ROYAL BOROUGH GREENWICH

URBAN DESIGN GUIDE

SUPPLEMENTARY PLANNING DOCUMENT

ADOPTED ON OCTOBER 2023

ROYAL borough of GREENWICH

Supplementary Planning Document prepared on behalf of the Royal Borough of Greenwich by Urban Initiatives Studio and Jan Kattein Architects

cover image of Sandpit Place by Peter Barber Architects © Morley von Sternberg

Urban Initiatives Studio Limited. Registered in England No. 8236922

CONTENTS

A	INTRODUCTION	6
A.1	Aims and Status	7
A.2	Who is the guide for?	8
A.3	The planning policy context	9
A.4	Objectives	10
A.5	Structure of the guide	12
A.5.1	Interactive user guide	13
A.6	The Design Process	22
A.7	Who to talk to and when	23

B	STRATEGIC CONSIDERATIONS	24
B.1	Supporting sustainable growth	26
B.2	Responding to the local community	28
B.3	Responding to accessibility	30
B.4	Creating walkable neighbourhoods	32
B.5	Delivering an appropriate density	34
B.6	Responding to local character	36
B.7	Heritage	42
B.8	Topography	44
B.9	Flooding	46
B.10	Green and Blue Infrastructure	48
B.11	Biodiversity	50
B.12	Carbon-impact	51
B.13	Smart city infrastructure	52
B.14	Resilience	53
B.15	Retrofit	54

C	INTENSIFICATION IN ROYAL GREENWICH	56
C.1	Intensification in the Royal Borough	58
C.1.1	Comprehensive development	60
C.1.2	Block consolidation	61
C.1.3	Infill development	62
C.1.4	Adaptation and extensions	63
C.1.5	Adding extra floors	64
C.2	Area-based intensification approaches	65
C.2.1	Brownfield sites / large transformation	65
C.2.2	Corridors	68
C.2.3	Town, district and local centres	76
C.2.4	Postwar housing estates	84
C.2.5	Other residential areas	92
C.2.6	Institutional areas	98
C.2.7	Big Box Stores	100
C.2.8	Industrial Areas	102

D	DEVELOPMENT STRATEGY AND LAYOUT	106
D.1	Placemaking	108
D.1.1	Setting the vision	109
D.1.2	Structure of development	110
D.1.3	Hierarchy of routes and spaces	112
D.1.4	Landuses	114
D.1.5	Scale and massing	116
D.1.6	Legibility	118
D.1.7	Inclusive spaces / "Third Places"	121
D.2	Perimeter blocks	122
D.2.1	Layout of street blocks	122
D.2.2	Blocks within blocks	124
D.2.3	A fine urban grain	126
D.3	Access, movement and parking	128
D.3.1	Reduce reliance on the private car	128
D.3.2	Connect the urban fabric	129
D.3.3	Plan for future connections	130
D.3.4	Servicing	131
D.3.5	Vehicular Parking	133
D.3.6	Cycle Parking	137

CONTENTS (continued)

E	STREETS AND SPACES	140
E.1	Holistic streetscape design	142
E.2	Street types and enclosure	144
E.3	Public realm	148
E.3.1	Street design	148
E.3.2	Inclusive design	152
E.3.3	Surface materials	154
E.3.4	Street furniture	155
E.3.5	Trees and soft landscaping	156
E.3.6	Lighting	158
E.3.7	Utilities	159
E.3.8	SUDS	160
E.3.9	Public art	162
E.4	Open space	164
E.4.1	Public open space provision and design	164
E.4.2	Play spaces	166
E.4.3	Designing for biodiversity	168
E.5	Coordinated public realm delivery	170
E.6	Management and maintenance	171

F	BUILDINGS DESIGN	172
F.1	Sustainable buildings	174
F.2	Building height	176
F.3	Tall and large buildings	178
F.4	Rhythm, grain and scale of development	198
F.5	Building line	201
F.6	Frontages	203
F.7	Addressing corners	205
F.8	Building threshold/ defensible space	206
F.9	Sloping sites	208
F.10	Built form and architectural expression	210
F.10.1	Roof design	212
F.10.2	Elevation design	214
F.10.3	Balcony design	216
F.10.4	Materials	218
F.11	Climate responsive facades	220
F.12	Building integrated photovoltaics	221
F.13	Modern methods of construction	222
F.14	Smart buildings	223

G	RESIDENTIAL AMENITY & WELL-BEING	224
G.1	Consider Experience of Building Users	226
G.2	Well being in buildings	227
G.2.1	Privacy	228
G.2.2	Daylight and sunlight	229
G.2.3	Noise, air and light pollution	230
G.2.4	Communal amenity spaces	231
G.2.5	Private amenity space	233

CONTENTS (continued)

H	SHOP FRONTS	234
H.1.1	The Shop Front As Part Of The High Street	236
H.2.1	Typologies: Victorian/Edwardian Terraces	237
H.2.2	Typologies: Mock Tudor/Garden Town	239
H.2.3	Typologies: Postwar (1950-60's)	241
H.2.4	Typologies: New Built	243
H.3.1	High Street Rhythm +Legibility	246
H.3.2	Renewal vs. Replacement	247
H.4.1	What Makes A Successful Shopfront	248
H.4.2	How Can I Future-Proof My Shop Front?	249
H.4.3	What Makes A Good Sign?	250
H.4.4	What Should I Include On My Sign?	251
H.4.5	Sign Illumination in Conservation Areas	252
H.4.6	How Do I Keep My Shop Secure	254
H.4.7	How Can I Be More Accessible?	255
H.4.8	What Makes A Good Display?	256
H.4.9	How To Utilise My Forecourt?	257
H.5.0	Non-Retail Use	258
H.5.1	Process	259

I	HOUSEHOLD EXTENSIONS	260
I.1.1	Permitted Development Rights	262
I.1.2	Housing Typologies In Royal Greenwich	263
I.2.1	Design Principles: Impact on Others	265
I.2.2	Design Principles: Scale and Massing	267
I.2.3	Design Principles: Materials	268
I.2.4	Design Principles: Preserving Heritage	270
I.2.5	Design Principles: Protecting Amenity and Biodiversity	271
I.2.6	Design Principles: Carbon Reduction	273
I.3.1	Extension Type: Loft/Roof Extensions	274
I.3.2	Extension Type: Side Extensions	279
I.3.3	Extension Type: Rear Extensions (Single Storey)	282
I.3.4	Extension Type: Rear Extensions (Double Storey)	285
I.3.5	Extension Type: Outbuildings	288
I.3.6	Extension Type: Front Extensions	289
I.3.7	Extension Type: Basements	290
I.3.8	Residential Conversations	293
I.3.9	Houses in Multiple Occupation	295
I.4.1	Planning Checklist	297
I.4.2	Planning Process	298

PART A
INTRODUCTION

A.1 Aims and Status

a.1 This document is the Royal Borough of Greenwich Urban Design Guide Supplementary Planning Document (SPD). It provides clear design principles that aim to deliver high quality new development across the borough that is inclusive and responds appropriately to its context while prioritising sustainability in the design process.

a.2 This Design Guide is intended to inform and guide the quality of design for all developments across the Royal Borough. It provides design principles that are relevant to major masterplan projects, larger and smaller sites, infill developments, retrofits and extension, shop-front improvements and householder applications.

a.3 The guide puts forward principles for new development that aim to create safe and attractive places that are sensitive to Royal Borough of Greenwich's unique character while also allowing creative and innovative design solutions.

a.4 High quality design is essential to optimise the development potential of sites and to deliver the kind of places that will provide economic and environmental well-being and quality of life for Royal Greenwich's residents both now and into the future.

A.2 Who is the guide for?

a.5 This Design Guide is intended for frequent reference and will be essential for anyone charged with preparing or assessing the quality of planning applications including:

+ Developers and builders, in considering potential development proposals;
+ Householders, considering residential extensions;
+ Design professionals, in drawing up schemes for development;
+ Statutory and non-statutory consultees and the public in commenting on planning applications; and,
+ The officers and members of Royal Borough of Greenwich Council, in determining planning applications and in upholding decisions at planning appeals.

Figure a.1: Diagram of Supplementary Design Guide Key Users

a.6 This guide is a Supplementary Planning Document (SPD), which supports the Royal Borough of Greenwich's Local Plan. It is a formal supplement to the adopted Local Plan and will form part of the material considerations in decision-making on planning applications.

a.7 This document sits within a wider policy context. National, city and local-level planning policies will be applicable to each form of development and will influence whether a site is suitable for development. It is important that the users of this document understand the broader policy context in which their site and development sits as this will influence the nature of the development.

NATIONAL-LEVEL POLICIES & GUIDANCE

National Planning policies and guidance is available on the Gov.UK website.

This includes:

+ The revised National Planning Policy Framework (NPPF) (2021). which incorporates design guidance principally in section 12: "Achieving well-designed places"; and,
+ The National Design Guide (2021), which recognises that specific, detailed and measurable criteria for good design is most appropriately set out at the local level. The National Design Guide outlines ten high-level characteristics that contribute to good design. These are listed below and indicated in Figure a.2.
    + Context – enhances the surroundings.
    + Identity – attractive and distinctive.
    + Built form – a coherent pattern of development.
    + Movement – accessible and easy to move around.
    + Nature – enhanced and optimised.
    + Public spaces – safe, social and inclusive.
    + Uses – mixed and integrated.
    + Homes and buildings – functional, healthy and sustainable.
    + Resources – efficient and resilient.
    + Lifespan – made to last.
+ The National Model Design Code, which provides detailed guidance on the production of design codes, guides and policies to promote successful design.

Figure a.2: Extracted diagram of 10 high-level quality characteristics (source: National Design Guide)

CITY-LEVEL POLICIES & GUIDANCE

London-level policies are available on the London.gov.uk website.

This includes:

+ The London Plan 2021 which is "the Spatial Development Strategy for Greater London. It sets out a framework for how London will develop over the next 20-25 years and the Mayor's vision for Good Growth."
+ GLA Housing Design Standards LPG (2023)
+ Thamesmead & Abbey Wood Opportunity Area Planning Framework

LOCAL-LEVEL POLICIES & GUIDANCE

The Royal Borough of Greenwich Local Development Framework "is a collection of planning documents that deliver the spatial planning strategy and policies for the local area."
This consists of:

+ The Royal Greenwich Local Plan: Core Strategy with Detailed Policies, adopted on 30 July 2014;
+ Supplementary Planning Documents and Planning Briefs; and
+ Other Procedural Documents.

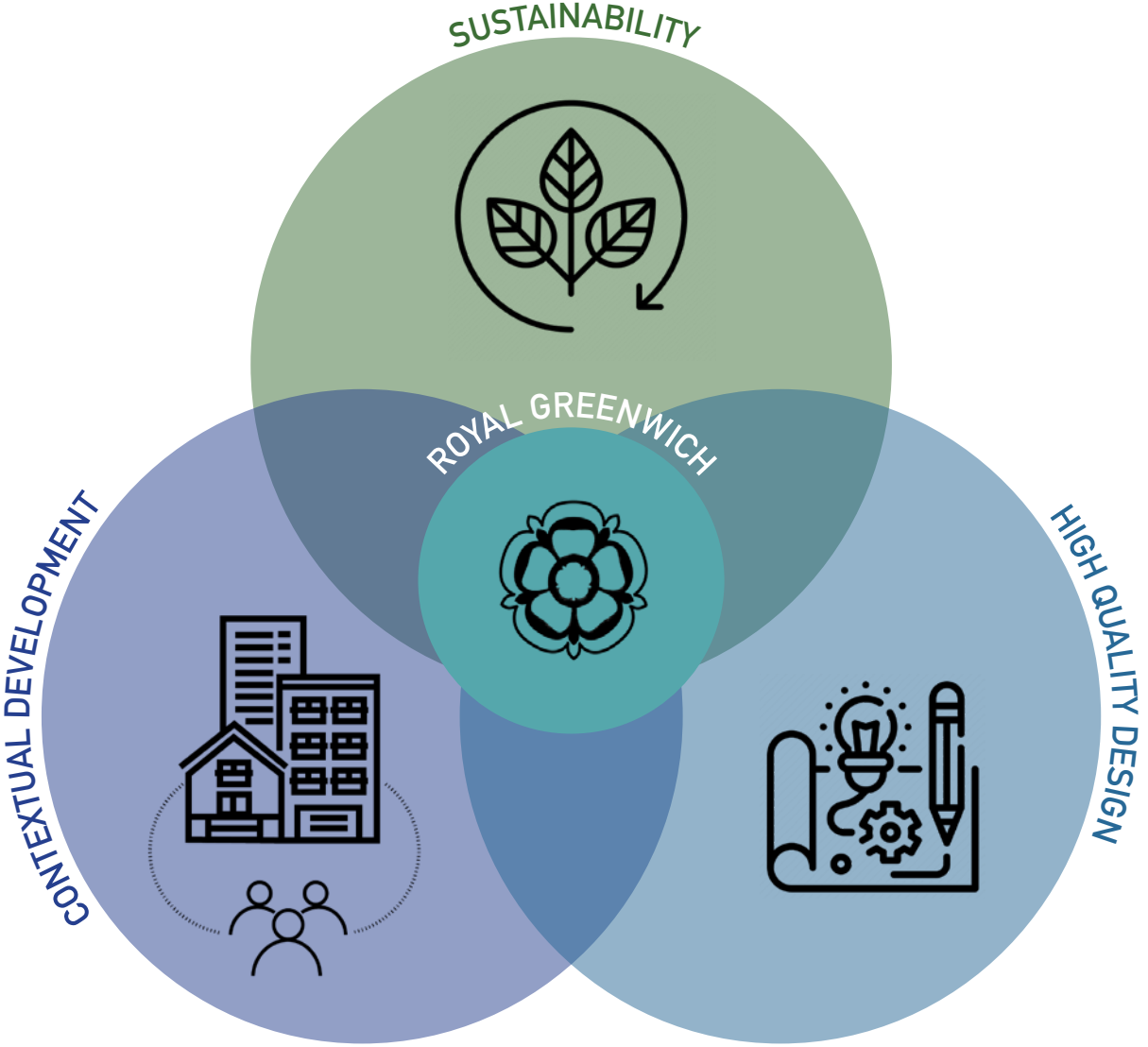


Figure a.3: Supplementary Design Code Core Objectives

a.8 The overarching aim of the Royal Borough of Greenwich Urban Design Guide is to guide new development towards creating places that are well designed and fit for purpose. It does this through three overarching objectives focused on **sustainability, contextual development** and **high quality design.** These are discussed in more detail below and are the foundation for the design principles outlined throughout this document.

SUSTAINABILITY

a.9 In 2019, Central Government signed into law a target for England to become carbon neutral by 2050. In this context it is imperative that all new development minimises embodied and operational greenhouse gas emissions, and facilitates low carbon lifestyles through design.

a.10 The Royal Borough of Greenwich has announced a Climate Emergency and is preparing plan for Royal Greenwich to become carbon neutral by 2030. The borough's Carbon Neutral Plan encompasses a wide range of sustainable initiatives related to the primary sources of carbon emissions; 1. Buildings, 2. New development, 3. Transport, 4. Energy supply, 5. Circular economy, 6. Natural environment, 7. Empowering wider change.

a.11 The Principles set out in this Design Guide directly or indirectly aim to deliver sustainable design and development in the Royal Borough and they should be followed in full by all development.

CONTEXTUAL DEVELOPMENT

a.12 The Royal Borough of Greenwich supports development that is contextual, responds to the uniqueness and diversity of the borough and delivers benefits to the wider local community. Contextual development strengthens and enhances the existing valued characteristics of a location and does not detract from a place's positive qualities.

a.13 Achieving contextual development on the level of the neighbourhood, the block, the plot and the building is a core aspiration of this design guide. It guides on how local characteristics and features should be taken into account to enhance the existing character of a place or to deliver place-making (the creation of new places). This should be complemented by engagement with local people and stakeholders to better understand local issues, concerns and aspirations.

a.14 The Royal Borough has undertaken a comprehensive Characterisation Study that should be referred to for a broad definition of place character and the place's sensitivity to change.

HIGH QUALITY DESIGN

a.15 The Royal Borough of Greenwich has the ambition to shape high quality places that meet the needs of the whole community with streets and spaces that are accessible for everyone, that function well and improve the quality of life. Good design influences the way we appreciate and experience the cities, towns and homes that we live, work and socialise in; it is through good design that successful places in which people want to live and work are created.

a.16 The importance of design quality is intrinsic to national planning policy with a clear mandate at a national level, with the National Planning Policy Framework (NPPF) setting the requirement to deliver high quality built-environments. Research by the Commission for Architecture and the Built Environment (CABE) and the Royal Institute of British Architects (RIBA) and national guidance, including the Urban Design Compendium, have all demonstrated the link between good design and improved quality of life, equality of opportunity and economic growth. Good design can help transform places and enhance people's lives. The orientation and height of buildings; the materials, enclosure, soft landscaping/trees and amount of sunlight within a public space and the incorporation of inclusive active environments can have a positive impact on physical health as well as upon people's wellbeing and mental health.

a.17 This Design Guide is all about achieving High Quality Design. Its design principles are based on best practice solutions that have proven to deliver better places. Principles focus on critical aspects design needs to consider and respond to. They are not a straight jacket, but leave ample flexibility for innovation and architectural expression.

a.18 Designers are encouraged to be inventive and innovative; to prepare proposals that respond to place, that meet the needs of modern lifestyles and that are adaptable in the future.

a.19 This guide is set up in nine chapters, which cover all aspects and scales of development in the Royal Borough, from large scale masterplans to shopfront improvements and householder extensions.

CHAPTER A
Introduction

CHAPTER B
Strategic Considerations
This covers the broader and strategic context of the Royal Borough that should be referred to by anyone undertaking development. It provides a foundational set of topics to guide the design.

CHAPTER C
Intensification in Royal Greenwich
This provides an overview of the principal intensification methods that development may consider in the Royal Borough. It further identifies principal opportunities for intensification in areas with different character or use typologies.

CHAPTER D
Development Strategy and Layout
This chapter outlines the core principles for forming a robust development strategy and site layout. This chapter is relevant for any medium or large scale scheme that involves more than a single building.

CHAPTER E
Streets and Spaces
This chapter covers the approach to designing accessible, inclusive and safe streets and public spaces. It should be referred to by any development that delivers or impacts on streets and open spaces.

CHAPTER F
Building Design
This chapter outlines the core principles for best practice and contextual building design. This chapter should be referred to by anyone planning new buildings, or significant development that will impact on the external envelop of an existing building (except household extensions).

CHAPTER G
Residential Amenity and Wellbeing
This chapter outlines core principles for the well-being and privacy of existing and new residents. This should be referred to by any development proposal that delivers or expands residential accommodation, or that may impact on the amenity of neighbouring residents.

CHAPTER H
Shopfronts
This chapter covers the approach and design considerations that should be considered by anyone undertaking a shopfront modification.

CHAPTER I
Household Extensions
This chapter covers the approach to household extensions, including roof extension, rear and side extension, basement extensions and garden extensions undertaken by householders. It also provides guidance on houses in multiple occupation (HMO).

INTERACTIVE USER GUIDE

a.20 In order to navigate the document the guide provides an interactive user guide on the following pages that identifies all relevant chapters and principles that should be considered by applicants subject to the scale and type of proposed development.

a.21 Development types are broadly categorised as follows:

+ Large scale comprehensive new development
+ Large and medium sized urban infill sites
+ Housing estate renewal
+ (Re)development or adaptation of small urban infill sites or single building
+ Household extensions
+ Shopfront improvements

a.22 Applicants should consider what type and scale of development best describes their proposal and then refer to each of the sections identified as relevant within the table. A section will be marked as relevant to each type of development with the symbol: ●

DEVELOPMENT TYPE

DESIGN GUIDE CHAPTER	PRINCIPLES	pg.	Large scale comprehensive new development	Large and medium sized urban infill sites	Housing estate renewal	(Re)development or adaptation of small urban infill sites or single buildings	Household extensions	Shopfront improvements
CHAPTER B **Strategic Considerations** This chapter covers the broader and strategic context of the Royal Borough, such as understanding the local character and responding to the local community. It should be referred to by anyone undertaking development in Royal Greenwich as a foundational set of topics to guide the design.	B.1 Supporting Sustainable Growth	26	●	●	●	●		
	B.2 Responding to the Local Community	28	●	●	●	●		
	B.3 Responding to Accessibility	30	●	●	●	●		
	B.4 Creating walkable neighbourhoods	32	●	●	●	●		
	B.5 Delivering an appropriate density	34	●	●	●	●		
	B.6 Responding to Local Character	36	●	●	●	●		
	B.7 Heritage	42	●	●	●	●	●	●
	B.8 Topography	44	●	●	●	●	●	
	B.9 Flooding	46	●	●	●	●	●	
	B.10 Green and Blue Infrastructure	48	●	●	●	●		
	B.11 Biodiversity	50	●	●	●	●	●	●
	B.12 Carbon-impact	51	●	●	●	●	●	●
	B.13 Smart city infrastructure	52	●	●	●	●		
	B.14 Resilience	53	●	●	●	●	●	●
	B.15 Retrofit	54	●	●	●	●		

DESIGN GUIDE CHAPTER	PRINCIPLES	pg.	Large scale comprehensive new development	Large and medium sized urban infill sites	Housing estate renewal	(Re)development or adaptation of small urban infill sites or single buildings	Household extensions	Shopfront improvements
CHAPTER C **Intensification in Royal Greenwich** This provides an overview of the principal intensification methods that development may consider in the Royal Borough. It further identifies principal opportunities for intensification in areas with different character or use typologies.	C.1 Intensification in the Royal Borough	58	●	●	●	●		
	C.1.1 Comprehensive Development	60	●	●				
	C.1.2 Block Consolidation	61		●	●	●		
	C.1.3 Infill Development	62		●		●		
	C.1.4 Adaptation and Extensions	63				●	●	
	C.1.5 Adding extra floors	64			●	●	●	
	C.2 Area-based Intensification Strategies	65	●	●	●	●	●	●
	C.2.1 Brownfield Sites - Large Transformation Projects	65	●	●				
	C.2.2 Corridors	68	●	●	●	●		
	C.2.3 Town, District and Local Centres	76	●	●	●	●		●
	C.2.4 Postwar Housing Estates	84			●			
	C.2.5 Other Residential Areas	92				●	●	
	C.2.6 Institutional Areas	98	●	●				
	C.2.7 Big Box Stores	100	●	●				
	C.2.8 Industrial Areas	102	●	●				

DEVELOPMENT TYPE

DESIGN GUIDE CHAPTER	PRINCIPLES	pg.	Large scale comprehensive new development	Large and medium sized urban infill sites	Housing estate renewal	(Re)development or adaptation of small urban infill sites or single buildings	Household extensions	Shopfront improvements
CHAPTER D **Development Strategy and Layout** This chapter outlines the core principles for forming a robust development strategy and site layout. This chapter is relevant for any medium or large scale scheme that involves more than a single building.	D.1 Placemaking	108	●	●	●	●		
	D.1.1 Setting the Vision	109	●	●	●	●		
	D.1.2 Structure of Development	110	●	●	●	●		
	D.1.3 Hierarchy of Routes and Spaces	112	●	●	●	●		
	D.1.4 Landuses	114	●	●	●	●		
	D.1.5 Scale and Massing	116	●	●	●	●		
	D.1.6 Legibility and Identity	118	●	●	●	●		
	D.1.7 Inclusive spaces / "Third Places"	121	●	●	●	●		
	D.2 Perimeter Blocks	122	●	●	●	●		
	D.2.1 Layout of Street Blocks	122	●	●	●			
	D.2.2 Blocks within Blocks	124	●	●	●			
	D.2.3 A Fine Urban Grain	126	●	●	●			
	D.3 Access, Movement and Parking	128	●	●	●	●		
	D.3.1 Reduce reliance on the private car	128	●	●	●	●		
	D.3.2 Connect the Urban Fabric	129	●	●	●	●		

DEVELOPMENT TYPE

DEVELOPMENT TYPE

DESIGN GUIDE CHAPTER	PRINCIPLES	pg.	Large scale comprehensive new development	Large and medium sized urban infill sites	Housing estate renewal	(Re)development or adaptation of small urban infill sites or single buildings	Household extensions	Shopfront improvements
CHAPTER D **Development Strategy and Layout (cont.)**	D.3.3 Plan for future connections	130	●	●	●	●		
	D.3.4 Servicing	131	●	●	●	●	●	
	D.3.5 Vehicular Parking	133	●	●	●	●	●	
	D.3.6 Cycle Parking	137	●	●	●	●	●	
CHAPTER E **Streets and Spaces** This chapter covers the approach to designing accessible, inclusive and safe streets and public spaces. It should be referred to by any development that delivers or impacts on streets and open spaces.	E.1 Holistic Streetscapes	142	●	●	●	●		
	E.2 Street Types and Enclosure	144	●	●	●	●		
	E.3 Public Realm	148	●	●	●	●		
	E.3.1 Street Design	148	●	●	●	●		
	E.3.2 Inclusive Design	152	●	●	●	●		
	E.3.3 Surface Materials	154	●	●	●	●		
	E.3.4 Street Furniture	155	●	●	●			
	E.3.5 Trees and Soft Landscaping	156	●	●	●	●		
	E.3.6 Lighting	158	●	●	●	●		
	E.3.7 Utilities	159	●	●	●	●		
	E.3.8 SUDS	160	●	●	●	●		

DEVELOPMENT TYPE

DESIGN GUIDE CHAPTER	PRINCIPLES	pg.	Large scale comprehensive new development	Large and medium sized urban infill sites	Housing estate renewal	(Re)development or adaptation of small urban infill sites or single buildings	Household extensions	Shopfront improvements
CHAPTER E Streets and Spaces (cont.)	E.3.9 Public Art	162	●	●	●			
	E.4 Open Space	164	●	●	●	●	●	●
	E.4.1 Public open space provision and design	164	●	●	●			
	E.4.2 Play Spaces	166	●	●	●			
	E.4.3 Designing for biodiversity	168	●	●	●	●	●	●
	E.5 Coordinated public realm delivery	170	●	●	●			
	E.6 Management and Maintenance	171	●	●	●	●		
CHAPTER F Building Design This chapter outlines the core principles for the best practice and contextual building design. This chapter should be referred to by anyone planning new buildings, or significant development that will impact on the external envelop of an existing building (except household extensions).	F.1 Sustainable Buildings	174	●	●	●	●		
	F.2 Building Height	176	●	●	●	●		
	F.3 Tall and Large Buildings	178	●	●	●			
	F.4 Rhythm, grain and scale of development	198	●	●	●	●		
	F.5 Building Line	201	●	●	●	●		
	F.6 Frontages	203	●	●	●	●		
	F.7 Addressing corners	205	●	●	●	●		
	F.8 Building threshold/ defensible space	206	●	●	●	●		

DEVELOPMENT TYPE

DESIGN GUIDE CHAPTER	PRINCIPLES	pg.	Large scale comprehensive new development	Large and medium sized urban infill sites	Housing estate renewal	(Re)development or adaptation of small urban infill sites or single buildings	Household extensions	Shopfront improvements
CHAPTER F **Building Design (cont.)**	F.9 Sloping Sites	208	●	●	●	●		
	F.10 Built form & architectural expression	210	●	●	●	●		
	F.10.1 Roof Design	212	●	●	●	●		
	F.10.2 Elevation Design	214	●	●	●	●		
	F.10.3 Balcony Design	216	●	●	●	●		
	F.10.4 Material	218	●	●	●	●		
	F.11 Climate responsive façades	220	●	●	●	●		
	F.12 Building integrated photovoltaics	221	●	●	●	●		
	F.13 Modern methods of construction	222	●	●	●	●		
	F.14 Smart Buildings	223	●	●	●	●		
CHAPTER G **Residential Amenity and Wellbeing** This chapter outlines core principles for the well-being and privacy of existing and new residents.	G.1 Consider the Experience of Building Users	226	●	●	●	●	●	
	G.2 Well being in buildings	227	●	●	●	●	●	
	G.2.1 Privacy	228	●	●	●	●	●	
	G.2.2 Daylighting and sun-lighting	229	●	●	●	●	●	
	G.2.3 Noise, air and light pollution	230	●	●	●	●	●	

DEVELOPMENT TYPE

DESIGN GUIDE CHAPTER	PRINCIPLES	pg.	Large scale comprehensive new development	Large and medium sized urban infill sites	Housing estate renewal	(Re)development or adaptation of small urban infill sites or single buildings	Household extensions	Shopfront improvements
CHAPTER G Residential Amenity and Wellbeing	G.2.4 Communal Amenity Space	231	●	●	●	●		
	G.2.5 Private amenity space	233	●	●	●	●	●	
CHAPTER H Shopfronts This chapter covers the approach and design considerations that should be considered by anyone undertaking a shopfront modification.	H.1.1 The Shop Front As Part Of The High Street	236						●
	H.2.1 Typologies: Victorian/Edwardian Terraces	237						●
	H.2.2 Typologies: Mock Tudor/Garden Town	239						●
	H.2.3 Typologies: Postwar (1950-60's)	241						●
	H.2.4 Typologies: New Built	243						●
	H.3.1 High Street Rhythm +Legibility	246						●
	H.3.2 Renewal vs. Replacement	247						●
	H.4.1 What Makes A Successful Shopfront	248						●
	H.4.2 How Can I Future-Proof My Shop Front?	249						●
	H.4.3 What Makes A Good Sign?	250						●
	H.4.4 What Should I Include On My Sign?	251						●
	H.4.5 Sign Illumination in Conservation Areas	252						●
	H.4.6 How Do I Keep My Shop Secure	254						●

DESIGN GUIDE CHAPTER	PRINCIPLES	pg.	DEVELOPMENT TYPE: Large scale comprehensive new development	Large and medium sized urban infill sites	Housing estate renewal	(Re)development or adaptation of small urban infill sites or single buildings	Household extensions	Shopfront improvements
CHAPTER H - Shopfronts (cont.)	H.4.7 How Can I Be More Accessible?	255						●
	H.4.8 What Makes A Good Display?	256						●
	H.4.9 How To Utilise My Forecourt?	257						●
	H.5.0 Non-Retail Use	258						●
	H.5.1 Process	259						●
CHAPTER I **Household Extensions** This chapter covers the approach to household extensions, including roof extension, rear and side extension, basement extensions and garden extensions undertaken by householders.	I.1.1 Permitted Development Rights	262					●	
	I.1.2 Housing Typologies In Royal Greenwich	263					●	
	I.2.1 Design Principles: Impact on Others	265					●	
	I.2.2 Design Principles: Scale and Massing	267					●	
	I.2.3 Design Principles: Materials	268					●	
	I.2.4 Design Principles: Preserving Heritage	270					●	
	I.2.5 Design Principles: Protecting Amenity and Biodiversity	271					●	
	I.2.6 Design Principles: Carbon Reduction	273					●	
	I.3.1 Extension Type: Loft/Roof Extensions	274					●	
	I.3.2 Extension Type: Side Extensions	279					●	

DESIGN GUIDE CHAPTER	PRINCIPLES	pg.	Large scale comprehensive new development	Large and medium sized urban infill sites	Housing estate renewal	(Re)development or adaptation of small urban infill sites or single buildings	Household extensions	Shopfront improvements
	I.3.3 Extension Type: Rear Extensions (Single Storey)	282					●	
CHAPTER I Household Extensions (cont.)	I.3.4 Extension Type: Rear Extensions (Double Storey)	285					●	
	I.3.5 Extension Type: Outbuildings	288					●	
	I.3.6 Extension Type: Front Extensions	289					●	
	I.3.7 Extension Type: Basements	290					●	
	I.3.8 Residential Conversations	293					●	
	I.3.9 Houses in Multiple Occupations	295					●	
	I.4.1 Planning Checklist	297					●	
	I.4.2 Planning Process	298					●	

DEVELOPMENT TYPE

a.23 A design guide alone cannot produce good creative solutions; this is the job of a good creative professional team. One of the first stages in preparing a design scheme will be to engage skilled design professionals to ensure high-quality solutions through the design process. The Royal Borough of Greenwich strongly encourage planning applicants to employ appropriate design professionals such as architects, engineers, landscape architects, arboricultural consultants, heritage consultants and urban designers to undertake a robust and iterative design process.

a.24 The level of detail, and engagement required, will be dependent on the scale and complexity of the application, however, each successful design process must ensure that a scheme responds to place and takes account of local issues, opportunities and constraints and the opinions of the public and other stakeholders.

a.25 In order to deliver good design there are a number of important steps that must be taken. These steps are indicated in the flowchart in Figure a.4.

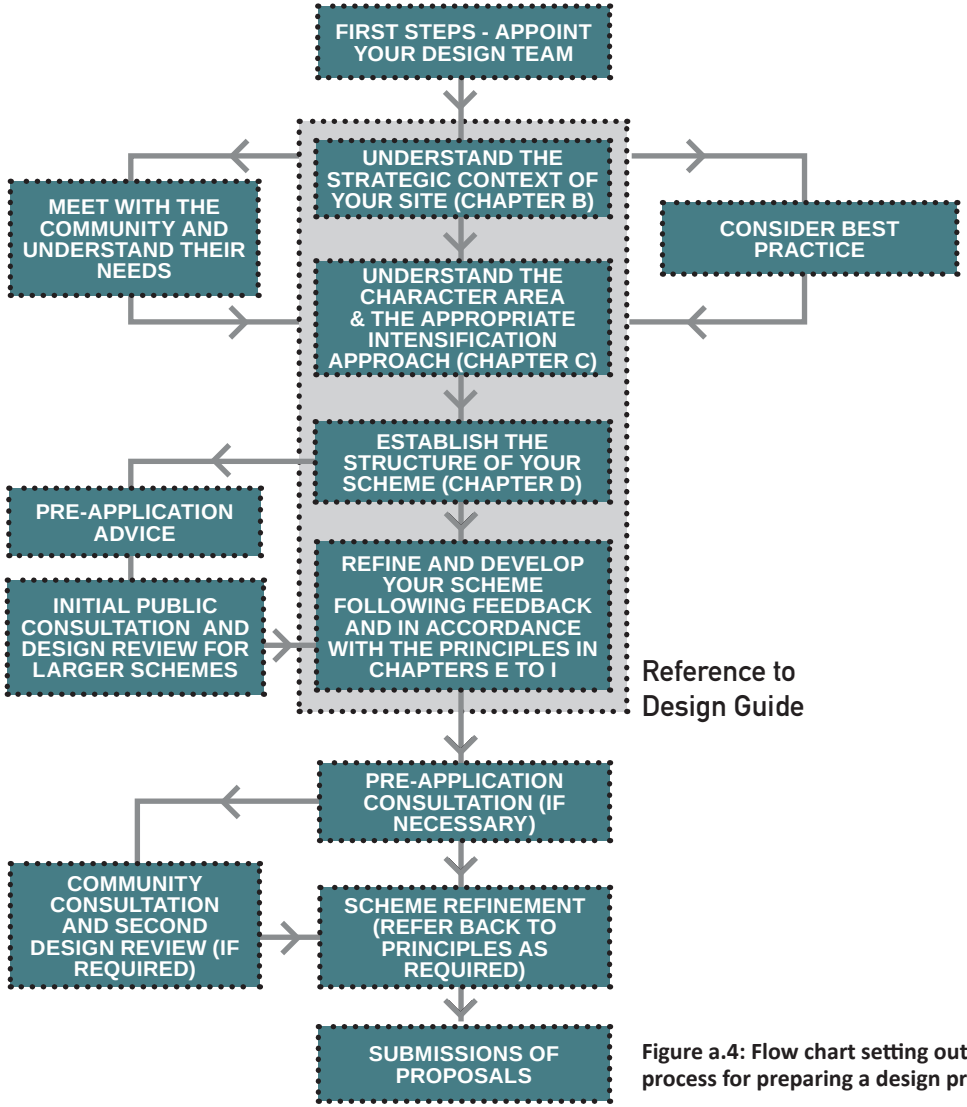


Figure a.4: Flow chart setting out the design process for preparing a design proposal

EARLY PRE-APPLICATION CONSULTATION

a.26 Applicants should hold pre-application discussions at an early stage in the design process. Depending on the scale of development, applicants should consult with relevant statutory and non-statutory authorities and council officers to:

+ Understand policy requirements;
+ Discuss emerging ideas and sensitivities;
+ Ensure that the design process is heading in the right direction; and,
+ Discuss the information and level of detail required to accompany a planning application.

COMMUNITY CONSULTATION

a.27 Community engagement can be a useful way to discover more about a site and its setting and to gain an understanding of any concerns that the community may have in relation to an application.

a.28 Depending on the scale and nature of an application it may be appropriate to carry out consultation with the public and stakeholders.

a.29 Applicants should document the engagement process and demonstrate how community and stakeholder feedback has been taken account of in their proposals.

a.30 The Council strongly encourages all applicants and their agents to meet with their neighbours at an early stage of the design process and to consult them before they submit a planning application.

DESIGN REVIEW

a.31 The NPPF (2021) (paragraphs 128 and 129, 132 & 133) advocates the use of design review to improve the quality of development. Royal Greenwich has established the Greenwich Design Review Panel (GDRP) to provide independent and professional design advice and evaluation of significant schemes, either because of their scale or sensitivity.

CHAPTER B

STRATEGIC CONSIDERATIONS

B STRATEGIC CONSIDERATIONS

Back to document index ⏮

In the early stages of any development project, it is important that the entire team consider the project and the site from a high-level, strategic perspective. This is to ensure the that every development responds to its role within the wider physical, social, environmental, and political context to support sustainable and contextual growth.

This chapter outlines the key topics and principles that should be considered in the initial stages of any project, including the strategic consideration of the following principles outlined in the interactive table.

DESIGN PRINCIPLES	pg.	DEVELOPMENT TYPE: Large scale comprehensive new development	Large and medium sized urban infill sites	Housing estate renewal	(re)development or adaptation of small urban infill sites or single buildings	Household extensions	Shopfront improvements
B.1 Supporting Sustainable Growth	26	●	●	●	●		
B.2 Responding to the Local Community	28	●	●	●	●		
B.3 Responding to Accessibility	30	●	●	●	●		
B.4 Creating walkable neighbourhoods	32	●	●	●	●		
B.5 Delivering an appropriate density	34	●	●	●	●		
B.6 Responding to Local Character	36	●	●	●	●		
B.7 Heritage	42	●	●	●	●	●	●
B.8 Topography	44	●	●	●	●	●	
B.9 Flooding	46	●	●	●	●	●	
B.10 Green and Blue Infrastructure	48	●	●	●	●		
B.11 Biodiversity	50	●	●	●	●	●	●
B.12 Carbon-impact	51	●	●	●	●	●	●
B.13 Smart city infrastructure	52	●	●	●	●		
B.14 Resilience	53	●	●	●	●	●	●
B.15 Retrofit	54	●	●	●	●		

b.1 The Royal Borough of Greenwich is anchored around three main town centres: Woolwich in the north, Greenwich in the west and Eltham in the south. Woolwich is the largest of these centres. Royal Greenwich further comprises of four district centres, Greenwich Peninsula, East Greenwich, Plumstead and Thamesmead, and a multitude of smaller highstreets and local centres that serve their residential hinterland. Industrial areas are largely concentrated in the north of the Borough along the river, there are a few military barracks and institutional development central to the borough, whilst the majority of the remaining area is residential or open space.

b.2 The structure of Royal Greenwich and the hierarchy of places has evolved through history in response to its location on the river, its natural characteristics and strong topography, the pattern of historic routes, settlements, landownerships and naval and military installations. In the 19th century the borough grew around its early centres and along the river and transport corridors. A wave of 20th century sub-urbanisation shaped large parts of the south of the borough, whilst postwar estate development transformed many areas around Woolwich and in the north east of the Borough. Since the millennium the borough is seeing another period of significant growth that focuses on regenerating and intensifying town centres and the delivery of place making on brownfield sites (Greenwich Peninsula, Woolwich Arsenal) and transformation of housing estates (Kidbrooke Village).

b.3 With an increasing need for housing in London, there is strong policy imperative to look across the borough to find new sites and opportunities for the development of new homes and facilities. Development should make optimal use of sites.

b.4 The London Plan and the Royal Greenwich Local Plan set out policies for the sustainable development of the Borough, and any development should fully respond to the policy requirements of both plans. Sustainable development is development that meets the needs of the present generation without compromising the ability of future generations to meet their own social, economic and environmental needs. To achieve sustainable development,

Image b.1: Support sustainable growth of the borough

the development industry needs to implement sustainable design and construction practices. This is the careful consideration of how the design, building services and project management from inception can influence the amount of resources used during a development's construction, occupation and management.

b.5 Development should strengthen and integrate well with the existing (or planned and emerging) structure, pattern and character of development in Royal Greenwich. Significant development should only be located in sustainable locations where it is well supported by access to public transport, social infrastructures and local facilities, or where is can be demonstrated that appropriate facilities will be in place when the development is complete.

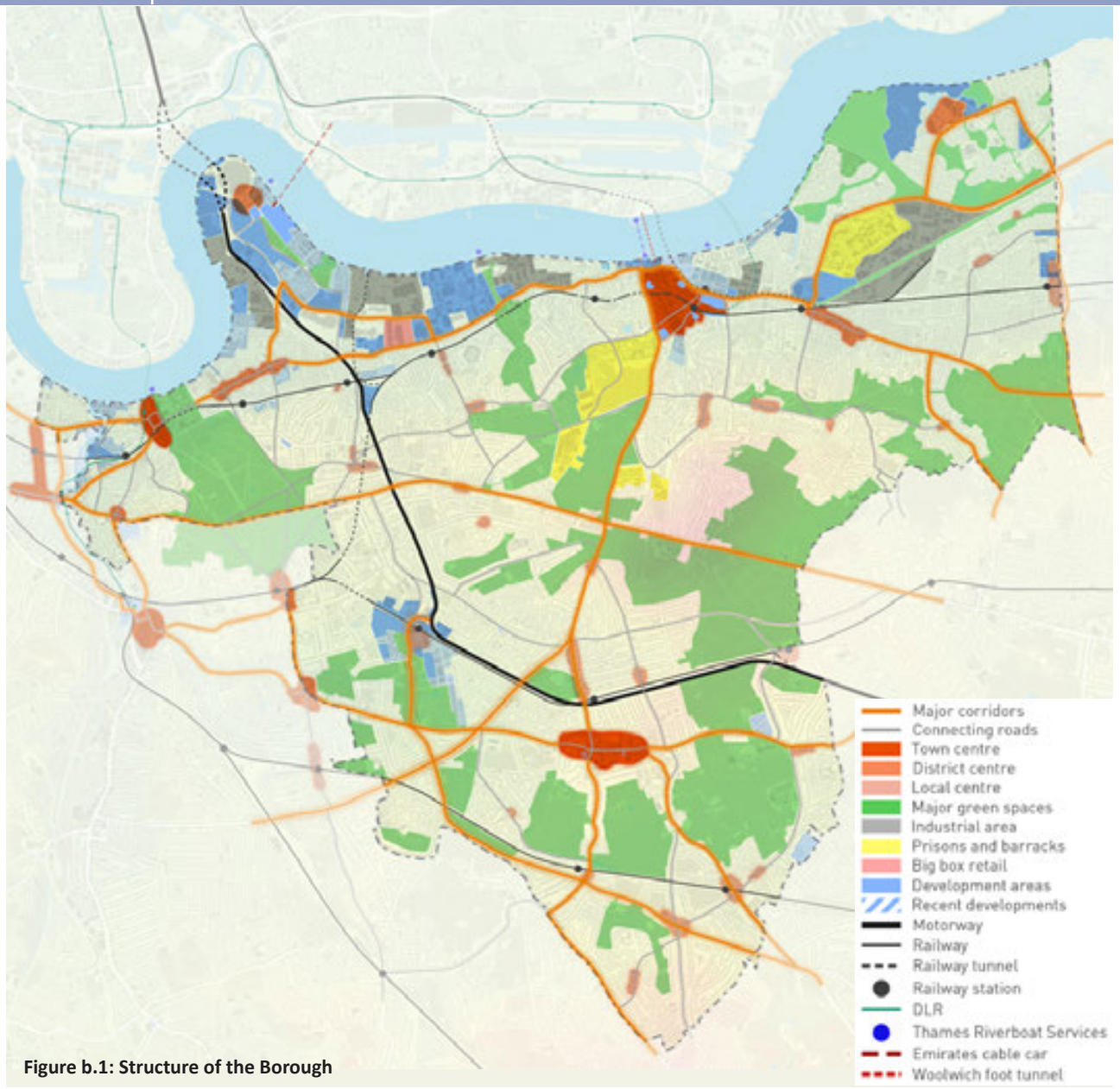


Figure b.1: Structure of the Borough

PRINCIPLE B.1.1: SUPPORTING SUSTAINABLE GROWTH

+ Development should make optimal use of their site and fully respond to the policy requirements of the London Plan and the Royal Greenwich Local Plan.
+ Development should strengthen and integrate with the existing, planned or emerging structure, pattern and character of development in Royal Greenwich and adjoining areas in neighbouring boroughs, paying due attention to the local historic environment.
+ Significant development should only be located in sustainable locations where it is well supported by access to public transport, social infrastructures and local facilities, or where it can be demonstrated that appropriate facilities will be in place when the development is complete.
+ Development will need to demonstrate how the proposal is supporting the sustainable growth of the borough. This will need to make reference to the response of development to the location of the site in the hierarchy of places, public transport accessibility, the existing provision of social infrastructures, proximity to facilities and open spaces, and the character of a place; and satisfy the relevant planning policy context.

b.6 Greenwich is home to a diverse community and its profile varies in respect of ethnicity, age and income significantly in between different places of the borough. In general the north of the borough is more ethnical diverse whilst the south is more predominantly white. One quarter of the borough's neighbourhoods are in the top 20% most deprived nationally, and there are great inequalities between more affluent households living in the borough's south, west and central areas and poorer residents in the north and east of the borough. Development can assist directly and indirectly in helping deprived communities, for example by improving the environment, helping deliver open spaces and facilities, contributing to affordable housing provision, and reinforcing diversity.

b.7 Local community support is integral to the success of the place over the long run and places should encourage the feeling of communal ownership and responsibility over the shared environment. Early and well-developed consultation processes are fundamental to gaining a more comprehensive understanding of and support from the local existing and future communities.

Image b.2: Image of Gordon Square

Where possible and applicable, the future community should be involved in the design process to help to establish a strong connection with the place and local community. Children and young people in the local community should also be consulted with in the early stages of the design process to better understand the community and to deliver places that benefit their broad and diverse needs.

b.8 Digital platforms should be used beside more traditional methods, to foster a wide participation from the local communities.

b.9 The Royal Borough encourages bottom-up initiatives that are led by the local community, citizens, and end-users. Bottom-up initiatives are those that allow the community to form their own goals, vision, and execution to encourage community ownership of shared resources and places.

