespass into neighbouring windows affecting amenity
- Glare and over-lighting of public spaces, which can create the perception of the place being unsafe
- Energy consumption and cost
- Reduced visibility of the night sky

3.147 Where lighting in public spaces is required applicants should:

a. Assess the sensitivity of the space to light pollution, for example if the site is adjacent to a river or a *Site of Importance for Nature Conservation* (SINC) then it will have a high sensitivity

b. Determine the necessary light levels in each space based on the function and type of user, for example if it is a route to a station or other local destination

c. Select a suitable lamp that mitigates the effect upon wildlife but provides necessary useful light. There is a preference for lamps similar to low or high pressure sodium lamps

d. Avoid unnecessary light spill using hoods and cowls, and minimise the height of lighting columns

e. Direct light towards the target space and avoid light trespass into natural spaces

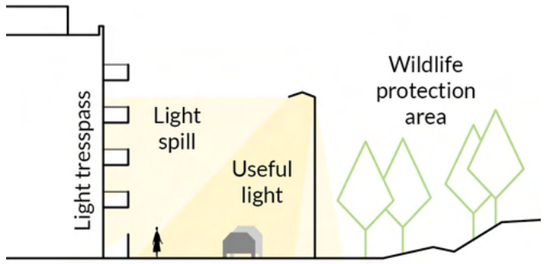


Fig.98 Proposals should avoid light trespass by minimising light spill into buildings and protected areas. This can be achieved by reducing the height of lighting columns, selecting suitable lamps and cowls, using lower lighting levels, and directing light away from sensitive spaces.

f. Use as low light levels as possible within Secured by Design and Highways recommendations for visibility and safety, and use timers to provide dark periods where appropriate

3.148 For sites with protected habitats or priority species it is recommended that an ecologist is involved in the development of lighting strategies. A Lighting Impact Assessment may be required for certain locations.

3.149 It is important to have a continuous distribution of lighting for pedestrian paths and where possible walking routes should be overlooked by buildings. Pedestrian only routes between cul-de-sacs and home zones are essential to provide permeability but careful design is needed to ensure that these do not become places where anti-social behaviour and crime can flourish.

3.150 To assess the safety of a project that involves the public realm, applicants should follow the Mayor of London guidance Safety in Public Space for Women, Girls and Gender Diverse People. This includes a series of questions to ensure projects are developed with a suitable level of awareness, expertise and participation to create safer places.

3.151 In Town Centres or Neighbourhood Centres, sensitive architectural lighting is encouraged to create a sense of safety and enhance the local character. Lighting designs should consider the combination of street lighting and architectural lighting and ensure spaces are not over-lit as a result. The lighting colour and arrangement should complement the overall *street scene*.

3.152 Refer to Historic England's guidance on the External Lighting of Historic Buildings and the Institute of Lighting Professionals for further resources and guidance notes.

Shadwell Estate, Tower Hamlets
Light Follows Behaviour

Peabody's Shadwell Estate in Tower Hamlets is sensitively re-lit to improve the appearance and use of the public spaces without creating glare into the apartments. Warm accent lighting replaced floodlights, catenary lighting illuminates play areas and signage is highlighted to ensure *legibility* after dark.

© Light Follows Behaviour

Legibility

D 40 The management of public spaces should ensure they are accessible, welcoming, inclusive and encourage social interaction

London Plan Policy D8 Public Realm states that appropriate management and maintenance arrangements should be put in place that align with the Public London Charter.

Bexley Local Plan Policy DP24 Impact of new development on the transport network outlines the expectation for development to not have a negative effect on the safety of any users or on the operation or efficiency of the transport network.

3.153 For public spaces proposed within a development, developers will be required to put into place an on-going maintenance plan that complies with the Public London Charter principles (see Fig. 99). Refer to the Public London Charter LPG for information on how to demonstrate that the Charter principles have been met and how this is secured through planning. Once in place the maintenance plan should be reviewed every five years. Further detail will be provided in the Technical Handbook that will form part of the Design Guide SPD.

3.154 Public spaces should be open and welcoming to all demographics, especially girls by avoiding the exclusive provision of facilities that are typically dominated by young boys, particularly fenced games areas. Designers should consider the needs of girls in their proposals and ensure there is equal provision of facilities. Refer to Make Space for Girls for toolkits on how to make public spaces more inclusive.