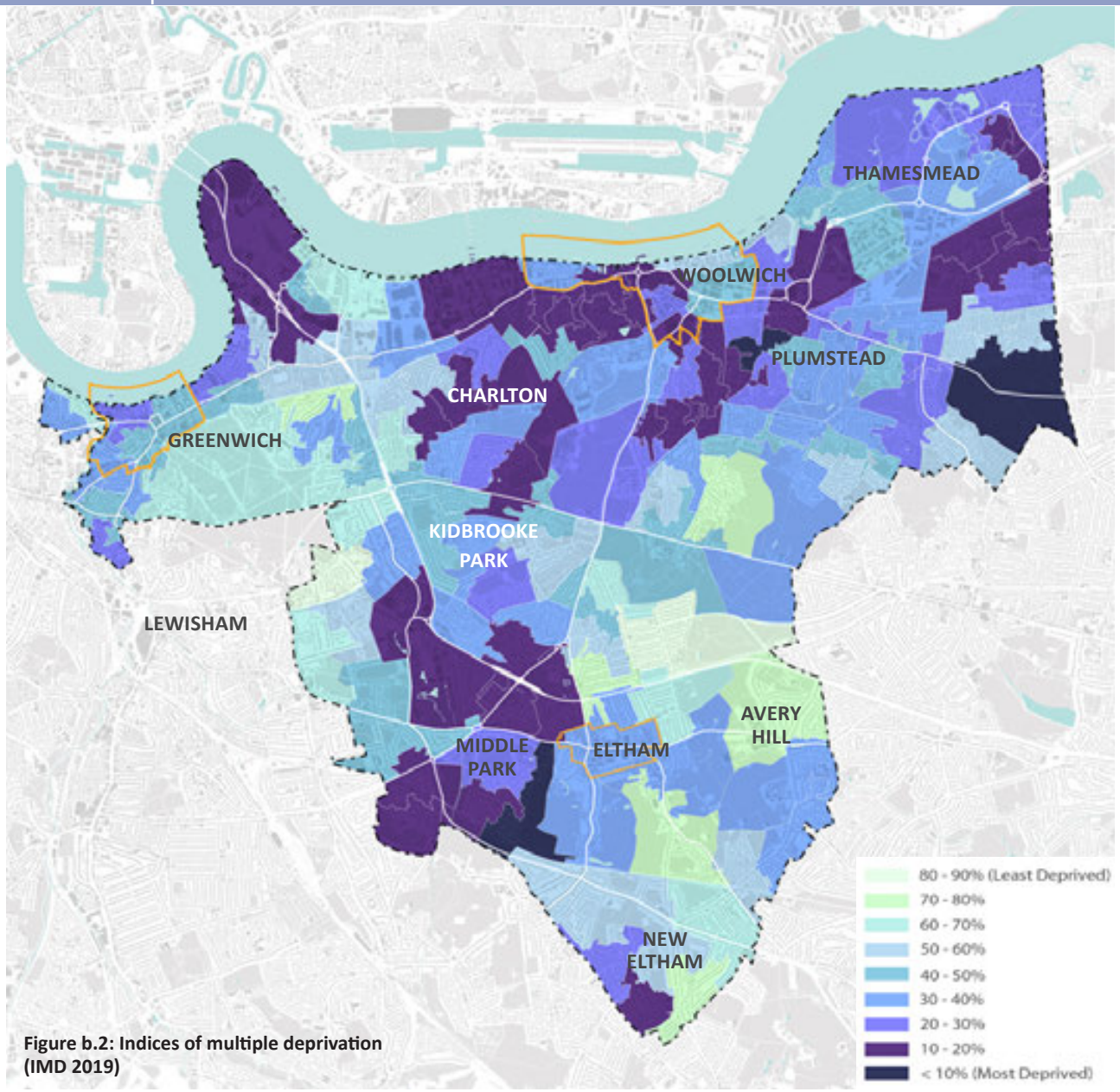


Figure b.2: Indices of multiple deprivation (IMD 2019)

PRINCIPLE B.1.2: DELIVER DEVELOPMENT WITHIN THE LOCAL AND FUTURE COMMUNITY

+ Development should aim to directly and indirectly help deprived communities, for example by improving the environment, helping deliver open spaces and facilities, and contributing to affordable housing provision.
+ Proposals for development should respond to specific community needs and aspirations and should support inclusion and cohesion.
+ Applicants and designers should engage with the local existing and future communities early, often, and through diverse methods throughout the design process.

Further Guidance -

+ National Design Guide (2021) paragraphs 159-162;
+ Royal Borough of Greenwich Local Plan, Core Policy CH1 Cohesive Communities.

b.10 The Royal Borough has a system of public transport infrastructure that connects it to wider London. The borough is served by three historic rail lines, which connect the local centres in RB Greenwich to London Bridge station and to the wider south-east of England.

b.11 The northern part of the borough, along the Thames, is well served by rail, DLR and river boat services, connecting westwards to central London. There are DLR stops in Greenwich town and Woolwich, linking to Canary Wharf, London City Airport and Bank. The 'Emirates Air Line' cable car provides a pedestrian crossing of the Thames. However, figures show that it is generally not used for commuting and is more of a recreational form of transport, experiencing high demand on weekends and holidays.

b.12 There is only one underground station in the Royal Borough, the North Greenwich Jubilee line station, which connects the Millennium Dome and Greenwich Peninsula to Stratford and Westminster. The recently delivered Crossrail line (Elizabeth Line) stations at Woolwich and Abbey Wood, have greatly improved travel times into central London.

b.13 In general, the north and south of the borough is well served by public transport. However, the communities at the centre of the borough are only served by bus services.

b.14 Public Transport Accessibility Level (PTAL) scores show that there is a wide disparity of levels of access to public transport across the borough; Woolwich has become one of the best connected places in London, while other areas in the borough lack connectivity and mean residents still tend to rely on private car use.

b.15 Successful places are easy to get to, easy to move through and easy to find your way around. A fine grain, interconnected network of routes is one of the best ways to incentivise walking and cycling. Development should be strategically integrated into a wider system of routes.

b.16 Routes should allow for diverse modes of travel as mixed mode networks can function better for legibility and wayfinding. The increased use can make also streets feel safer, particularly at nighttime.

Image b.3: Woolwich, pedestrian link from major supermarket to railway / DLR station

b.17 It is best practice to form a network of routes that can be adaptable and resilient to future changing needs and requirements.

b.18 Royal Greenwich is uniquely positioned to capitalise on increased and intensified water-based transport. There is a unique opportunity to better integrate this mode of travel into the broader network of routes.

b.19 Development should optimise sites in response to the existing or planned accessibility by public transport. Areas with good public transport should aim for higher density development subject to responding appropriately to their context. Major new development that deliver higher densities should generally be directed to areas with good public transport accessibility, generally defined as PTAL 3 and above. It is acknwoledged that WebCAT tool's PTAL scores are not always accurate, therefore the Council will be willing to consider site specific clarifications.

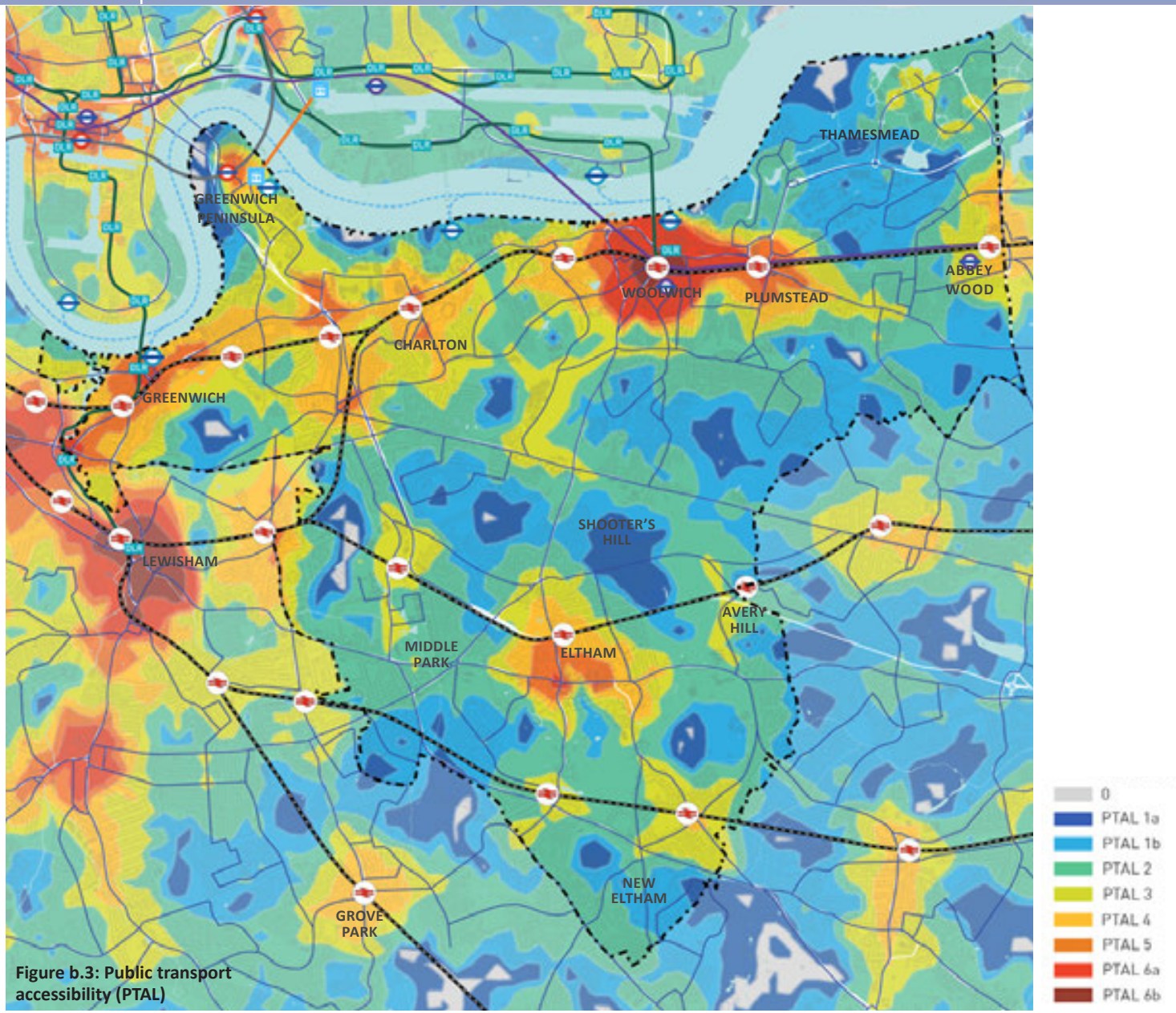


Figure b.3: Public transport accessibility (PTAL)

PRINCIPLE B.3: RESPONDING TO ACCESSIBILITY BY PUBLIC TRANSPORT

+ Development should respond to the existing or planned accessibility by public transport and optimise a site's capacity accordingly.
+ Higher density development should generally be promoted in areas with a public transport accessibility of PTAL 3 and above or within 800m walk distance of a rail, DLR or tube station
+ Major development should be directed towards areas with higher public transport accessibility. It should demonstrate how it responds to existing PTAL, and where necessary contributes to enhanced accessibility by public transport.

b.20 The concept of the '15-minute neighbourhood' was popularised by Paris mayor, Anne Hidalgo, and became further established during the COVID-19 lockdown as there was an immediate reliance on local amenities and facilities in a more concentrated way than previously. This highlighted the vast disparity between local areas in terms of how well connected they were to core local facilities, which can also be observed in Royal Greenwich.

b.21 A '15-minute neighbourhood' provides local facilities in close proximity to neighbourhoods so they are in easy reach for walking and cycling. 15-minutes is seen as an upper time threshold that people may be prepared to walk and cycle. Designing neighbourhoods to 15-minute principles should encourage more people to walk and cycle and make users less reliant on a car journey for short journeys. This will help support the health, well being and happiness of the local population while also reduce the carbon impact from car journeys.

b.22 The Royal Borough is anchored around three main town centres; Woolwich in the north, Greenwich in the west and Eltham in the south. Woolwich is the largest of these, and serves a wide catchment of local residents. Residential areas are supported by established district centres such as Thamesmead and Plumstead. A new district centre is being established at Greenwich Peninsula, supported by the Millennium Dome, which serves the emerging residential development here. The residents of the Borough are also served by many Local scale centres.

b.23 Figure b.4 demonstrates that many parts of the borough are within a 5-10 minute walk of a centre and the vast majority of the developed parts of the borough are within a 15 minute walk. It should be noted that these are theoretical walk distances and there are many other factors that determine if people will walk to local centres, including the quality, directness, safety of routes, topography and the perceived convenience of travel by car.

b.24 In areas that are more than a ten minute walk away from a centre, cycling may be a preferred alternative mode of active travel.

b.25 Development should consider how it can actively contribute to the establishment of the 15-minute neighbourhoods and encourage walking and cycling over the use of the private car.

b.26 Consideration should be given to all stages of the journey and all groups of travellers, to ensure that all barriers to active means of travel are understood and mitigated where possible. For instance, development within its sphere of influence, could enhance the quality and directness of routes towards local destinations, establish new connections in the network of routes, enhance the safety and design of road crossings, widen footways along key routes, provide safe, secure and at grade cycle parking close to building entrances, and provide car parking away from front doors. Larger developments are encouraged to consider their place within the local ecosystem of the neighbourhood and how they can contribute to the provision of walkable facilities within the local area. Housing and tenure diversity can help to deliver a more rich community and support a greater variety of facilities. Proposals should be developed in accordance with the London Plan Policy T2 - Healthy Streets and Policy T4 - Assessing and mitigating transport impacts.

b.27 Some key facilities and amenities that could support the 15-minute city include but are not limited to:

+ Grocery stores
+ Local health services
+ Pharmacies
+ Local schools and daycare facilities
+ Public transport
+ ATMs
+ Sports and recreation areas
+ Community spaces
+ Green space
+ Play areas for children of all ages
+ Adult learning spaces
+ Libraries
+ Local employment opportunities
+ Restaurants & cafes
+ Take-aways
+ Other cultural and leisure uses
+ Other 'third places' away from home and work in which people gather (see Principle D.1.7 Inclusive Spaces/"Third Places".

+ The 15-minute neighbourhood is rooted in urbanist principles such as fine grain (see Principle D.2.3 A Fine Urban Grain) mixed Land Use (see Principle D.1.4 Landuses), compact Access and Movement networks (see Principle D.3 Access, Movement and Parking).

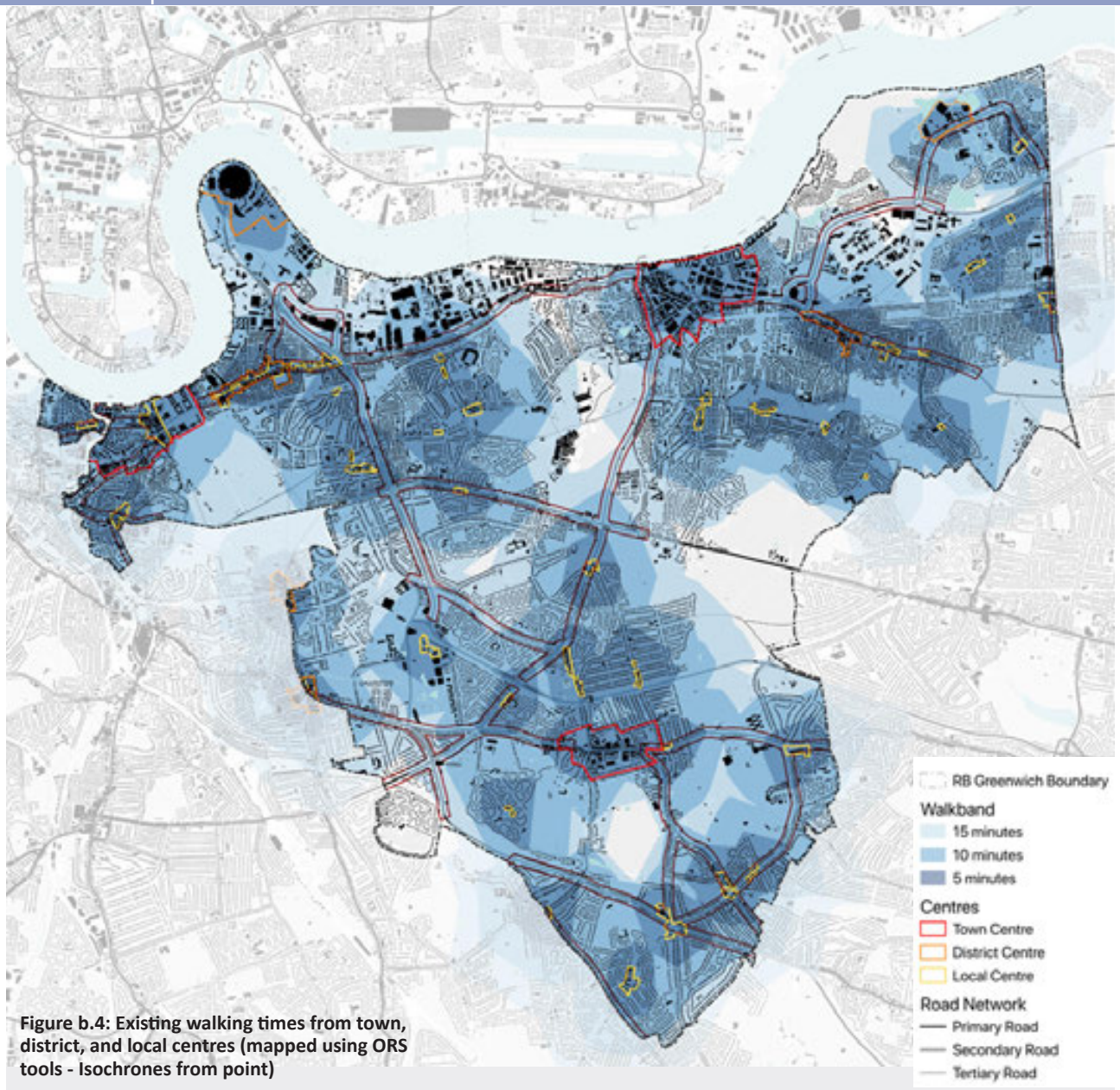


Figure b.4: Existing walking times from town, district, and local centres (mapped using ORS tools - Isochrones from point)

PRINCIPLE B.4: CREATING WALKABLE NEIGHBOURHOODS

+ All development should support walking and cycling as mode of choice for people to access local facilities, services and amenities. Development should demonstrate how walking and cycling has been considered, promoted and enhanced both within and outside of the site boundary.
+ The layout and design of any major new development should ensure that development is generally located within a 10 minute walking distance of a local centre, a larger open space and a primary school, and that no development is 15 minutes or further away by walking from these facilities.
+ Residential development should facilitate and encourage cycling through safe and accessible cycle storage for all residents in close proximity to residential cores or front doors.

b.28 In the Royal Borough of Greenwich the density of development varies greatly between places. More urban areas in town centres and along the river typically have moderate densities between 50 and 100 units per ha. In post millennium regeneration areas densities usually are significantly higher, between 100 or 200 units / ha and higher. Many of the sub-urban areas however, especially in the south of the borough have low densities of below 50 units per ha.

b.29 The London Plan makes clear that there is an imperative to intensify the existing urban fabric to provide more housing and a more sustainable urban fabric. This means there is a requirement to seek an increase in density not only in large development areas, but also within the established urban fabric. Higher density development should generally be concentrated in central and better accessible places where they are supported by infrastructure and facilities. Higher density development means more floor space is being provided on a site. This will result in increased levels of activities and greater demands on transport networks and local infrastructure provision. Physically it may result in greater building height or more compact and intense development forms. As such density can have a significant impact on the character and feel of an area, the scale of streets and the height, massing and organisation of development, but also the intensity of activities. Some places may be better suited than others to assimilate additional demands and physical changes derived from increased densities.

b.30 Density should be the outcome of the design process rather than a predefined development goal. Good design will aim to optimise the use of a site, whilst responding to an area's existing or emerging character and capacity to adequately support the development with infrastructure and facilities.

b.31 Higher density schemes (above 150 units / ha) should generally ensure that they are located in acceptable walking distance (generally up to 10 and no more than 15 minutes along quality routes) to a local centre, transport node, schools and social facilities and major open spaces.

b.32 Areas with a concentration of high density development can feel crowded and may have adverse impact on public health and well being, especially where there is a lack of open spaces and amenities and facilities. It can also create congestion where not adequately supported by the movement infrastructure (walking, cycling, public transport and vehicular). Designers should understand and actively mitigate impacts of higher density and the cumulative impact high density schemes may have on an area.

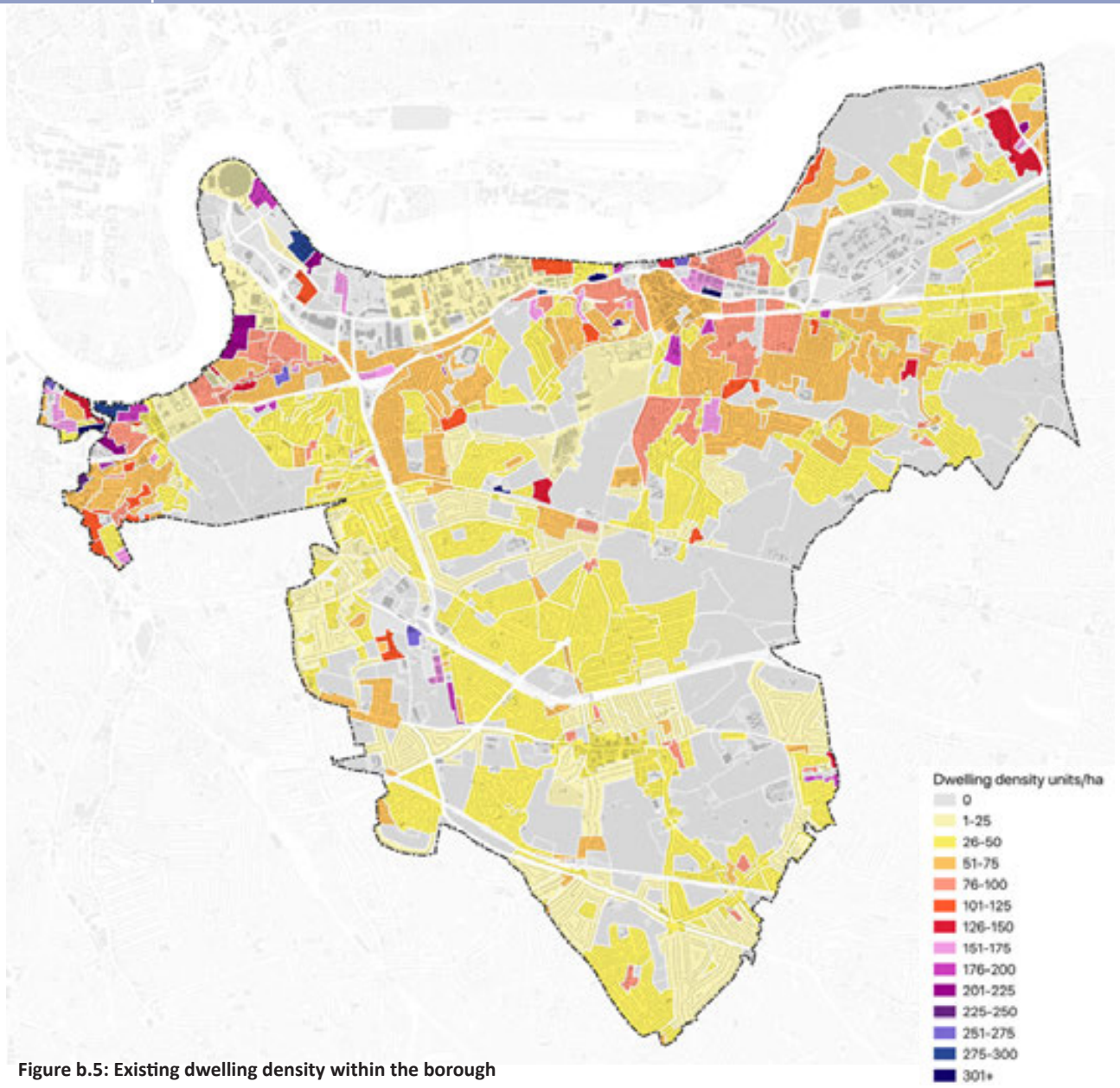


Figure b.5: Existing dwelling density within the borough

PRINCIPLE B.5:
DENSITY SHOULD FOLLOW DESIGN

+ Every development should optimise the use of their site in response to local site constraints, the existing and emerging character of an area and its capacity to assimilate higher levels of activities.
+ Development should support the delivery of places that can sustain walkable, mixed-use, car-independent communities, and that respond to their local context, and support the well-being of their users in alignment with the principles set out in this guidance document.
+ Besides in established town and district centres or identified Opportunity Areas and Strategic Development Areas in the London Plan 2021 and RBG Local Plan, higher density developments (above 150 units/ha) should generally be concentrated in areas of PTAL 3 or higher or that are less than 800m from a rail, DLR or underground station, and also located less than 10 minutes (maximum 15 minutes) from a local centre, primary school and major open space.
+ Optimising the use of a site means that development should not generally bring forward densities of less than 40 units/ha in sub-urban settings and less than 75 units/ha in more compact urban settings.
+ Increasing density across an area does not necessarily mean increased height of buildings, particularly on more sensitive areas.

b.33 London Plan Policy D1 "London's form, character and capacity for growth" states that, "Boroughs should undertake area assessments to define the characteristics, qualities and value of different places within the plan area to develop an understanding of different areas' capacity for growth." The Royal Borough has recently carried out a Characterisation Study for the entire borough. This evidence base study has established that the borough has a diverse range of place typologies with their own character and a number of significant regeneration areas, such as Greenwich Peninsula, Kidbrooke Village and Woolwich Royal Arsenal emerging as new urban places. Some areas are highly distinctive while in others the character is limited or has less positive aspects that should be strengthened.

b.34 The National Design Guide (2021) sets out the significance of contextual design. "An understanding of the context, history and the cultural characteristics of a site, neighbourhood and region influences the location, siting and design of new developments. It means they are well grounded in their locality and more likely to be acceptable to existing communities. Creating a positive sense of place helps to foster a sense of belonging and contributes to well-being, inclusion and community cohesion. Well-designed places are:

+ Based on a sound understanding of the features of the site and the surrounding context, using baseline studies as a starting point for design;
+ Integrated into their surroundings so they relate well to them;
+ Influenced by and influence their context positively;
+ Responsive to the particular social fabric of the area; and
+ Responsive to local history, culture and heritage." (National Design Guide, 2021)

b.35 When considering a site for development, the first step should be to understand the characteristics of the surrounding context and the relationship to the proposed site area, including (where appropriate):

+ History of the place;
+ Local character including the pattern of development, the local vernacular and distinctive features;
+ Layout, grain, scale, height, form, appearance, details, and materials;
+ Morphology of the area, urban typologies, streets and spaces;
+ Views inwards and outwards;
+ Movement network and accessibility;
+ Density and distribution of land uses and activities;
+ Designated and undesignated heritage assets;
+ Open spaces and recreational opportunities;
+ Landform and topography;
+ Green infrastructure, natural features, landscape character, biodiversity and ecology;
+ Waterways, drainage and flood risk;
+ Social, economic, demographic and cultural factors;
+ Planning policy designations.

b.36 New development should be place-specific and contextual. It should enhance and not detract from the existing or emerging character of an area. It should demonstrate a good understanding of the place and policy context where it is situated. The area and depth of the analysis will vary depending on the scale and potential impact of the development; for small scale infill developments, an understanding of the street scene and urban block may be sufficient, whereas a large scale regeneration project will have to demonstrate an understanding and response to the character of the wider district.

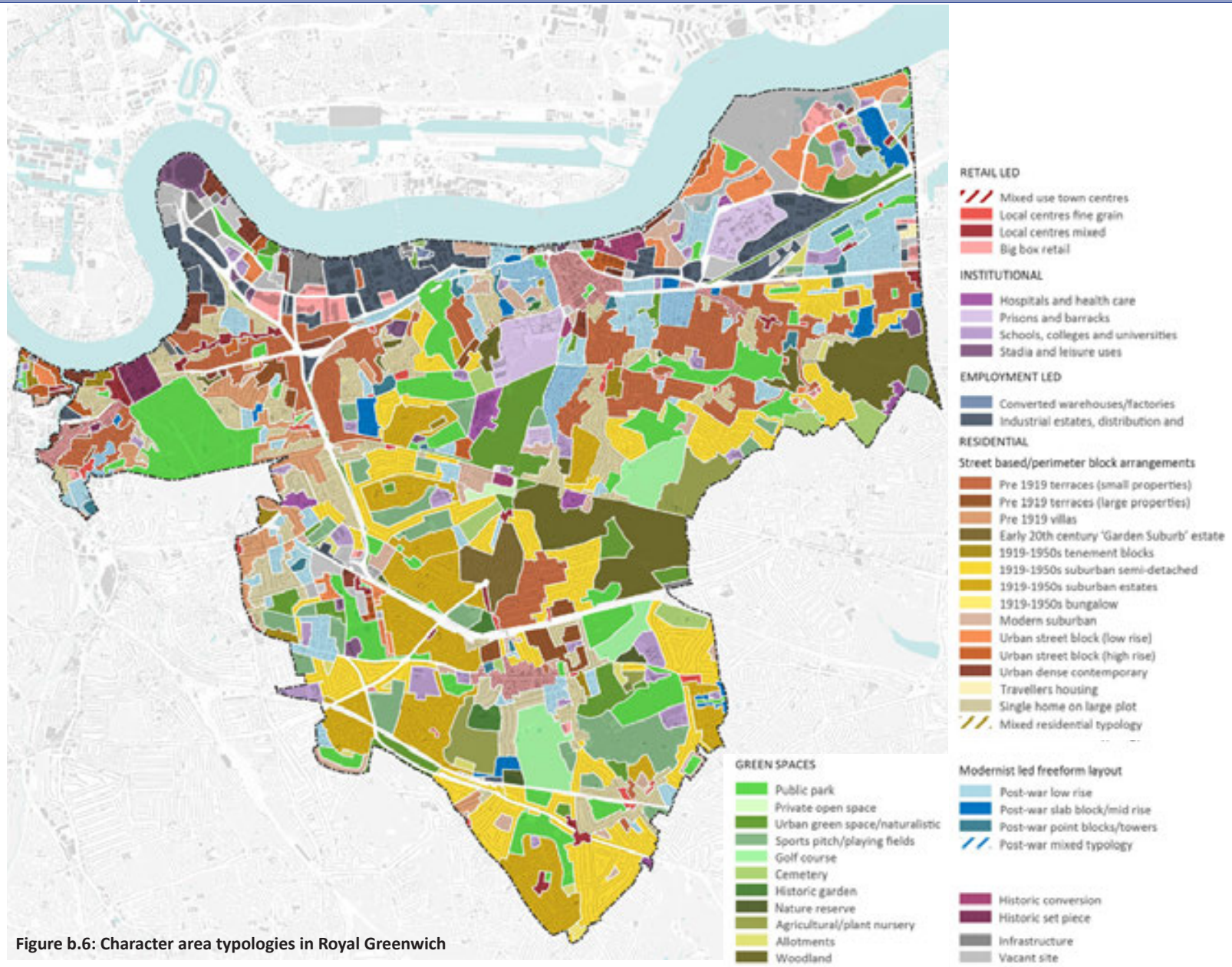


Figure b.6: Character area typologies in Royal Greenwich

PRINCIPLE B.6.1: UNDERSTAND AND RESPOND TO LOCAL CHARACTER & NEEDS

+ New development should be place-specific and contextual. It should enhance and not detract from the existing or emerging character of an area. It should demonstrate a good understanding of the place, its sensitivities and policy context where it is situated.
+ In places where there is a weak, generic or fragmented character, development should aim to contribute to a more coherent, consistent and distinctive place.
+ The Royal Borough of Greenwich Characterisation study provides a useful analysis of Royal Greenwich and its places. It should be considered as part of the site analysis.

Further Guidance -

+ National Design Guide (2021) paragraphs 38-43 & 50-52;
+ London Plan 2021 Policy D1 & D3(D)
+ Royal Borough of Greenwich Local Plan, Core Policy DH1: Design

b.37 Development should understand and consciously respond to the existing or emerging character of the place where it is situated. This should make reference to the Royal Borough of Greenwich Characterisation Study and any other relevant strategy or development framework that guides the future development of a place.

b.38 The Royal Borough of Greenwich Characterisation Study has identified and mapped the present sensitivity of character areas to change (see Figure b.7). Change in this context is understood as an intervention that departs from the prevailing characteristics of an area. In areas with greater sensitivity to change even a small change may be harmful to the coherence and/or quality of a character area. Conversely in areas that have a low sensitivity to change, substantial change through a larger intervention may not have an adverse impact on the coherence of a character, indeed, it may actually have a positive impact, if it engenders enhancements and greater consistency to a character area.

b.39 The characterisation study identifies four levels of sensitivity to change (highly sensitive, sensitive, some sensitivity and low sensitivity).

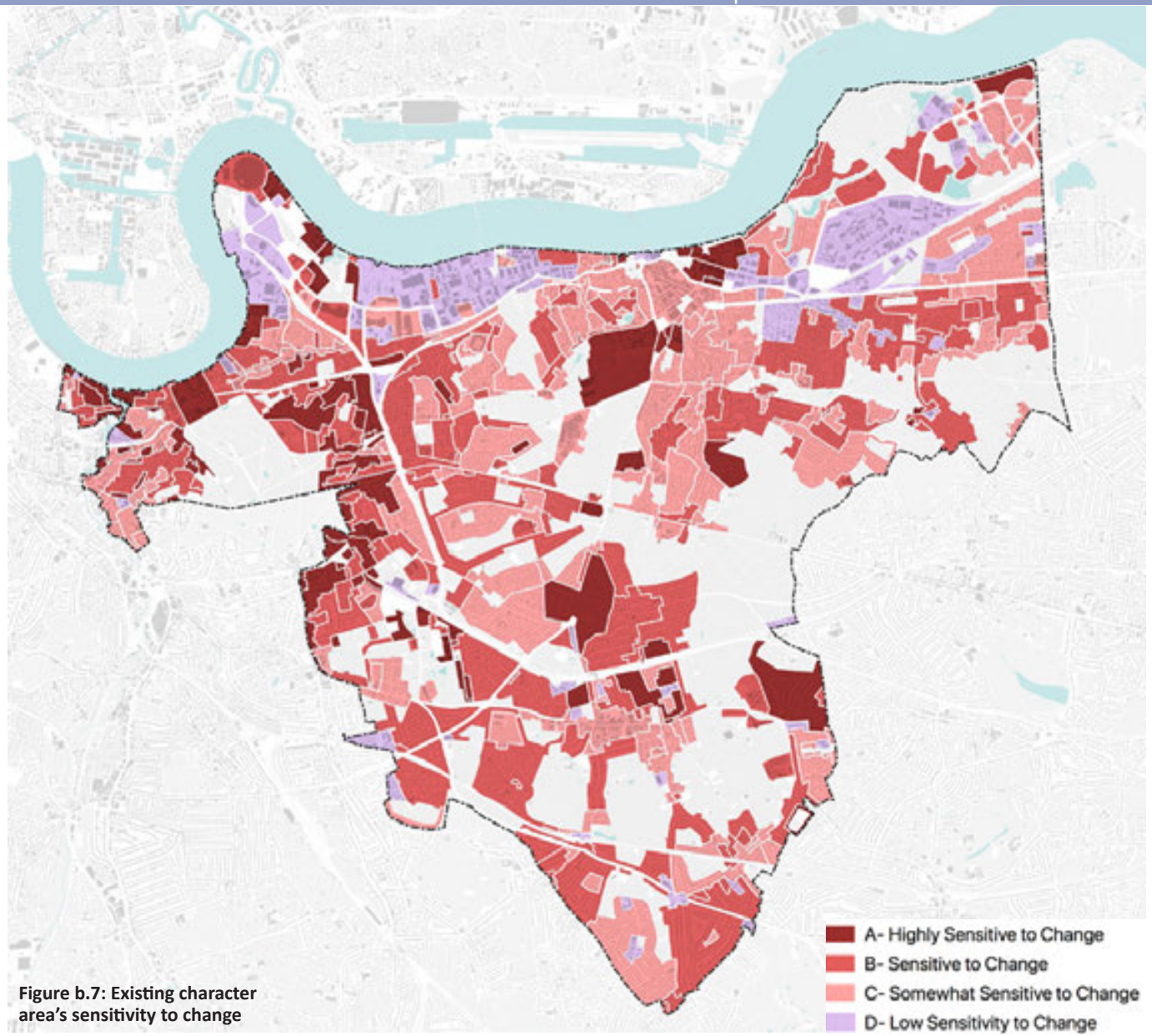


Figure b.7: Existing character area's sensitivity to change

HIGHLY SENSITIVE TO CHANGE

b.40 These areas usually benefit from a harmonious interplay of a highly consistent set of character features that offer a strong level of distinctiveness. This means that even a small departure from the set of common character features may stand out, detract and harm the character of this place. Development in these areas will need to respond with a highly contextual design that is site specific and responds to relevant and defining area wide design characteristics, considering the prevailing pattern, scale, height of buildings, the built form and the shape of roofs, the fenestrations and proportions, materials and colours, the street interface design and landscaping.

Image b.4: Residential area that is highly sensitive to change

Figure b.8: Areas that are highly sensitive to change

SENSITIVE TO CHANGE

b.41 These areas generally have a broadly coherent and valued character. Frequently they benefit from a prevailing level of consistency of principal design features such as the height and massing and roof form of buildings, the typological mix and the spacing between buildings. But they often are less consistent in terms of the front garden design, the facade treatment, materials and detailing. Development that notably departs from common principal design features, for example a local and unprecedented increase in building height, the breaking of the common roof-scape by major alteration to a roof, or the siting of a building away from the common building line, would be damaging the character of this area. Changes to minor aspects of the façade, building appearance, detailing, front garden design or extensions to the rear to buildings are likely to have a lesser impact on the overall character of an area and may be acceptable.

Image b.5: Residential area that is sensitive to change

Figure b.9: Areas that are sensitive to change areas

SOME SENSITIVITY TO CHANGE

b.42 Some areas identified in this category have only a moderately coherent character. Often they have seen change over a prolonged period of time and have become an assemblage of different buildings and typologies held together by a broadly common approach to the scale and massing of buildings, position in relation to the street space, and general landscaping approach. Other typological areas in this category may have a more coherent design approach (for example post war housing estates), but their character is less sensitive to larger scale interventions. The level of change that may be acceptable in these type of areas cannot be generalised and will require an analysis of the context to identify common aspects that development will need to respond to. Generally these type of areas provide a greater scope for more significant change. Subject to the area's characteristic, this may include (moderate) increase in building height, the replacement of smaller buildings with larger buildings, structural changes in the built form, which for example may affect the pattern of development, the building line or the openness of a street scene. Change in this area type should contribute to an enhanced character and greater overall coherence, and be guided by a common vision and principles governing its future building line, built form, height and massing, and landscape approach.

LOW SENSITIVITY TO CHANGE

b.43 Areas that have a low sensitivity to change often are fragmented and lack common character features. They may include areas that are vacant, targeted for regeneration or where for other reasons change is envisaged. An area identified as having low sensitivity to change is an indicator that they should be targeted for significant improvements or intensification. Frequently these areas will require place making and the definition of a new character and identity. The degree and type of change will need to be established through an area specific analysis, visioning and masterplanning exercise, undertaken in collaboration with the local authority. This should define the future character, landuse, built form and height principles for these areas and how they should respond to the existing context. Refer to Principle D.1 Placemaking.

Image b.6: Residential area somewhat sensitive to change

Image b.7: Area with low sensitivity to change

Figure b.10: Areas that have some sensitivity to change

Figure b.11: Areas with low sensitivity to change

b.44 The assessment of character, coherence and sensitivity to change has been undertaken at a strategic area wide level. Its findings will need to be corroborated at application stage through relevant contextual analysis by the applicant. Such analysis is particularly relevant close to the edge of a typological area type where they may interface with areas of different characters and sensitivity.

b.45 Chapter C of this document identifies development principles for change and intensification in respect of different area types, such as areas for comprehensive change, corridors, town and local centres, big box retail, industrial sites, housing estates and residential areas. These provide further guidance on the design and approach to development that should be considered.

PRINCIPLE B.6.2:
APPROPRIATELY RESPOND TO THE CHARACTER OF A PLACE

+ Applicants should establish a design approach that directly responds to the valued characteristics of a place and its capacity to accommodate change. Development will need to make reference to the Royal Borough of Greenwich Characterisation Study and consult its identification and mapping of character types, their level of coherence and sensitivity to change.
+ In areas whose character is more sensitive to change, development will need to be contextual and respond sensitively to and integrate with the prevailing pattern of development and characteristic features. This should consider aspects of massing, height, built form, articulation, roof form, colours and materials. New development should develop architectural designs with integrity and avoid pastiche solutions.
+ In areas that are less sensitive to change there may be a greater scope to alter the architectural expression, massing and height of development. In these areas development should seek to deliver place making, bring forward high quality architectural and urban design, set new design principles or strengthen the emerging new characteristics and features of a place.
+ Applicants should also refer to Chapter C of development principles for change and intensification in respect of different area types in Royal Greenwich.
+ Where relevant development should consider planning frameworks and masterplans that guide the emerging or future development and character of a place.
+ Applicants will need to demonstrate their understanding of the existing or emerging character of the locality and how their proposal has responded to the valued, prevailing or emerging characteristics of a place.

Image b.8: View of Old Royal Naval College and the Queen's House from Isle of Dogs

b.46 The Royal Borough of Greenwich is a historic place and this history can be read in the rich heritage assets and archeology that survive across the borough. The Maritime Greenwich World Heritage Site is an asset of the highest significance. It includes Greenwich Park, the Royal Observatory, Old Royal Naval College and Greenwich Market. A wide variety of listed buildings exist across the borough, with concentrations at Greenwich town and Woolwich. Grade I listed buildings include the Royal Brass Foundry at Woolwich, The Royal Naval College at Greenwich and The Great Hall of Eltham Palace. Other key listed buildings include the Grade II* listed Royal Artillery Barracks, Royal Military Academy and Woolwich Town Hall. There are 23 Conservation Areas in Royal Greenwich of Greenwich, which provide an additional layer of protection for historic townscapes and landscapes. There are four registered Parks and Gardens in Royal Greenwich, which include Greenwich Park which is a Royal Park, and the grounds of Eltham Palace.

b.47 Heritage assets 'are an irreplaceable resource, and should be conserved in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of existing and future generations' (NPPF). Heritage assets and historic landscapes have a positive intrinsic cultural and aesthetic value to society and should be celebrated, enhanced and preserved for the enjoyment of existing and future residents. In line with Historic England guidance, the principle of constructive conservation is supported, to reinforce the historic significance of places, while accommodating the changes necessary to ensure their continued use and enjoyment.

b.48 Development should respond positively to the significance and sensitivity of heritage assets, including those within a wider setting. Where appropriate and providing harm to the significance of heritage assets and their setting is avoided, they should be carefully integrated into development proposals as they help to reinforce a sense of place and local identity. The best designs are rooted to a place and make reference to the unique history and heritage of an area or region in a way that grounds the design without being a pastiche replica of a historic style.

b.49 Development should establish an understanding of heritage and potential archeological assets within the site, nearby or even further away, that may be impacted by development. This should include listed and locally listed buildings, Conservation Areas, World Heritage Sites, Scheduled Ancient Monuments, Archeological Priority Areas, Registered Parks, and non-designated heritage assets which have been protected for their evidential, historical, aesthetic or communal value.
Proposals should use heritage significance to shape the design of new development rather than simply avoiding harm.

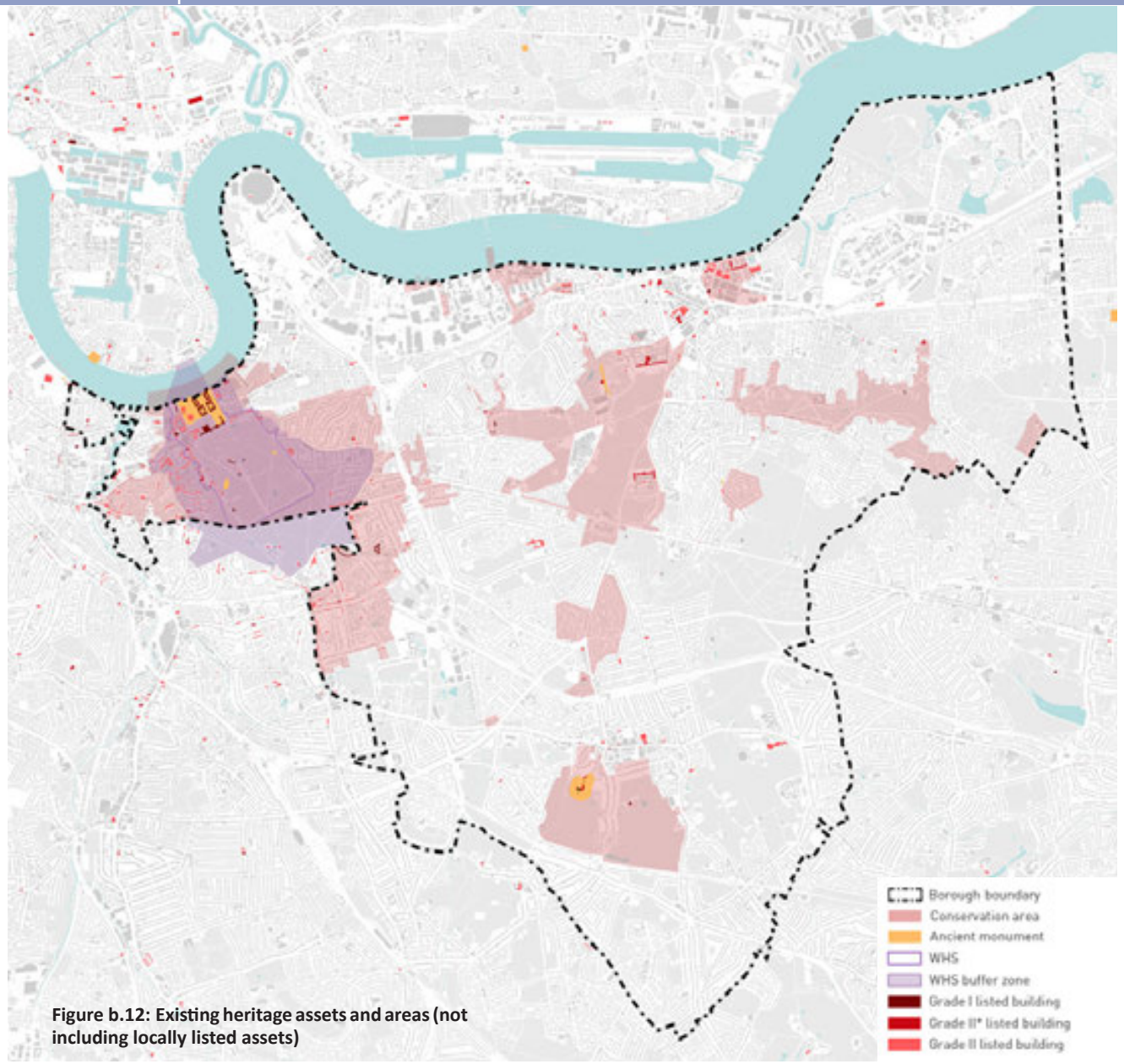


Figure b.12: Existing heritage assets and areas (not including locally listed assets)

PRINCIPLE B.7: RESPOND TO THE EXISTING TOWNSCAPE, HERITAGE ASSETS AND HISTORIC LANDSCAPES

+ Development should understand the heritage context and set out a positive strategy to sensitively respond to, enhance and avoid harm to the significance of local history, heritage assets, and archeology within the site and its surrounding. The impact of development on the setting of heritage assets should also be considered.
+ Heritage and archeology can positively contribute to a stronger sense of place and development should seek to strengthen rather than detract from this character.

Further Guidance -

+ National Planning Policy Framework paragraphs 189-193 & 206-207;
+ London Plan 2021 Policy HC1;
+ Royal Borough of Greenwich Local Plan, Core Policy DH3, DH4, DH(h), DH(i), DH(j)

Image b.9: View from Shooter's Hill towards Woolwich

b.50 The varied topography of Royal Borough of Greenwich forms an important part of Royal Greenwich's character and it creates vantage points across the local townscape and London. Apart from central Woolwich, all its northern riverfront areas are low-lying within the Thames floodplain. Historically this was extensive marshland, some of which endured into the late twentieth century, such as at Thamesmead in the north east corner of the borough. At the north-west corner lies the mouth of the Ravensbourne river, around which the early settlement of Deptford grew.

b.51 The southern edge of this floodplain closely corresponds to the northernmost route continuous across the borough, west to east, comprising Trafalgar Road, Woolwich Road, Church Street, Beresford Street and Plumstead High Street—today unified as the A206. From this line, the land rises steeply towards the centre of the borough and one of London's highest points, Shooter's Hill.

b.52 Views across Royal Greenwich and wider city from elevated locations, such as Greenwich Park and Shooter's Hill, help understand the borough and contribute to its sense of place. Some of the views are protected by either city-level or local level policy and must be retained and protected during development.

b.53 Further south, the land falls away again to the valley of the River Quaggy at Mottingham, before rising again towards White Horse Hill, just beyond the southern apex of the borough boundary. To the south east at New Eltham, the land drains eastwards via the River Shuttle, a tributary of the Cray which meets the Thames at Dartford.

b.54 Any development proposal should ensure that adverse impacts to important and protected views into and out of the site are avoided; this may include impacts to long distance views to landscape features or buildings or shorter range views to attractive or distinctive townscapes. Where possible, good design should enhance and improve the legibility of views.

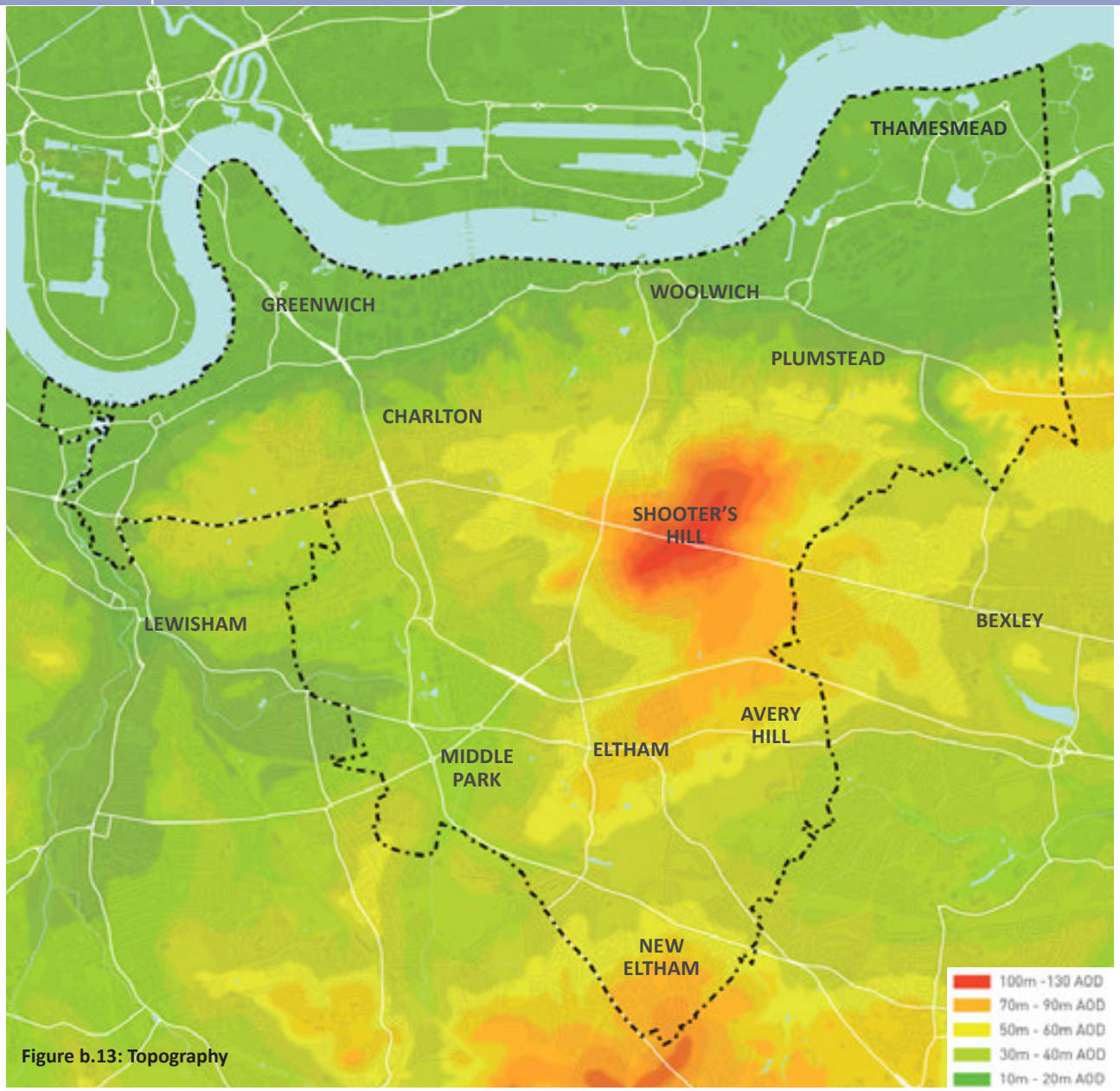


Figure b.13: Topography

PRINCIPLE B.8: RESPOND TO TOPOGRAPHY AND STRATEGIC VIEWS

+ Development should respond to the topography of the site. This should include:
  + The consideration and enhancement of long and short range views.
  + A considered design of the built form and massing of a development in response to the site's topography and undulations in landform.

Further Guidance -

+ London Plan 2021 Policy HC3, HC4
+ Royal Borough of Greenwich Local Plan, Core Policy DH(g)

Image b.10: View towards O2 Arena and Peninsula

b.55 Many areas of Royal Greenwich are within areas at risk of from river flooding, albeit there is protection along the Thames by the Thames Barrier and other flood defences. In addition, many places are at risk from surface flooding from intense localised rain events. Flood risk from river and surface flooding may be further compounded by the increasing frequency of climate change related weather events and rising sea levels.

b.56 The best quality designs deliver long-lasting places that anticipate and accommodate for flooding within the design. For example this may include avoiding development in potential flood zones, raising habitable floor spaces above areas at risk from flooding, reduce water run-off rates through providing sustainable urban drainage systems (SUDS) and integrated flood control landscapes (Principle E.3.8 SUDS).

b.57 Applicants should consider early on in the design process how they can implement flood risk mitigation strategies that make property safe from flooding and avoid increasing flood risk elsewhere, considering the increased risk of flooding brought by climate change. This should include new development as well as the adaptation of existing development.

b.58 A Flood Risk Assessment undertaken by a suitably qualified specialist is required for application types and sites that meet defined criteria. Applicants should make early reference to the 'Royal Borough of Greenwich Local Validation Requirements List' which provides guidance on local information requirements and the type of information required to be submitted with a planning application.

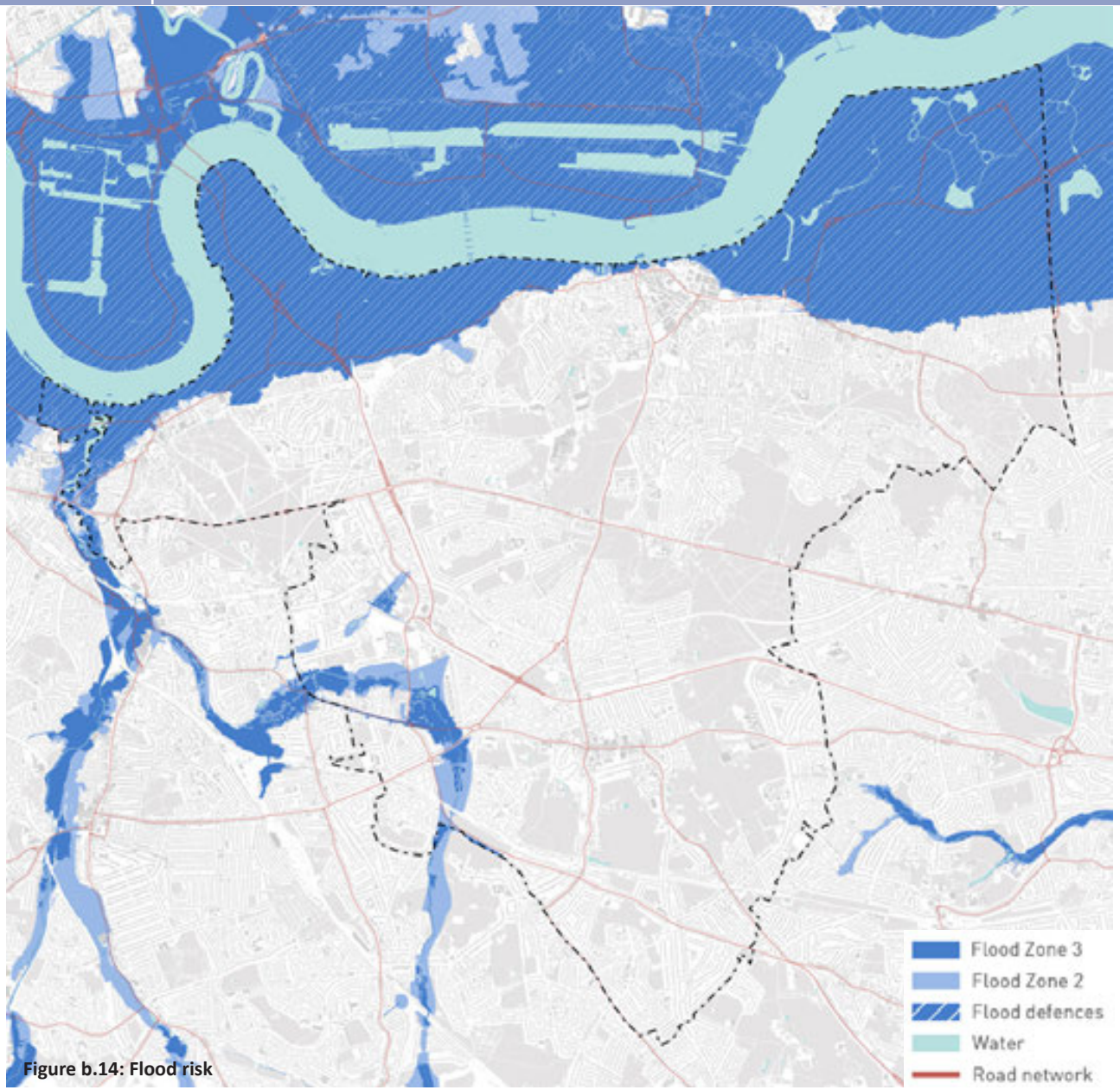


Figure b.14: Flood risk

PRINCIPLE B.9: CONSIDER FLOODING PROACTIVELY IN DEVELOPMENT

+ Applicants should consider the current geological conditions of the site and the propensity for the site to flood.
+ Proposals for buildings, hard and soft landscaping should be assessed early on to ensure that the development does not negatively impact on the flood risk for the local or wider area.
+ Where possible, applicants should develop proposals that proactively address flooding and establish a greater level of resilience for the site and local area. For instance, drainage systems should be comprehensively designed to mitigate against flooding (Principle E.3.8 SUDS).

Further Guidance -

+ National Planning Policy Framework paragraphs 152, 153, 159-167;
+ London Plan 2021 Policy SI (12);
+ Royal Borough of Greenwich Local Plan, Core Policy E2 & E3

Image b.11: Greenwich Park

b.59 The most successful urban places protect and nurture their natural features. Developments should connect to and enhance the green and blue infrastructure networks near the site. The landscape characteristics of the site and wider area should be positively planned at the outset and inform the layout of new development.

b.60 The presence of trees, vegetation and public green spaces are shown to improve the health and wellbeing of residents and offer economic benefits to property owners and businesses. Additionally, the provision of green infrastructure is increasingly important in addressing the effects of climate change as it can help mitigate flooding, promote biodiversity and play a role in reducing urban air temperatures. Larger areas and connected networks of green infrastructure also encourages healthy lifestyles by enabling outdoor activities and encouraging walking and cycling.

b.61 Blue spaces are equally important and the River Thames and Deptford Creek contribute greatly to the sense of identity and biodiversity of the Royal Borough of Greenwich.

b.62 Although urban development sites within Royal Greenwich may be highly altered from their natural state, they will often contain important natural features such as trees, vegetation and informal green spaces. Retaining and enhancing these whenever possible is an important starting point for creating sustainable and beautiful developments.

b.63 The integration of natural features provides the basis for a green infrastructure network that should underlie development proposals to provide wider benefits and contribute to a sense of place. Retaining existing natural and biodiverse assets, particularly mature trees, is good-practice and can be a positive structuring for the development layout.

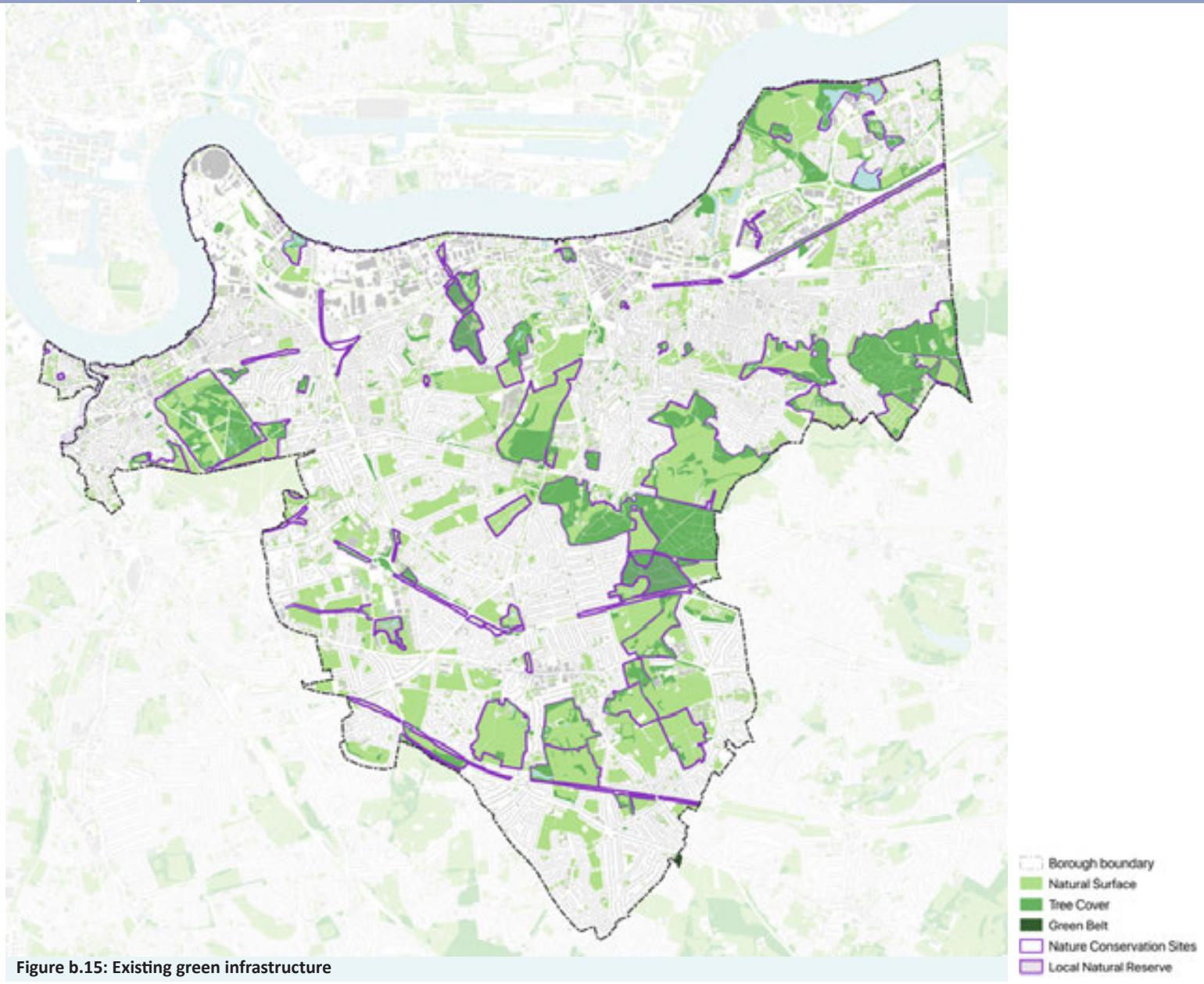


Figure b.15: Existing green infrastructure

PRINCIPLE B.10: CONSIDER AND CONNECT TO STRATEGIC OPEN SPACES / GREEN AND BLUE INFRASTRUCTURE

+ From the outset, developments should be positively planned to actively enhance, expand, connect, and improve the use, access and inclusivity of existing local green and blue infrastructure networks.
+ Existing natural features such as mature trees, hedges, woodland and natural green spaces, are positive assets that should be integrated into the development design where appropriate.

Further Guidance -

+ National Planning Policy Framework paragraphs 98-99, 131, 154, 175;
+ National Design Guide (2021) paragraphs 90-91;
+ London Plan 2021 Policy D3, D8, G1, G5, SI 14, SI 16, SI 17;
+ Royal Borough of Greenwich Local Plan, Core Policy DH(k), OS1, OS2, OS3, OS(g)
+ Royal Borough of Greenwich Biodiversity Action Plan, 2010
+ Royal Borough of Greenwich Greener Greenwich SPD, 2014
+ Port of London Authority, Estuary Edges

Image b.12: View of Oxleas Meadows

b.64 Greenwich is particularly rich in open space, with many of its spaces of local, regional or national significance in terms of their historic, natural and/or amenity value. However, the distribution of open space is uneven, particularly in the more densely developed areas in the north of the borough where provision is inadequate to the current population. The green spaces in the Royal Borough of Greenwich also play an important role for biodiversity. The borough's public open spaces host a large number of Nature Conservation Sites and Local Nature Reserves such as Woolwich Common, Sheperdleas Wood and Winn's Common. Informal natural spaces also play a critical role for wildlife.

b.65 Increasing development, especially of already urbanised areas, put pressure on the use of available open spaces for recreational purposes. Biodiversity is threatened by habitat loss and fragmentation, unsustainable resource use, introduction of invasive species, pollution, and global climate change. Ecosystems nevertheless provide crucial services such as pollination, seed dispersal, climate regulation, water purification and nutrient cycling.

Further Guidance

- National Planning Policy Framework paragraphs 120, 153-154, 174, 179-180, 182
- London Plan 2021 Policy D8 & G6;
- Royal Borough of Greenwich Local Plan, Core Policy OS4, OS(e), OS(f);
- 25 Year Environment Plan, HM Government, 2018
- Greater London Authority, Urban Greening and Biodiversity design guide (2021)
- Royal Borough of Greenwich Biodiversity Action Plan, 2010
- Royal Borough of Greenwich Greener Greenwich SPD, 2014

b.66 Applications for smaller sites, household extensions and shopfronts are encouraged to consider how opportunities for small or micro-scale interventions can be integrated into the design to enhance biodiversity. The extent of outdoor hard-standing and decking areas should be limited to the minimum necessary.

b.67 The 2021 Environment Act has introduced a new legal requirement for a Biodiversity Net Gain (BNG) of 10% which will come into force in November 2023.

PRINCIPLE B.11: CONTRIBUTING TO NET-GAINS IN BIODIVERSITY AND ECOLOGY

+ Royal Greenwich has a valued network of landscapes, habitats and species that need to be protected and enhanced. Local ecology and ecosystems should be well-considered and protected. Development should aim to more evenly distribute open biodiverse spaces, particularly in the more densely developed areas in the north of the borough where provision is inadequate to the current population.
+ From the outset, new development should consider design interventions and management practices that contribute to a Biodiversity Net Gain to align with the National Planning Policy Framework (2021), 2021 Environment Act, 25 Year Environment Plan, London Plan 2021, and the Royal Borough of Greenwich Core policies.

b.68 Construction has a significant carbon-impact which accounts for around 35-40% of the United Kingdom's total carbon emissions. The country has pledged to achieve net zero carbon by 2050, which sets out as a reduction of 78% emissions by 2035 and 100% reduction of emissions by 2050. To contribute to this, the construction industry must fundamentally shift the way development is designed, constructed, used, and recycled/reused. In line with the GLA London Plan, the Borough has adopted the Carbon Neutral Plan 2021-2030 and has committed to deliver net zero carbon by 2030, which means all new developments must achieve net zero targets and existing buildings must be retrofitted to reduce their carbon impact.

b.69 At the early stage of design, the following should be considered:

+ Locating development in central areas with high public transport accessibility and achieving an appropriate density and mix of uses to support low carbon lifestyles;
+ Consider Whole Life Carbon which comprises embodied carbon (emissions related to construction) and operational carbon (emissions related to the use of buildings). Note, a building's structure typically accounts for two thirds (or more) of its embodied carbon. Reusing/refurbishing existing buildings will save a large amount of potential emissions;
+ When a new structure is necessary, making use of less material and more sustainable materials such as timber instead of concrete will have a positive role in reducing emissions (subject to compliance with all Fire Safety Regulations). (see Principle B.15 Retrofit);
+ Retain existing natural features, particularly mature trees, and consider how green infrastructure and biodiversity can be enhanced within the design. (See Principle B.10 Green and Blue Infrastructure)

Further Guidance -

+ National Planning Policy Framework paragraphs 189-193 & 206-207;
+ London Plan 2021 Policy HC1;
+ Royal Borough of Greenwich Local Plan, Core Policy DH3, DH4, DH(h), DH(i), DH(j)
+ Royal Borough of Greenwich Carbon Neutral Plan 2021-2030 (2021)
+ Greener Greenwich Strategy, Royal Borough of Greenwich (2016)
+ Greater London Authority Whole life cycle carbon assessment (2020)
+ LETI Climate Emergency Design Guide (2020)
+ LETI Embodied Carbon Primer (2020)
+ LETI Whole Life Carbon (2020)
+ ETUDE/Passivhaus Trust/Levitt Bernstein/ Elementa Net Zero Carbon Toolkit
+ RIBA Climate Challenge 2030 (2021)

b.70 Applications for smaller sites, household extensions and shopfronts are encouraged to consider their carbon impact, reduce construction waste through innovative design and reuse, and where possible, to consider the use of sustainable materials and methods.

PRINCIPLE B.12: REDUCING CARBON-IMPACT

+ Major development should be designed to net zero standards and set out principles for reducing carbon impact over the full life cycle of the development from conception to end of life/reuse – this includes:
  + Minimising their embodied carbon by specifying adequate materials taking into consideration their manufacturing, transportation, installation, maintenance and recyclability.
  + Adopting passive design principles and fabric first approach and focusing on their thermal performance, form factor, orientation, solar gain.
  + Reducing their operational carbon to net zero following the energy pyramid principles, being fully powered by renewable energy.
+ Minor developments are encouraged to follow the same principles as major developments.
+ Development should be future proofed and have the capacity to adapt to future end users needs such as lifestyle requirements, maintenance and servicing. See Principle B.14 Resilience.
+ The Council strongly encourage the retrofitting of existing buildings to reduce their carbon emissions, with an aspiration to net zero equivalent. See Principle B.15 Retrofit.

b.71 Integrating technology in cities and processes has the potential to have far reaching impacts such as improved quality of life, greater resilience, increased economic benefits, greater ability to target services to those who require them, more effective programming, improved health outcomes etc. Designing for smart cities is designing for future flexibility to provide infrastructure and data collecting/sharing capacities.

b.72 For instance, this could include high-speed internet connections, networks of sensors for waste and recycling monitoring, smart lighting, water monitoring, cameras, drones, robotics, mobility services, augmented and virtual reality, and automated and algorithmic decision-making. etc.

b.73 Fundamentally, smart city infrastructure needs to be robust and secure to prevent cyber attacks.

b.74 The London Mayor has set out six key priorities for a 'Smart London' which are to:

+ improve digital connectivity across the city;
+ better use the city's collective data legally, ethically and securely for the benefit of all Londoners;
+ establish set of practical and ethical guidelines for trialling smart city technology;
+ scale Green Tech to ensure that there's a widespread adoption of green innovation through common design, governance and commissioning of smart projects across the city;
+ encourage innovation with high value and status competitions around the Green New Deal or improved mobility;
+ create common digital platforms that will facilitate making, sharing, reusing or buying products and services.

b.75 Where possible, applicants are encouraged to consider how each stage of the planning and development process could support smart city opportunities.

b.76 See also Principle F.12 Smart Buildings.

Further Guidance -

+ PD 8100:2015 - Smart cities overview – Guide
+ Greater London Authority, Smarter London Together

PRINCIPLE B.13: PLANNING FOR SMART CITY INFRASTRUCTURE

+ Developments should consider how the infrastructure may change and need to function in the future and should future proof for additional capacities.
+ Applicants are encouraged to consider how their proposal can facilitate or utilise smart city innovations.

b.77 Resilience allows for developments and buildings to support a wider range of future eventualities. This allows for more adaptability over the long-term which can have positive impacts on resilience to climate-change, economic, health, and social impacts.

LONGEVITY AND ADAPTABILITY OF BUILDINGS

b.78 Designing for resilience will look different in each development & typological context. Development should consider how space capacity, flexibility and adaptability of buildings can be integrated into the design stage to better respond to future change. This may mean avoiding overly prescriptive layouts or the complex interlocking of different uses and functions. Development should use robust long-lived materials and consider how structures, facades, building services and internal fit-outs can be easily repaired or replaced when they reach the end of their life time.

SOCIAL RESILIENCE

b.79 Development should consider how it can facilitate greater social resilience to support residents and more vulnerable members of the community to cope and respond to adverse social, economic or environmental shocks. This could take many forms such supporting the self-help and sharing economy, provision of spaces for community managed activities, communal gardens and urban farming.

CLIMATE CHANGE RESILIENCE

b.80 Buildings need to be constructed robustly in order to be able to withstand potentially extreme weather events such as flooding, high winds, overheating and droughts.

b.81 Development should consider options for reducing the urban heat island effect through landscaping, building orientation, material and architectural detailing, etc. Buildings should be fabricated to minimise heat and cooling loss.

b.82 Each applicant should consider their specific development proposals when determining appropriate site-specific approaches for climate change resilience. For instance, differing roof profiles perform differently in extreme climatic conditions; sloped roofs can perform better in windy conditions and can be built at a pitch and orientation to better capture solar energy though PV panels, but flat roofs can better support biodiverse intensive or extensive green roofs.

b.83 Developments should seek to mitigate their contribution to the on-going Climate Emergency by adopting net zero carbon principles and existing buildings should be refurbished to meet near net zero carbon targets (See Principle B.12 Carbon Impact & Principle B.15 Retrofit).

b.84 Applications for smaller sites, household extensions and shopfronts are encouraged to consider how their design can enhance the longevity and adaptability of the building fabric, contribute to social resilience, and to best adapt to climate change.

+ Development should design for resilience to future changes to user requirements and lifestyles, societal and economic changes, climate change, etc.
+ This should be approached bespokely according to each development typology but could include building using robust materials, avoiding overly prescriptive layouts and building in capacity for future flexibility & change.
+ Net Zero standards should be the aim of all new developments, to avoid future thermal and energy improvement works to be carried out and add to the retrofit burden.

Further Guidance -

+ There's No Place Like Old Homes, Re-use and Recycle to Reduce Carbon, Historic England
+ LETI Climate Emergency Retrofit Guide (2021)
+ Sustainable Traditional Building Alliance, From Retrofit to Regeneration (2021)

Image b.14: Retrofit and upward extension of warehouse in Charlton

b.85 The construction industry's traditional approach to demolish and rebuild from scratch is resource and carbon intensive. According to the Department for the Environment, Food and Rural Affairs (Defra), 62% of the total annual waste generated by the UK is construction and demolition waste. This, coupled with the United Kingdom's 2050 carbon neutrality target, form a clear picture that retrofit of existing building stock is a much more viable way to cut back on emissions and physical waste.

b.86 A building's structure typically accounts for two thirds (or more) of its embodied carbon. Before demolishing, reuse should always be considered to determine if it is a viable option. Reusing/ refurbishing existing buildings will usually save a large amount of potential emissions in comparison to building from new.

b.87 In alignment with the National Design Guide paragraph 47, the sensitive retrofit of existing building stock can add a high quality to a design and help root a development to the place. Adapting heritage buildings and sites adds a richness and depth to a place and is often a more sustainable method of delivering development. However, historic buildings may need different and non-standard interventions to reduce energy consumption and carbon emissions to avoid effects on significance. This should include a comprehensive assessment and understanding of where buildings are currently deficient. Minimal or non-invasive approaches should be the starting point of an iterative strategy.

Further Guidance -

+ There's No Place Like Old Homes, Re-use and Recycle to Reduce Carbon, Historic England
+ Energy Efficiency and Traditional Homes, Historic England (2018)
+ LETI Climate Emergency Retrofit Guide (2021)
+ Sustainable Traditional Building Alliance, From Retrofit to Regeneration (2021)
+ London Councils, Retrofit London Action Plan (2021)

PRINCIPLE B.15: RETROFIT FIRST

+ Before considering wholesale demolition of existing structures, development should consider potential reuse of existing building stock and infrastructure where applicable through sensitive and well-considered re-development. Where applicants propose demolition and new development, they should demonstrate that any opportunities for retrofit have been explored and discounted as a viable alternative to more carbon intensive new development.
+ All retrofit work should follow a bespoke retrofit plan which would take a holistic approach of the existing building(s) by considering the condition of the existing development, identifying the improvement opportunities and carefully detailing the sequencing of the measure to be implemented.

Image b.15: The Officer's House restoration has redeveloped a previously dilapidated Grade II listed barracks building to provide residential units (image of The Officers' House, Royal Arsenal by Allford Hall Monaghan Morris © Timothy Soar)

CHAPTER C

INTENSIFICATION IN ROYAL GREENWICH

C INTENSIFICATION IN ROYAL GREENWICH

Back to document index

Intensification should be approached in a contextual and sensitive manner to ensure that the Borough evolves sustainably. This chapter covers the area types that are best able to support intensification and change based on their character, public transport accessibility, density and other strategic considerations (such opportunity and regeneration objectives).

These are:

+ Brown field sites
+ Town, District and Local Centres
+ Corridors
+ Housing Estates
+ Other Residential Areas
+ Institutional areas
+ Industrial and employment areas, and
+ Bigbox retail areas

DESIGN PRINCIPLES	pg.	DEVELOPMENT TYPE: Large scale comprehensive new development	Large and medium sized urban infill sites	Housing estate renewal	(re)development or adaptation of small urban infill sites or single buildings	Household extensions	Shopfront improvements
C.1 Intensification in the Royal Borough	58	●	●	●	●	●	
C.1.1 Comprehensive Development	60	●	●				
C.1.2 Block Consolidation	61		●	●	●		
C.1.3 Infill Development	62		●		●		
C.1.4 Adaptation and Extensions	63				●	●	
C.1.5 Adding extra floors	64			●	●	●	
C.2 Area-based Intensification Methods	65	●	●	●	●	●	●
C.2.1 Brownfield Sites - Large Transformation Projects	65	●	●				
C.2.2 Corridors	68	●	●	●	●		
C.2.3 Town, District and Local Centres	76	●	●	●	●		●
C.2.4 Postwar Housing Estates	84			●			
C.2.5 Other Residential Areas	92				●	●	
C.2.6 Institutional Areas	98	●	●				
C.2.7 Big Box Stores	100	●	●				
C.2.8 Industrial Areas	102	●	●				

PRINCIPAL INTENSIFICATION APPROACHES

c.1 Land is a scarce resource in London and in the Royal Borough of Greenwich. The London Plan requires all development to make efficient use of land and to optimise development opportunities. The reservoir of large development sites is slowly drying up and increasingly the demand for additional homes and other uses will need to be accommodated by development within the built up urban area. Intensification is the process of making better use of land and buildings within the existing urban fabric.

c.2 The following five different principal approaches for intensification exist:

+ Comprehensive development
+ Block Consolidation
+ Infill Development
+ Adaptation and Extension
+ Upward Extension

c.3 The first part of this chapter (Section C.1 Intensification in the Royal Borough) provides an overview of these principal intensification approaches.

AREA BASED INTENSIFICATION STRATEGIES

c.4 Any development in the Royal Borough needs to respond appropriately to its surrounding context. In some areas opportunities for intensification will be greater than in others, subject to the prevailing type and character of development and its sensitivity to change.

c.5 The Characterisation Study identified and mapped the prevailing character types across Royal Greenwich and assessed their coherence and sensitivity to change (See Principle B.6 Responding to Local Character). Based on this, the second part of this chapter (Section C.2 Area-based Intensification Strategies) explores the potential intensification opportunities that typically can be found in different typological areas within the Royal Borough. This covers the following typological character areas:

+ Brownfield sites - large scale regeneration projects
+ Town, District and Local Centres
+ Corridors
+ Housing Estates
+ Other Residential Areas
+ Institutional areas
+ Industrial and employment areas, and
+ Bigbox retail

c.6 For each area type the document provides general guidance on intensification approaches that may be applicable in common situations. It also cross-references to other relevant principles in this guide that should be considered.

c.7 The purpose of the intensification guidance is to inspire and encourage intensification in places where this is appropriate. They highlight potential solutions, rather than providing firm recommendations for change or the acceptability in principle of a particular type of approach.

c.8 Whether or not a specific approach to intensification is suitable within a typological area and on a particular site will depend on many factors including the sensitivity of the area, the specific immediate and wider context of a site, relevant London Plan and Local Plan policies and other principles established by this document. The appropriateness of a development proposal will need to be considered as part of the development management process through the pre-application process and the submission of a detailed planning application.

Specifically for proposals within conservation areas or their setting, the analysis of significance and sensitivity in the conservation area appraisals provides fundamental elements to understand the type of development suitable for those areas.

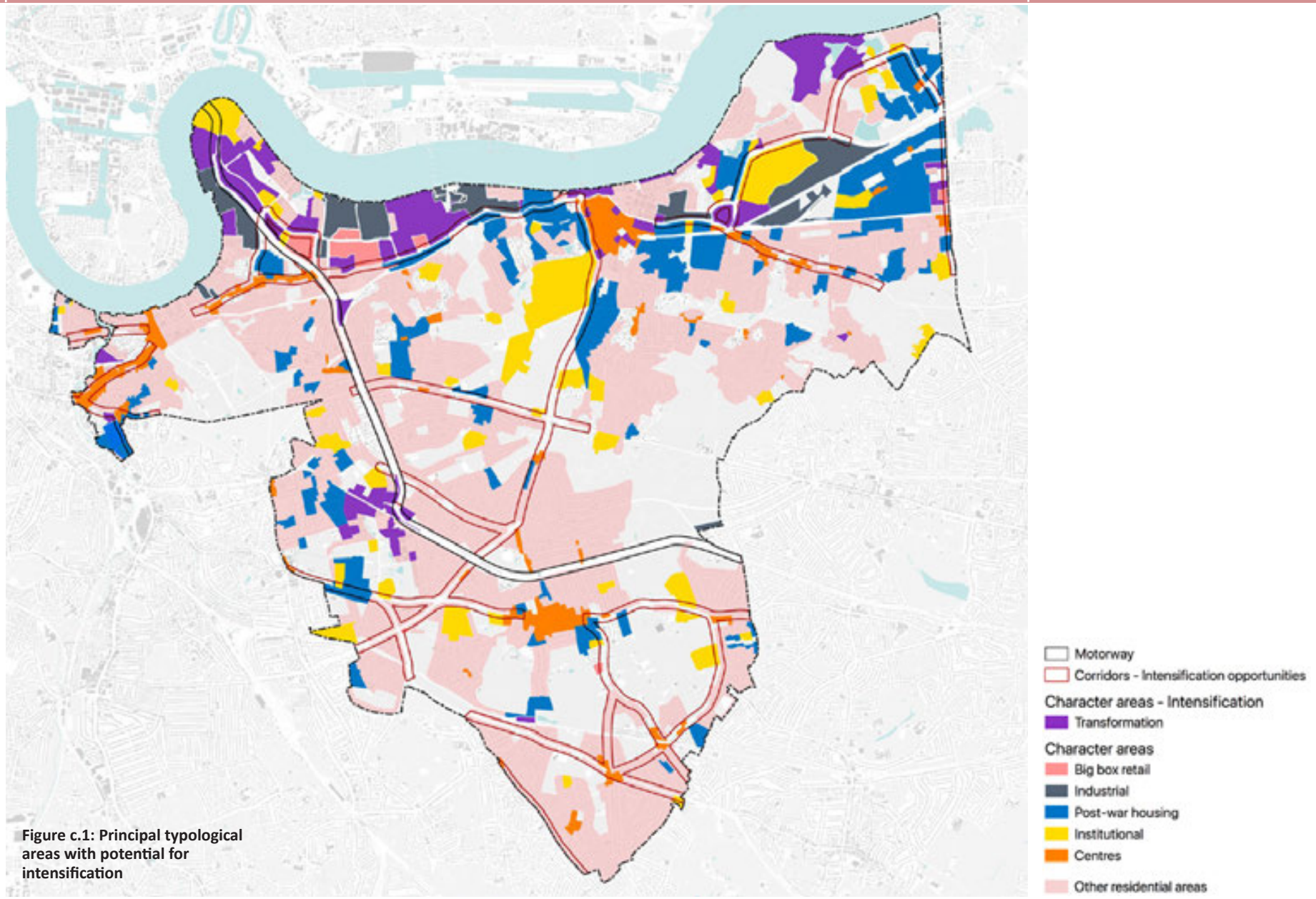


Figure c.1: Principal typological areas with potential for intensification

c.9 Comprehensive development involves the transformative and complete development of a large site and the creation of a new quarter or settlement with its own layout of streets, spaces and buildings.

c.10 This could include the redevelopment of vacant or disused brownfield sites such as former industrial sites, the development of previously undeveloped land (greenfield site), or a development that involves the significant demolishing and restructuring of an area's fabric.

c.11 **Demolishing and rebuilding of the existing built form should only be considered as the last resort when all other avenues for intensification such as block consolidation, infill development and adaptation and extensions have been explored and discounted.**

c.12 Comprehensive development offers an opportunity for place making and the creation of a new place with its own character and identity. Comprehensive developments should be guided by a masterplan approach that properly considers all relevant aspects of this development including its integration and connectedness with its surrounding area.

c.13 Masterplans for large scale comprehensive development projects will need to be produced in close collaboration with the Planning Team of the Royal Borough of Greenwich and through engagement with relevant stakeholders and the community.

Image c.1: Greenwich Peninsula Comprehensive Development

PRINCIPLE C.1: COMPREHENSIVE DEVELOPMENT

+ Large, comprehensive development should be guided by a development masterplan which should set out the spatial and placemaking principles for the site.
+ Comprehensive developments should respond to the conditions of the site and the context. In cases where the surrounding character is weak, there is greater opportunity to establish a new character to help unify fragmented areas. In cases where the surrounding character is strong, the development should respond closely to these characteristics in order to reinforce these features.

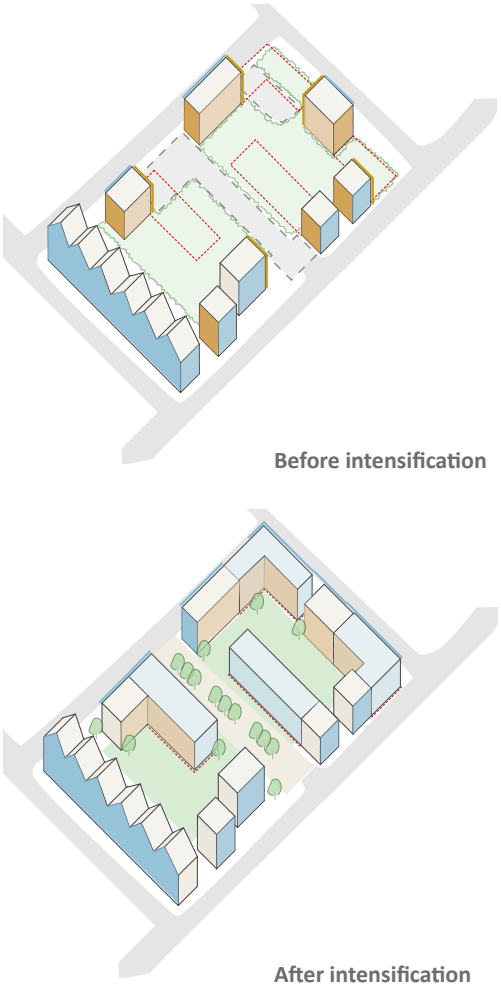


Figure c.2: Block Consolidation Intensification Approach, new development on gap, corner and other leftover sites establish an enhanced urban form

c.14 Block consolidation involves a surgical intervention within the existing developed fabric with the aim to establish a better defined, connected and permeable development with an optimal land-use pattern and a stronger sense of place. It reinterprets existing buildings, structures and open spaces. **It aims to retain and avoid the demolition of buildings where possible**.

c.15 Block consolidation may involve the adaptation and extension of existing buildings, infill development of gap sites, redevelopment of inefficient or poorly sited structures, the comprehensive development of smaller sites and the redefinition of open spaces and the public realm. It usually addresses slightly larger sites that have a degree of fragmentation, are affected by sub-optimal or inefficient layouts or comprise of buildings that poorly relate to their context.

c.16 Block consolidation is highly site and context specific and can bring subtle or more significant change to a locality. It is an effective approach to intensify and enhance a site and support the transitioning of character from an inferior to an improved state. It can be applied in a broad range of contexts, including the regeneration of centres and mixed uses areas, the renewal of housing estates, or the intensification of sites along urban corridors.

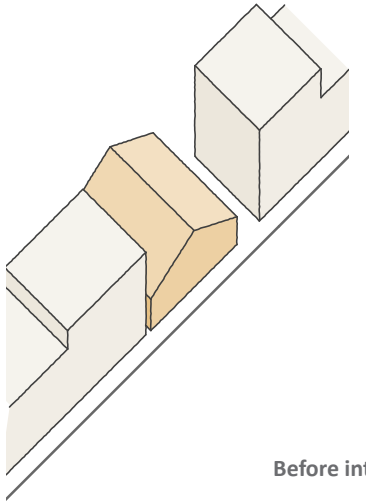
c.17 Block consolidation approaches especially of larger sites should be led by a masterplan approach that establishes the principles of change and how the proposal integrates with and enhances the wider locality.

PRINCIPLE C.1.2: BLOCK CONSOLIDATION

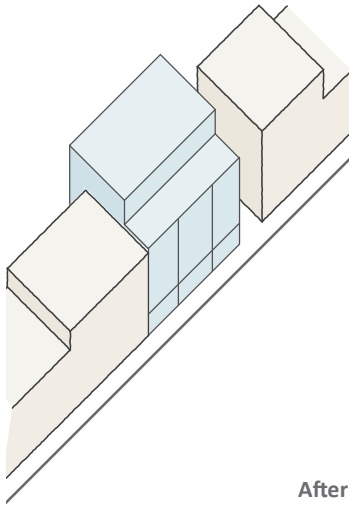
+ Block consolidation should be the preferred approach to intensification and enhancement in built up areas where substantial change is proposed.
+ Block consolidation should be led by a masterplan for the site that sets out the spatial, structuring and place making principles of the development. This should consider the integration and connection of the development with its surroundings; promote an optimal use of land and development; respond appropriately to neighbouring buildings, heritage assets and the existing or emerging townscape character; and establish an enhanced and better defined public realm.
+ Block consolidation, where possible, should avoid the demolition of existing buildings, unless they are inefficient, not suitable for meaningful conversion, poorly sited and stand in the way to delivering a coherent and connected place. Development will need to demonstrate that alternatives have been explored and justify why the demolition is necessary.

Image c.2: Infill Development in Town Centre

c.18 Infill developments seek intensification through the development of incidental spaces or gap sites within the established urban fabric. This may include vacant or underused sites within the built up area. It may also include underused buildings that are not suitable for adaptation, where their redevelopment can deliver an optimal use of the site and contribute to the greater coherence of the area. Infill development should usually be highly contextual interventions, where the development takes cues from the adjoining and surrounding context.



Before intensification



After intensification

Figure c.3: Infill development intensification approach - a vacant or underused site is (re-) developed with a new building that is contextual and sympathetic to its surrounding context

PRINCIPLE C.1.3: INFILL DEVELOPMENT

+ Infill developments should be strongly linked to the character of the place and should support the overall cohesion of the townscape.
+ Typically infill developments should take cues from the surrounding built form in terms of scale, massing, height, building, roof and parapet lines, articulation of the facade, open to solid ratio, materiality and colour spectrum.