3.155 The Council encourages outdoor dining arrangements for premises in Town Centres. Commercial forecourts should be arranged so that they complement the attractive features of the surrounding townscape. Any furniture placed on a forecourt must not obstruct pedestrian traffic. Further advice on the design and layout of outdoor dining will be provided in the emerging Area Types document that will form part of the Design Guide SPD.

Erith Lighthouse, Bexley
DK-CM, The Decorators

This temporary restaurant hosted a number of events from its base first in the Riverside Gardens and then in Pier Square. Open during the day as a cafe and in the evening for supper club, this meanwhile use activated the public space and tested potential uses in an open and welcoming way.

© Brian Aldrich

3.156 For areas that are prospective highways the starting point in Bexley is for these areas to become 'private streets' (unadopted highways) with the developer or their successors becoming the 'street managers' and responsible for future maintenance and management, including the installation of public services and appropriate access.

3.157 Where new roads have significant public utility or where they might have a benefit to the function of the highway network in general they may be adopted by the Highway Authority by way of an agreement between the developer and the Council. More information on this process will be provided in the Technical Handbook that will form part of the Design Guide SPD.

Fig. 99 Public London Charter Principles

Public welcome

Public space should be managed to be welcoming to all. It should be kept clean, well maintained and appropriately lit, offer shade and shelter, places to stop, rest and play, and provide public amenities that reflect local needs.

Openness

Public space should be open to all and offer the highest level of public access and use possible. It should be understood as a part of London's continuous public realm, irrespective of land ownership.

Unrestricted use

All users should be able to move through rest and relax freely and facilitate or take part in activities within public space that are permitted by law without causing a nuisance to others. Public space should only have rules restricting the behaviour of the public that are essential for safe management of the space.

Community focus

Public space should be managed to enable users to meet, associate, spend time with others, and celebrate their community. It should make provision for community-led and cultural activities that reflect the diversity of London's communities, as well as public art and other ways of celebrating diversity in the public realm.

Free of charge

Public space should primarily be offered for use by the public free of charge. A balance should be struck between free and unprogrammed use and ticketed or commercial events taking into account the needs of the local and wider community. Ticketed events should be announced in advance with reasonable notice and should minimise their impact on the accessibility and enjoyment of the space for other users.

Privacy and data

Public space should be managed to respect the privacy and private property of all users. Where smart technologies are justified, they must protect people and property in a way that is both legal and compliant with regulators' codes of practice.

Transparency

Compliance with the Public London Charter should be clearly signposted. Users should have easy access online and on site to the principles of the Charter together with details of the owner and management company of the space, and any rules that apply. Any rules and later amendments should be developed transparently and through public consultation with interested parties and relevant stakeholders.

Good stewardship

Public space should be managed on behalf of all Londoners. Day-to-day supervision should be informal, with both supervision and maintenance carried out in a manner that is considerate of all users. The enforcement of any restrictions on the use of public space should be appropriate and reasonable. Any staff engaged in supervisory activities should undertake appropriate training with an emphasis on equality, diversity and inclusion so that all people feel welcome.

Source: Public London Charter LPG

Glossary

Active frontage

The design of frontages can add interest, life and vitality to the street and public realm. Frontages are considered active if they have:

- Frequent doors and windows without blank walls
- Articulated façades with bays and porches
- Lively internal uses visible from the outside, or spilling onto the street
- Concentrations of activity at particular points.

Biodiversity Net Gain

Biodiversity Net Gain (BNG) delivers measurable improvements for biodiversity by creating or enhancing habitats in association with development. Biodiversity Net Gain can be achieved on-site, off-site or through a combination of on-site and off-site measures. See the Natural Environment planning practice guidance for more detail.

Circular economy

A circular economy is an industrial system that is restorative or regenerative by intention and design. It replaces the linear economy and its 'end of life' concept with restoration, shifts towards the use of renewable energy, eliminates the use of toxic chemicals and aims for the elimination of waste through the design of materials, products, systems that can be repaired and reused.

– Source: LETI Climate Emergency Design Guide

Conservation Area

Areas identified as being of special architectural or historic interest.

The London Borough of Bexley has 23 Conservation Areas, please check with development management to ascertain if your proposals is located within one.

Design and Access Statement

A report submitted to accompany and support a planning application that outlines the social, visual and physical impact of a proposed development, with reference to how the development sits within, and draws from, its context.