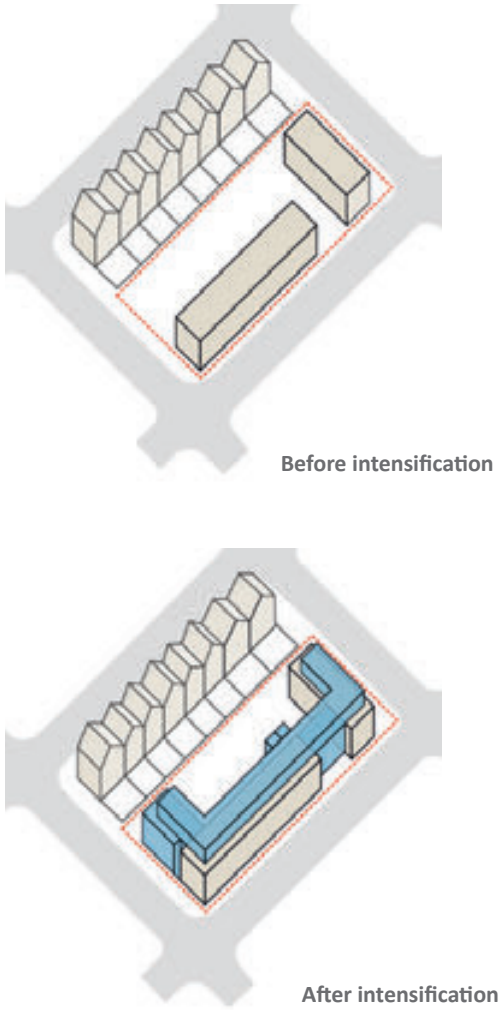


Figure c.4: Adaptation and Extension Intensification Method - existing buildings are joined up and extended to the rear, a new access core is provide and a roof storey is added

c.19 Adaptation and extension involves the modification and enlargement of existing buildings with the aim to deliver enhanced, additional and/or better organised floor space. This may facilitate the expansion of existing functions, adjustments to accommodate changing requirements or to provide entirely for new uses. Principally, it retains a significant portion of the existing fabric, such as the load bearing structure, walls and the roof, whilst adapting and modernising internal arrangements, upgrading building services and renewing the external skin of the building. Often it also involves the extension of the building to the side, rear or with additional storeys.

c.20 This intervention method is commonly applied in older buildings of all scales including historical warehouse buildings, office buildings, flatted accommodation or individual houses. The adaptation and extension of designated and non-designated heritage assets presents additional challenges, which should be addressed through a collaborative pre-application process with the Council.

c.21 In terms of its urban design, the suitability of this intervention type will depend on nature of the proposal, how it affects the external appearance of the building, specifically of parts that can be appreciated from the public realm, and how this change would impact on the quality and coherence of the character of the area.

c.22 In areas with a character that is more sensitive to change, interventions should be undertaken so that they do not undermine the coherence of characterising factors. This may need to respect the common building line, the pattern and rhythm of development, the dimensions of gaps, the scale and bulk of development, roof-form, articulation, facades and materiality of buildings. Often the fronts and sides of buildings will be more sensitive than the rear that is not visible from the street space. In areas with lesser sensitivity, there may be a greater scope for interventions that introduce change, especially where this can deliver an enhanced character with greater consistency.

PRINCIPLE C.1.4: ADAPTATION AND EXTENSIONS

+ Rear, side, or front extensions should be considered in response to an area's coherence and sensitivity of character.
+ In areas with a coherent and sensitive character, proposed development should not undermine the positive characteristics of the area, such as a common building frontage, facade rhythm, etc. In areas with strong character, rear extensions will typically be more appropriate. Care should be taken to minimise impacts on neighbouring properties and their users.
+ In areas with a less coherent character, development is encouraged to strengthen the coherence of a place.
+ Pre-application discussions are necessary where the proposal involves the adaptation of a heritage asset, and they are encouraged for all other development to determine the appropriateness for proposed extensions in individual contexts.

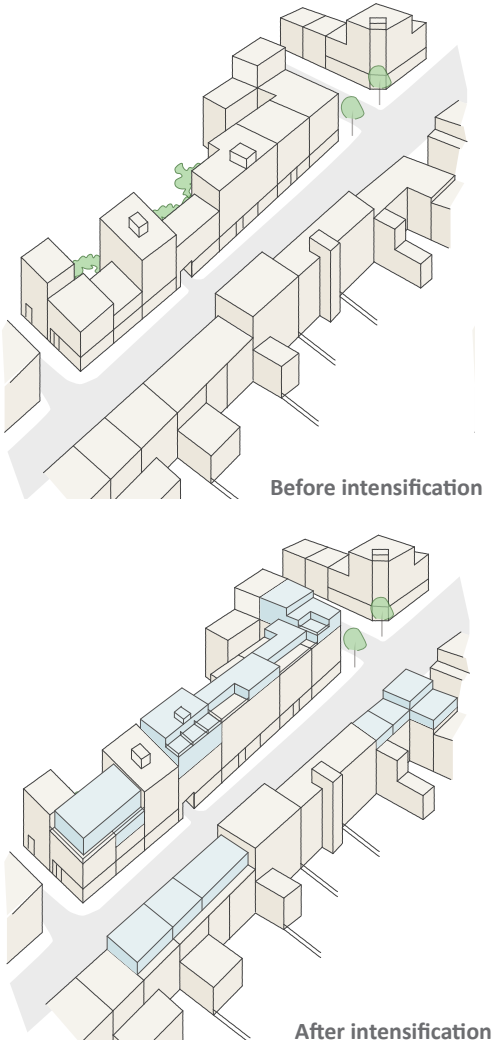


Figure c.5: Additional Floors Intensification Approach - one or more additional floors are added to existing buildings

c.23 This method of intensification involves the creation of additional floors on top or above existing buildings. This may involve the provision of typically one additional habitable floor on top of an existing (usually) flat roof; provided within a converted existing roof or replacing an existing roof structure.

c.24 Upward extension may make use of existing stair and lift cores and other existing services and infrastructures. Subject to the structural capacity of a building it is a comparatively simple means to delivering additional floor space.

c.25 Whilst the footprint of a building that is extended upwards remains largely unchanged, its height is likely to increase (unless when converting existing roof space). The increased building height or the significant alteration of form, bulk and materiality of the roof structure can have adverse effects on the coherence of the roof line, the street enclosure and the character of the surrounding area. This form of intensification is more likely acceptable in areas that have already a variation in heights or roof forms, and that are therefore less sensitive to change. It will be less appropriate in areas sensitive to change and that have consistent building heights and roof forms, and where additional floor(s) would undermine their coherence and quality of the character.

c.26 Adding new floors or roofscapes to existing buildings will need to consider how the architectural integrity of the overall building can be preserved.

c.27 Additional floors should constitute a natural response to the host building. The addition should complement, rather than contrast, with the main building, and create a coherent whole. Top floors feel more natural and have a lesser impact on the street space if they are set back from the building line and overall are sub-ordinate to the body of the building. 'Top-heavy' additions should be avoided.

PRINCIPLE C.1.5: ADDING EXTRA FLOORS

+ Adding one or more additional floors to an existing building may be an effective means of providing additional floor space and contribute to urban intensification.
+ Adding one (or exceptionally more) additional floors to a building should generally only be considered in areas that have already a variety of heights and roof forms, and where their character is less sensitive to change.
+ In places that have consistent building heights and roof forms, additional floor(s) that change the building form, height and massing and the roof line and appearance can have an adverse effect on the coherence and quality of the character of the area and should be avoided.
+ Additional floors, whether additions on top of existing buildings or integrated with existing roof structures, should preserve and enhance the architectural integrity of the building as a whole and the balance between its parts.
+ Pre-application discussions are encouraged to determine the appropriateness for upward extension in individual contexts.

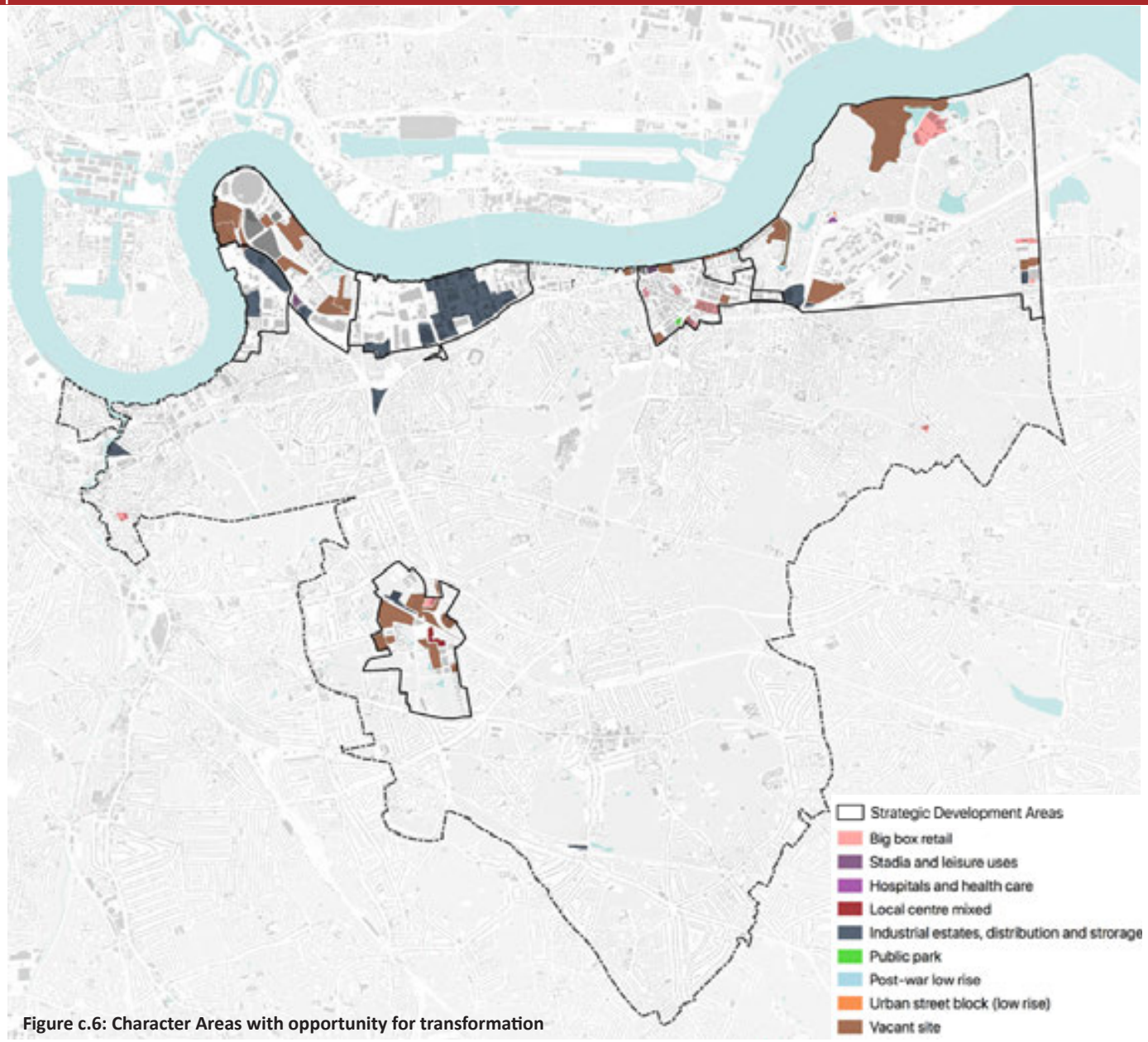


Figure c.6: Character Areas with opportunity for transformation

CONTEXT

c.28 The Royal Borough of Greenwich has a number of strategic brownfield regeneration sites. These include the Greenwich Peninsula, Kidbrooke Village and the Thamesmead Opportunity area. Figure c.6 shows areas identified by the characterisation study as having potential for transformation. There are potential other sites, such as the former military lands that may come forward for development.

OBJECTIVES

c.29 Any new large scale development site coming forward in The Royal Borough of Greenwich should be comprehensively developed with a mix and density of uses appropriate for the context and character of its location and its accessibility to public transport and local facilities. It should develop into a place with a strong character and a distinct identity of its own, while creating a legible transition with the surrounding context, including areas with strong, established character such as conservation areas. Residential provision should provide a mix of unit sizes and tenures to support a broad cross section of society and provide for the specific needs of different age and income groups,

Image c.3: Comprehensive Development: Greenwich Millenium Village

including young and elderly residents. Development should be supported at a local level where possible by the necessary green, provide a mix of unit sizes and tenures and supported by adequate transport, green, social, health and technical infrastructures.

c.30 The potential correlation between areas designated as brownfield and archaeological potential should be carefully assessed at the early strategic stage of the development process.

INTENSIFICATION APPROACH

Comprehensive Development

c.31 Large regeneration sites should always be brought forward through a comprehensive development approach. Piecemeal and uncoordinated development (even if this includes larger independent development sites) should not be permitted without an overarching longer-term masterplan that coordinates development in the entire area.

PRINCIPLE C.2.1: CREATING A MASTERPLAN

+ The development of large brownfield or transformation areas should be led by a comprehensive masterplan or development framework.
+ The masterplan should be prepared before the development of detailed proposals through close engagement with the local authority and in a collaborative spirit.
+ The masterplan should:
  + Understand and respond to the London and The Royal Borough planning policy context and consider any site specific supplementary guidance that may apply to the site.
  + Understand and respond to all strategic site considerations set out in Chapter B (B.1-B.12).
  + Establish a vision through engagement with relevant stakeholders and the local community (Section D.1.1) that sets out what kind of place will be developed, stating principal design and development objectives, the benefits the development will deliver to local people and how the development responds and integrates with its surrounding environment.
  + Set out the principal approach and layout of development (Section D.1.2) including the hierarchy of routes and spaces (Section D.1.3), distribution of land uses (Section D.1.4), density of development (Section B.5), scale and massing of development (Section D.1.5) and elements that will enhance legibility and contribute to the area's identity (Section D.1.6)
  + Establish clear design parameters for the pattern of development (Section D.2), access and movement (Section D.3), the definition of street spaces (Section E.1 & Section E.2), the approach to public spaces and the public realm (Section E.3), and the delivery of community infrastructures.
  + Establish strategic guiding principles that will govern the design of individual buildings and schemes within the masterplan area in reference to design principles set out in Chapter F – Building Design and Chapter G – Residential Amenity and Wellbeing.
  + Where beneficial, undertake the development of a design code that covers public realm and building design in the masterplan area.
+ The masterplan or development framework will need to be given weight in the planning process to ensure its relevance for development coming forward in the area. This could take the form of a Local Plan Policy, Supplementary Planning Guidance, Local Development Order or an Outline Planning Permission. The appropriate strategy should be discussed and agreed with the Planning Authority.

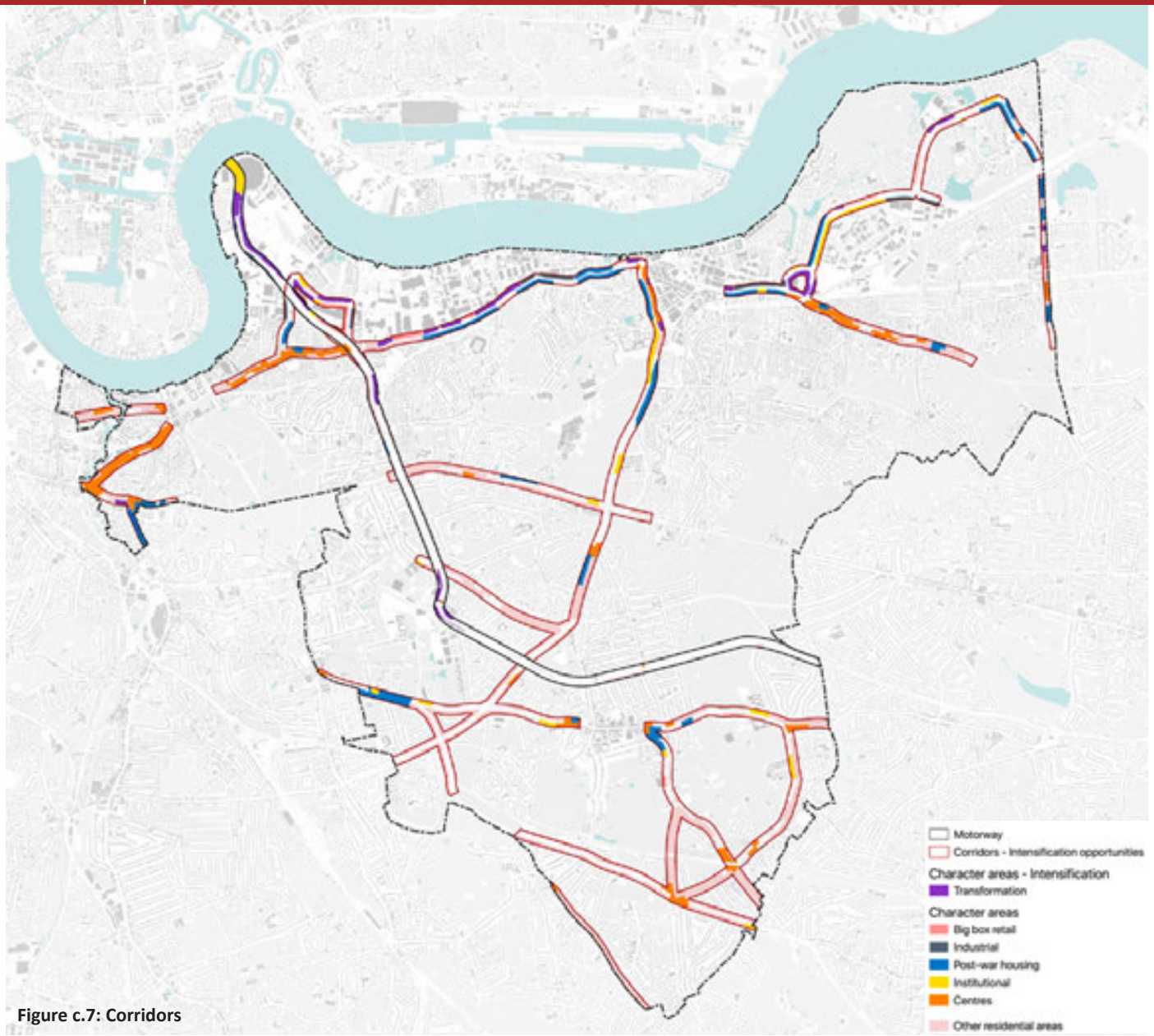


Figure c.7: Corridors

CONTEXT

c.32 Two types of corridors are identified in Greenwich, motorway grade corridors, and urban road corridors.

Motorway grade corridors

c.33 The motorway grade corridor is identified in Figure c.7 and principally comprises of the Blackwall Tunnel Southern Approach and the southern section of the A2. Once completed, the Silvertown Tunnel will add to the existing infrastructure. The motorway grade corridor is segregated from the street network and runs partly elevated, in a cutting or at grade bounded by green margins. Given its strategic transport function there is little scope for change to the nature of the corridor or opportunity for development alongside.

Urban Road Corridors

c.34 Royal Greenwich comprises of a number of strategic road corridors which channel significant traffic through the borough. Development alongside corridors is generally affected by the impacts of traffic, noise and air pollution, and often suffers from the lack of a quality public realm.

c.35 Frequently buildings along urban road corridors are of low value and have been affected by disinvestment, lack of repair and neglect, which contribute to a poor appearance of a corridor and detract from the character of the borough. Nevertheless, low property values along corridors may offer an opportunity for intensification, as they make it easier for sites to be assembled for new development.

c.36 The majority of urban road corridors follow historic routes. They are often the most direct connections across the Royal Borough. Beside their strategic vehicular movement function they provide important local routes for walking and cycling, a role, which they often poorly facilitate.

c.37 However, changing travel patterns, technological improvements and policy responses to climate change are likely to result in reduced traffic flows, lower speeds and lesser air and noise pollution along corridors in the future. This opens the prospect for re-envisaging urban road corridors as multimodal routes with a quality environment and development that appropriately defines and encloses the streetspace and makes appropriate use of the higher accessibility and visibility on the corridor.

c.38 The principle aim for urban road corridors is to transform them into quality boulevards with tree planting, and appropriate facilities for cycling and walking. This will be the responsibility of the Mayor and the Royal Borough of Greenwich. As the quality of corridors generally improves, sites alongside will become more attractive for development and intensification with more intense forms of urban development that can benefit from the greater accessibility. This could incorporate or replace lower value uses and establish development of a scale, form and mix of uses that more appropriately encloses and responds to the higher order connecting role of a corridor.

Image c.4: Example of Motorway Grade Corridor: Blackwall Tunnel Southern Approach

Image c.5: Example of Urban Road Corridor: Woolwich Road (credit Google Street View)

Image c.6: Example of Urban Boulevard: Parkside Road, Greenwich Peninsula (credit Google Street View)

OBJECTIVES

c.39 To transform poor quality and traffic dominated corridors into urban boulevards with a quality environment, appropriate definition and enclosure and a mix of uses that makes optimal use of land.

INTENSIFICATION APPROACHES

Motorway grade corridors

c.40 Given their perpetual strategic movement function and traffic impact there are unlikely to be more than a few opportunities for development alongside motorway grade corridors, principally at interchanges or where separate parallel access streets serve development. No development should be proposed in places where it would take away from or dilute the existing green buffer along the corridor.

c.41 Development in the vicinity of a motorway corridor will need to be designed to respond to its specific location and the impacts of the corridor. Buildings should positively respond to their visibility from the corridor, for example by providing attractive facades in the upper floors that address the

corridor. Development should further ensure that buildings, outdoor spaces and access routes are adequately protected from noise and air pollution. Sound barriers along the corridor should be installed where significant residential development is proposed to reduce the noise impact on residential amenity.

Urban Road Corridors

c.42 Urban Road Corridors offer a significant reservoir for intensification in Royal Greenwich. Development along urban road corridors will not only make more efficient use of land but can also address shortcomings of the current built form, for example by providing positive frontages and a scale and mix of uses that respond more appropriately to the character and accessibility of the corridor.

c.43 The opportunity for intensification along corridors will depend on many factors. These include: the environmental quality and the resultant suitability for certain types of uses, such as new homes; how well (or not) existing development responds to the corridor environment; the availability of suitable development sites or properties that lend themselves for intensification; and, the coherence and sensitivity to change of adjoining character areas.

c.44 Urban Road Corridors often form the interface of different typological character areas and the design of the road environment itself is their primary defining characteristic. In order to understand the opportunity for intensification along a corridor one needs to consider the level of coherence of existing character typologies alongside, together with the contribution they make to the character of the corridor itself. Corridors that have little overall coherence in their built form will offer more opportunities for change than corridors where the built form is consistent on both sides. Along many urban road corridors the transition of character is not just possible, but also often desirable.

c.45 Corridors may present opportunities for more radical interventions that divert from the existing pattern of development and bring forward different typological solutions with greater massing and increased height.

c.46 However, where change happens in a piecemeal and haphazard way this could result in greater fragmentation of the corridor environment. This should be avoided. The scope for intensification approaches will depend on the pattern of ownerships and the extent to which transformative change can be implemented in a coherent way along the corridor.

c.47 The scope for more radical diversion from established pattern of development is likely to be greater where a larger section of the corridor frontage is transformed or where a coordinated development approach can be ensured for example through corridor specific planning guidance. Where development is likely to come forward incrementally on individual small sites, the opportunity for a more radical departure from existing pattern is likely limited to more modest and contextual approaches.

c.48 In any case, new development on a corridor should respond sensitively to existing buildings that remain in the interim and avoid any stark and demeaning contrast in form and height.

c.49 Principally, the following three conditions along corridors have been identified, that provide opportunities for intensification subject to the wider characteristics and sensitivity of the area:

+ Vacant or underused sites for redevelopment
+ Terraced condition
+ Suburban corridor condition

Image c.7: Example of poor quality terraced condition: Plumstead Road (credit Google Street View)

Terraced condition

c.51 Continuous development frontages in form of terraced houses or mixed use buildings may historically have been a feature of the street before it became a strategic road corridor. In these cases buildings are often situated relatively close to the carriageway, are adversely affected by the impact of traffic and provide poor quality accommodation for residents and businesses.

c.52 Underused and poorly maintained terraced buildings on corridors may offer an opportunity for redevelopment with buildings of a more appropriate scale and architecture that will respond better to the corridor condition, and that provide quality accommodation and amenities to users and residents. **However, demolition of existing buildings should only be undertaken when they are clearly preferable in design and conservation terms to other forms of interventions, such as retrofit, adaptation and extensions, and where they reinforce or enhance the existing or emerging character of the corridor.**

c.53 The delivery of a larger and more appropriate corridor building is likely to require the assembly of a number of adjoining terraced sites. Development, where possible, should include an end-of terrace building to establish a better defined corner condition.

c.54 New development will need to carefully respond to its adjoining context and avoid stark contrasts in height, privacy, day and sun-light impacts. The building line of new development may need to be set back from the carriage way to provide more breathing space for ground floor uses, wider footways and to avoid undue enclosure of the corridor from increased building height.

c.55 Other interventions in terraced conditions along corridors may include the adaptation and extension of existing buildings including the provision of additional floors where this supports a more coherent character.

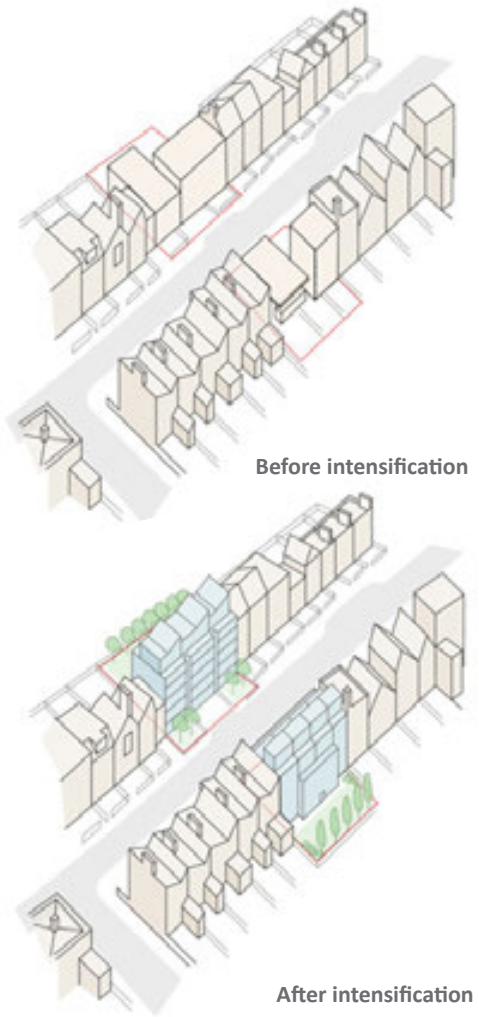


Figure c.8: Example Terraced Corridor Condition: retrofit / redevelopment of underused and poor quality premisses with buildings of appropriate scale and use

Vacant or underused sites for redevelopment

c.50 These may be former industrial, retail, institutional or other surplus lands along a corridor that come forward for redevelopment. Here the infill, block consolidation or comprehensive development approach should be followed subject to the site's size and condition. Generally new development should deliver multi-storey buildings that front onto the corridor and adequately define and enclose the street space. With their height and massing they will need to respond appropriately to the existing and emerging character of the corridor. On larger sites there may be opportunity to develop secondary development and amenity spaces to the rear. Buildings should generally be sited parallel and alongside the corridor, rather than perpendicular, to create continuous definition and overlooking. Regular breaks in the frontage can provide visual links with areas to the rear and with its rhythm provide interest.

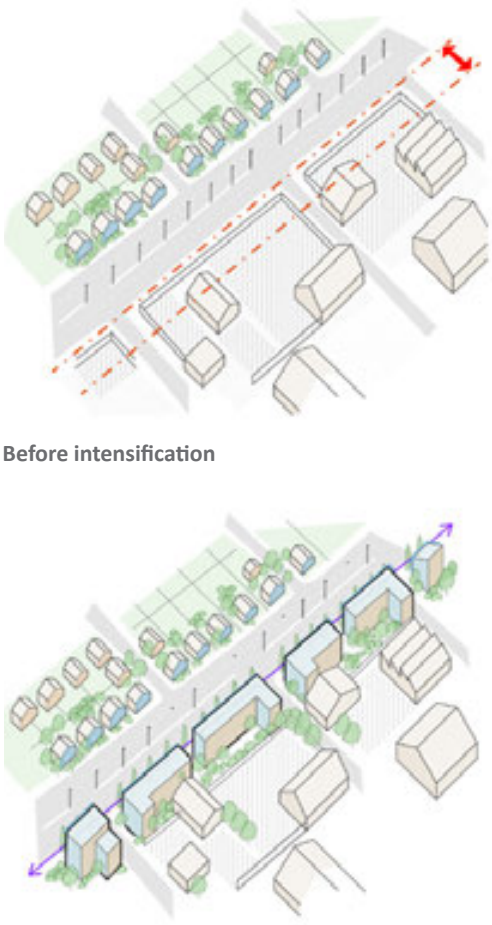


Figure c.9: Example Corridor Intensification: creating an urban frontage along the edge of an industrial area

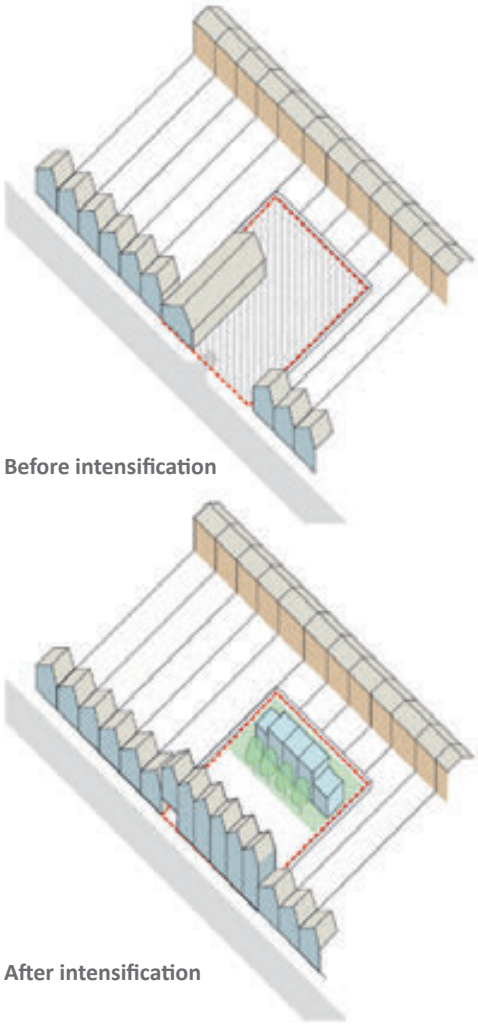


Figure c.10: Example Corridor Intensification: redeveloping a larger site with an urban frontage and secondary development to the rear

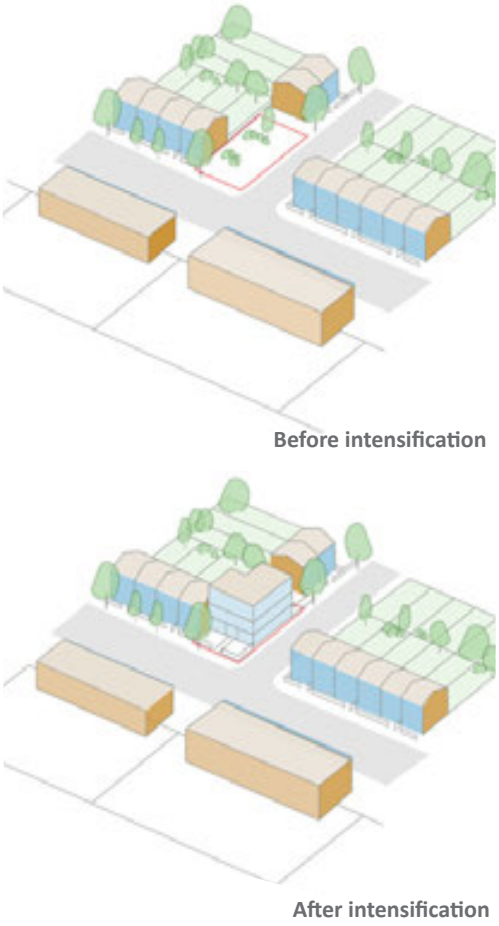


Figure c.11: Example Corridor Intensification: Redeveloping a vacant corner plot with a mixed use building that creates an appropriate frontage towards the corridor and turns the corner to respond to the existing context in the side street.

Image c.8: Example of sub-urban corridor condition: A20 Sidcup Road (credit Google Street View)

Sub-urban corridor condition

c.56 In the south of the borough there are a number of large corridors constructed as part of inter-war sub-urban development. Often they are characterised by wide street profiles with semi-detached houses or short runs of terraces that are set back from the footway behind generous front gardens, now often replaced with extensive forecourt parking areas. Whilst typically relatively coherent in their character and built form, these corridors do not represent an efficient use of space and some of the housing that fronts the corridor is poorly maintained and of low quality.

c.57 In areas that are less sensitive to change, there may be an opportunity for intensification through the selective redevelopment of at least two or more adjoining detached houses (or an entire run of a terrace) with apartment or mixed use buildings. This could further involve the development of smaller scale buildings and amenity spaces to the rear.

c.58 As it is replicated along the corridor this type of intervention over time will transform the character of the corridor. Individual proposals will need to be carefully designed to avoid detracting from the quality and character by harming its form, continuity and overall coherence, creating stark contrasts with neighbouring properties or unduly affecting the privacy of adjoining garden spaces.

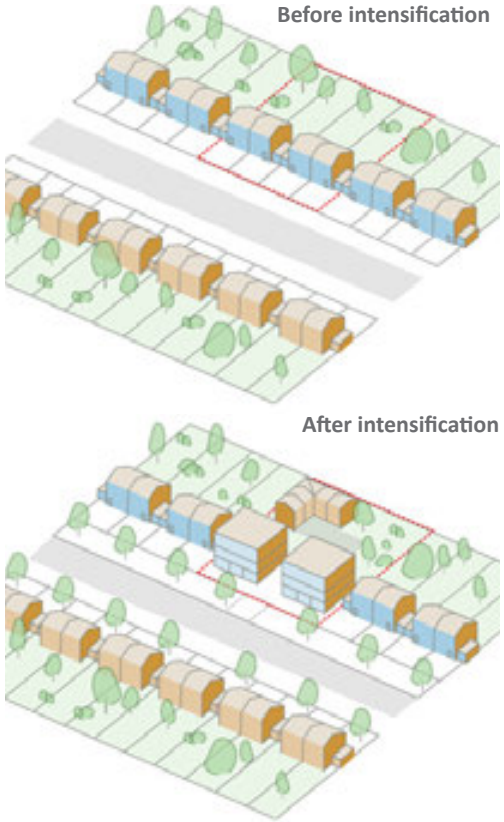


Figure c.14: Example sub-urban corridor condition: Four semi-detached houses redeveloped with apartment buildings on corridor and smaller development to the rear

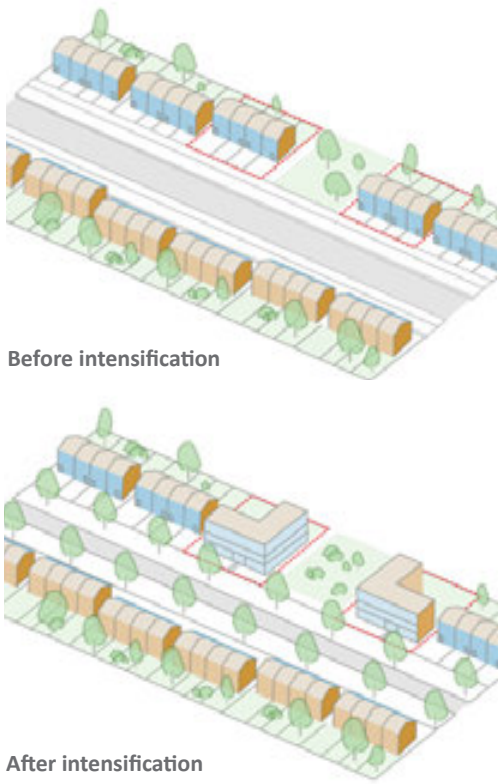


Figure c.15: Example sub-urban corridor condition: Terrace of suburban houses redeveloped with larger apartment building that turns corner and provides overlooking to public space

PRINCIPLE C.2.2: CORRIDORS

+ New development along a corridor should be of a scale and massing that is proportionate to the street space. Where appropriate it can set a new benchmark for development along a corridor, but it should avoid creating an overly stark contrast and a demeaning impact on existing remaining development. (Principle D.1.5 Scale and Massing)
+ The appropriateness for new development to increase height above the prevailing height will depend on the character of the corridor and surrounding areas. In more coherent character areas, a height increase of one storey may be acceptable, whilst in areas that have a less coherent character with a more varied height scape an increase of height of two storeys above the prevailing building height of remaining buildings may be acceptable. (Principle F.2 Building Height)
+ On urban road corridors the building line of new development should not normally be less than 5m from the back of the footway. In places where the common building line is less than 5m from the back of the footway it may be required to move the building line of new development further away to deliver an adequate distance and a better relation between the development and the street space. On corridors that are wide and poorly enclosed, and where development sits further away than 5m from the back of the footway, the building line may be required to move towards the street to make adequate use of land. In deciding the appropriate new building line for development, consideration should be given to the existing building line, the pattern and balance of development, the likelihood that change will come forward on similar sites along the corridor, the future desirable level of enclosure, as well the need for the intensification of underused land in this location. In character areas with lesser sensitivity to change a greater variation of development along a corridor might be acceptable, whilst this will be less acceptable in areas that are highly sensitive to change. (Principle F.6 Frontages).
+ New development along the corridor should use the articulation of the massing, façade and roof form and recesses from the building line to create a built form that sympathetically responds to the pattern, rhythm and intervals of existing development along the corridor, especially where this is very coherent and regular. (Principle F.5 Building Line).
+ The ability to deliver new development of greater height and massing along a corridor will depend on the size of the site, its frontage length and relation to adjoining development. Individual small sites such as single terraced houses or the half of a detached property are not eligible for an increased height approach. Site assembly of adjoining smaller sites should be undertaken to obtain a sufficiently large site to accommodate a building of greater scale. Assemblage of a terrace should generally include a corner building. Semi-detached housing or other shorter terraces of houses should always include the entirety of a building unit.
+ Early pre-application discussion with the local authority should be held when proposing block consolidation or any other larger development along a corridor to ensure that the future role of the corridor and any planning or development constraints are properly understood from the outset, and the approach can be appropriately guided by the local authority.

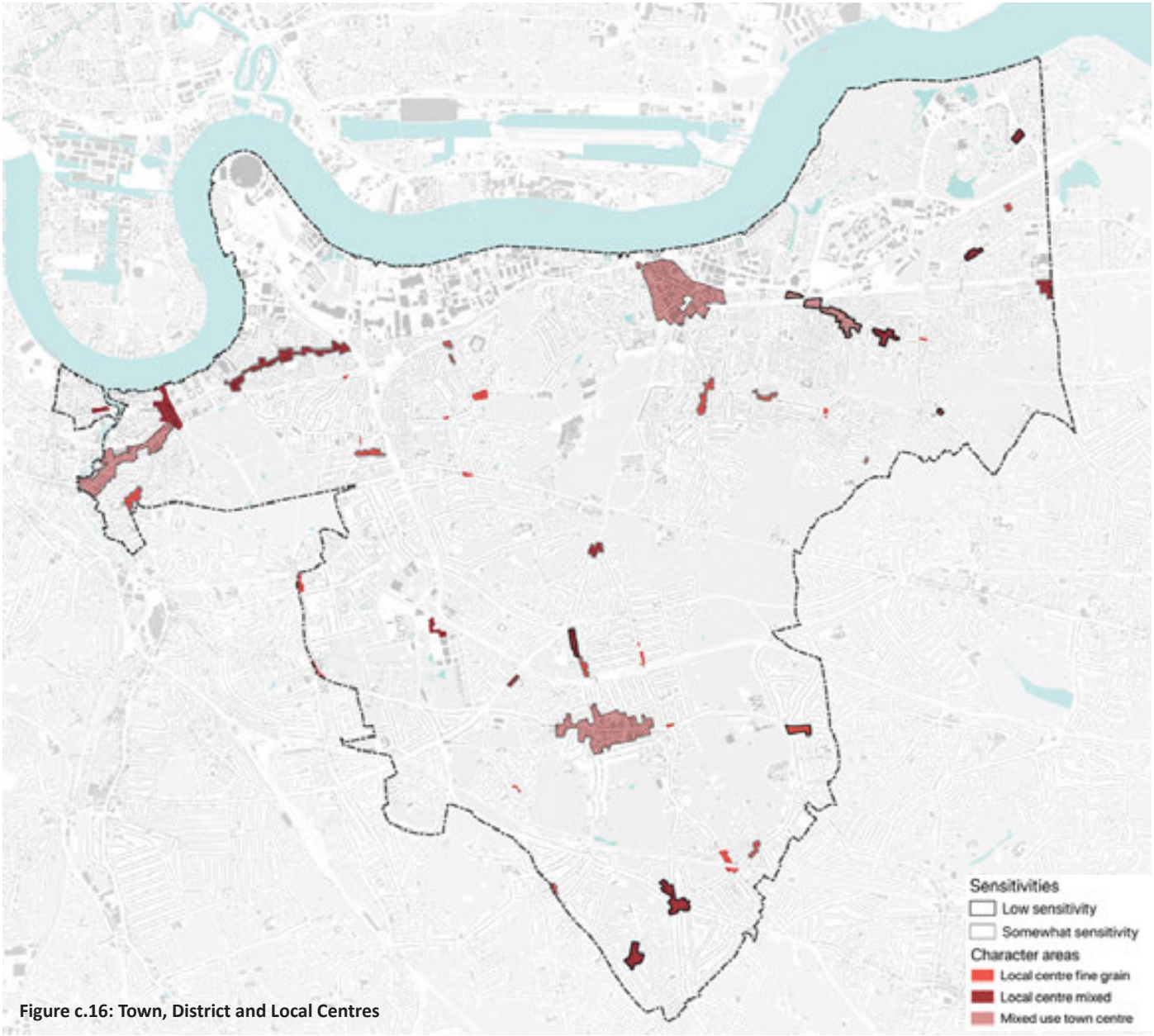


Figure c.16: Town, District and Local Centres

CONTEXT

c.59 The Royal Borough includes the larger town centres of Greenwich, Woolwich and Eltham and a number of smaller centres and local high streets. The Royal Borough Characterisation Study has identified three different types of centre characters:

+ mixed town centres;
+ mixed local centres; and,
+ fine grain local centres.

c.60 Mixed town and local centres are typically characterised by a variation in built form and quality of development. They offer opportunities for development, enhancement and intensification. Fine grain local centres have a coherent built form, commonly in the form of terraced or village centres like high streets.

c.61 Centres more than other urban areas have been affected by changes in consumption and lifestyle patterns. Larger town centres with comparison retail tend to struggle more due to demise of national retail chains, online shopping, whilst smaller centres with a local convenience function and ample catchment have usually retained their local footfall and in some instances increased their offer.

c.62 Each of the main three town centres in the Royal Borough are the main service centre for a sizable residential hinterland and therefore have been somewhat protected from the impact of wider retail changes. Greenwich due to its tourism focus in the wider London context has generally fared better, and so did Eltham due to its smaller size and limited mainstream retail offer. Woolwich is most affected by these changes.

c.63 Whilst in the past centres were principally focused around retail, the current trend is for the provision of a broader mix of uses, including convenience, specialist and independent shops; service, leisure and cutural uses; cafes, bars, restaurants and take-aways; and the provision of public spaces to meet and hang-out. Attractive town centres have become desirable places to live especially for younger urban professionals. In addition there is a continuing demand for town centre employment in form of managed workspace and local trades and services.

c.64 Changing centre roles and demand profiles have lead to a re-evaluation of existing sites and buildings within urban centres. In the last decade urban centres have seen an increased demand for residential intensification, making better use of floors above retail, the retrofit of older properties, conversion of office buildings and the redevelopment of underused sites. This trend is likely to continue.

c.65 Urban centres are usually situated in places that benefit from greater public transport accessibility and good connectivity with their immediate hinterland. As such they are naturally well placed to support higher density development and intensification.

c.66 However, many urban centres, and especially the three main town centres in the Royal Borough, are historic places and comprise of heritage assets and strong townscape characteristics that contribute to their unique identity. New development will need to respond sensitively and be contextual to valued townscape characteristics and heritage assets to preserve and enhance their sense of place.

Image c.9: Woolwich town centre, redeveloped frontage on Victory Parade

Image c.10: Woolwich town centre, Powis Street

Image c.11: Development of a contemporary high-street frontage (Islington)

OBJECTIVES

c.67 The development objectives for development in urban centres are to strengthen their vitality and diversity, to support existing and emerging uses, and to make optimal use of land and intensify underutilised sites.

c.68 Development should aim to enrich the quality, amenity and experience offered by an urban centre and create inviting, inclusive, diverse and enjoyable environments for people.

c.69 Development should preserve and enhance heritage assets and valued townscape characteristics, strengthen the distinctiveness of urban centres and foster in each a unique sense of place.

INTENSIFICATION APPROACHES

c.70 Urban centres differ from each other in many ways and there is no one-size-fits-all solution to their intensification. Generally the entire range of intensification approaches may be applied in urban centres subject to the specific context and the sensitivity of their character.

c.71 Given their complexity and higher levels of heritage and townscape sensitivity, change in the three main town centres as well as Royal Greenwich's district centres should be guided by specific development and design frameworks for the entire centre produced by the Local Authority. Supplementary Guidance documents already exist for some of the borough's primary centres, including the Woolwich Town Centre Masterplan SPD (2012), Eltham Town Centre SPD (2012), and Greenwich Town Centre SPD (suite of planning guidance).

c.72 Proposals for major development in urban centres, especially where it involves the departure from the prevailing height and massing context and / or structural changes to the centre, should be led and guided by a masterplan for the site. This should consider the integration and positive contribution of development to the wider urban centre context. It should be developed in collaboration with or by the Local Authority.

c.73 In the absence of a coherently guiding framework or masterplan, development would be expected to respond contextually to its surroundings, taking cues from the existing urban fabric on the urban grain, heights, building lines and other aspects.

c.74 A wide range of intensification approaches may be suitable in urban centres. These are set out on the following pages.

Image c.12: Royal Arsenal Development effectively used Block Consolidation to intensify the site

Block Consolidation

c.75 This may apply where a larger development site or an entire street block comes forward for development. Development here should be guided by a masterplan that addresses the site comprehensively and responds to the wider context such as the character and land uses of the surroundings.

c.76 Generally this approach should seek to repair and enhance the urban fabric and increase permeability and improve connectivity for walking and cycling of the centre with its hinterland.

c.77 Subject to the size of the site and its context, development should either strengthen the existing character, or establish a new place with its own distinct character and sense of place that complements the urban centre.

Infill development

c.78 Given the typically fine grain development pattern, infill or selective redevelopment of individual smaller sites is a very common form of change in urban centres. This may involve gap or leftover sites that have never been developed or cleared in the past, or the redevelopment of low quality, underused or poorly maintained properties, that detract from the overall quality and character of the urban centre.

c.79 Infill development is primarily a form of 'urban repair' that re-establishes missing frontages in the urban fabric, better defines corners and street spaces. Infill development will generally be expected to take cues from its adjoining context and integrate well with the overall character of a street space or area.

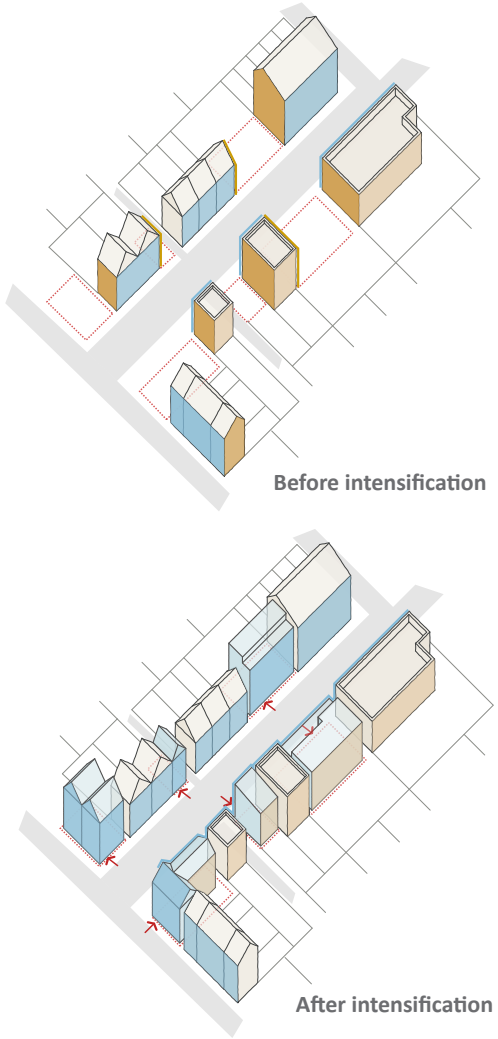


Figure c.17: Intensification: Infill Development on gap and corner sites, establishing a better defined and enclosed street space

Image c.13: The Angel Building in Angel, London successfully adapted and extended an existing building structure to deliver a contextual intensification on the site (image of The Angel Building by Allford Hall Monaghan Morris © Timothy Soar)

Adaptations and extensions

c.80 The retrofit of older buildings in urban centres often requires their internal modification but also rear or roof extension to provide spaces that are fit for purpose and viable. The reuse and adaptation of existing structures should always be considered before demolition and rebuild.

c.81 In areas that are more sensitive to change the interventions within an existing building may be limited to the interior and rear of a building, whilst the characteristics of the building front, side and roofscapes facing the street may need to be retained.

c.82 Where an existing building detract from the character of an area, stripping it back to its structure may offer an opportunity to deliver a new facade that better responds to and integrates with the grain, proportions and materiality of adjoining buildings and the wider area. This may apply to many older buildings in the centre that are targeted for development.

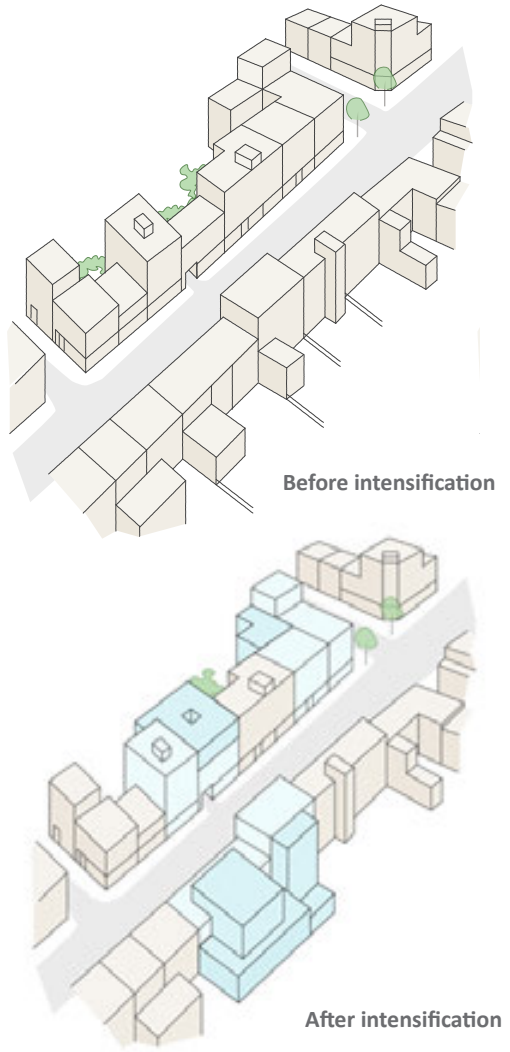


Figure c.18: Intensification: Adaptations and Extensions of existing buildings to the rear and on top

Image c.14: Standard Hotel, London (image of the Standard Hotel by Orms Designers + Architects © Timothy Soar)

Additional floors

c.83 The retrofit of older buildings may offer an opportunity for upward extension. This could deliver additional floor space and help intensify the centre. It also may be a means to generate funds to support the modernisation and upkeep of an existing building.

c.84 Where the character of a centre is less sensitive to change there may be an opportunity to increase the height of development by one or (exceptionally) more additional floors, subject to responding appropriately to the street scene and character of the area. Additional height is often less intrusive if it is integrated in a common roof structure or set back behind the parapet height away from view from the street space.

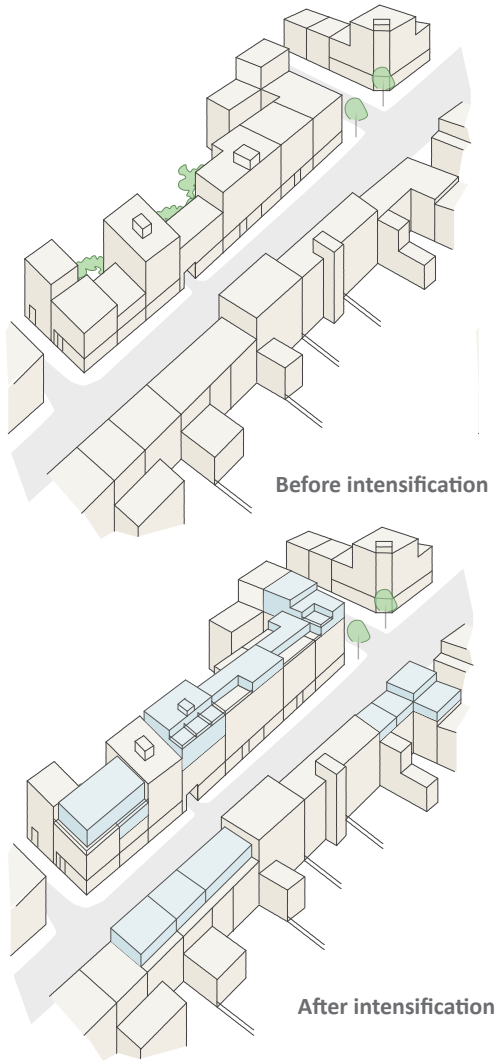


Figure c.19: Intensification: Additional Floors added to top of buildings

PRINCIPLE C.2.3: INTENSIFICATION IN URBAN CENTRES

Character and grain

+ The distinctiveness and sense of place is one of the greatest assets of an urban centre – development should always respond to and strengthen any positive prevailing townscape characteristics. In centres with weak characters it should contribute to place making.
+ Each centre is different and therefore requires location specific and tailored responses by development. One-fits-all solutions with a bland or uniform design that fail to respond to a centre's specific character will not be acceptable (refer to Principle B.6 Local Character).
+ A fine urban grain of individual buildings that join up to a coherent street front is a common townscape feature in many centres in Royal Greenwich. New development should generally bring forward a fine urban grain, that responds to the prevailing pattern of development and the rhythm of existing buildings and façades (refer to Principle E.2 Street Types and Enclosure & Principle F.5 Building Line) .
+ Major projects require a masterplan that is routed in the understanding of the centre and its history, and demonstrates how the proposed scheme will integrate with, enhance and complement the centre. As a minimum this should consider the type and location of uses, the built form, character and distinctiveness, heritage assets, the provision of public spaces and the delivery of a quality public realm. The reuse, adaptation and integration of existing structures should take precedence over their demolition and re-development. Existing natural features and trees should be retained where possible.
+ Infill development should take cues from the pattern and grain of development, the scale and format of facades, fenestration pattern, parapet heights at the street front, prevailing roof forms and the common palette of materials to ensure the proposed development integrates well with its neighbours.

Mix of uses

+ Development in urban centres should generally provide a mix of uses. Where they benefit from greater levels of footfall, ground floors should facilitate the provision of active uses, such as shops or work spaces.
+ Residential ground floor use should only be considered in quieter streets and peripheral parts of a centre, or where raised floor levels or an appropriate interface can ensure adequate privacy of residential accommodation.

Height

+ In areas that are highly sensitive to change, the height of new development should mirror the existing height context. In well contained streets a defining character feature is often the coherent height of a building on the street frontage, and visible aspects of the roofscape. In some instances it may be possible to increase the height of a building by one storey (or in exceptional cases more) if it can be demonstrated that the additional storeys will not be visible from the street space and do not have significant impacts on views.
+ Projects that propose to significantly increase heights above the prevailing heights should be led by a masterplan that demonstrates how the development responds to its context, preserves and enhances valued townscape characteristics, and avoids adverse impacts on heritage assets and views. This will need to be prepared in collaboration with the Local Authority.
+ Given the generally constrained nature of sites in urban centres, development should consider and appropriate mitigate its impact on the privacy and amenity of existing and new residents.

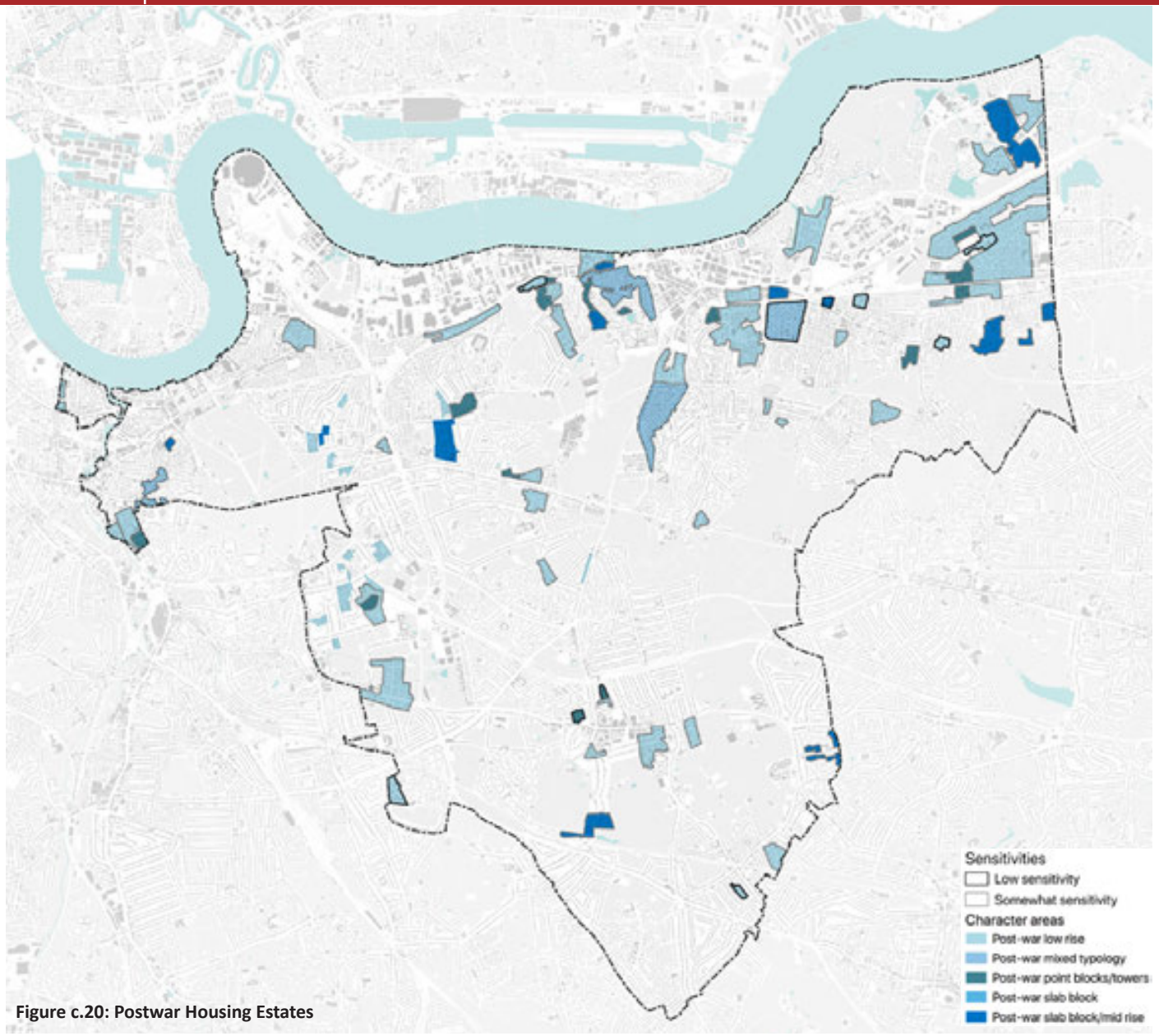


Figure c.20: Postwar Housing Estates

CONTEXT

c.85 During the post-war period significant public housing was built in Royal Greenwich with the aim to provide better homes for people in need who often lived in squalid conditions. Estate developments were progressed on clearance sites of sub-standard tenement housing and World War II bomb damage sites, but also on open lands, such as the former marshland site that became to be Thamesmead. Many developments embraced modernist housing ideas, exploring new typologies with clean, bright and innovative new homes.

c.86 Post-war housing moved away from the conventional development model of urban blocks subdivided into independent plots, with buildings fronting onto the street space. Instead it favoured experimental new layouts that often separated vehicular and pedestrian movements, created large scale regular and monolithic structures, and placed buildings with space flowing around them.

c.87 Many Post-War Estates display an inward looking bespoke self-referencing arrangement of buildings and spaces rather than defining routes and spaces. Estate layouts often poorly respond to the

surrounding context and may be confusing or disorientating to move through. Some estates include taller elements such as point blocks, slab blocks and tower blocks. Their impact often extends beyond the immediate character area.

c.88 Whilst initially the new housing estates were successful and desirable places to live in, over time many estates have suffered from deprivation, long-standing socio-economic issues, segregation, poor management and lack of investment.

c.89 Due to their bespoke and sometimes experimental design housing estates often do not make the most efficient use of land. Frequently they comprise what is known as 'grey space' or 'grayland', underused spaces that may have lost their original purpose, which includes green buffers without practical purpose, surface car parks, garage courts, driveways, vacant buildings and other redundant facilities and spaces. A lack of definition, overlooking and clear purpose of the realm around buildings may support antisocial behaviour and make spaces feel unsafe.

c.90 As such many estates have an inherent capacity to be intensified. New development can deliver new and improved homes, but also may help to enhance the environment, provide better facilities for residents, and generate value to support the improvement of the existing housing stock.

OBJECTIVES

c.91 The overarching objectives for any estate regeneration schemes is to:

+ deliver safe and better-quality homes for local people;
+ increase the overall supply of new and affordable homes; and
+ improve the quality of the local environment through a better public realm and provision of social infrastructure (e.g., schools, parks, or community centres).
(Better homes for local people, The Mayor's good practice guide to Estate Regeneration, Feb 2018)

c.92 Successful estate regeneration proposals can only be achieved through open and meaningful engagement with existing residents right from the outset of the process. Proposals should include the right to return or remain for social tenants, and a fair deal for leaseholders and freeholders, and the level of affordable housing should be maintained or increased.

c.93 Whilst increasing housing numbers are key drivers for estate regeneration, the overarching objective for any estate regeneration is to look at the whole picture of place and to create well-integrated mixed tenure neighbourhoods that overcome the mono-tenure and stigma associated with many 20th century estates.

INTERVENTIONS AND INTENSIFICATION APPROACHES

c.94 Physical interventions for estate regeneration scheme will differ from place to place and depend on many factors such as the existing characteristics and quality of an estate; the financial resources available; any regeneration or redevelopment plans that affect the wider area; and the wishes of residents and other stakeholders.

c.95 The approach to estate regeneration should always look at an estate holistically and in engagement with residents to identify its issues and the opportunities for enhancement and intensification that would benefit the estate, the place and its people overall.

c.96 The range of physical interventions in an estate may range from repair to and refurbishment of existing homes, adaptation and extension including additional storeys to existing buildings, infill development and demolition and rebuilding.

c.97 There is no 'one size fits all approach' and different places will require different solutions.

c.98 Generally, demolition and rebuilding should only be considered after alternative options have been fully appraised and discarded, and the potential benefits of demolishing and rebuilding homes have been balanced against the wider social and environmental impacts of this option.

c.99 Estate regeneration will usually comprise of a combination of the approaches outlined below.

Repair and Refurbishment

c.100 This approach is primarily concerned with the upkeep and modernisation of existing buildings, and does not generally involve substantial alterations to the existing built form and massing.

c.101 Due to their means of construction and age, many estate buildings have a substandard thermal performance and other functional issues. Often they require upgrades to façade systems, retrofit of insulation, replacement of windows and doors, new roofs, modernisation of mechanical and electrical systems (such as heating systems and fire safety installations) and other interventions. Usually these are major capital projects driven by management organisations aimed at bringing estate properties up to standard. Generally these interventions should not be undertaken in isolation and without considering their integration with other opportunities for estate regeneration. They also may have an impact on the overall appearance and visual quality of an estate, which should be considered fully when planning these interventions.

Image c.15: Brunswick Centre Refurbishment has transformed the building into a public space at the heart of the community (image of the Brunswick Centre by Levitt Bernstein and Patrick Hodgkinson © Tim Crocker

Adaptation and Extension

c.102 The retrofit, adaptation and extension of estate buildings is more sustainable and cost effective than the demolition and rebuilding of multi-storey

apartment buildings, as it can make use of existing structures, access cores and installations. Interventions can provide additional homes, amenities or facilities whilst also enhancing the thermal performance, operation and management of the building, and improve the quality and definition of the surrounding area.

c.103 Potential interventions include:

+ new building wings or additional floors on top of the building that provide additional homes and are served by existing or new access cores;
+ the creation of more spacious building lobbies, communal facilities, or enhanced access to cores, for example at the base of tower or slab blocks;
+ adding external lifts, staircases or balconies to existing buildings for example to enhance access or amenity space provision;
+ re-using integral parking garages or other left-over spaces for other uses such as for storage, workspace or high quality residential;
+ expanding or creating new communal spaces at the ground floor;
+ reorganising access and outdoor spaces of ground floor flats to address 'back-to-front conflicts'; and
+ extensions that expand the size of existing dwellings.

c.104 At the extreme end, this approach may also include the stripping back of a buildings to its structural frame, the radical re-purposing of its spaces and creation of new cores, facades, and roof structures.

c.105 This approach to intensification is likely to affect existing residents during the period of works, and therefore will need to be carefully planned so as to avoid adverse impacts. In some cases temporary re-housing of residents may be required for the duration of works.

Image c.16: Parkview Hub - before image (image by One Stop Consult Ltd.)

Image c.17: Parkview Hub - Retrofit of 18 social housing maisonettes to Passive House standard (image of Parkview Hub by One Stop Consult Ltd © Stephen Dunn)

Upward extension

c.106 Estate apartment blocks with flatted accommodation often lend themselves to upward extension subject to the structural integrity of the existing building, fire and access strategy and the potential impact on neighbouring buildings and the character of the area.

c.107 Estate apartment buildings often comprise flat roofs that lend themselves to the construction of one or two additional storeys. In buildings with pitched roofs upward extension could involve the conversion of the roofspace into habitable space, including the opening up of dormers or creation of a mansard roof.

c.108 Access for upper floors could be resolved by using existing stair cores and modernising and extending lifts, or by erecting a new external lift and stair access, which could also provide access for existing homes and other infill development or extensions.

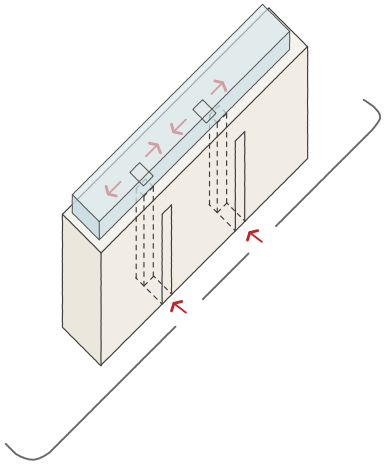


Figure c.21: Additional storey(s) using existing internal access core

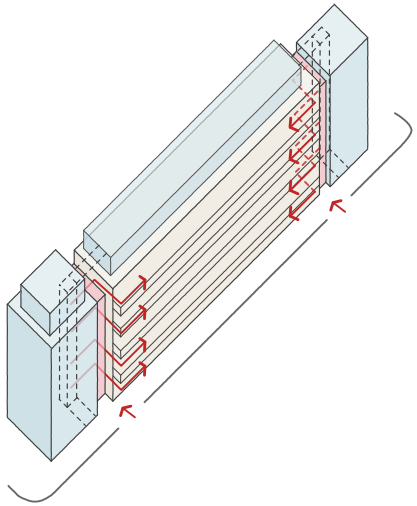


Figure c.22: Additional storeys and extra units by providing new lift and escape stairs where existing building has deck access

Image c.18: Infill Housing at Dover Court, London Borough of Islington (image of Dover Court Estate by Pollard Thomas Edwards © Matthew Westgate)

Infill development and Block Consolidation

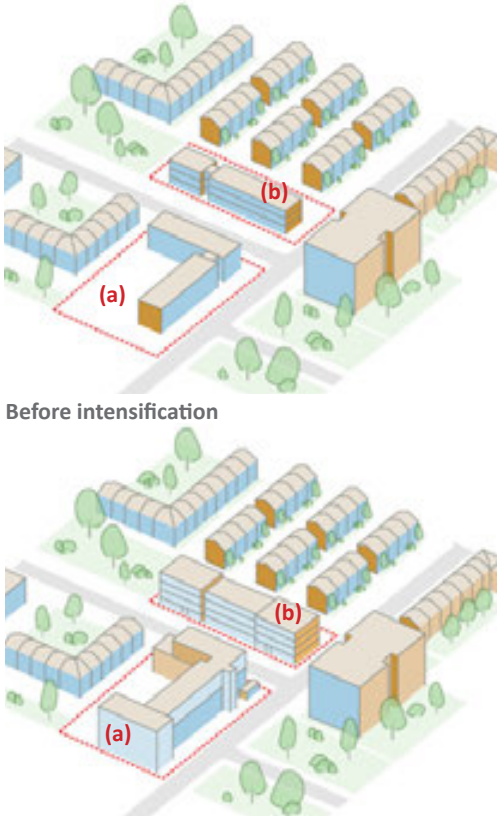
c.109 Estates often offer opportunities for infill development, that repurpose underused spaces. However, infill development should not be undertaken ad-hoc and in isolation but coherently planned through a masterplan-led block consolidation approach that has been devised through active participation and with the support of existing residents. This should look at the estate comprehensively and identify 'grey space' that could be re-purposed either by new 'infill' development or meaningful open space design. The aim is not only to deliver more homes and other useful spaces and facilities, but to generally improve the layout, connectivity, safety, and environmental and social quality of the estate overall. Typical examples for this approach are:

+ infill development at the gable ends that 'turn corners' or that closes gaps between buildings;
+ the development of a podium at the base of tower blocks that provides an enhanced entrance space and other uses, and better defines the street space;

+ the redevelopment of garage blocks or surface car parks to better define spaces; and,
+ the development of underused green buffers to create better defined street blocks.

c.110 The approach should create better definition of public, semi-public and private spaces, address back-to-front conflicts and provide front door access ground floor units that provide animation and 'eyes on the street' where possible. Block consolidation should also deliver legible connections across areas and enhanced open spaces with a clear purpose such as pocket parks, community gardens, playgrounds or multi-games courts and other youth facilities.

c.111 Block consolidation may require the demolition of secondary buildings such as garages or other underused buildings. The redevelopment of existing housing should only be considered if other options for their retention have been explored and discounted, and where this is the only feasible solution to deliver on the vision for the estate.



Before intensification

After intensification

Figure c.23: Example of comprehensive approach of intensification methods on two estate apartment blocks with deck access, including block consolidation, infill, adaptation and extension approach. This involves (a) additional floors, new entrance lobby, lift and stair core, new end block, and front door access from street to ground floor units; and (b) stripping back to frame, extension of floor plate, new entrance lobbies, access core and internal corridors, communal spaces at ground/lower ground floor.

Before intensification

After intensification

Figure c.24: Example of comprehensive approach of intensification methods on L-shaped estate apartment buildings with rear access from parking court. This involves roof extension, new end block, mews style housing in the back, creation of communal courtyard and front door access from street to ground floor units with private front gardens.

Before intensification

After intensification

Figure c.25: Example of combined and comprehensive intensification approach on Estate with stand-alone slab blocks with parking courts. This involves infill development to create defined street blocks, smaller scale development that responds to the finer urban grain in the surrounding, additional floors to apartment buildings, creation of enhanced public realm and defined communal courtyards.

Image c.19: Kidbrooke Village - comprehensive re-development of the Ferrier Estate

Comprehensive Redevelopment

c.112 The demolition and comprehensive redevelopment of an entire estate should only be considered if alternative scenarios that retain existing buildings have been fully considered and discounted, and the approach has the full support from estate residents.

c.113 The comprehensive re-development of an estate may be considered where there are significant structural or technical deficiencies in the built fabric or the layout of an estate that cannot realistically be rectified through any other interventions approach.

c.114 Any comprehensive redevelopment of an estate should be led by a masterplan that has been devised with the support and is endorsed by affected residents. This should be led by a clear vision and place making approach (see Principles D.1 Placemaking & D.1.1 Vision and Concept).

c.115 Existing residents should all be offered the choice to remain within the estate within a property that is similar or bigger in size and reflects their needs. The development should be phased so as to minimise the need for off-site temporary accommodation of existing residents during the construction process.

PRINCIPLE C.2.4: POST-WAR HOUSING ESTATES

+ Notwithstanding the scale and level of proposed change within an estate, any intervention will need to respect the architectural integrity of the estate and enhance its spatial definition and appearance by following the principles below.

Layout and street definition

+ Where possible development should aim to
  + create urban street blocks with a clear definition of public, communal and private spaces.
  + close gaps between buildings and turn corners,
  + Define and secure communal courtyards
  + Create appropriate threshold spaces that support the privacy of ground floor residential units
  + Establish legible building entrances that are accessible and visible from the public realm
  + Provide secure private amenity spaces to the rear of buildings rather than adjoining the public realm.
+ Development should strive to create continuous pedestrian and cycling connections across the estate and to link in with neighbouring areas. Routes should be well defined, direct and overlooked by development. Opportunities for new or enhanced public spaces should be explored that are connected, well designed, meaningful, overlooked and animated.

Architecture and form

+ Any intervention in an estate should positively respond to the form, architecture, appearance and materiality of the estate. It will need to integrate with its characterising features, avoid the creation of stark contrasts and help to enhance the coherence, visual quality and integrity of the estate.

PRINCIPLE C.2.4 (Continued): POST-WAR HOUSING ESTATES

Height

+ Additional height and massing of new development and upward extensions should be carefully considered to avoid adverse impacts on:
  + the character and coherence of the estate or neighbouring areas;
  + sensitive views;
  + day and sun lighting; and
  + the privacy of habitable rooms and outdoor spaces of residential accommodation.
+ Additional floors set above existing buildings should normally be smaller in footprint than the original roof space and be notably set back on all sides from the building elevation. Alternatively they could be integrated within a mansard roof space, where this is in keeping with the character and architectural language of the estate.

Facades and Materials

+ Interventions that alter the overall appearance of buildings should carefully consider how to avoid taking away from the quality and coherence of the existing architecture and its expression and detailing. Bland, overly colourful or patterned façades can appear cheap-looking and out of place with the architectural style or character of an estate or area.
+ When retrofitting or designing new facades, schemes should consider the whole life cycle cost of the facade systems, and choose solutions with greater longevity, easy maintenance and a clear end-of life approach to its decommissioning, re-use and the recycling of materials. Cheaper façade systems may not last as long, or require more intensive maintenance regimes, such as a regular painting in case of rendered facades, whilst more expensive systems may not only be cheaper in the long run, but also often are more aesthetically pleasing and enhance the image and character of an estate.

Design Process

+ Estate regeneration project should include meaningful engagement with those that are affected by the development. This should involve early and regular engagement with local residents, including lease and freeholders, in setting the objective and vision for the development and being involved in the design process. (Principle B.2: Responding to the Local Community).
+ Any estate renewal project should be based on a full appraisal of the estate including the condition of existing housing, the quality of the external environment and the public realm, the purpose and quality of open spaces, the distribution and viability of uses, available social and community infrastructure, ownership and tenure pattern, the historical, socio-economic and cultural background of the estate and its residents. This should be complemented by an assessment of the wider area including access and connectivity, townscape character, heritage designations, topography and landscape, provision of open spaces, provision of social and education infrastructures and adjoining regeneration schemes or lands that potentially could be incorporated in the estate regeneration project (Chapter B: Strategic Considerations).
+ Any proposed intervention in an estate should be led by a coherent masterplan for the entire estate that plans the long term future and enhancement of the area. This is to ensure resources are well spent in the context of immediate as well as long term priorities. Short term priorities such as the retrofit of homes or façade insulations should be planned in the context of potential longer term regeneration opportunities.

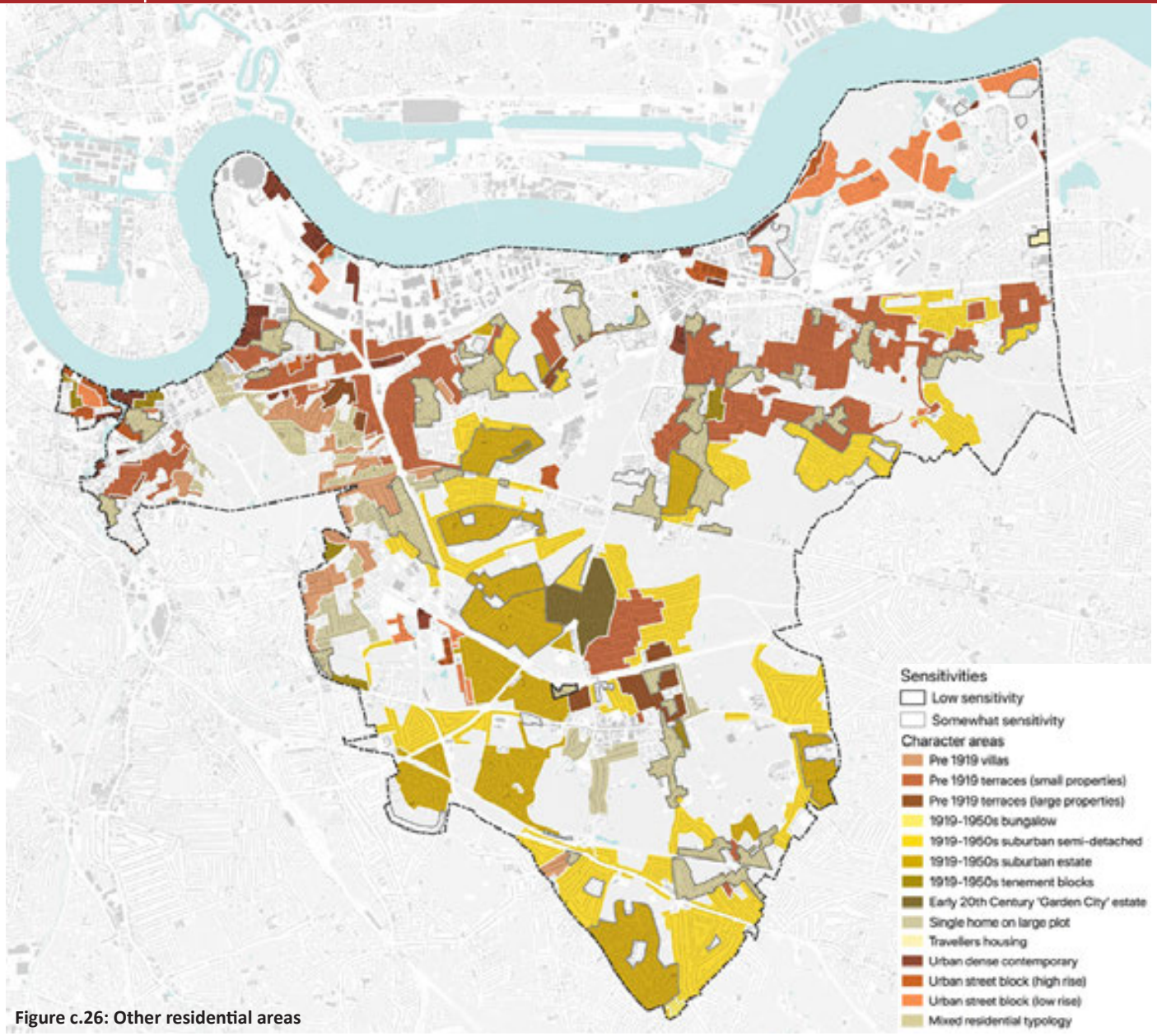


Figure c.26: Other residential areas

CONTEXT

c.116 This section addresses residential areas other than post war estate housing (discussed in Section C.2.4).

c.117 Pre-1919 development in the Georgian and Victorian eras accounts for a large proportion of development across the borough. Much of the highest quality development is located within Conservation Areas and forms much of the basis of such designations. Outside Conservation Areas, pre-1919 development may be more modest in character but nevertheless provides a robust form that provides both attractive and adaptable homes and a strong character. Properties are usually laid out in terraces or as semi-detached pairs.

c.118 In the interwar period and during the early WWII postwar years the Royal Borough saw large swathes of the south developed with lower density suburban housing, a pattern reflected across much of outer London at this time. Large suburban estates were developed using standard house types, with whole neighbourhoods comprising of semi-detached houses, tenement blocks or, in the case of the Progress Estate, the Garden Suburb style. Layouts are street-based blocks with

buildings set back behind a front garden or porch, and generous rear gardens.

c.119 Between 1950s and the 1970s postwar communal housing estates were built, which are discussed previously in Section C.2.4.

c.120 By the 1970s, most of the Royal Borough had been built out. Housing development since then has been largely on incidental sites or through the re-development of brownfield sites such as former industrial sites. Prior to the millennium this comprised largely of modest detached and terraced housing with the occasional low rise apartment blocks. Since 2000 larger and higher density apartment schemes, often on brownfield sites, have become the prevailing development form.

c.121 The majority of homes are privately owned, such as freeholds of houses, or as leaseholds in converted houses or apartment blocks. A proportion of these properties are also rented, either privately, or by a housing provider or investment fund.

OBJECTIVES

c.122 The objectives for development in residential areas is to enhance and strengthen their character, to seek intensification in locations that benefit from high public transport accessibility and proximity to local centres and facilities, and to enhance the provision of residential amenities and social infrastructures to serve both existing and new residents.

INTENSIFICATION APPROACHES

Transformative development

c.123 Apart from larger rental schemes a common characteristic of many residential areas is their fine grain pattern of ownership. The implementation of transformative and comprehensive change generally requires the assembly of larger sites, which is a challenging undertaking where this involves many individual properties.

c.124 As such large scale transformative development is unlikely to take place in established residential areas unless strong regeneration objectives can support a public sector intervention. This may be the case in fragmented regeneration areas, where the Local Authority could use its compulsory purchase powers to help assemble land for more comprehensive development. This is a complex and resource intensive process, that needs to be supported by strong area based planning policy, a clear vision for regeneration, and a masterplan led approach. In the Royal Borough, the Cabinet has recently approved this approach to be taken for the Woolwich Exchange development.

Image c.20: Hackney Wick, London demonstrates how land assembly and strategic masterplanning can be employed to transform a formerly fragmented area (image credit: Karakusevic Carson)

c.125 In areas with depressed property values, for example along heavily trafficked corridors, there is an opportunity for the private sector to assemble sites on an ad-hoc basis and to bring forward larger scale change. This process could be assisted through the preparation of area or corridor-specific design guidance / codes that provide clarity on the acceptable scope of change.

c.126 Apart from these exceptions, large scale transformational change is unlikely to play a major role in the intensification of fine grain residential areas, and other intensification approaches, discussed below, are more common and realistic.

Image c.21: Hafer Road in Wandsworth shows a sensitive approach to infill development on small sites (image of Hafer Road by Peter Barber Architects © Morley von Sternberg)

Infill development on incidental or small sites

c.127 Whilst fine grain residential areas are commonly relatively coherent, they may include incidental sites which could offer an opportunity for development. These could be redundant retail, institutional or industrial sites, disused car parking areas or surplus open spaces that offer little amenity value. Typical site conditions may be gap sites in between existing housing, corner sites and island sites in the interior of blocks. Often these sites are difficult to develop and constrained by their size, accessibility and close proximity to existing housing. As such they will require tailored and bespoke design approaches.

c.128 Where they employ innovative architecture and a considered contextual design approach, these new buildings can offer a welcome variety and interest to a residential area and can enrich the character of a neighbourhood overall, especially in areas that are highly regular, lack distinctiveness and / or comprise of a character that has lesser sensitivity to change.

c.129 Larger incidental sites may offer the opportunity to naturally extend or complement the existing neighbourhood. As part of this, opportunities should be sought to provide new connections and public spaces that are open and accessible to all. Gated housing developments should generally be avoided. New development should provide a fine urban grain that is sympathetic to the existing area.

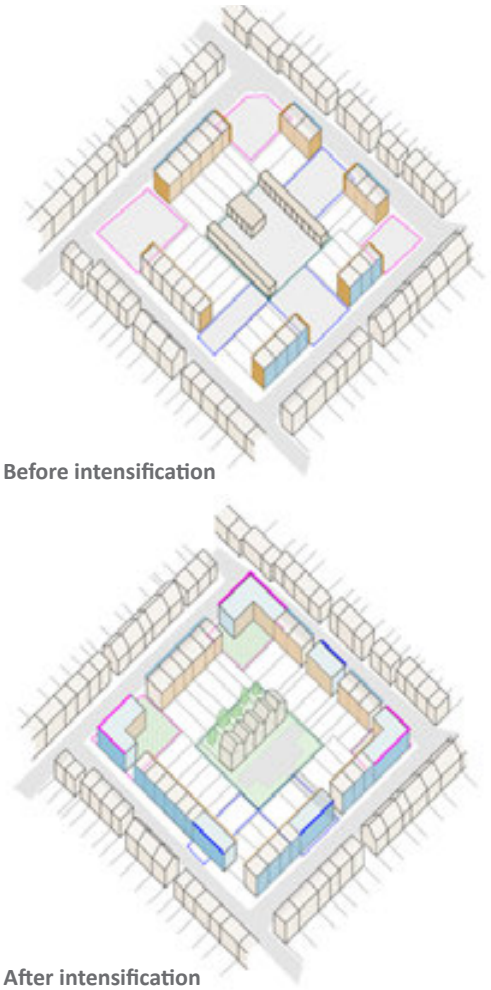


Figure c.27: Example of infill Intensification on vacant gap and corner sites and a former garage court in the centre of the street block with contextual development that defines and completes the street space.

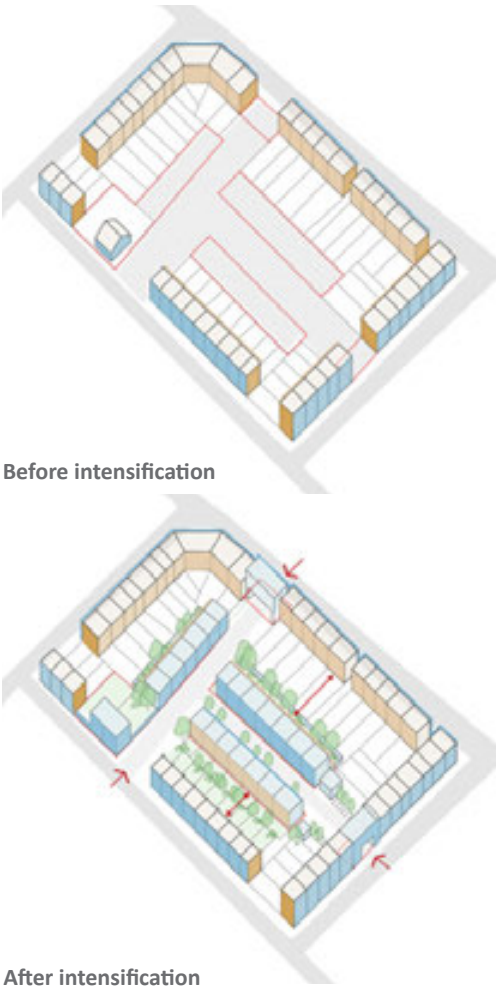


Figure c.28: Example of infill development of a former industrial site within a street block, with fine grain housing and establishing new connections through the block.

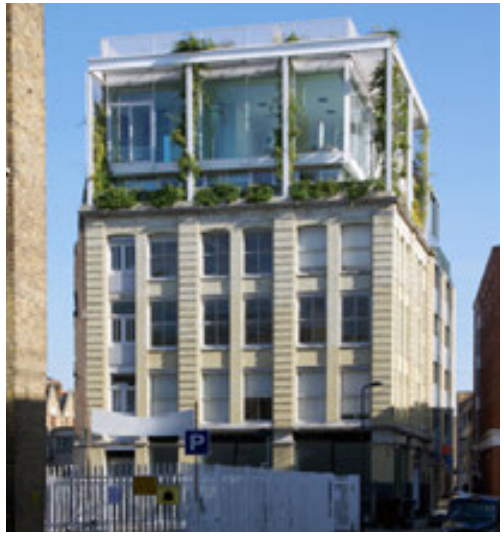


Image c.22: Growing House, London (image of Growing House by Tonkin Liu © Greg Storrar)

Adding an additional floor

c.130 Interwar tenement housing blocks or small apartment buildings from the 1970s and 80s often offer an opportunity for the construction of one additional residential floor on top of its flat roof or incorporated within a converted roof structure. Often buildings have the structural capacity to accommodate light weight structures without the need for additional structural support. New residential accommodation usually can make use of existing staircases, lift access and service shafts. Not only could the additional floor provide more homes, but the value generated from this could also be reinvested by owners in the upgrade and maintenance of the building itself, and as such minimise cost for existing leaseholders.

c.131 The addition of one or more floors to a building is likely to increase the height of the building overall, which may have an impact on the coherence and character of an area. This approach should only be pursued in areas that have a lower sensitivity to change and where this increase in height does not detract from or would overdominate the townscape character. Generally additional floors on top of buildings should be sub-ordinate and set back from the surrounding building elevation or integrated in a roof structure or mansard roof and comply with Principle F.10.1 Roof Design.

Development within the curtilage of larger properties

c.132 Some existing large properties benefit from extensive grounds. These may offer an opportunity for the development of additional modest housing where this avoids substantial loss of existing garden space, and the landscape character and mature trees are retained.

c.133 Generally development should only be promoted to the rear of the main building and be clearly subordinate to it with its scale, height and massing. The combined footprint of new development, hard standing and new access paths should accommodate no more than 30% of the overall grounds to the rear of the main building to retain the green and open character of the space. Subject to its context development could take the form of bespoke pavilion buildings that are set in the landscape, or create an ensemble of out-buildings or mews-style development. The built form and architectural solutions should respond to the main building itself and integrate well into the surrounding context.

Redevelopment of existing housing

c.134 The demolition and re-development of existing housing should only be considered if other options for their retention have been explored and discounted, and where the new development presents a better response to the existing or emerging townscape character, and delivers a significant uplift in residential floor space and unit numbers.

Adaptation and extension of existing homes

c.135 The extension of existing homes is one of the most common development activities in residential neighbourhoods. This may include side or rear extensions, roof extensions and dormers, as well as garden development. One of the main aims of these is the enlargement and enhancement of individual homes, but it may also facilitate the sub-division of larger houses into apartments or conversely the transformation of houses in multiple occupation back into a single family home. The extent to which these interventions may be acceptable will depend on how well their external changes may fit in with the characteristics of the area and respond to neighbouring buildings and the street space as well as other applicable planning policy.

c.136 Chapter I guides on household extensions and is the relevant resource for any proposed alterations to houses.

PRINCIPLE C.2.5: OTHER RESIDENTIAL AREAS

+ Any development within residential areas, whether it is on a larger or smaller infill site, replaces an existing building or is part of the curtilage of a larger property, will need to respond appropriately to their context and enhance the overall existing (or in fragmented areas emerging) character. Larger developments should integrate well with and extend the existing urban fabric and seek to establish new connections and public spaces. Gated development, except where it is within the curtilage of an existing property, should be avoided.
+ New development should bring forward contemporary contextual solutions that take cues from the existing built fabric in terms of the typical scale, height and grain, building line, overall appearance and materiality, interface design.
+ Pastiche design solutions that copy existing historic architectural styles and elements should be avoided.
+ In areas that are more sensitive to change, development with its height, roof form, massing, position on the building line and materiality should generally closely respond to existing neighbouring buildings.
+ In areas that are less sensitive to change there may be scope for larger buildings such as apartment blocks that are slightly higher than the surrounding housing. With their height and scale they should be proportionate and not generally exceed the prevailing height of lower surrounding buildings by more than one or exceptionally two storeys. Any development exceeding this recommendation should be fully justified in urban design, townscape and conservation terms.
+ Generally the upper floor should be incorporated in a receding roof structure (such as a mansard roof) or clearly set-back from the surrounding elevations, to minimise the impact of additional height on the scale of streets and neighbouring properties. The same applies to the development of additional floors on top of existing buildings. Increased height should only be acceptable in areas that are of lesser sensitivity to change and where the new development does not overdominate or detract from the character of the area.
+ Proposed development within established residential areas and especially on incidental small sites should generally be of high quality architecture and design. Larger buildings should structure their form and elevations so as to offer articulation and detail that positively responds to the pattern of finer grain development in their surroundings. Buildings will need to respond appropriately to their immediate neighbours and mitigate against any adverse impacts on the privacy, day and sunlighting of adjoining properties or private amenity spaces.