Dual aspect

A dual aspect dwelling is one with opening windows on two external walls, which may be on opposite sides of a dwelling or on adjacent sides of a dwelling where the external walls of the dwelling wrap around the corner of a building.

- Source: Housing Design Standards LPG

Embodied carbon

The carbon emissions associated with the extraction and processing of materials and the energy and water consumption used by the factory in producing products and constructing the building. It also includes the 'in-use' stage (maintenance, replacement, and emissions associated with refrigerant leakage) and 'end of life' stage (demolition, disassembly, and disposal of any parts of product or building) and any transportation relating to the above

– Source: LETI Climate Emergency Design Guide

Form Factor

A design parameter defined as the efficiency of the shape of a building with regard to operational energy. It is measured as the ratio of the external surface area (i.e. the parts of the building exposed to outdoor conditions) to the internal floor area. The greater the ratio, the less efficient the building and the greater the energy demand. High form factors are between 2.0-3.0+ and are typically associated with semi-detached, detached and bungalow typologies, while lower form factors are between 0.8-1.5 and are associated with apartments and terrace typologies.

Green infrastructure

A network of multi-functional green space, urban and rural, which is capable of delivering a wide range of environmental and quality of life benefits for local communities.

Habitable room

A habitable room is one used, or intended to be used, for dwelling and domestic purposes.
The use of habitable room is subject to its context and applicants should refer to individual Building Regulation Approved documents for clarity.

Habitable windows

A window to a room used, or intended to be used, for dwelling and domestic purposes.

Host building

An existing building within a development site which is normally positioned within in a street facing location.

Legibility

How easy it is for people to understand and find their way around a place and how memorable it is.

Listed Building

A listed building, or structure, which has been placed on the statutory list (the National Heritage List for England - NHLE) which is maintained by Historic England.

Statutory listing covers 3 grades, being Grade I, Grade II* and Grade II. Grade I listed buildings are of exceptional interest; Grade II* are particularly important buildings which are of more than special interest; and, Grade II are of special interest. Most buildings and structures are Grade II, with examples which are of particular historic or architectural interest being graded higher.

Any works, generally speaking, which would involve the alteration or extension to a listed building would require the benefit of listed building consent.

Major Projects

A major development is any application that involves:

- Mineral extraction
- Waste development
- Residential development of between 10 or more dwellings
- Residential development on a site area of 0.5 ha or more and the number of dwellings is unknown
- Development of floorspace of 1000sqm or more
- Development on sites over 1 ha or more.

Massing

A building's three dimensional shape, made up by its height, width, depth and form.

Operational carbon (kgCO2e)

The carbon dioxide and equivalent global warming potential (GWP) of other gases associated with the in-use operation of the building. This usually includes carbon emissions associated with heating, hot water, cooling, ventilation, and lighting systems, as well as those associated with cooking, equipment, and lifts (i.e. both regulated and unregulated energy uses).

– Source: LETI Climate Emergency Design Guide

Private amenity space

This can take the form of gardens, roof terraces or balconies.

Protected Garden Area

The primary areas of use within a rear garden which should be afforded privacy from neighbouring gardens and properties.

Roofscape

A view of roofs, particularly in terms of its aesthetic appeal.

Spatial hierarchy

The relationships between buildings and the spaces between them created by the scale, layout and architectural expression of buildings and the

spatial qualities of the public realm.

Standard window

Vertically aligned windows with clear glass.

Street scene

The appearance of all of the elements of a street, including the carriageway, footway, cycle paths, street furniture, planting, trees, and the buildings or structures along its edges, particularly the composition of buildings on each side of the street.

Sustainable drainage systems

Features designed to reduce flood risk, which are built to receive surface water run-off, such as constructed wetlands, permeable surfaces, retention ponds, green roofs and swales.

Tenure neutral

Housing where no group of residents is disadvantaged as a result of the tenure of their homes. There is no segregation or difference in quality between tenures by siting, accessibility, environmental conditions, external facade or materials. Homes of all tenures are represented in equally attractive and beneficial locations, and there is no differentiation in the positions of entrances. Shared open or play spaces are accessible to all residents around them, regardless of tenure.

– Source: National Design Guide

Whole life carbon

This includes *embodied carbon*, as defined above, and *operational carbon*. The purpose of using whole life carbon is to move towards a building or a product that generates the lowest carbon emissions over its whole life (sometimes referred as 'cradle-to-grave').

– Source: LETI Climate Emergency Design Guide