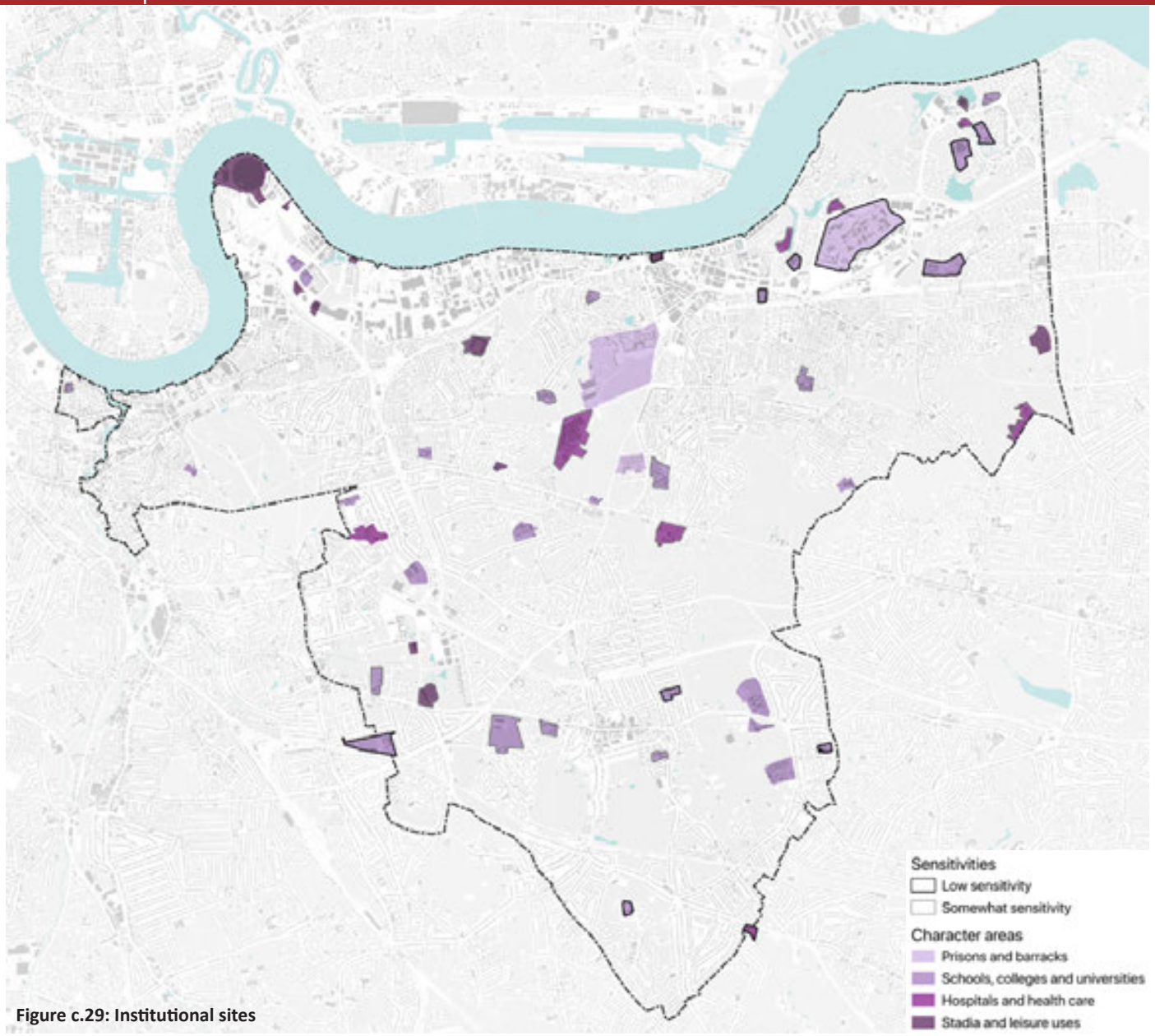


Figure c.29: Institutional sites

CONTEXT

c.137 The Royal Borough has many institutional operations spread across the borough on large and small sites. Often they operate as a single entity and offer a distinct and specialised function. Institutional development include:

+ Hospitals and healthcare provision;
+ Prisons and barracks;
+ Schools, colleges and universities;
+ Stadia and leisure uses; and
+ Community and faith based facilities.

c.138 Institutional developments usually have been developed specifically for their purpose. They are often mono-use and comprise a bespoke and inward looking design that does not always respond well to the surrounding urban fabric.

OBJECTIVES

c.139 Development should seek the intensification of underused institutional sites, bringing forward a mix of development, and where appropriate housing. Development should enhance the function and attractiveness of an institution for its users and deliver good integration with the surrounding fabric. Development

of larger surplus sites should establish a distinct character on its own that is inspired by and positively integrate heritage and landscape assets.

INTENSIFICATION APPROACHES

c.140 Each institutional site is different and so will be their opportunity for intensification and change. Generally institutional sites may have the potential for one of the following three different types of intensification:

Release of surplus sites for development

c.141 The context for this may be the consolidation of institutional activities in one or more central locations, with the more efficient provision leading to a reduction in footprint, or the ceasing of operation on a site more generally. Surplus land can sometimes be taken out of the institutional landholding and redeveloped with a new programme that is unrelated to the institution itself. Examples for this are Greenwich University vacating the former Woolwich Polytechnic Campus, or the former Royal Barrack sites being redeveloped in the future for housing and other uses. Especially with larger sites this offers the opportunity for comprehensive development of a new place or neighbourhood with its own programme and identity, sometimes involving the retrofit and re-use of former institutional buildings.

Expansion or re-configuration of institution

c.142 This may come about by the institutions needing to upgrade or expand their facilities or to deliver linked complementing uses. The development approach may involve comprehensive development, block consolidation, infill development or adaptation and extension. The outcome is usually a more efficiently laid out and better used site supporting an enhanced operation of the institutional use. Examples for this are the expansion of primary or secondary school sites or the expansion of the Queen Elizabeth Hospital.

Intensification with a mix of other uses

c.143 This approach may apply to underused smaller institutional sites in urban locations that offer scope for intensification. Subject to their specific context this could comprise of the redevelopment and re-provision of the institutional use as part of a wider mixed use development, or alternatively the retention of the institutional use and the development of surplus sites around and above. Typical examples are the redevelopment of health or community centres or faith-based institutions, often seeing the development of housing that can cross-subsidise the delivery of a much improved facility.

PRINCIPLE C.2.6: INSTITUTIONAL AREAS

+ The development of larger institutional sites should fully explore the opportunity for place making, that is inspired by and integrates heritage and landscape assets on site. Where possible new development should create new connections and public spaces.
+ Development should deliver an appropriate density of housing and other uses in respect of its accessibility by public transport and by walking to nearby facilities, and establish a well designed quarter with a distinct character that references its history.
+ Smaller sites and those where the institutional use is retained or intensified, should take cues from, respond to and integrate with their context. The design of the development especially when it involves the intensification with housing should retain an appropriate 'presence' of the institutional function in the street space and avoid undermining the primacy of its function. Where new residential uses are proposed, development should ensure the amenity and privacy of new residents whilst not undermining the successful operation of the institution.

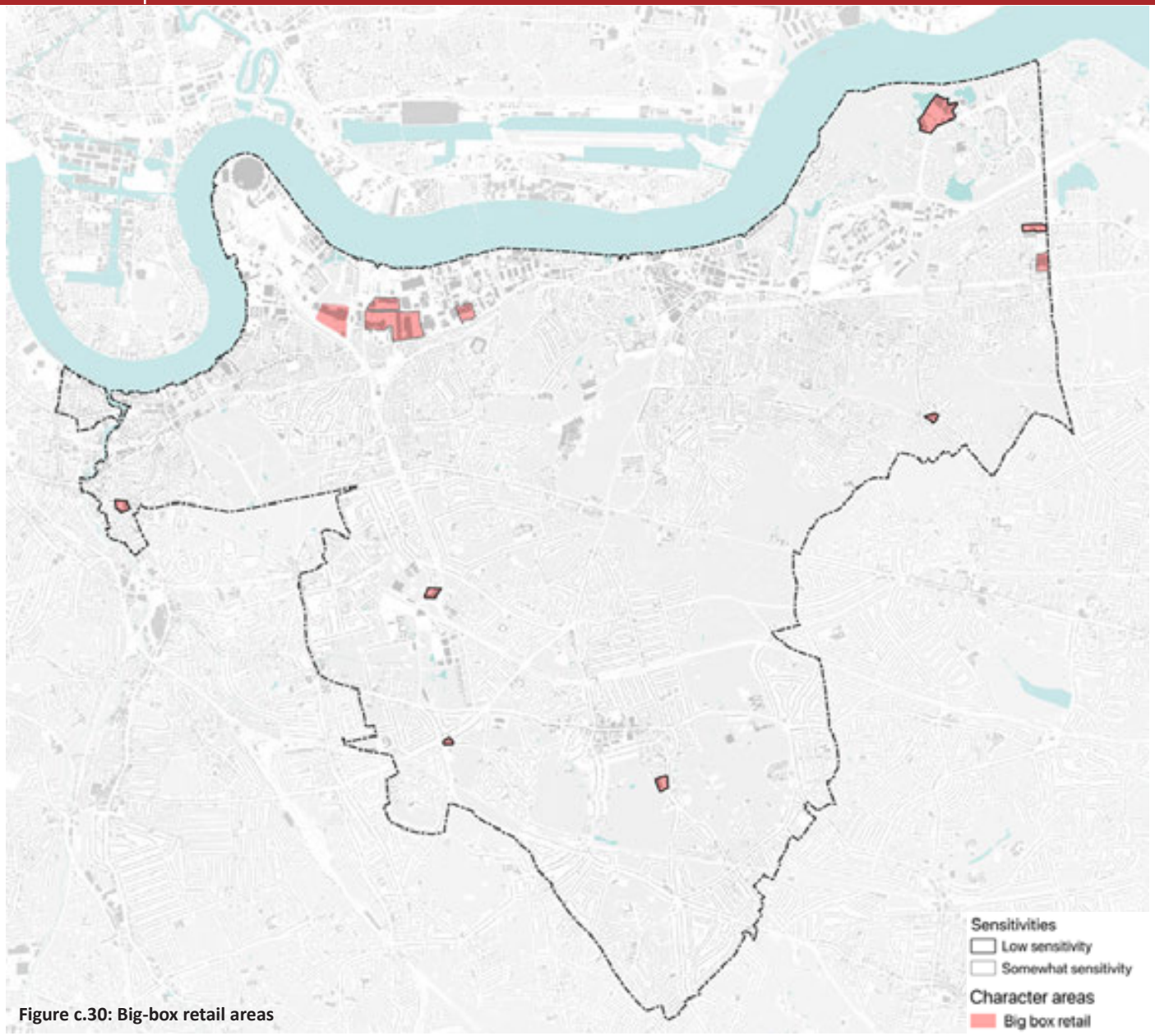


Figure c.30: Big-box retail areas

CONTEXT

c.144 The Royal Borough comprises a number of out-of-town retail sheds, principally located on the strategic road network. Typically, they provide large floorplate retail units with associated surface car parking. There are two larger retail parks in the northwest and the northeast of the Royal Borough, the Greenwich Shopping Park and Thamesmead town centre respectively, that provide a larger range of retail units, including a large supermarket and a few associated eat and drink offers. Smaller sites usually accommodate a single unit or a small number of retail units.

c.145 Generally, big box retail sites are designed to be visited by car and offer a poor-quality environment for pedestrian. Often they also disrupt the continuity of the urban fabric, detract from the wider character and lack street animation especially where the sides or backs of units adjoin the public realm. Many of these stores remain popular, owing to the ease of access by car and the variety of retail goods that can be purchased there. However, due to wider changes in consumer behaviour and competition from online shopping it is likely that some of these sites may

come forward for redevelopment or intensification at some point in the future.

OBJECTIVES

c.146 The objectives for retail parks will vary between different sites. If a big box site comes forward for redevelopment then the aim should be to bring forward a comprehensive development that integrates well with the character of the surrounding area. If the aspiration is to intensify a big box retail site, the objectives should be to create an urban mix of uses, well defined streets and spaces and an enhanced quality pedestrian environment.

INTENSIFICATION APPROACHES

c.147 Due to the unique typology the reuse or integration of existing big retail boxes into new development can be challenging or impractical for structural, functional or operational reasons, and a comprehensive approach to development is likely to be required.

Image c.23: The development at Porter's Edge, London provides continuous active frontage and integrated architectural character 'wrapped' around a big box store (image of Porter's Edge by Maccreanor Lavington)

Image c.24: Diagrammatic sketch showing a 'wrapped' big box store (credit: Maccreanor Lavington)

PRINCIPLE C.2.7: BIG BOX STORES

+ Where retail is retained as part of the development, the retail box should be 'wrapped' with other development around its edges and above. Development should create active frontages and overlooking from upper floors from non-retail (i.e. residential) uses to all adjoining streets and spaces.
+ Car parking and servicing should be internalised within the development itself and not be visible from the street space. Large areas of surface car parking should be avoided.
+ Development should establish continues urban frontages and integrate with the character of the wider area.

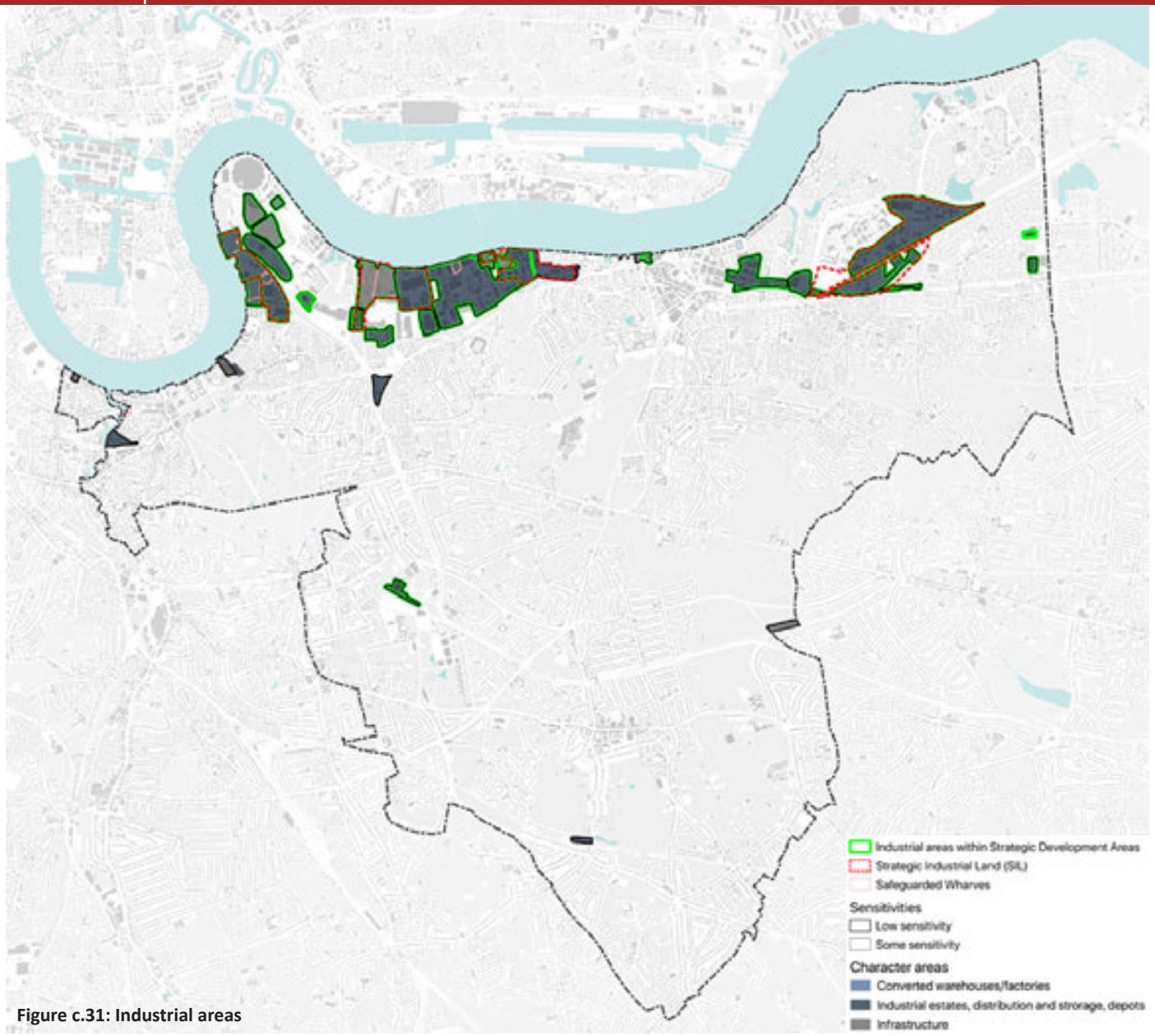


Figure c.31: Industrial areas

CONTEXT

c.148 The majority of industrial areas are concentrated in the north of the Royal Borough and along the river. These include industrial estates on the Greenwich Peninsula, Charlton Riverside, to the north east of Woolwich town centre and to the north of Plumstead. Smaller industrial areas are also located in other parts of the Borough. Six protected wharves are located at Deptford Creek, Greenwich Peninsula and Charlton Riverside.

c.149 Historically the land used for industrial use is declining in the Royal Borough. Many large scale industrial uses along the river have disappeared with deindustrialisation, and over time, lands have been redeveloped for other uses, such as at the Royal Arsenal and Woolwich Riverside. Greenwich Peninsula is currently transforming into an intense new urban quarter. Charlton Riverside industrial areas have been designated as a Strategic Development Location and a masterplan was prepared by the Royal Borough to guide its transformation into a mixed-use employment area.

c.150 The majority of remaining large industrial areas are protected for employment use through planning policy

designation as Strategic Industrial Location (SIL), which means that only employment uses are permitted.

c.151 The Royal Borough's policy approach to other industrial sites (referred to as Local Employment Sites) is *"to maximise the contribution to employment in Royal Greenwich from sites in existing or previous employment use."* Non-employment uses will only be permissible on vacant employment sites in exceptional circumstances where it can be demonstrated that the site is environmentally or physically unsuitable for any employment generating use, there has been no demand for this employment space for two years, or mixed use employment provision is the only viable approach to generate employment.

OBJECTIVES

c.152 Development in industrial areas should aim to make more efficient use of land for industrial and light industrial uses, to minimise externalities and impacts from traffic, noise, odours and pollution onto neighbouring areas, and to enhance the quality of the environment and the provision with facilities and amenities for workers. Where residential development neighbouring industrial areas and protected wharves are acceptable in policy terms, they should incorporate all necessary uses to ensure that future residents are protected from all those forms of pollution. At the same time, they should also ensure that operations can continue at those industrial sites and wharves without risk of complaint.

INTENSIFICATION APPROACHES

c.153 Industrial intensification can be defined as a more efficient, sustainable use of an existing industrial land, for example through higher plot ratios, to create opportunities for mixed use developments while preserving and possibly increasing the existing provision of industrial/employment space. Intensification on industrial sites should be achieved through introduction of smaller units, development of multi-storey schemes, addition of basements and more efficient use of land through the use of higher plot ratios (See London Plan Policy E7 for designated and non-designated industrial areas).

c.154 Different businesses require different type of industrial floor space (Industrial Intensification and Colocation Study, Design and Delivery Testing, We Made That, 2018):

+ Workshops and Studios: Creative industries and other 'maker' activities requires smaller workshop or studio space of 10-500m2/unit. These type of spaces could be provided in multi-storey accommodation with goods lifts and corridors that can accommodate a small forklift truck. These type of spaces could also be provided in converted historic warehouses.
+ Small and Medium Size Industrial Units: These include units sizes between 500 and 1000sqm (small) and between 1,000 and 5,000sqm (medium size). Typical businesses in these units include small manufacturing operations, food production / catering, specialist recycling, urban services and trade counters. Larger units may also include wholesale and hire and warehouse operations. Whilst commonly provided in single storey sheds, these may also be stacked, if provided with heavy goods lifts, wide corridors for two forklifts to pass each other, or alternatively where direct vehicular access to upper floor can be provided by ramp. Typically larger units require direct HGV access with loading doors for deliveries.
+ Large industrial units: Unit sizes above 5,000sqm, typical businesses are construction related trade counters, construction, transport and logistics, wholesale suppliers and wholesale markets, general manufacturing, food production. Whilst this type has been built as a stacked accommodation and ramped upper floor access in areas with high industrial values, it is more commonly provided in single storey steel frame constructions with large clear spans for flexibility.

Image c.25: Here East innovation and technology campus (Hawkins Brown Architects)

c.155 The majority of industrial businesses require LGV or larger HGV access and associated yard space for loading and turning. Some businesses also depend on industrial yard space such as vehicle hire and repair, construction, transport

Image c.26: Mixed-use student housing and industrial co-location

or aggregates, which cannot easily be integrated within development.

c.156 Industrial intensification should respond to the locally identified need of industrial floor space. They should consider the re-provision of suitable and affordable spaces to existing users to avoid loss of facilities for local people (such as car repair units, trade counters, local services) and jobs. Intensification of an industrial site should be planned through a masterplanning process for the entirety of the site to ensure the overall proposed development optimises the site and the provision of spaces.

PRINCIPLE C.2.8: INDUSTRIAL AREAS

+ Industrial intensification should be planned through a comprehensive masterplanning process that delivers an efficient site layout and considers local space demand and the re-provision of spaces for existing local businesses.
+ Businesses will need to provide the right type of industrial floor space to local demand. Generally there should be no net loss of existing floor space within an area where industrial floor space is being intensified. Existing businesses should be offered an opportunity to remain in an area.
+ Access and servicing arrangement should be organised so that they do not compromise other industrial or non-industrial activities on site and in surrounding parts, especially considering that many businesses operate on a 7 day 24 hour basis.
+ Where the proposed development on non-designated industrial sites includes non-industrial uses, this should ensure that appropriate design mitigation is provided, considering the safety and security of operations, vibration and noise and air quality, and that the agent of change principle is applied.
+ Intensifying industrial areas should actively explore how better local facilities for workers are provided, such as complementing café and lunch time provision, nursery and amenity spaces.
+ New or intensified industrial development should provide a well defined and overlooked public realm.
+ Development should apply the following design principles where relevant (based on Industrial Intensification and Colocation Study, Design and Delivery Testing by We Made That for GLA, 2018):

<u>Site layout:</u>

+ Build to the edge of the plot on street frontage to create a cohesive street character and remove the need for fences.
+ Locate yard and loading space away from the street edge towards the middle or rear of the site.

PRINCIPLE C.2.8 (continued): INDUSTRIAL AREAS

+ Encourage stacking to increase industrial space provision on the site.
+ Position most active uses and operational areas that attract footfall or visitors at ground floor along the street.
+ Ensure that ground floor uses adjacent to the street have high levels of visual permeability.
+ Locate non-industrial uses (such as residential entrances and units where this would be permissible) along the street edge to provide a positive street frontage.

Movement:

+ Ensure HGV routes connect to the strategic network as efficiently as possible to reduce conflict between HGVs and other road users.
+ Separate modes of transport where necessary and consider limiting the types of vehicles that can use particular routes.
+ Promote businesses working together to consolidate deliveries where possible to reduce HGV movements.
+ Design junctions that are safe and easy to cross for pedestrians and cyclists.
+ Deliver legible cycle and pedestrian routes to public transport links such as railway stations.
+ Locate higher employment densities such as B1c and studio space in areas with higher PTAL.

Access, Yards and Servicing:

+ Provide a dedicated pedestrian entrance directly from the street and segregate servicing and pedestrian routes.
+ Take advantage of sites with access from multiple sides to separate access.
+ Optimise yard space and consider shared yards on smaller sites.
+ Incorporate sufficient space for HGV turning circles within the site to prevent manoeuvring on highways.
+ Consider provision of shared HGV parking for units that only require occasional HGV access.
+ Where required, provide parking on the roof of buildings to meet parking requirements and not reduce yard or industrial space.
+ Integrate parking within buildings and away from the street edge. Separate yard-space, employee parking and visitor parking.

Impact on residential development:

+ Use green roofs to provide amenity space for workers and residents and contribute to urban greening.
+ Create well designed public spaces and meeting places, avoid creating new low quality green space at the edge of an industrial site, or 'industrial scrub'.
+ Orient industrial and residential units to avoid overlooking of yard space and minimise noise issues.
+ Use top lighting for industrial space to reduce the need for windows overlooking residential units.
+ Consider a decking structure over the yard to mitigate against visual and noise issues associated with industrial servicing and provide residential amenity space (where this is part of the same development).
+ Incorporate acoustic mitigation measures such as winter gardens, non-opening windows and mechanical ventilation, triple glazing and wall and floor build-ups into residential blocks nearby.
+ Use ancillary uses to provide a buffer between residential and industrial uses such as parking or cycle storage, and that conflict is minimised in respect of access.

CHAPTER D

DEVELOPMENT STRATEGY AND LAYOUT

D DEVELOPMENT STRATEGY AND LAYOUT

Back to document index

In both larger and smaller developments, during the initial design phase a vision, development strategy and site layout should be established to provide key structuring and organising principles for the development, and to ensure it integrates well with the structure and network of routes in the surrounding area and positively contributes to the wider context.

This chapter outlines the core principles for forming a robust development vision, concept and layout, as outlined in the interactive table.

DESIGN PRINCIPLES	pg.	Large scale comprehensive new development	Large and medium sized urban infill sites	Housing estate renewal	(re)development or adaptation of small urban infill sites or single buildings	Household extensions	Shopfront improvements
		DEVELOPMENT TYPE					
D.1 Placemaking	108	●	●	●	●		
D.1.1 Setting the Vision	109	●	●	●	●		
D.1.2 Structure of Development	110	●	●	●	●		
D.1.3 Hierarchy of Routes and Spaces	112	●	●	●	●		
D.1.4 Landuses	114	●	●	●	●		
D.1.5 Scale and Massing	116	●	●	●	●		
D.1.6 Legibility and Identity	118	●	●	●	●		
D.1.7 Inclusive spaces / "Third Places"	121	●	●	●	●		
D.2 Perimeter Blocks	122	●	●	●	●		
D.2.1 Layout of Street Blocks	122	●	●	●			
D.2.2 Blocks within Blocks	124	●	●	●			
D.2.3 A Fine Urban Grain	126	●	●	●			
D.3 Access, Movement and Parking	128	●	●	●	●		
D.3.1 Reduce reliance on the private car	128	●	●	●	●		
D.3.2 Connect the Urban Fabric	129	●	●	●	●		
D.3.3 Plan for future connections	130	●	●	●	●		
D.3.4 Servicing	131	●	●	●	●	●	
D.3.5 Vehicular Parking	133	●	●	●	●	●	
D.3.6 Cycle Parking	137	●	●	●	●	●	

d.1 Successful places usually have a strong, identifiable, and memorable identity that creates wider individual and communal meaning.

d.2 The guidance in this chapter will help applicants to develop the structure of their development into a more detailed layout, emphasising the importance of the public realm as well as the design of social spaces that contribute to the success of an area. This includes forming a vision of what the development will be about, and structuring its spatial form around core principles that will coordinate development and determine the hierarchy of routes and spaces, the distribution of land uses, the scale and massing of buildings, and special elements that will provide distinctiveness and aid legibility.

d.3 The principles in the chapter will help applicants to create places that have a distinct character and sense of place and that are safe, attractive, and well-used by the community.

d.4 Any proposal for a larger or more complex development should start with a clear vision that articulates what an area should be like in the future.

d.5 The vision should not only focus on the uses and facilities it aims to deliver, but also be clear on how it responds to the existing context and the kind of place it envisages. This should consider the spatial and environmental qualities that will be delivered, the development's response to the existing context, how it integrates with landscape and townscape characteristics and contributes to distinctiveness and identity, and what benefits it will deliver to the wider local community.

d.6 The vision should be specific to the place where the development is proposed and clearly articulate the strategic ambitions and objectives of the project. The vision should be based on an expert analysis not only of the site but the wider place outside the red-line boundary.

d.7 The extent of the vision should be proportionate to the scale of the proposed development. Large developments will need to develop a comprehensive vision for the development in the context of the wider place. Smaller developments and building projects should also set out a vision statement that articulates how the development will contribute to an improved place and support the local community.

d.8 Visioning is a collaborative and iterative process that should start early in the design process. Usually it should involve:

+ the client;
+ the design team;
+ the local authority (through the pre-application process);
+ the independent Greenwich Design Review Panel (GDRP) (as required for significant schemes); and
+ for significant schemes other relevant stakeholders and the local community.

d.9 The vision and objectives of the project should be clearly articulated in the pre-app submissions (emerging version) and planning application (final version), with tangible references and measurements on how proposed objectives would be met. The information provided by the applicants at all stages of the design process should include a comprehensive section articulating the elements of distinctiveness and sensitivity of the place the proposals are related to.

PRINCIPLE D.1.1: SETTING THE VISION

+ Developments should relate to their wider surroundings in a positive way and should contribute to the street, neighbourhood, and wider city. Broad development principles and objectives should be set out in the initial stage of the project as a 'project vision' to define core objectives and aspirations for the project, in terms of quality, programme, and strategic relationship with a wider setting.
+ The vision should be place-specific, establish an understanding of and response to the existing context and set out the future ambitions. The vision should consider the wider place outside the red line boundary and should be established through an iterative process of engagement.
+ The scope of the visioning undertaken should be proportionate to the size, scale and impact of a development. Larger schemes led by masterplans will have to undertake a significant and multilevel analysis, feeding into the vision and development strategy and setting out clearly how the development will contribute positively to the wider city, neighbourhood, and street context.
+ Smaller infill developments or single buildings instead would be expected to do proportionally less analysis, and deliver a vision statement that sets out the local objectives for change the development intends to deliver.
+ (Principles B.1 Supporting the Sustainable growth of the Borough & B.6 Understand the local character).

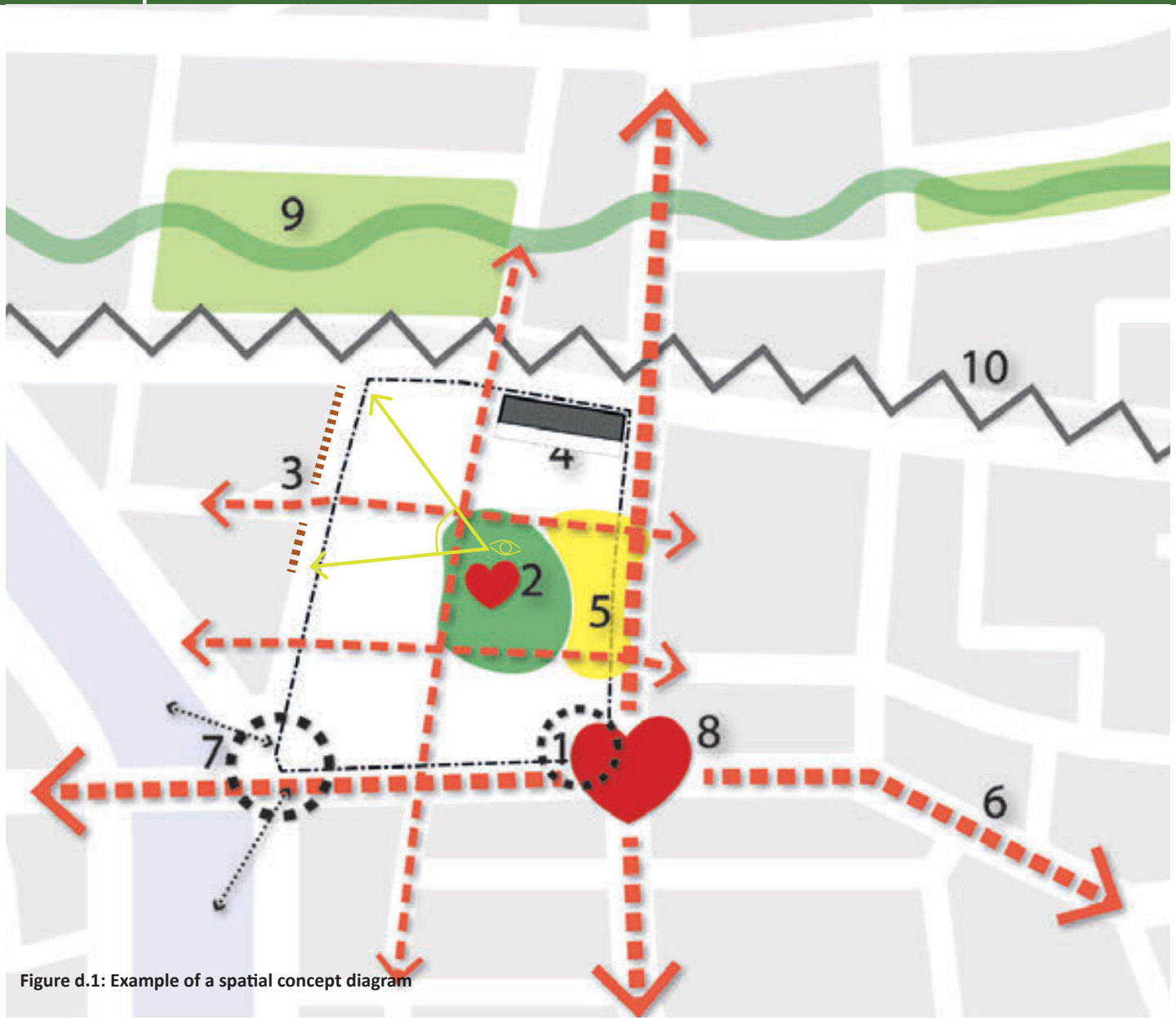


Figure d.1: Example of a spatial concept diagram

d.10 While the project vision sets out the aspiration, direction and objectives for the project, the 'structure of development' translates and configures these objectives into a high level and strategic spatial concept plan. This diagrammatic plan should set out the important spatial principles that will determine the physical organisation of the development. It needs to both consider the development itself and how it responds to and integrates with the existing surrounding context.

Image d.1: No 1 Street in the Royal Arsenal is a key structuring route, emphasised by its axial focus on the Royal Brass Foundry

d.11 Generally the spatial concept plan should consider and express the following aspects:

+ Hierarchy of routes, important connections and nodal points
+ Distribution of key land uses, destinations and active frontages
+ Differentiation of character areas
+ Key buildings, landmarks and features that support legibility and identity
+ Waterways, natural features and open spaces
+ Topography and landform
+ Prominent places, vistas, panoramas and visual connections
+ Frontages and definition of key streets and spaces
+ Edges and barriers
+ Key development sites and opportunities
+ Key development constraints and heritage assets

PRINCIPLE D.1.2: SETTING THE DESIGN PRINCIPLES

+ Applicants should consider how the vision is structured around spatial and organisational principles to establish a clear and positive rationale for development.
+ Any proposed development that contains a number of buildings and established routes within and through the site is required to prepare a spatial concept plan. The diagram should be supported by a clearly articulated and positive design rationale. The level of detail and consideration should correspond to the scale, extent and impact a proposed development is likely to have.
+ Smaller developments or single buildings would be expected to prepare a concept diagram that sets out how the development responds to the characteristics of the site, constraints and relevant aspects of the neighbouring and wider context.

Figure d.2: Example of a diagram of the network of routes

d.12 It is good practice to develop a clear structure of development that is easy to understand and provides a hierarchy and network of open spaces and routes. Well-defined areas typically comprise of a range of street types. Larger streets are usually more active and better connected within the strategic movement network and comprise a greater mix of uses. Smaller streets often have a more local function, provide permeability through quarters and access to sub-areas and housing.

d.13 The street hierarchy within a development or neighbourhood should not be arbitrary but relate to the wider role of a street in the network of routes and its level of connectivity. This should not just be a function of the vehicular role of a street but be derived from a holistic understanding of the movement function of a street overall, considering its wider connectivity for private and public motorised transport, cycling and walking in the network of routes, as well as the nature of the environment it passes through, the spatial form and expression of the development on either side, its aspired character and land uses. For example, larger streets would not only accommodate a greater level of traffic of all modes, but also provide a mix of uses with

retail, employment or community-related functions, whilst smaller streets may have lesser traffic of all modes and provide local connection through a principally residential environment.

d.14 Large development comprising of a number of street blocks should set out a clear hierarchy of streets and spaces. Vehicular access should be integrated within streets and segregation of modes of movement (vehicular, cycling and walking) should be avoided.

d.15 The street hierarchy should be appropriately expressed through the widths of the street, the scale, height and use of development and the street profile and public realm treatment, so that it allows users to easily distinguish main streets from secondary and minor routes.

d.16 Applicants should consider all modes of movement on routes and should not design out the option for future connectivity. i.e, while cars may not be permitted on all routes, the design should consider the future potential to support changes in requirements. For smaller sites, applicants are encouraged to consider opportunities for enhancing the street hierarchy, where possible.

d.17 Areas and routes that are well traversed (main roads, natural junction points, areas with key features and amenities) tend to stimulate higher levels of economic, physical, and social activity. A hierarchy of streets should therefor be integrated with the land use planning of the proposed development.

d.18 With its hierarchy of streets and spaces new development should integrate with the existing network in the surrounding. Development should:

+ Link with existing routes and access points in strategic locations;
+ Create direct, attractive and safe connections through the site for pedestrians, cyclists and vehicular modes, which follow natural desire lines, connect to existing streets, open spaces, local facilities or destinations, and coordinate with open spaces and green links;
+ Moderate traffic speed using well consider design techniques;
+ Avoid irregular and confusing traffic patterns by creating continuous vehicular routes around perimeter blocks;
+ Carefully integrate public rights of way;
+ Sensitively accommodate the existing topography while avoiding steep gradients; and
+ Allow for future development to link into the route network.

d.19 For more detail see also Chapter E on the design of streets and spaces.

d.20 The design of the open space should focus on developing a hierarchy of users of the public realm, prioritising more vulnerable users, pedestrians, cyclists, families and children.
In line with the Mayor's Healthy Streets for London and TFL's The Planning for Walking Toolkit, pedestrian networks should be designed to be safe, inclusive, comfortable, direct, legible, connected and attractive. Further detailed guidance is provided by the Royal Greenwich Transport Strategy (2022).

PRINCIPLE D.1.3: DELIVER A CLEAR AND CONNECTED STRUCTURE OF STREETS AND SPACES

+ Developments should contribute to and/or establish a clear and consistent hierarchy of spaces and routes that directly correspond to their importance and role within the wider network. The role of a street, connection or space within the network should be expressed and legible through its design, scale and form. Proposed routes and spaces should integrate with the wider network in the surrounding, and seek opportunities to create regular connections to enhance connectivity and permeability in an area.
+ Applicants should consider all modes of movement on routes and should allow flexibility, future changes in the movement modes and function accommodated by a street.

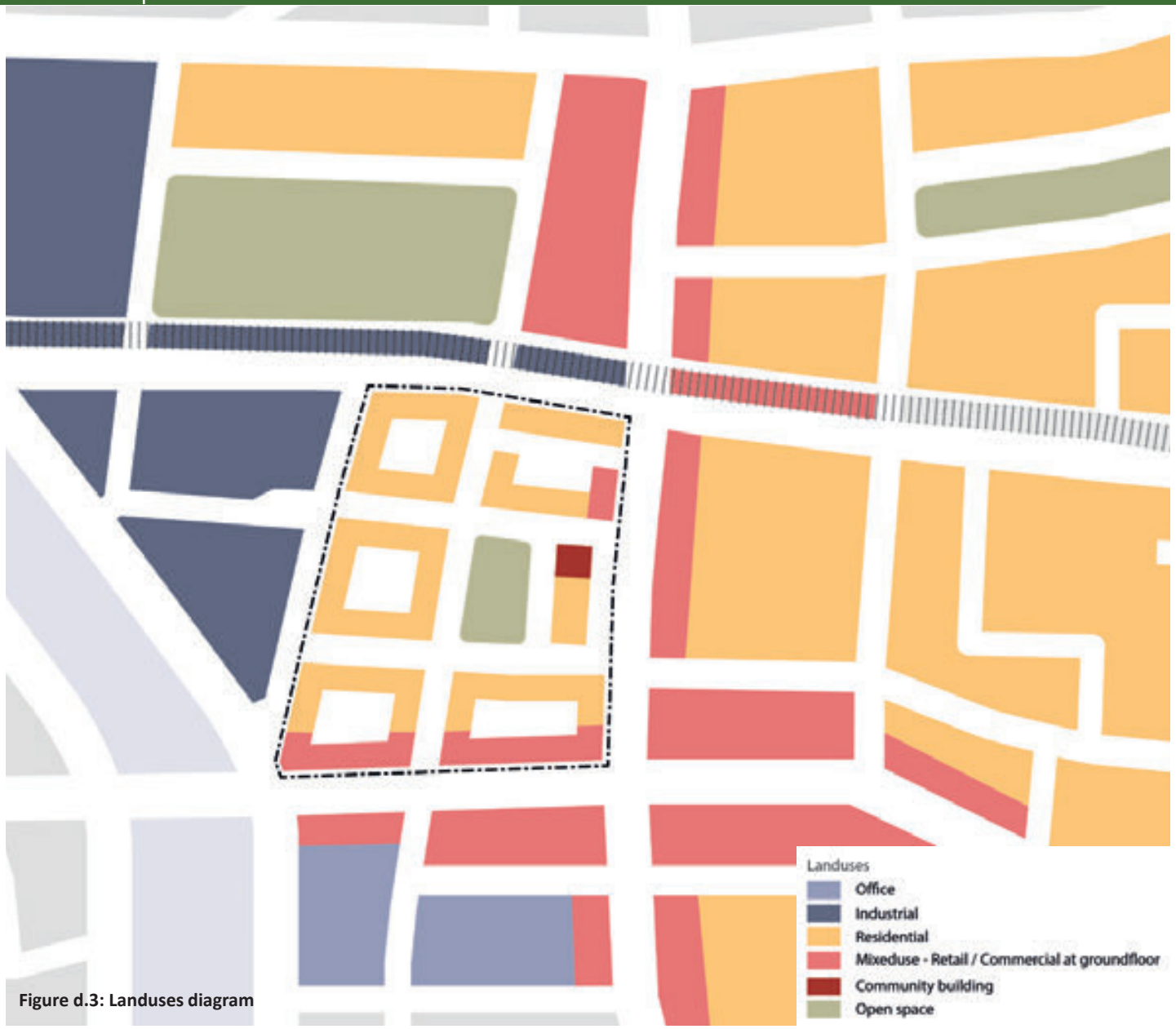


Figure d.3: Landuses diagram

d.21 Urban areas with diverse and mixed land uses are often the most dynamic, vibrant places to live, socialise, work and play. Mixed-use neighbourhoods can support a more diverse network of facilities, can offer greater diversity of employment options and can support walkability due to the proximity of a range of amenities. Areas with mixed use also tend to be more resilient to economic fluctuations and can support community resilience.

d.22 Mixed use can significantly contribute to an active, vibrant ground floor which has a positive impact on the streetscape, perception of safety, and sense of place. Mixed uses often naturally occurs around central locations of networks, where they benefit greatly from the high levels of footfall, visibility, and a concentration with other complementing uses in the area. It is best practice to locate uses where they have good access to relevant facilities or amenities, for instance residential uses in places close to transport, social infrastructures and everyday facilities, industrial uses where they can be easily accessed from the strategic transport network and their externalities can be fully mitigated.

d.23 The distribution of landuses on a site should not be decided on its own but consider and respond to a wider range of contextual factors, including:

+ Accessibility in the network;
+ Proximity to facilities and amenities and how it can support active travel;
+ Its scope to animate places;
+ The suitability and quality of the environment for certain uses;
+ Natural and development constraints;
+ Market conditions;
+ The outlook and setting of development; and
+ How it contributes to character and identity.

d.24 In urban areas generally a mix of uses should be provided, both horizontally within a quarter and where appropriate vertically within buildings. More active uses should be located in nodes or central locations, where they receive greater footfall, or at the ground floor of buildings where they can better interact with people on the street space.

d.25 Potential adverse impacts in between uses, such as the impact of leisure and night time uses, or industrial uses on residential uses, need to be clearly understood and mitigated against. The agent of change principle (London Plan D13) applies, that puts the onus on new development to mitigate against impact onto or from existing uses.

d.26 Most household travel decisions are influenced by surrounding land uses, design quality, destination accessibility, distance to public transport, and density. Mixed land use, in combination with a compact and well connected route network, encourages active travel (see Principle D.3 Access, Movement and Parking). This can have significant positive health impacts and can support a greater level of autonomy for elderly residents and those with mobility challenges.

d.27 Accessibility to communal amenity spaces, such as libraries, cafes, places of worship, etc. (sometimes referred to as "third places") are fundamental for continued participation of elderly people within their local community.

PRINCIPLE D.1.4: LANDUSES

+ Applicants should consider the existing and proposed landuses for the development. This should guide an assessment of the strategic location of different uses throughout the site and should ensure that proposed uses are supported by the spatial form of development as well as local market conditions.
+ A development's planned landuses should respond to a wide range of contextual factors. Potential adverse impacts in between uses need to be clearly understood and mitigated against.
+ In urban areas, mixed-use developments will generally be encouraged and supported. More active uses should be located on the ground floor in nodes or central locations, where they receive greater footfall and benefit from increased visibility.

Image d.2: Greenwich Peninsula: Compact urban development of different scales and typologies (Image copyright Google Earth)

d.28 There is a tendency for higher density development to assume the need for greater height, though this can be damaging to the prevailing, sensitive characteristic of areas. Development can often achieve positive densities through more compact development form rather than increased height.
Some useful guidance on how to increase residential density in historic environments is provided by Historic England study "Increasing Residential Density in Historic Environments".

d.29 Development is most successful when it responds sensitively to the heights in the surrounding area and considers how its scale and height can contribute to the establishment of place with its own coherent and distinctive townscape.

d.30 Intensification approaches, especially in suburban housing areas, are likely to introduce larger scale buildings, such as apartment buildings, that by their nature differ from the pattern of existing housing. New development will need to ensure that its increase in height and scale is sensitive and proportionate to its role and function in the wider area. The approach to height should avoid stark contrasts, mediate height differences, and visually break down larger structures and avoid a monolithic appearance by making reference to common pattern and rhythm of forms that prevail in the area.

d.31 Responding adequately and mitigating the sense of fragmentation that may result from the combination of buildings of different scales is particularly important in transition areas, where change is encouraged but may take place over a long period of time. Here the measure should be that at every point in time new development should lead to a greater level of coherence and quality of character and not be dependent on some other future development to deliver this outcome.

d.32 Intensive landscaping and street trees can also provide an enhanced sense of coherence in streets where the massing and height is more varied.

Image d.3: Kidbrooke Village, compact development with a range of heights by a masterplan led coherent approach to place making

PRINCIPLE D.1.5: SCALE AND MASSING

+ The scale and massing of a development should positively contribute to place making. In deciding on the appropriate scale and massing of development applicants should consider the vision for the place, the proposed mix and intensity of land uses, the accessibility and centrality of a location, and the scale and relationship with the surrounding context.
+ The scale and massing of development should not be determined by common and generic typological solutions but should be developed in response to the grain, height and massing characteristics of the built form in the surrounding area, even and especially if they comprise different land uses or typologies.
+ Compact development can provide a successful way to delivering higher densities whilst responding contextually to the local characteristics of places. Compact development in many instances will be more appropriate than taller buildings in achieving higher densities in areas that are more sensitive to change.
+ Larger scale buildings in areas characterised by lesser scale and height naturally will stand out. Their scale and height should be proportionate to their role or function within the context of the wider area, so that they can contribute to a legible urban fabric. Developments that propose height differences with the surrounding context should be carefully designed and landscaped to mediate and respond to the local character.
+ In transition areas, where a greater scale and massing of development may be desirable, new development should avoid extreme contrast, and strive to deliver coherence and quality of character at every stage of development, rather than being dependent on other future development to deliver a coherent street scene.

"Local identity is made up of typical characteristics such as the pattern of housing, and special features that are distinct from their surroundings. These special features can be distinguished by their uses and activity, their social and cultural importance, and/or their physical form and design. Most places have some positive elements of character, particularly for their users. These can help to inform the character of a new development."
(National Housing Design Guide)

d.33 The Royal Borough of Greenwich has a number of places, such as Greenwich town centre, Greenwich Park and Woolwich Arsenal, whose strong identity extend far beyond the boundaries of Royal Greenwich and that define the image of the Borough. Other places in Royal Greenwich convey a sense of place on a more local scale and contribute to people's sense of belonging and identity.

d.34 New development in the Royal Borough of Greenwich should strive to deliver places that are memorable and instantly recognisable and that have a strong identity. Some contemporary development tend to overly focus on the architectural expression of individual buildings, and less on how individual development forms part of the wider townscape and integrates with and contribute to the identity of a place. This may result in development where every building strives to be special and unique, but that cumulative fails to create a coherent sense of place or distinctiveness. This is not desirable in the Royal Borough.

d.35 Many historic places in Royal Greenwich, such as village or town centres, but also Victorian terraced housing areas or interwar estates, comprise of a large number of relatively similar buildings in terms of their grain, scale, height, broad architectural features and materiality. This coherent development pattern is broken and enlivened by single outstanding buildings of different scales and architectural expressions, that normally also represent functional significance, such as a parish church, administrative building or simply as the statement of wealth and power. This combination of exceptional buildings set against a backdrop of a more 'ordinary' context, typically is the genesis for a strong character and distinctiveness of a place, and provides legibility.

Image d.4: Buildings that terminate views have a significant role in the place hierarchy and legibility of a place

Image d.5: Buildings can provide prominence to a street corner with locally increased height and articulation

Image d.6: Distinctive architecture or features that stand out in its context can provide interest and assist way finding

d.36 New development in Royal Greenwich should seek an appropriate balance between the variation of architecture and the overall consistency of forms that corresponds with the existing or aspired character of an area. As part of its place making approach, development should make use of special features and landmark buildings to add distinctiveness to a place and to act as visual cues to aid legibility and understanding.

d.37 Landmarks are often discussed as needing to be tall, but this is not necessarily the case, as the principal

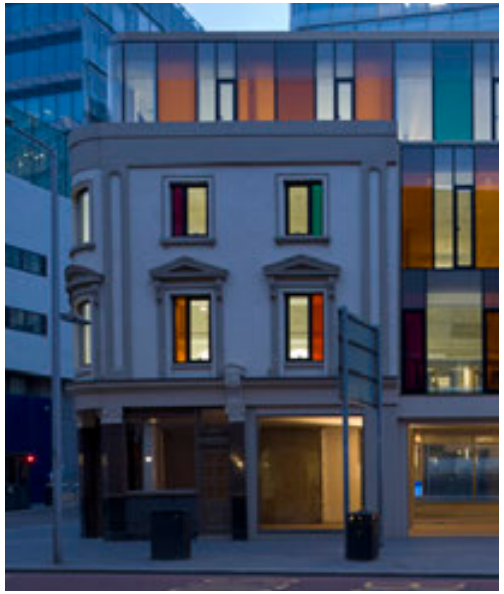


Image d.7: The use of colour and distinctive pattern can contribute to the visual significance of a building

Image d.8: Modest tall buildings, generally between six and ten storeys in height, can mark a locally significant place and enhance the distinctiveness of an area

quality of a landmark is its singularity and prominence within its context, which can be achieved through other means including their form, design, materiality and location rather than exceptional height. Prominent feature buildings contribute to the distinctiveness of places and serve to enhance local legibility and wayfinding.

d.38 Landmark are most successful when they are associated with a place of local significance, such as local hubs and destinations, at street corners, public spaces or in vistas along routes. For guidance on tall buildings see Principle F.3 Tall and large buildings.

d.39 Distinctiveness in an area can also derive from the contrast where specific and recurring characteristics in the urban form are broken by exceptions. This could include the more generous articulation of an important junction, a larger street, diagonal route or public space opening up and contrasting with the regularity of the urban fabric, the narrowing or curving of a street, the closure or opening of a view, or locating a special building at the end of a street axis.

PRINCIPLE D.1.6: LEGIBILITY AND IDENTITY

+ Special features and landmarks, such as distinctive buildings and structures, natural features, landscaping and art work can help to add distinctiveness to a place and act as visual cues to aid legibility and understanding.
+ The principal quality of a landmark is its singularity and prominence within its context, and as such the design for a landmark will need to consider the level of coherence of the context and how to deliver contrast through its form, design, height, materiality and prominence of location.
+ Landmarks are more successful where they are meaningful and associated with a place of local or spatial significance, such as an activity hub or destinations, at a street corner, at a public space or visible within a vista along a street.
+ The layout of development should actively consider how to enhance the visual prominence of existing or proposed landmarks or other features to amplify their role.
+ In areas that are bland or have a poor sense of place development should consider delivering buildings or features that enhance distinctiveness, act as local landmarks and stimulate local identity.

Image d.9: Outdoor gather spaces can function as 'third spaces'

Image d.10: Community Centre can facilitate inclusion and cohesion (image of Sands End Arts & Community Centre by Mae Architects © Rory Gardiner)

Image d.11: Libraries can act as inclusive and inviting gathering places for the community (image of Canada Water Library by CZWG Architects © Tim Crocker)

d.40 Inclusive places are accessible to all and enable everyone to participate confidently and independently in the life of a neighbourhood and everyday activities. Inclusive places can support greater levels of social integration and can offer a greater level of autonomy for elderly residents and those with mobility challenges.

d.41 Design should avoid features that could create actual or perceived physical, social and cultural barriers, or contribute to segregation, both within the development and with its surroundings.

d.42 Development should facilitate social inclusion and celebrate diversity. Larger development schemes should consider how they provide '**third places**', which are public or communal spaces, where people from all backgrounds, incomes and demographics are welcome, can meet and interact outside the home and work environment. Third places offer friendly, safe, easy access and inclusive social spaces. For example these could be provided in and by cafes, community centres, religious and cultural facilities, libraries and other communal facilities. They are neutral spaces where people can meet in public and are accepted whatever their background.

d.43 Third spaces foster social engagement between people, provide an environment to make new acquaintances and engage in conversations and shared activities. They are an important communal resource in inclusive neighbourhoods. They can build social capital, generate a sense of community and belonging, and can help combat loneliness.

PRINCIPLE D.1.7: INCLUSIVE SPACES / THIRD PLACES

+ Development in Royal Greenwich should deliver inclusive environments that are suitable and accessible for all.
+ A consistent level of design qualities should be provided across different housing tenures, to support social integration.
+ Larger development should provide community facilities and 'third places' as a local resource for social interaction and integration, especially for marginal groups such as teenagers, frail and elderly people or ethnic minorities.
+ Applicants for larger schemes should demonstrate how the design responds to the social diversity of the Royal Borough and helps deliver more inclusive places.

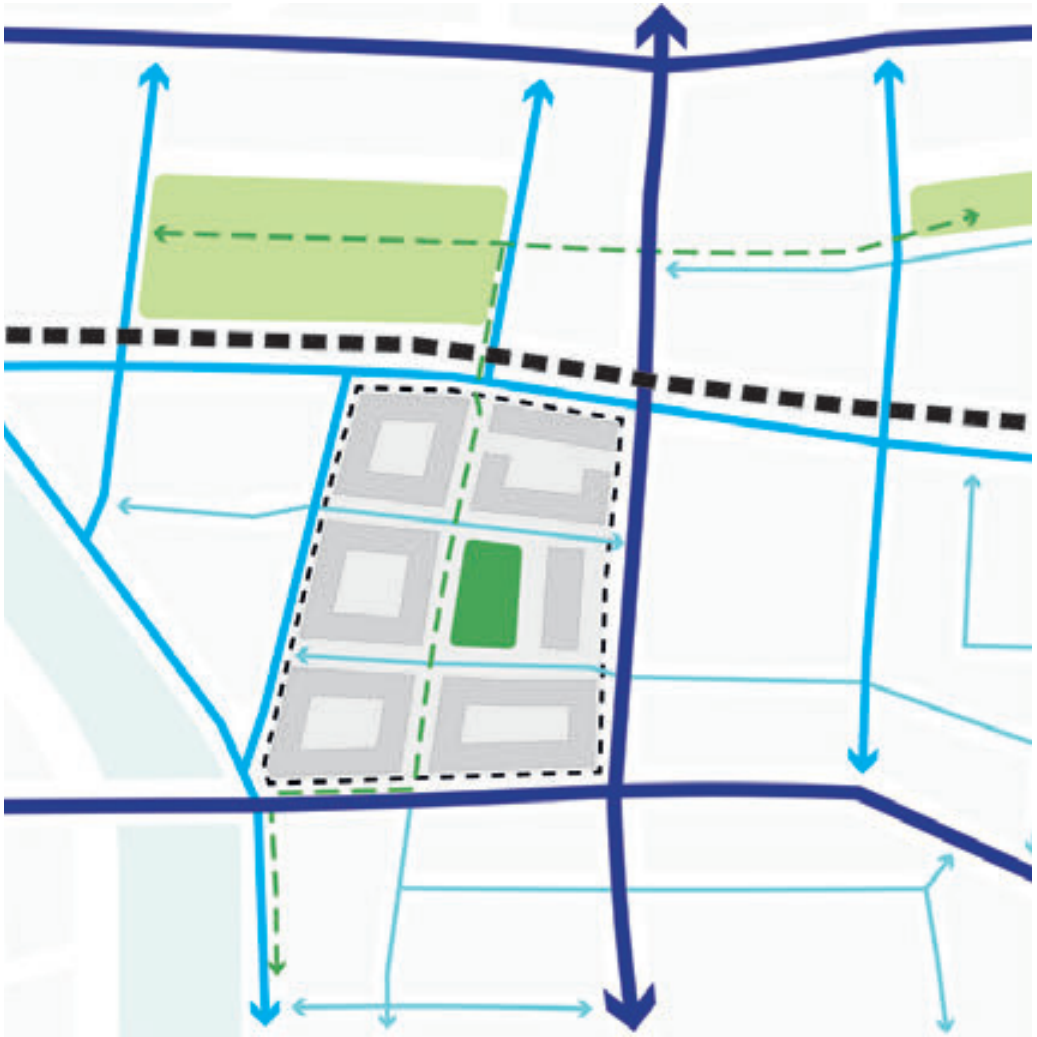


Figure d.6: Example masterplan with perimeter blocks and interconnected routes

d.44 Street blocks are the prevalent form through which development is organised in the Royal Borough of Greenwich.

d.45 Good development strengthens the positive and reciprocal relationship between built form and open spaces. Perimeter blocks provide a common and efficient organisation of development that naturally define and separate public and private spaces. In perimeter blocks buildings are set along the surrounding streets, and define the street space and street corners. They wrap around and protect the communal or private open spaces within the interior of the block.

d.46 Perimeter blocks usually are made up of multiple buildings. In urban settings they tend to join up and form continuous street frontages and strong street enclosure. In places with a lesser urban or sub-urban character the urban form may comprise of short terraces, semi- or detached buildings, creating a rhythm of buildings fronts and gaps that characterise the street space. New development should avoid monolithic perimeter blocks that are out of scale and character with its context.

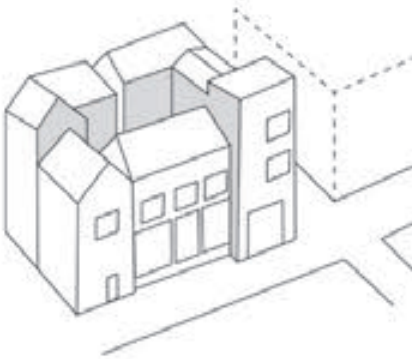


Figure d.4: Higher density, urban blocks are suitable in more urban conditions

Figure d.5: Lower density, blocks are more suitable in rural locations

d.47 Generally development should be arranged in a perimeter block layout, that:

+ Provides a clear distinction between public and private spaces;
+ Optimises connections to surrounding areas and enhances permeability;
+ Animates and increases natural surveillance to the street, which makes it safer and more attractive for walking and cycling;
+ Creates contained and secure spaces in the interior for private gardens and communal spaces;
+ Contributes to a sense of ownership of internal spaces and contributes to their security; and
+ Supports well defined streets of different scales.

d.48 Street blocks can have different shapes and sizes and may accommodate a range of uses, densities and building typologies. They can also support courtyards and mews streets within the centre of blocks (see Principle D.2.2 Blocks within blocks). Parcelisation is a common feature of street blocks (see Principle D.2.3 A Fine Urban Grain).

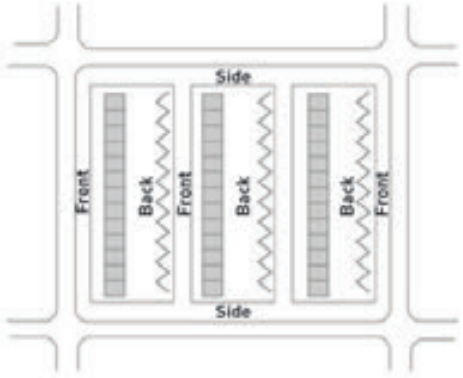


Figure d.7: Streets should not mix fronts and backs

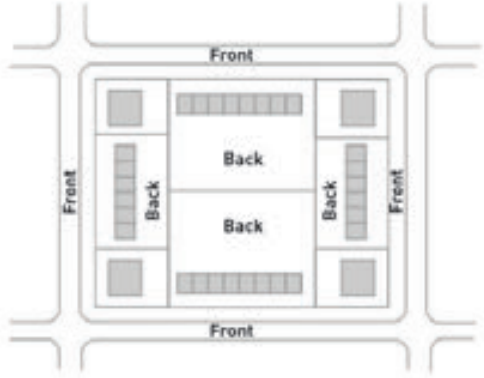


Figure d.8: Perimeter block layout ensuring a clear definition of front and back and a strong building line to the street

PRINCIPLE D.2.1: LAYOUT OF STREET BLOCKS

+ Generally, street blocks are the most appropriate way to organise development in Royal Greenwich. New development should generally place buildings along the perimeter of a street block, where they front onto the street and enclose private, semi-private or communal spaces or servicing areas to the rear.
+ Developments should set out an organisational and hierarchical network of streets and perimeter blocks. These may be regular or irregular in form and should be organised to account for local site conditions such as topography, natural features, and orientation.
+ Developments should utilise well-dimensioned regular or irregular perimeter blocks to spatially define and support the distinction between the external public and the internal private spaces. The dimensions of street blocks should consider the pattern of development, the height and scale of development, sun and day lighting to development and courtyards, and the privacy of residential accommodation.
+ Buildings should follow and reinforce the street pattern, be oriented towards and overlook the public realm, be accessible from the public streetscape, and wrap corners. They should optimise active ground floor uses to achieve more pleasant walking environments. Within coherent and historic areas, the established existing building line should usually be followed. Internal open spaces should be considered for the amenity of residents.

d.49 Significant development schemes should explore if they can establish 'super blocks'. Superblocks are large street blocks that are composed of smaller street blocks and that offer a more informal and people oriented environment inside the block.

d.50 General vehicular traffic should be restricted to the streets surrounding the super block, whilst streets internal to superblocks could be restricted to servicing and residents only. The public realm design within the superblock should prioritise walking and cycling and avoid on street car parking (except for disabled parking). A largely car free environment provides an opportunity to design more intimate and sociable environments that invite for resident interaction and play. They also can more easily integrate landscaping, trees and sustainable urban drainage (SUDS). These spaces can foster a greater sense of ownership and belonging by residents and enhance social cohesion. There is strong evidence that "territorial spaces" contribute to a positive sense of community, safety and security, and that these type of spaces can encourage children's play.

d.51 Blocks within superblocks follow the same principles as perimeter blocks in terms of the relationship between the built form and open space. However this arrangement allows for a greater differentiation of typologies and heights, whereby larger and more public facing buildings are located at the edge of the superblock whilst residential buildings of lesser scale and houses are being located on street frontages within the interior of the superblock. This can allow for a greater differentiation of building and residential typologies and a greater social mix within an area. The hierarchy of built form should respond to and complement the hierarchy of the street network. Street spaces and blocks within superblocks can have a less formal design and more variety than the ones at the edge of the superblock.

Image d.12: Bo01 development in Malmö: Intimate, traffic free pedestrian environment and social space within the interior of the superblock, also providing greening and SUDS.

Image d.13: Bo01 development in Malmö demonstrates the use of blocks within blocks typologies

d.52 Whilst the superblock typology will not be applicable or practical in all development projects, especially on smaller sites or where a development involves many existing properties with established access rights, designers should explore this in large developments or estate renewal projects where a range of typologies and densities are proposed.

Image d.14: Aerial of Bo01 development in Malmö shows the variety of architectural styles and typologies provided within the block interior, and the large scale apartment blocks that define the exterior of the superblock

PRINCIPLE D.2.2: SUPER BLOCKS

+ The masterplanning of large new developments or estate renewal projects should consider the organisation of development in superblocks that are composed of smaller perimeter blocks.
+ The block interior should be traffic calmed and its public realm design should prioritise walking and cycling, avoid on-street car parking (except for disabled parking) and integrate landscaping, trees and sustainable urban drainage (SUDS). The design should create sociable spaces for people that invite for resident interaction and children's play.
+ The built form should reflect the hierarchy of spaces, providing larger scale and more regular development at the perimeter of the superblock, and buildings of lesser scale and a more intimate environment within the super-block interior.

Image d.15: Powis Street in Woolwoch is an example of successful environment based on a fine urban grain development pattern with independent buildings having adapted over time

Image d.16: Large scale uniform housing scheme on Woolwich New Road, provides a large urban grain, monotonous facades and less adaptability.

d.53 Predominately the built form in the Royal Borough comprises of a fine urban grain, that accommodates a diversity of independent buildings and developments, of which many are more than 100 years old. The exceptions to this are developments on larger sites that were masterplanned as building ensembles and where a principal ownership and management of the estate is retained by a single landowner. This may include retail and business parks, institutional development, tenement and postwar housing estates and post millennium regeneration schemes.

d.54 Pattern of finer grain individually owned and managed buildings have an inherent ability to incrementally change and adapt to changing requirements and needs, driven by the choice and action of competing landlords. This for example explains the dynamic environments in town centres such as Greenwich and Woolwich, that have successfully endured, developed and adapted over a long period of time. Conversely, the single ownership of bigger estates inevitably has led to larger, more uniform (and also complex) developments, that generally are less flexible to adapt, and require more radical interventions to implement change.

d.55 Larger development schemes should aim to deliver a fine urban grain with independent buildings that support future incremental change and adaptation. This approach can also lead to a greater variety of architectural and typological solutions, which should be encouraged. Whilst independent development on individual parcels of land is not very common practice in the UK, it is very common in other European and Scandinavian countries, which provide excellent case studies for this approach.

d.56 Fine grain parcelisation can enable and support community led building projects (such as self-build projects or Baugruppen). These typically result in building projects of higher quality that better respond to the needs of residents.

Figure d.9: Diagrammatic example of a development with fine urban grain

They also generate a civic involvement and local pride in an area.

d.57 A fine grain parcelisation pattern may also facilitate the 'pepper-potting' of affordable housing amidst private development and thereby support a greater tenure mix and the creation of a more socially and economically diverse and inclusive community.

d.58 The parcelisation approach also can deliver different architectures, a richer and more varied built form and environment, contribute to a place's distinctiveness and character.

d.59 Ultimately the approach embeds flexibility and adaptability into the heart of new development and as such supports innovation, a greater longevity of buildings and reduces the carbon impact of the development over its life-time by avoiding the demolition and redevelopment of larger structures that are no longer fit for purpose and fail to adapt.

d.60 The degree of differentiation permitted between developments on different lots will need to be carefully managed and respond to applicable character and placemaking principles. Parking arrangements (Principle D.3.5 Vehicular Parking) should be considered early in the strategy to support the parcelisation approach.

PRINCIPLE D.2.3: DELIVERING A FINE URBAN GRAIN

+ New development of large sites should build on the borough's history and strive to deliver a finer urban grain with independent buildings (and where possible ownerships) .
+ A parcelisation approach should be followed that sub-divides larger development sites and street blocks into smaller self-contained lots for independent development.
+ Individual sites should be developed using different architectural and typological solutions, planned by different architects to establish a richer and more varied built form and offer.
+ Development should be guided by an overarching vision and masterplan to ensure individual buildings contribute to a coherent overall character and adhere to a common set of place-making principles.
+ Larger development should actively promote and facilitate community led building projects and provide suitable sites.
+ Affordable housing should be pepper-potted on individual sites throughout a larger development scheme.
+ Where off-street parking is provided, parking provision should be facilitated either independently on each lot, or alternatively arranged separately, for example in a mobility hub, to avoid constraining the independence of development by a large shared parking structure.

Image d.17: Low traffic neighbourhoods help to make streets around London easier to walk and cycle on by stopping cars, vans and other vehicles from using quiet roads as shortcuts (image source: TfL)

d.61 Many parts of the Royal Borough already benefit from close proximity to local centres, public transport, local facilities and open spaces and therefore are or have the prerequisite for becoming walkable neighbourhoods.

d.62 The Council is implementing low traffic neighbourhood schemes and works on improving the walking and cycling connectivity across the borough, significantly enhancing the quality and directness of routes. This will support active travel, reduce the impact of cars on climate change and air pollution, and enhance the health and well-being of local people.

d.63 Proposed new development in Royal Greenwich will need to do its share to reduce the reliance on the private car and to make active travel the mode of choice for short distances. This can be achieved through a range of approaches at different scales of development, including:

+ Creating new connections, permeability and a choice of routes (Principle D.3.3 Plan for Future Connections)
+ Enhancing the quality and attractiveness of the public realm for walking and cycling (Principle E.3 Public Realm)
+ Providing higher density and compact form of developments in areas with higher accessibility to local facilities and public transport (Principle B.3 Responding to Accessibility and B.5 Density)
+ Providing convenient and safe cycle storage close to building entrances and destinations (Principle D.3.6 Cycle Parking), and
+ Apart from disabled spaces, locate parking away from homes (Principle D.3.5 Vehicular Parking)
+ Support the provision of car sharing and the move towards electric and hydrogen cars (Principle E.3.7 Utilities)

PRINCIPLE D.3.1: REDUCE RELIANCE ON THE PRIVATE CAR

+ New development should take account of proximity to local centres, public transport, local facilities and open spaces when planning their development to minimise reliance on the private car.
+ Development should incentivise walking and cycling through the creation of an attractive network of safe and convenient routes integrated with the development and connecting with the wider area and adjacent sites. Development should also encourage active lifestyles and sustainable modes of transport, prioritising the needs of the most vulnerable road users first, in accordance with the recommendations in Manual for Streets 2.
+ All new developments should be accessible by public transport, with higher densities corresponding to greater PTAL scores.

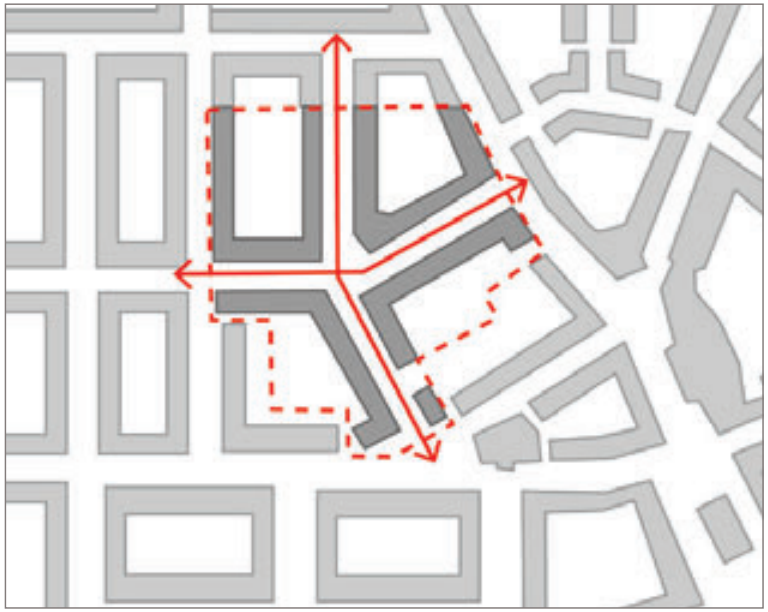


Figure d.10: Development proposes a connected network of streets with blocks contributing to the existing pattern

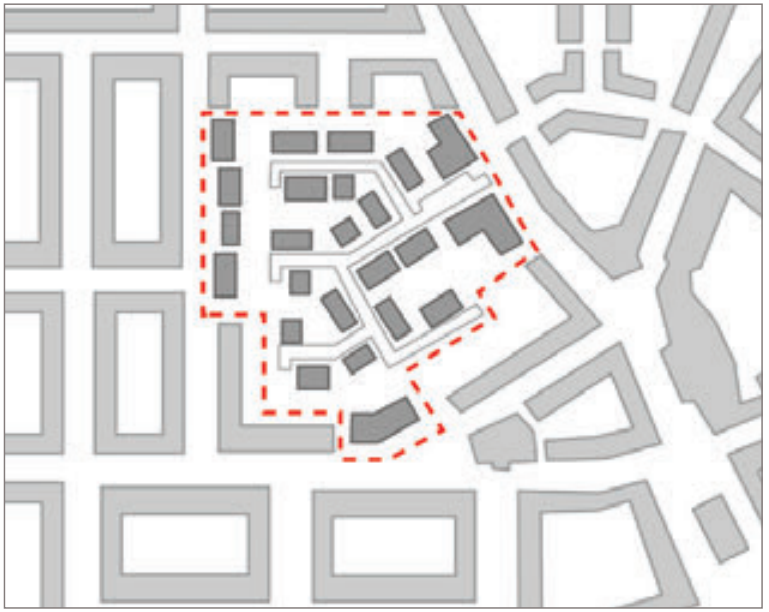


Figure d.11: Development proposal is internalised, with new buildings accessed via cul-de-sac streets

d.64 In some parts of Royal Greenwich the pattern of urban blocks is disjointed and interrupted by larger impermeable institutional development, road or rail infrastructures, and other development that act as barriers to movement. Poor connectivity and permeability between neighbouring areas can result in segregation and isolation and make areas feel less safe and connected. It also means that access routes are longer and convoluted, thereby requiring unnecessary travel and discouraging walking.

d.65 Whereever possible development should seek to repair the urban fabric and establish connectivity and a greater levels of permeability, by (re-)instating a legible pattern of street blocks. Cul-de-sac layouts and developments that fail to use available opportunities to connect with nearby streets should not be permitted.

Development should apply Principle D.2.1 Layout of Street Blocks.
Reinstated or enhanced connections should focus on connectivity for pedestrians and cyclists, while maintaining a lack of through access for cars can be preferable in certain cases, including when beneficial to avoid undesirable rat-running on residential streets".

PRINCIPLE D.3.2: CONNECT THE URBAN FABRIC

+ In areas that are segregated or lack a clear and legible pattern of street blocks, development should seek to repair the urban fabric, connect neighbouring areas and establish permeability, reinstating urban street blocks where possible.
+ Cul-de-sac layouts and developments that fail to use available opportunities to connect with nearby streets should not be permitted.

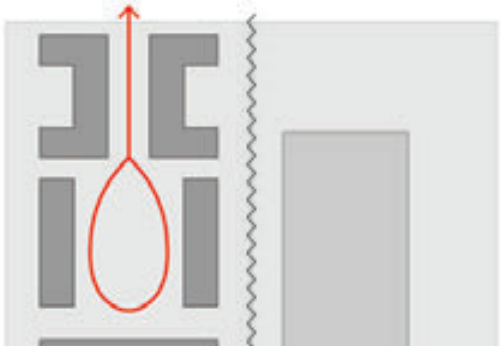


Figure d.12: Inward looking cul-de-sac development does not provide for the future connection with neighbouring sites

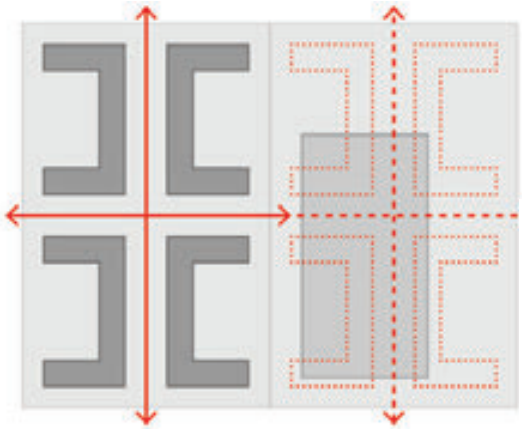


Figure d.13: Development should envisage, plan for and facilitate the future connection with neighbouring sites to create local connectivity and permeability

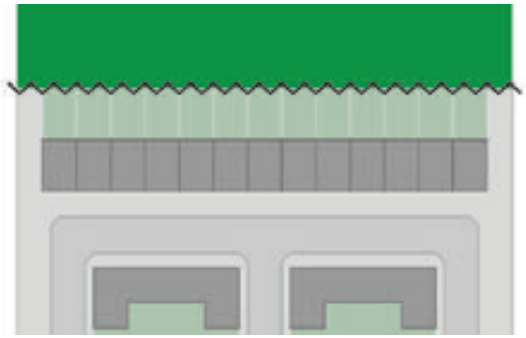


Figure d.14: Development backing onto open space does not create a positive interface between the private and public spaces. It is a potential security issue for property owners/occupiers. It can result in poor overlooking and animation to the public space and unattractive and overly defensive rear property boundaries. It further may limit access to the open space and affect its amenity.

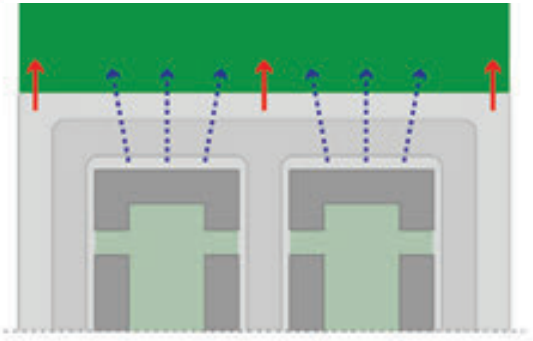


Figure d.15: Development fronting onto open space helps to provide overlooking and facilitates easy access into the open space or any future development.

d.66 While many areas in the Royal Borough of Greenwich are developed around principles of permeability and good urban design, there are still areas where connectivity between places, neighbourhoods and streets are poor, and where walking and cycling is indirect or hindered by barriers or the configuration of development, such as cul-de-sacs or inward facing layouts.

d.67 New development should implement routes right up to the property boundary and avoid ransom strips, to enable the joining up if and when the neighbouring site comes forward for development. The Transport Officer of the Local Authority should be engaged early on to assist in the decision on the location of routes and appropriate modes of transport that should be facilitated (walking, cycling or vehicular). Cycling and pedestrian routes should be designed holistically within a wider vision for the local area.

d.68 Where a development site adjoins open land or public open space, an access route along the edge with the space should generally be established, which should be fronted on by proposed new development. This supports the establishing of a positive relationship with the open space and facilitates access if appropriate, while also providing for the future connectivity should this area be developed. In places where the site is landlocked by other development, it is good practice to join backs to backs, and avoid public routes along the property boundary except from the locations of proposed future connections.

d.69 Future-proofing the connectivity of new development will help over time the creation of a better connected and walkable borough.

PRINCIPLE D.3.3: ANTICIPATE FUTURE DEVELOPMENT

+ Development should plan for and facilitate the future connection with neighbouring sites where they may come forward for development in the future.
+ Applicants should engage with the local authority early to establish principles about desirable routes and the modes of transport that should be facilitated.

d.70 Over the years the servicing needs of development has expanded significantly due to requirements for separating waste and recycling, but also due to the increase of delivery services and the increasing numbers of providers.

WASTE AND RECYCLING

d.71 Developments that are not properly planned for refuse and recycling collection and storage both for individual and collective properties can have a significant detrimental impact on the amenity of residents and the quality of the streetscape.

d.72 As best-practice, refuse and recycling places should be attractively integrated into the streetscape and designed to allow for bins to be easily moved to collection points and vehicles. A continuous connected network of streets helps avoid the need for large turning areas for servicing vehicles.

d.73 Facilities for refuse and recycling storage should be:

+ Of suitable size to accommodate all the refuse and recycling containers to meet the needs of residents and be of a size acceptable to the refuse collection service;
+ Carefully designed and located so they are neither visually obtrusive nor obstruct the passive surveillance of the street, and avoid having a deadening impact on the façade or threshold;
+ Located where they will not be obstructed by car parking;
+ Within secure and well-ventilated areas;
+ Located so that they may be easily accessed from properties but where they will not cause nuisance through unpleasant odours or noise; and
+ Coordinated with recycling bins. It is recommended that developers consult the Councils Waste Services at an early stage to determine suitability.
+ Designed to enable easy waste segregation on site.

d.74 Communal underground waste and recycling drop-off facilities operate successfully in many European cities. These are unobstrusive and well integrated in the street scene and facilitate a greater separation of recyclable materials, and avoid the need to collect a plethora of recycling and waste bins from individual property. Where Developers propose to design underground waste facilities, collection points or alternative technologies,

Image d.18: Refuse areas should be considered as part of the design of the buildings. If refuse areas are located to the front of the building they should be designed as an integral part of the elevation

Image d.19: Integrated refuse area to the rear of building

Image d.20: Bin store is located in a parking spaces and appears to be an afterthought

Image d.21: Bin store obscures building frontage and presents a poor outlook from properties

Image d.22: In new buildings, bins storage should be integrated into the design from the early stages

Image d.23: Applicants should consider how bins can be neatly arranged in front gardens & micro-scale opportunities for biodiversity can be explored (image from The Front Yard Company)

Image d.24: Developments are encouraged to explore passive provision for future underground waste and recycling collection

they need to consult with the Waste Strategy Team before submitting their application to the Planning Department. The Council will consider proposals of innovative technologies providing it can be demonstrated to be effective in collecting high recycling rates with low levels of contamination.

DELIVERY AND OTHER SERVICES

d.75 Developments should holistically plan for the provision of modern service needs, including mail, parcels, household goods and furniture, groceries, take-aways, as well as property maintenance and repair services, child minding and cleaning, on-demand transport and taxi services. This should consider the practicalities, convenience and efficiency for each service delivery type, including how access into individual units or concierge facilities is facilitated, how service traffic is managed and where stop and deliver, drop-off, loading bays and white van parking can be provided. Large developments may benefit from a concierge or central office/area for receiving deliveries and mail.

d.76 If turning areas need to be provided for large vehicles such as refuse or fire service, consideration should be given to their design to prevent cars from parking in them.

Further Guidance -

+ TFL, Healthy Streets for London (2017)
+ TFL, Vision Zero for London
+ RBG, Waste and recycling guidance for new developments
+ RBG, Transport Strategy (2022)

PRINCIPLE D.3.4: SERVICING, REFUSE COLLECTION AND DELIVERIES

+ From early on, applicants should consider the holistic servicing requirements for the proposed development, which should include how deliveries are managed (including food delivery), refuse collection, and postal deliveries. The strategy for servicing should be commensurate to the scale and complexity of new development.
+ Servicing/delivery strategies for new and especially large developments should be well integrated with and not detract from the quality of a development or street scene. They should avoid any negative impact on people walking and cycling, including their safety.
+ Development should consider innovative ways to improve servicing for users and providers and should future proof for future innovations.
+ The layout of developments should be designed and tested to facilitate service providers, service vehicles and refuse collections, but should not be over engineered to the detriment of the scale and quality of the spaces.

d.77 In the Royal Borough there is an aspiration for car-free development, a general intent to control and limit parking requirements across new developments and to invest in good design that incentivises active travel. The London Plan 2021 and Royal Borough of Greenwich policies both control the amount of parking for developments based on the assessment of needs. These policy documents should both be referred to for guidance on parking standards.

d.78 Generally, where car parking is provided, vehicle charging points should be designed in to future proof parking provision. Poor availability of convenient charging infrastructure is one of the reasons for people to avoid changing to hybrid or full electric cars. All parking spaces should actively provide for the future provision for Electric vehicle charging points (EVCPs), including rapid charging points (RCPs). As a minimum, the amount of EVCP's and passive provision should be provided in line with London Plan policy. An encouragement to exceed these minimum standards is welcomed. Car sharing and Car Clubs should be actively encouraged.

ON-STREET PARKING

d.79 Limited residential, visitor and disable parking can sometimes be accommodated on street. On-street parking is a convenient form of parking provision that adds activity to the street and natural surveillance. It also avoids disruptive vehicle crossovers on the pedestrian footways.

d.80 Applicants should avoid large areas of surface parking which detract from the public amenity space, forecourt parking which can create the feeling of a street dominated by cars and rear parking lots which have little natural surveillance and can negatively impact on the site safety.

d.81 On-street parking should avoid dominating the street scene. It should be designed to minimise its visual impact and be well screened by landscaping. Parking bays are normally most discreetly laid out in parallel, rather than right-angles, with the street kerb.
Further useful guidance is provided by the Manual for Streets 2.

d.82 Right-angle on-street parking should be minimised in new developments as it can dominate the public realm, generate weak street enclosure and hard-edged street environments. It is

Image d.25: Parking is usually most unobtrusively accommodated on-street as parallel spaces softened and defined by tree planting

Image d.26: A mix of perpendicular and parallel parking may by possible but only if the street is well landscaped

nevertheless sometimes acceptable providing it is positively designed as part of a comprehensive landscaped public realm and is limited to one part of a comprehensive parking strategy for higher density areas.

d.83 Generous safeguarding areas should be provided around trees and shrubs to protect them from accidental damage from parking activities. While Image d.25 indicates an idealised parking layout with associated soft landscaping, this should not give the impression that this will be suitable everywhere. In parts of the Royal Borough where developments relies on the use of existing roads the introduction of such vegetation may not be feasible or appropriate. Consideration of the ongoing maintenance, type of landscaping and regular cleaning will need to be made.

d.84 In order to provide parking provision on street, the proposal must comply with The Traffic Signs, Regulations and General Directions (TSRGD) 2016, regarding the parking bay dimensions (from Schedule 7, Part 5).

d.85 Disabled parking bays provided on street should:

+ Display when reserved for disabled badge holders at certain times (whether or not also reserved for other users);
+ the length of the bay must be at least 6600 mm; and

+ the width of the bay must be at least 2700 mm (or 3000 mm when placed in the centre of the carriageway) except in a case where, on account of the nature of traffic using the road, the overall width of the carriageway is insufficient to accommodate a bay of that width.
+ Where it is not possible to access the footway directly from the vehicle, and wherever space is available, parking bays should be at least 3300mm wide in order to allow the driver or passenger to get out safely on the side where traffic may be passing. This is especially important where disabled driver may have to get out of the vehicle on the "road" side. Adequate signage and road markings will be required and will need to be accompanied by a Traffic Order if on public highway or appropriate enforcement if on private land.
+ A key element for consideration is that, if the bay is on the roadside, there is a dropped kerb between the parking bay and the adjacent path.
+ Consideration should be given to the level of traffic on the road as it is important that the road and footway widths are not compromised. It is therefore recommended that provision normally is made on site to accommodate the spaces.

d.86 On-street parking should not cause obstructions in the highway, enable free movement of refuse vehicles and buses while retaining continuous footways.

d.87 Any new parking demand that is to be fostered on to existing highways should not adversely affect existing residents, businesses or visitors using it. Proposal must be in line with the recommendations in the London Plan Policy T6.

Non-allocated Parking

d.88 Non-allocated, shared parking (generally on street) is more efficient than designating parking to individual dwellings and this approach is encouraged to reduce parking numbers within development schemes especially in respect of terraced housing.

PARKING STORAGE SOLUTIONS

d.89 Development can consider different structural solutions to accommodate its parking demand. These include undercroft and underground carparks, decked courtyard parking and multi-storey car park solutions. Integrating parking with development will free up the public realm and courtyard spaces for landscaping and amenity provision and creates better living environments.

d.90 Where proved desirable in design, conservation and sustainability terms, larger schemes can consider concentrating parking in dedicated locations of the development, for example in mobility hubs, where they do not burden the public amenity spaces. Ideally the location of car parking should be provided a short distance away from home to incentivise walking and cycling especially for short distance journeys. This does not apply for parking spaces for the disabled where the distance from homes should be minimal.

d.91 Where space is at a premium parking could take the form of compact, automated car stackers or mobility hubs that allow for a dynamic and efficient management of available car parking spaces within a development.

d.92 Combining car parking for different user groups, such as residents, office workers or town centre visitors, can offset the effects of different peak parking demands and avoid providing space that is empty some of the time. Permit schemes and pricing of parking can further be used to incentivise the uptake of other modes of transport.

d.93 Stacked parking solutions should avoid adverse impacts on the street scene from blank or monotonous walls or visibility of parked cars. Structural parking provision should generally not be visible from the public realm.

d.94 Development should explore screening structured car parks by embedding them as part of a street block, flanked by active development. The impact on the street scene should further be minimised by provided active ground floor uses where possible and to provide positive facade treatment that integrates with the character of the street and provides interest, for example by providing a green wall.

d.95 Alternatively multi-storey car parks could be wrapped by development and screened with positive frontages that provide passive supervision of the street space.

d.96 Multi-storey car parks should aim to be structurally independent from residential or mixed use development to avoid creating complex development structures that are less adaptable in the

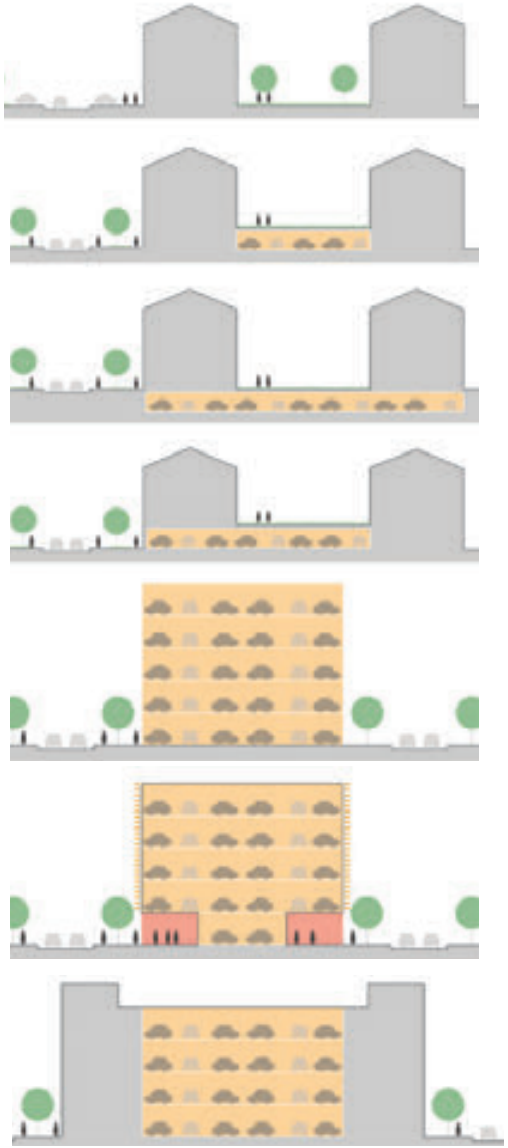


Figure d.16: Forecourt surface car parking detracts from the quality of the street space and is not permissible

Figure d.17: Decked courtyard parking with development wrapping around minimises the visual impact of parked cars and provides usable communal amenity space above

Figure d.18: Underground parking solution retains the openness of communal blocks at ground level

Figure d.19: Undercroft parking that is visually exposed to the street space or results in blank facades are not acceptable

Figure d.20: Multi storey car park with visually exposed cars or blank frontages at ground and upper levels detracts from the character and quality of the street space and is not permissible

Figure d.21: Multi-storey car park with active and animated ground floors and a positive facade at the upper floors that integrates with the street space is a possible solution in exceptional circumstances where a less visually impacting approach is not practical and for temporary structures.

Figure d.22: Multi-storey car park wrapped by other uses that form a positive edge to the street space and provides overlooking

future and to facilitate an easy approach to parcelisation (see Principle D.2.3 A Fine Urban Grain).

PRIVATE FORECOURT PARKING

d.97 Private forecourt parking may be an option where private houses are provided that facilitate on plot car parking. Private forecourt parking is only be permissible where

+ The distance between the front property boundary and the building line is in excess of 5.5m to avoid cars obstructing the footway
+ Car parking does not obstruct direct access and visibility of the front door from the street
+ It does not require the removal of mature trees on the property or street
+ Parked cars are appropriately screened on either side from view from the street space by native hedges or landscaping plantings
+ SUDS or permeable surfaces are used that drain run-off naturally into the ground of the property and prevent run-off into public drains
+ Footway runovers retain the prevailing level surface for pedestrian and where relevant cyclists
+ Design has adequately considered how safety and visibility of passing pedestrian and cyclists is ensured and conflicts during car parking operations are avoided
+ The property has adequate provision of cycle parking provided (Principle D.3.5 Vehicular Parking)
+ New car parking spaces are provided with an electric car charging point per space.

Further Guidance -

+ National Planning Policy Framework paragraph 107;
+ London Plan 2021 Policy D8(n) & T6;
+ Royal Borough of Greenwich Local Plan, Core Policy IM(c)
+ Royal Borough of Greenwich Transport Strategy (2022)

Image d.27: Parking areas should be well landscaped and should not obscure ground floor active facades

PRINCIPLE D.3.5: VEHICLE PARKING

+ In alignment with national and local policy, vehicle parking should be assessed based on the site location, proximity to public transport, and type and use of the proposed development. Development should discourage private car ownership and should instead consider design solutions that incentivise other modes of transport.
+ Applicants should avoid parking typologies which have a detrimental impact on safety, streetscape, public amenity and future adaptability. Larger developments should consider accommodating parking in dedicated areas away from residential accommodation that do not detract from public amenity spaces. Where required, parking areas should be designed to be aesthetically pleasing and allow for high quality soft and hard landscaping.
+ Where proved desirable in design, conservation and sustainability terms, schemes can consider parking solutions that are structurally independent from residential or mixed use development to avoid creating complex development structures that are less adaptable in the future and to facilitate an easy approach to parcelisation (see Principle D.2.3 A Fine Urban Grain); these should be designed to avoid adverse impacts to the streetscape.
+ Development should explore screening structured car parks by embedding them as part of a street block, flanked by active development. The impact on the street scene should further be minimised by provided active ground floor uses where possible and to provide positive facade treatment that integrates with the character of the street and provides interest, for example by providing a green wall. Allowance for Electric vehicle charging points (EVCPs), including rapid charging points (RCPs) should be integrated into the development, in line with the London Plan standards (Policy T6.1). Car-sharing schemes are also supported.

d.98 Developments should provide cycle parking in line with the London Plan Policy T5 and comply with the design guidance provided by the London Cycle Design Standards (TfL, 2014).

d.99 Integrating cycle parking into developments can play a positive role in encouraging cycle use and sustainable journeys around the local neighbourhood and the wider city. The more that cycle storage can be designed around the full user journey the better, as this can reduce barriers and help incentivise cycling uptake.

d.100 A variety of cycle stands will be expected to be provided to meet the needs of different users from young to old or those with special needs or non-standard cycles. Developments are encouraged to provide not more than 80% of long-stay residential spaces in two-tier racks.

COLLECTIVE PARKING - APARTMENT BUILDINGS

d.101 For apartments, cycle storage should normally be accomodated within the main building at ground floor level, preferably close to main entrances as they typically offer more convenience and security than external stores. However, as cycle storage can have a deadening impact upon the façade and threshold, they will need to be carefully integrated to enable an active frontage. If indoor provision cannot be provided, outdoor, ground level cycle shelters can be considered, if adequately secure and weather-protected, in line with London Cycling Design Standards (LCDS). In new development this should be designed to relate to the architectural language of the development and should not be a generic storage product. Dedicated visitor cycle parking should also be provided for apartments in the public realm close to main entrances and well overlooked by habitable rooms.

d.102 On large developments, cycle storage may need to be in several stores dispersed throughout the site for convenience and to promote ownership. The security of the cycle store is important to promote its use and it may be appropriate that large stores are avoided and mesh walls are considered possibly along with CCTV.

d.103 Appropriate short-stay cycle parking should be considered, including in commercial areas.

COLLECTIVE PARKING - COMMERCIAL BUILDINGS

d.104 In commercial buildings, secure, covered cycle parking should be easily accessible from street level, without the need to use stairs or ramps. When anticipating demand, consideration must be given to the expected increase in cycling levels in coming years. Where not possible within a building, cycle storage can be provided within covered areas. Cycle stands should be integrated into the overall site landscaping strategy. E-bike charging should be future-proofed in commercial spaces. Adequate shower and locker facilities should be provided to cater for commuter cyclists.

Image d.29: Cycle parking should consider different users when considering cycle storage

Image d.28: Cycle parking should be integrated into development proposals in ways that incentivise uptake (image of the The Triangle, Swindon by Glenn Howells Architects © Paul Miller)

Image d.30: Stacked cycle parking could be considered in larger developments

INDIVIDUAL PARKING - INDIVIDUAL HOUSES

d.105 In houses, cycle parking should normally be accommodated within the building envelope such as the rear garden, carport, garage or outbuilding.

INDIVIDUAL PARKING - TERRACED HOUSING

d.106 Cycle parking provision is frequently challenging in Victorian terraced housing areas, as often there is limited access to rear gardens and front storage is considered unsafe or unsightly. The retrofitting of existing terraced housing to provide secure and convenient cycle storage is important to support more active travel. Any outbuilding, including a bike or bin store, in a front garden will require planning permission. Furthermore listed building consent is required if the building is listed, and building regulation permission if the floor area is more than 8sqm.

d.107 Cycle sheds in front gardens should integrate unobtrusively in the street scene and consider the best position for ease of use and access. They may be permissible where they:

+ Keep within common maximum dimensions of 2m wide, 1m deep and 1.5m tall
+ Keep a low profile (mono pitch roof are preferable to ridges roofs)
+ Use colours and materials that are unobstrusive and fit in with its surrounding
+ Are screened to some degree by planting, a wall or other discrete means
+ Retain at least 50% of the front garden
+ Are located perpendicular to the highway or set against the main building or porch, or are integrated with the existing front boundary treatment (without increasing its height)
+ Retain visual relation from ground floor windows to the street space for passive surveillance
+ Minimise intrusions in views from neighbours and the passing public
+ Integrate with or relate positively with other outbuildings or storage requirements (such as bin storage) in the front garden

d.108 For existing residents, it should be noted that Royal Greenwich runs a programme to install public cycle racks and secure cycle parking in streets (subject to public consultation), which may be

Image d.31: Excessive height, not perpendicular to highway along site boundary (example by Waltham Forest)

Image d.32: Mono pitched roof, perpendicular to highway, softened with planting (example by Waltham Forest)

Image d.33: Mono pitched roof, colour and scale matched to surroundings (example by Waltham Forest)

Image d.34: Integrated within the street scene and existing boundary treatment (example by Waltham Forest)

Image d.35: Example of the Cycle Hangar that can be installed by RB Greenwich Council

an alternative for where providing cycle parking on private plots is not an option. For more information on this initiative follow the link provided here.

d.109 It is intended that the cycle lockers provided on street are for the benefit of existing residents where there is a supporting demand. New development should catered for cycle parking on site.

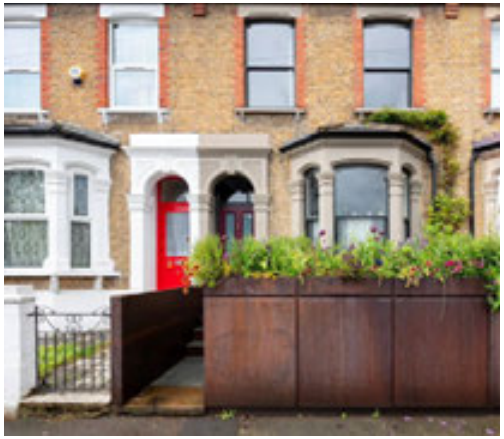


Image d.36: Cycle storage integrated into the boundary wall (image from BikeBox Works)

Image d.37: Cycle storage integrated into constrained sites (image from BikeBox Works)

PRINCIPLE D.3.6: CYCLE PARKING

+ New development should facilitate the ownership and use of bicycles through accessible, well-designed bike storage, in alignment with or exceeding the minimum standards set out in the London Plan.
+ Collective residential and commercial building cycle storage solutions should relate to the type and scale of development. As a general principle, cycle storage should be:
  + Safe & secure, and be protected from the natural elements
  + Easily accessible without the requirement to navigate steps or other obstacles;
  + Should be located on the ground floor, where possible;
  + Should incentive the use of bicycles for transport;
  + Should not dominate the building facade or clutter the streetscape
  + Should be integrated into an overall landscape and share an architectural language with the overall development
+ Household cycle storage should normally be accommodated within the building envelope, such as the rear garden, carport, garage or outbuilding. Where this is not possible, retrofitting or outdoor cycle storage should be explored. It should be noted that this may be subject to statutory consents & regulations.
+ The Royal Borough is supportive of policies that encourage private cycle hire schemes, although this does not replace private cycle parking, in accordance with the London Plan and London Cycling Design Standards.

Further Guidance -

+ London Plan, Greater London Authority (2021)
+ Cycle Infrastructure Design, Department for Transport (2020)
+ Streetscape Guidance, Transport for London (2019)
+ London Cycling Design Standards, Transport for London (2014)

CHAPTER E

STREETS AND SPACES

E STREETS AND SPACES

Back to document index

Any type of development that proposes to alter streets or proposes new streets, needs to consider the principles outlined in this chapter, as they are essential to delivering streets that not only function as a conduit for movement, but also provide a vital, shared public resource for the community.

DESIGN PRINCIPLES	pg.	DEVELOPMENT TYPE: Large scale comprehensive new development	Large and medium sized urban infill sites	Housing estate renewal	(re)development or adaptation of small urban infill sites or single buildings	Household extensions	Shopfront improvements
E.1 Holistic Streetscapes	142	●	●	●	●		
E.2 Street Types and Enclosure	144	●	●	●	●		
E.3 Public Realm	148	●	●	●	●		
E.3.1 Street Design	148	●	●	●	●		
E.3.2 Inclusive Design	152	●	●	●	●		
E.3.3 Surface Materials	154	●	●	●	●		
E.3.4 Street Furniture	155	●	●	●			
E.3.5 Trees and Soft Landscaping	156	●	●	●	●		
E.3.6 Lighting	158	●	●	●	●		
E.3.7 Utilities	159	●	●	●	●		
E.3.8 SUDS	160	●	●	●	●		
E.3.9 Public Art	162	●	●	●			
E.4 Open Space	164	●	●	●	●	●	●
E.4.1 Public open space provision and design	164	●	●	●			
E.4.2 Play Spaces	166	●	●	●			
E.4.3 Designing for biodiversity	168	●	●	●	●	●	●
E.5 Coordinated public realm delivery	170	●	●	●			
E.6 Management and Maintenance	171	●	●	●	●		

e.1 Streets are the principal urban spaces through which people experience the city. They are the lifeblood of cities and vital for urban life to flourish. Typically streets make up of the majority of public open space and accommodate a significant proportion of land in the city. In urban areas streets often account for 20% or more of the overall landtake. Too often streets are misconceived as two dimensional surfaces that are only there to facilitate the movement for cars and people from one place to another. Streets are, in fact, much more than that, they are the outdoor rooms of our cities and facilitate a great variety of other uses and functions.

e.2 Streets are multi-dimensional spaces. Spatially they are defined by the ground plane that extends from one building line to the other and buildings on either side that enclose the street space. No two streets are exactly alike. The experience, image and identity of a street are derived from the interplay of many aspects, together forming the streetscape. This includes

+ the quality of the physical space, the way development enclose and contain the space of the street, the pattern of buildings, architectures and forms, the delineation of the sky through parapet lines and roofscapes;
+ the layout of the public realm, with its arrangement of movement routes, access points and car parking, its landscape elements and trees, urban furniture, lighting and different materials;
+ the configuration of the building interfaces where the public meets the private realm;
+ the uses and activities that spill out of buildings, and
+ the pattern of traffic movements, the social activities of people the constitute urban life.

e.3 It should be recognised that the 'feel' of certain areas is dictated by the public realm infrastructure and therefore special consideration is needed in some areas, ie the World Heritage site or within business areas etc. The diversity of different areas should be recognised and supported.

e.4 Streets are important as public and social spaces and have a bearing on the quality and experience of the urban environment, how welcoming a place feels and its identity. Streetscapes are often the outcomes of decisions of different design professionals, such as transport planners (movement and access design), landscape

Image e.1: Streets are the places for social life in cities

Image e.2: Well proportionate friendly residential street in Hammarby (Sweden)

Image e.3: Well-proportioned and animated streetscape, giving ample space to pedestrian

Image e.4: Shared space street in Kidbrooke with a residential feel

architects (public realm design), architects (buildings design), engineers (structure and utility design) and many more. It is important that the effect of design decisions on the quality of a streetscape are understood and consciously guided. Larger development should involve urban design professionals as the 'custodians of the space between buildings', to work with the design team to effectively guide the delivery of high quality, place specific, functional and distinctive streetscapes.

e.5 Applications for infill and small sites that propose new or altered streets are encouraged to consider how the space can function holistically for a wide range of users, not just motor vehicles.

e.6 The following design principles will have a bearing on the streetscape and should be considered as part of the design process all in around:

+ Understand and respond to local character (Principle B.6 Understand the local character)
+ Structure of development (Principle D.1.2 Structure of development)
+ Hierachy of routes and spaces (Principle D.1.3 Hierarchy of routes and spaces)
+ Distribution of landuses (Principle D.1.4 Landuses)
+ Scale and massing (Principle D.1.5 Scale and massing)
+ Access, movement and parking (Principle D.3 Access, Movement and Parking)
+ Street enclosure (Principle E.2 Street Types and Enclosure)
+ Public realm design (E.3 Public Realm)
+ Building height (Principle F.2 Building height)
+ Building line & street frontage (Principle F.6 Frontages)
+ Animation and mixed uses (Principle D.1.4 Landuses)

PRINCIPLE E.1: HOLISTIC AND INTEGRATED STREETSCAPE DESIGN

+ Well-designed streets not only function as a place for movement, but also are places to meet and socialise, to rest, to exercise, to play, and to engage in civic life.
+ The interaction between different user types should not be designed out but should be designed in a way that encourages considerate and responsible use of the shared public space resource by all.
+ The design and role of streets should be considered early on from a perspective that considers the well-being of all users and balances the requirements to function as both a movement network and as a public place.
+ Integrated street design should be enhanced by the rhythm and grain of surround buildings (Principle F.4 Rhythm, grain and pattern buildings in streets); have a relationship with the frontages of surround buildings (Principle F.5 Building line); be animated by active frontages (Principle F.6 Frontages); and strongly and positively define the public edge of thresholds (Principle F.8 Building threshold/ defensible space).
+ The delivery of high quality, place specific, functional and distinctive streetscapes should be guided and prioritised throughout the design process. Larger developments should involve urban design professionals as the 'custodians of the space between buildings', to work collaboratively with the design team to guide integrated design.

Further Guidance -

+ TfL Healthy Streets Manual
+ Manual for Streets 2
+ Global Street Design Guide, Global Designing Cities Initiative (2016)
+ London Cycling Design Standards, Transport for London (2014)
+ Streets for All, Historic England (2018)
+ Royal Borough of Greenwich Transport Strategy (2022)

e.7 Jan Gehl's research explores human senses in city environments (Cities for People, 2010). It finds that narrow streets and small spaces convey a corresponding experience of warm and intense city environments, while environments where distances, urban space and buildings are huge generally signal an impersonal, formal and cool environment. As such the distance and height of building will have an impact on the character of a place and how personal, friendly and welcoming it is perceived.

e.8 Well designed streets provide a sense of enclosure and human scale that is comfortable for pedestrians without feeling oppressive. The distance between facing building frontages across the width of the street, together with the height of the buildings and the gaps in the frontage determines the level of enclosure that is experienced within the street.

e.9 The enclosure of streets can be expressed as the ratio of building height at the street frontage to the street width (height divided by width). Streets with a strong enclosure (height to width ratio > 1) feel more urban and intense, whilst streets with lesser enclosure (height to width ratio < 1) will feel spacious and open. Enclosure cannot be looked at in isolation and must also consider the height of development and how this influences the sense of human scale.

e.10 Streets with smaller buildings generally relate more strongly to the human scale, whilst the ability of humans to see and relate to buildings diminishes with their increase in height. Jan Gehl finds that above the fifth floor the ability to see and meaningfully connect with activities at the street level (and vice versa) is effectively lost, which suggests that buildings above this height relate more poorly to human scale.

e.11 Larger development should set out a range of proposed street types that correspond to the proposed hierarchy of streets within the development. The dimension of a street and its effective enclosure should reflect the role of the street in the network, its movement function, the type of use and its aspired character. Differentiation in the scale and enclosure of a street can be an important indicator for wayfinding and help legibility.

e.12 As a general guide, larger streets or avenues can have lower levels of enclosure (0.5-0.7) to express their importance in the fabric, while in smaller urban streets (with buildings up to five storeys) the level of enclosure could generally be greater (0.9 to 1.1) to provide a level of intimacy.

e.13 Where building height increases over 5 storeys, enclosures ratios of streets should be lower to prevent them from becoming impersonal and overpowering. Enclosure levels across all street types would generally expected to be lower in sub-urban areas.

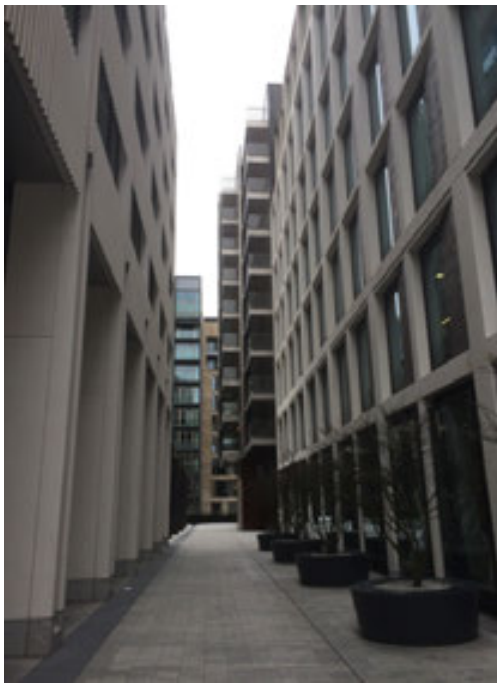
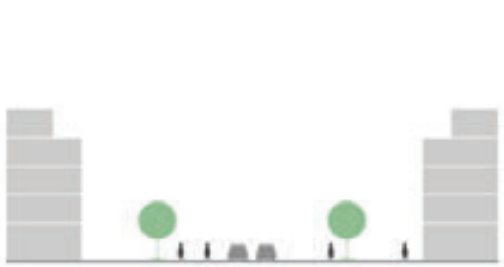


Image e.5: Streets in northern climates with excessive enclosure feel overbearing, dark and lacking in human scale

Image e.6: Example Greenwich Peninsula: Residential streets should allow for a more intimate character whilst retaining the privacy of units

INDICATIVE STREET TYPES AND THEIR ENCLOSURES + LOCAL EXAMPLES

CORRIDORS/AVENUES



less than 0.7 ER

Shooters Hill Road - height to width enclosure ratio: 0.3

TOWN CENTRE HIGH STREETS

0.5 -0.7 ER

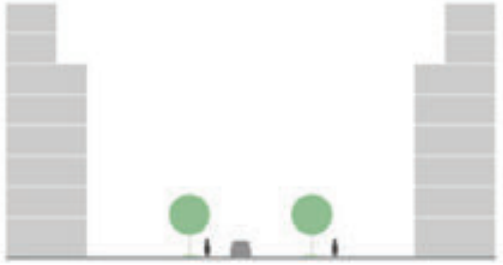
Powis Street, Woolwich - height to width enclosure ratio: 0.6

LOCAL HIGH STREETS

0.5-0.9 ER

Eltham High Street - height to width enclosure ratio: 0.5

URBAN RESIDENTIAL STREET GREATER THAN 5 STOREYS



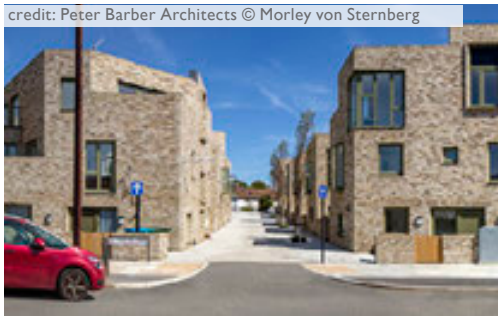
0.6-1.1 ER

Kidbrooke Village, Greenwich - height to width enclosure ratio: 0.7

INDICATIVE STREET TYPES AND THEIR ENCLOSURES + LOCAL EXAMPLES (CONT.)

URBAN RESIDENTIAL STREET UP TO 5 STOREYS

0.9-1.1 ER



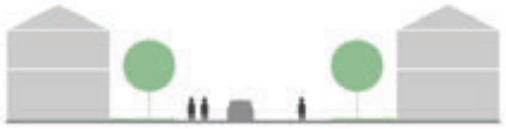
Rochester Way, Greenwich- height to width enclosure ratio: 1.1

MEWS STREET/ LANE

0.8-1.2 ER

Kyle Mews, Coldharbour - height to width enclosure ratio: 0.8

SUBURBAN STREETS



0.4-0.7 ER

Holland Gardens, Sidcup - height to width enclosure ratio: 0.4

PRINCIPLE E.2: A POSITIVE SENSE OF ENCLOSURE

+ The relationship between street frontage and streetscape should be well defined to create a positive sense of enclosure.
+ As general principles, a height to width ratio of 1.1 and above will have a strong to very strong sense of enclosure and may feel constricted, whilst a ratio of 0.5 or below will have a weak sense of enclosure or feel very open. Street enclosures should generally be inbetween these extremes. It can be more appropriate to have a stronger sense of enclosure on primary streets and a weaker sense of enclosure on secondary routes.
+ Larger developments should establish a variety of street types that correspond to the proposed hierarchy of streets; consideration should be taken to establish how street types positively reflect their role in the hierarchy through dimension and sense of enclosure.

e.14 Best practice street design supports many modes of travel and delivers a vibrant public realm. Street design should not only respond to the needs for movement by all modes, but also consider and provide for social and commercial activities taking place in the street space and at the interface with development. The design of new streets should respond to and integrate with the existing networks of streets it joins up with.

e.15 Street design should support active travel and first consider pedestrian, then cycling, then public transport and at last vehicular movement. Following this hierarchy will enhance the quality for walking and cycling and create better streets for people.

e.16 Emerging micro mobilities, such as e-scooters and e-bikes, are likely to become more prevalent and accepted modes of transport in the future. These, and other emerging new technologies, should be considered as they are likely to have implications in how streets will be used and how they should be designed.

e.17 Street design should prioritise pedestrian and cycle movement through:

+ Appropriately scaled and designed footways, carriageways, and crosswalks designed to avoid unnecessary barriers or clutter following best practice guidance;
+ Fully considering and facilitating for accessibility needs of impaired or disabled people;
+ Integrating bus stops in the public realm design and pro-actively managing potential conflicts with any off or on-street cycle infrastructure;
+ Regular regime of street cleaning to ensure streets are tidy and free from broken or unnecessary items;
+ Providing places for pedestrians to rest, gather and socialise;
+ Designing residential streets for maximum speeds of 20 miles per hour;
+ Carefully designed traffic management including traffic calming measures that are integral to the street design and not an imposed engineered solution, to encourage drivers to drive with care and caution;
+ Rationalised and integrated functions, signage and street furniture;
+ Street design responding to the townscape character, local identity and heritage, and actively design for safety and crime prevention;
+ Carefully considering addition of high quality landscaping, street trees, and SUDS; and
+ Defining appropriate street edges that create a clear delineation between the public and private realms and integrates a positive frontage zone (Section F.8 covering 'defensible spaces').

e.18 Traffic calming measures should be implemented in residential streets, local high streets, and other streets where traffic is dangerously fast or frequently above the speed limit. These may include:

+ The use of shared surfaces and/or raised crossovers;
+ Varying the alignment of the vehicular route;
+ Use of tight junction radii;
+ Narrowing the carriageway and the use of planting bays/ build-outs;
+ The provision of on-street parking and loading bays;
+ Raised areas at junctions and nodal points; and
+ Changes of surface colour and materials.

e.19 This Design Guide identifies three Principal Street Types that should be considered in the design of new neighbourhoods:

+ Type A - Higher order streets with dedicated cycle lane
+ Type B - Local Access Streets
+ Type C - Shared surface Streets

e.20 The design of all street types should be carefully tailored to the different local situations in line with RBG Local Plan and Highway, Traffic and Transport Strategy and all other relevant guidance and standards.

Further Guidance -

+ Third Local Implementation Plan, Royal Greenwich (2019)
+ Manual for Streets (2007)
+ Manual for the Streets 2 (2010)
+ Streetscape Guidance, Transport for London (2019)
+ Accessible bus stop design guidance, Transport for London (2017)
+ London Cycling Design Standards, Transport for London (2016)
+ Cycle Infrastructure Design, Department for Transport
+ Gear Change: A bold vision for cycling and walking, Department for Transport (2020)
+ Royal Borough of Greenwich Transport Strategy (2022)

It should ensure adequate access to all service/emergency vehicles. It should be acknowledged that Street types may not always be suitable for adoption.

TYPE A: HIGHER ORDER STREETS WITH DEDICATED CYCLE LANE

Street Type A is the typical street type for higher order streets that connect an area internally and with the wider network. Traffic speed is 20mph.

+ On-street or stepped cycle lanes to be provided. Parking / servicing should be minimised to avoid conflict with cyclists.
+ Where possible rain gardens should be provided in the furniture zone.
+ Tree planting should generally be provided on either side of the street within the furniture zone.

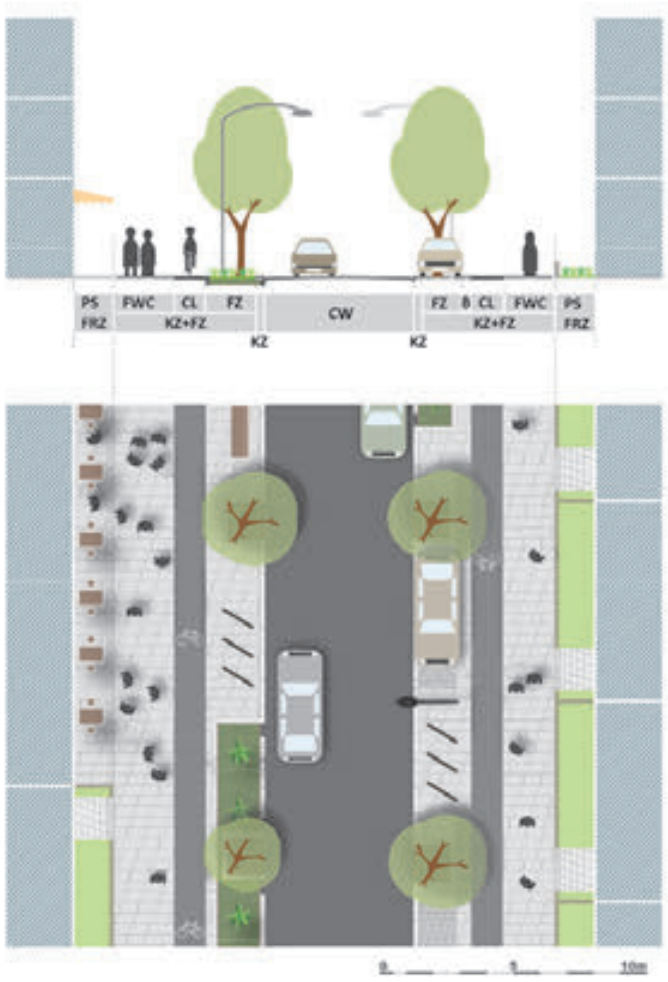


Figure e.2: Type A road

Code	Description	Recommended Dimension
CW	Carriage Way	6.4m (minimum)
CL	Separated cycle lane	Minimum 2m, (2.2m on street)
FWC	Footway Clear Zone	2m (Preferred Minimum) - 2.4m. Additional width may be required at certain locations such as bus stops, stations, school entrances etc.
FZ	Furniture Zone - Tree Planting - Seating - Lighting - Bins and other furniture - Cycle stands	2m (minimum)
KZ	Kerbzone	0.45-0.65m
FZ+KZ	- SUDS/ Raingardens (may not be appropriate in all scenarios) - in exceptional circumstances parking and servicing bays at footway level	min 2m
B	- Buffer zone between cycle lane and parked vehicles	min 0.50m
PS	Privacy Strip outside residential groundlfoor - front garden - defensible space	min 1.5m
FRZ	Frontage Zone - Extended footway outside active ground floors, entrances, - Footway seating (where permitted) - Furniture for public use - Landscaping/SUDS - front garden / forecourt	min 1.5m

TYPE B: LOCAL ACCESS STREETS

Street Type B is the typical street type for quiet, traffic-calmed local access streets. It is not intended to accommodate through traffic and all trips on this street should have a local purpose. Traffic speed is 20mph or lower.

+ Cycling is provided on street. Raingardens and parking spaces could alternate.
+ Tree planting should be provided along the street: single side, both street sides or alternating subject to available space and street width.

Figure e.3: Type B road

Code	Description	Recommended Dimension
CW	Carriage Way	4.8m (optimum)
FWC	Footway Clear Zone	2m (minimum)
FZ	Furniture Zone - Tree Planting - Seating - Lighting - Bins and other furniture - Cycle stands (parallel if narrow)	1.0-2.0m
KZ	Kerbzone	0.45-0.65m
FZ+KZ	- SUDS/ Raingardens - parking and servicing bays	min 1.45m
PS	Privacy Strip outside residential ground floor - front garden - defensible space	min 1.5m
FRZ	Frontage Zone - Extended footway outside active ground floors, entrances, - Footway seating (where permitted) - Furniture for public use - Landscaping/SUDS - front garden / forecourt	min 1.5m

TYPE C: SHARED SURFACE STREETS

Street Type C is a low traffic speed pedestrian and cycling priority street where local access and servicing vehicular traffic may be permitted. This street type may be applicable for play streets, local access streets within neighbourhoods or superblocks, but also for streets with high volumes of pedestrian traffic (such as in town centres). Subject to careful design Shared Surfaces could be suitable where they are in short lengths or cul-de-sacs where the volume of motor traffic is below 100 vehicles per hour and where parking is controlled or takes place in designated areas. Shared Surfaces can also form part of a Homezone. Street design should respond to the specific context and role of the street.

Car parking spaces should be clearly identified and informal parking should be prevented through design elements. Careful attention to detail is required to avoid vulnerable users feeling threatened by having no space protected from vehicles. Care should be taken to avoid street clutter.

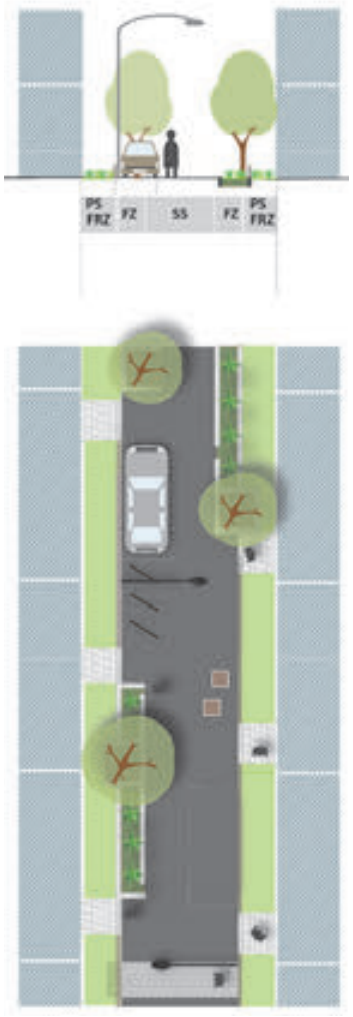


Figure e.4: Type C road

Code	Description	Recommended Dimension
SS	Shared Space	4.8m (optimum)
FZ	Furniture Zone - Tree Planting - Seating - Lighting - Bins and other furniture - Cycle stands (parallel if narrow) - SUDS/ Raingardens - parking and servicing bays	1.0-2.0m
PS	Privacy Strip outside residential ground floor - front garden - defensible space	min 1m
FRZ	Frontage Zone - Extended footway outside active ground floors, entrances, - Footway seating (where permitted) - Furniture for public use - Landscaping/SUDS - front garden / forecourt	min 0.5m

PRINCIPLE E.3.1: ATTRACTIVE, LOW SPEED AND SAFE STREETS

+ Streets should be carefully designed, laid out, and detailed following best practice set out in the Manual for Streets 2 and relevant TfL guidance.
+ Larger and more connected streets should generally provide wider pavements for walking, segregated cycle facilities and street trees. Residential streets should reduce travel speeds and maximise on opportunities for the greater use of streets as social places and for play.
+ Street design should be holistic and consider traffic calming, landscaping, access, comfort, safety, and actively prioritising pedestrian first, then cycling, then public transport and lastly vehicular movement. Planting, street trees and SUDS should form an integral part of street design.
+ Applicants need to consult with the Local Highways Authority for proposals.

Figure e.5: Woolwich General Gordon Square, an inclusive well used public space that serves the community

e.21 Inclusive Design is the design of an environment so that it can be accessed and used by as many people as possible, regardless of age, gender, culture, income and disability.

e.22 The Commission for Architecture and the Built Environment (CABE, 2006) published and promoted the principles of inclusive design as it relates to the built environment:

+ Inclusive – so everyone can use it safely, easily and with dignity
+ Responsive – taking account of what people say they need and want
+ Flexible – so different people can use it in different ways
+ Convenient – so everyone can use it without too much effort or separation
+ Accommodating for all people, regardless of their age, gender, mobility, ethnicity or circumstances
+ Welcoming – with no disabling barriers that might exclude some people
+ Realistic – offering more than one solution to help balance everyone's needs and recognising that one solution may not work for all.

e.23 Inclusive Design must be considered at the outset of the design process, and remain integral throughout. This will help deliver an environment in which everyone can access and benefit.

e.24 Inclusive design keeps the diversity and uniqueness of each individual in mind. To do this, built environment professionals should involve potential users at all stages of the design process; from the design brief and detailed design through to construction and completion. Where possible, it is important to involve disabled people in the design process.

e.25 The inclusiveness of public realm design directly impacts on how different people feel about and use a space. Inclusive design starts by thinking about the 'other' users, that are not the common or most frequent users.

e.26 Inclusive design includes thinking about the needs and requirements of

+ Mobility impaired people, that cannot walk well or require walking aids or use a wheel chair.
+ Visually impaired people that require cues in the urban environment to orientate themselves, and to walk and cross streets safely.
+ Different genders, considering the offer, safety, amenity and convenience of environments.
+ Different age groups, such as young or older people and how their needs and aspirations are reflected by the design.
+ Different ethnic and socio-economic groups, considering their aspiration, interest and ability to enjoy and make use of the public realm and its offer within their means and possibilities.
+ Mental health, how the design can deliver positive environments that support people with mental health conditions including anxiety and depression, which are very common in urban areas.

Image e.7: Pavements should not be obstructed by vehicles or street clutter

Image e.8: Public spaces should allow for a wide array of activities

PRINCIPLE E.3.2: ATTRACTIVE, LOW SPEED AND SAFE STREETS

+ The public realm should be designed so that it:
  + Reflects the diversity of people using spaces;
  + Is convenient, clean, safe and easy to use for all people without having to experience undue effort, barriers to access or separation;
  + Enables everyone to participate equally, confidently and independently in everyday activities irrespective of a person's mobility, age, gender or ethnicity;
  + Meets the needs of wheelchair users, mobility impaired people and people with pushchairs;
  + Encourages social interaction and does not purposely design-out the activities of young people or other groups; and
  + Provides sensory richness.
  + Limits exposure to high levels of air and noise pollution.
+ In particular applicants should:
  + Ensure that street furniture, signage, lighting and visual and textural contrast in the paving materials are carefully designed and reflect the needs of all potential users; and
  + Provide sufficient levels of accessibility for all potential users in terms of accessible parking, pavement space and access to public transport.

Further Guidance:

+ Streetscape Guidance, Transport for London (2019)
+ Global Street Design Guide, Global Designing Cities Initiative (2016)
+ The principles of inclusive Design (CABE, 2006)

Image e.9: Combination of different materials can help distinguish between functional zones and add interest and detail.

e.27 The use of high-quality, robust and appropriate materials can have a significant impact on the character and perception of the public realm.

e.28 It is best practice to use materials that contribute to the distinctive local place character. They should be safe, robust, beautiful, easily maintainable, sustainable and contribute to the accessibility of the public realm. Materials should take cues from the local palette of materials and colour. Usually they should be cohesive with the surrounding environment. In some places the use of deliberate contrast in colour or materiality can be successful when it serves a purpose, for instance to delineate or zone activities, enhance legibility or contribute to a unique sense of place. Locally specific material choices could also serve to provide a hierarchy of places. Materials should be balanced with soft landscaping, drainage, and utility requirements.

e.29 Natural stone, either as flags, setts or cobbles, or brick may be most appropriate in historic locations and town centres. Where possible and appropriate historic paving should be reinstated and is strongly supported. Concrete or asphalt should normally be coordinated with other surface materials as well as soft landscaping as otherwise their uniform appearance and sharp finish can undermine the character of a new development.

e.30 Innovative materials should be considered if they can drive improvements to performance & environmental impacts. For instance, porous asphalt has been trialled in London and has positively improved drainage and reduced demand on storm water systems, whilst gravels and loose materials have the capacity to reduce the albedo of a surface and therefore contribute to mitigate overheating.

Further Guidance

- Streetscape Guidance, Transport for London (2019)
- Paving the way: How we achieve clean, safe and attractive streets, CABE (2002)
- Streets for All, Historic England (2018)
- Greater London Authority, Expanding London's public realm (2020)

PRINCIPLE E.3.3: SURFACE MATERIALS

+ Applicants should ensure that the public realm is designed in a coordinated manner using a consistent palette of high quality and robust materials in combination with appropriate soft landscaping and furniture.
+ Surface materials should share a cohesive palette with the local context, in terms of type, colour, texture, pattern. They should also be chosen based on their durability, technical requirements, ease of maintenance and repair, overall cost over their lifetime, overall carbon impact, and impact on other natural resources. This should help to create a coherent environment and sense of place that can stand the test of time
+ Paving design and specifications for materials and material treatments should align with guidance from Transport for London, Streetscape Guidance, 2019. Where materials are specified that are not contained within the Streetscape Guidance, applicants should provide further detail to support their application.
+ Surface materials' sustainability credentials should be considered at the outset of the design such as their embodied carbon, recyclability and climate mitigation capacity

e.31 Street furniture impacts on the feeling and accessibility of the streetscape. Good quality and well-considered street furniture can make a positive contribution on the use of a space, while poor furniture can have a detrimental impact on aesthetics, usability, and sense of place.

e.32 It is good practice to combine or integrate street furniture, to limit street clutter, which not only can visually detract from the streetscape but can also have a significant impact on accessibility and safety. Street furniture along streets should be consolidated within a 'street furniture zone' which should be scaled proportionally to the street type and scale. Refer to section E.3.1 Street Design for clarification about the appropriate scale of the furniture zone for each defined street type. Consideration should also be given to specific public realm and street furniture requirements in riverside areas.

e.33 Successful streets and spaces facilitate seating and resting. Along streets and other routes seating should be provided at regular intervals (maximum of 50m) and in a structured pattern, which allows users to anticipate the arrangement. Seating works best when there are defined (benches, chairs, etc.) and undefined (walls, hills, steps, seating objects) areas for seating integrated into the street space.

e.34 Seating ideally is situated in a location where

+ there is an outlook onto street activities,
+ the back is sheltered by a building or landscaping,
+ it does not obstruct movement paths and desire lines, and
+ is away from the impact of traffic.

e.35 Seats in sunlit areas, that are sheltered from wind are often popular, especially when combined with occasional shading from trees. Wind exposed, dark and hidden away seating is unlikely to be successful and should be avoided. Seating should support a range of seating activities such as solitary seating and seating in groups.

e.36 The regular and convenient provision of bins on footways provide an important contribution towards supporting a litter free environment. Where possible combined litter and recycling bins should be provided to encourage recycling.

Image e.10: Robustly made street furniture located in an area with an enjoyable microclimate and an interesting outlook over a public space

e.37 In central locations and arrival points wayfinding signage should be provided that makes use of the pan-London Legible London Signage System (Legible London Design Standards, 2010).

e.38 Street furniture should be high quality, comfortable to use, easy to maintain, durable and resisting vandalism. The palette of street furniture provided within a development should be coordinated and reflect the character of a place.

PRINCIPLE D.3.4: STREET FURNITURE

+ Street furniture should be simple, high-quality, robust and responsive to its setting and integral to the landscape design. It should be restricted to essential items and functions and combined where possible. For example, attaching signs to lamp posts, or mounting streets signs and/or lighting on buildings.
+ Seating should be provided at regular intervals and in a logical arrangement. Developments should consider a mix of defined (benches, chairs, etc.) and undefined (walls, hills, steps) areas for seating integrated into the street space.

Further Guidance -

+ Streets for All, Historic England, 2018
+ Streetscape Guidance, Transport for London (2019)
+ Legible London Design Standards, 2010
+ A safer Riverside, Port of London Authority, 2020

Image e.11: Urban park scale: Well-selected and laid out trees and soft landscaping contribute to the place

Image e.12: Street scale: Tree planting in streets can soften the environment, reduce air and noise pollution, provide shade and shelter and enhance the character.

Image e.13: Small-scale: Small scale landscaping can have significant positive and calming impact on the streetscape

Image e.14: Building scale: Green walls and roofs can help create a green feel to urban spaces

e.39 Trees and soft landscape make an important contribution to the character of an area by providing both physical and visual amenity. Trees provide a natural shelter and support shading and cooling, reduce air pollution and CO2, improve biodiversity and enhance the sense of place. They have a strong impact on people's' wellbeing, help combat climate change, reduce urban heat island effects, and soften the impact of buildings and structures.

e.40 In urban environments they provide a connection to nature and indicate the passage of the seasons through their growth and change through the year. Street trees and soft landscaping should be a prevalent feature along streets and incorporated throughout the public realm in new development.

e.41 Consideration must be given to the future maintenance of trees and plants in the design. Native trees and shrubs and longer-lived species should be selected where possible and appropriate as they support a greater variety of wildlife and are often more suited to local conditions.

e.42 Creating avenues of a single species normally helps to deliver the necessary formality for main streets and spaces, applicants should nevertheless avoid over-long stretches of the same species to safeguard against the risk of tree losses through disease; changing species block by block is therefore recommended.

e.43 Trees and soft landscaping should be selected and located according to:

+ The growing space available;
+ Its final height, spread and form at maturity;
+ The soil type and volume;
+ The existing species in the locality;
+ The intended character of an area, street or public space (for example, formal sculptural planting or softer informal planting;
+ The location of existing underground or overhead services;
+ Proximity to roads, and ensuring that sight lines and forward visibility is maintained;
+ Proximity to buildings ensuring that overlooking of the street and spaces is maintained and overshadowing minimised;
+ The location of highway lighting;
+ The scale and importance of a street with larger stature trees on main streets and smaller species selected for minor routes (to support the legibility of layouts);

Image e.15: Communal space scale: Green amenity space for building residents with an informal character

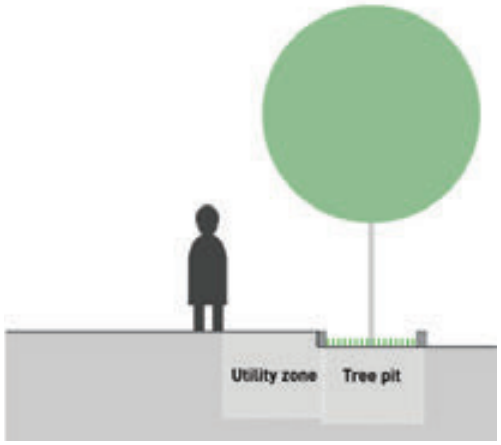


Figure e.6: Professionally designed tree pits should be used to provide the necessary soil volume required to successfully establish the tree. Tree pit design needs to consider any adjacent service runs and particular care is needed for trees in hard surfaces

+ The design intent and aspired character of a street, considering wether the built form or landscape elements should be dominant in a street scene;
+ Maintenance considerations; and
+ Watering and sunlight requirements of the proposed tree species.

Further Guidance -

+ Streetscape Guidance, Transport for London (2019)
+ Global Street Design Guide, Global Designing Cities Initiative (2016)

PRINCIPLE E.3.5:
INTEGRATE TREE PLANTING AND SOFT LANDSCAPING

+ Street trees and soft landscaping should be a prevalent feature along streets and incorporated throughout the public realm in new development. Landscaping should be considered from the outset to ensure that it can be appropriately managed, provide high quality amenity space, and is well integrated with the building design.
+ A clear landscape and maintenance strategy should be an integral part of the design of new development from the outset, covering all streets and public spaces while accounting for the landscape features to mature. Native trees and shrubs and longer-lived species should be selected where possible and appropriate as they support a greater variety of wildlife and are often more suited to local conditions.
+ Existing trees, water bodies, grassy verges and open spaces are natural assets that should be retained as much as possible to shape the form of new development.
+ New open spaces should maximise on the opportunity to accommodate landscape features such as mature trees and water courses / ponds, while considering underground constraints and fulfilling drainage requirements.
+ Applicants must speak to an aboricultural and landscape maintenance manager for species selection when working on the Transport for London Route Network

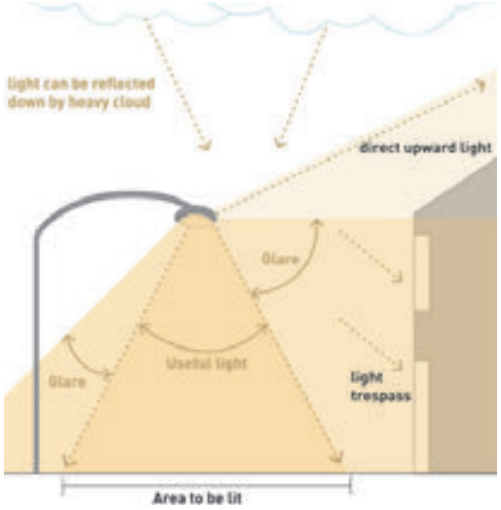


Figure e.7: Lighting should be directed to useful areas only and should avoid light trespass and glare

e.44 The adequate lighting of streets and paths is important for the safety and amenity of the public realm throughout the hours of darkness. Lighting can however also be used to contribute to the character of an area, to add drama or distinctiveness, and to enrich the urban experience. Public realm design should consider the different facets and opportunities of lighting provision to enhance the quality and distinctiveness of an area.

e.45 Adverse impacts of poor lighting solutions on residential amenity and natural habitats will need to be understood and appropriately mitigated. Poor lighting can significantly damage local ecosystems and have detrimental impacts on human and wildlife health. Developments should consider external lighting holistically to balance between the provision of uniform site lighting and the impacts of light pollution on the local area and wildlife.

e.46 Street lighting should be direct lighting and should minimise glare and reduce light trespass and skyglow. Building and facade lighting should not have adverse impacts on the local character and should protect residential amenity. Flood-lighting, up-lighting and external lighting on buildings should generally be avoided.

e.47 Smaller landscaped spaces can benefit from adequate ambient lighting from street lights, and this may be supplemented for dramatic effect by lighting to trees or marker lighting for key routes across them. Modest and subtle lighting of neighbourhood centres and individual shop-fronts can contribute to a lively and safer-feeling environment at night and should be encouraged. In the interest of minimising obtrusive light, projecting illuminated signs and flashing or neon signs should be avoided. (See Chapter H for Shopfront guidance)

e.48 Lighting works best when it:

+ Reflects the character of different streets through a choice of building-mounted and column-mounted luminaires as appropriate;
+ Provides special approaches to lighting distinct areas;
+ Provides a sense of drama and delight to the nighttime scene;
+ Is carefully designed to provide consistent and appropriate levels of illumination for perceived and actual safety;
+ Minimises visual intrusion and light pollution;
+ Works with the planting strategy to avoid overshadowing or deficient lighting levels due to the presence of trees;
+ Incorporates renewable power sources where possible;
+ Achieves an appropriate level of illumination to landscaped open spaces through downlighting;
+ Is no brighter than necessary; and
+ Minimises blue light emissions.

PRINCIPLE E.3.6: LIGHTING

+ Applicants should consider lighting strategies early on to provide uniform lighting and brightness throughout the site to aid in legibility and the perception of safety.
+ Care should be taken to develop strategies that minimise the amount of light pollution and glare caused.
+ Light fittings should be low energy.
+ Attention must be given to the impact of lighting on local ecosystem and human health.
+ Where possible street lighting should be integrated with other Street Furniture (outlined in Principle E.3.4 Street Furniture).

Further Guidance -

+ Royal Borough of Greenwich Local Plan, Core Policy E(b) & E(c)
+ Streetscape Guidance, Transport for London (2019)
+ Global Street Design Guide, Global Designing Cities Initiative (2016)

e.49 Developments require extensive utilities to operate efficiently and to build in capacity for future adaptation and resilience. Utilities are usually accommodated within the street space underneath the highway or pavements. Larger new development should implement a utility strategy that plans for the efficient location and future maintenance of utilities from the outset. Utility provision should appropriately mapped in GIS. Common trenches or channels that combine different utilities should be considered.

e.50 The impact of future utility maintenance and repair will need to be fully understood and responded to through the design of the public realm, the choice of materials and the management arrangement. Companies that repair utilities often don't have the expertise required or lack access to bespoke materials to reinstate more sophisticated public realm surfaces following their works. This can lead to unsightly patchwork repair that will detract from the overall coherence of a pavement and the quality of an area. Utility runs in the public realm may benefit from being covered with standard quality materials. Planning for utility provision in the public realm should commenced in the early stages of the design process. Consideration should be taken of access requirements for utility providers, as well as for regular maintenance.

e.51 Applicants should consider utility requirements such as supply boxes, cable runs and maintenance access and the location of Electric vehicle charging points (EVCPs), including rapid charging points (RCPs) at an early stage of the design process to avoid conflicts between these and landscape features, tree planting and public realm designs.

e.52 Enclosures for utility services including sub-stations and pump stations should be carefully designed and integrated into development so that they do not detract from the quality of streets and public spaces. Consideration of their location must therefore take place early in the design process.

e.53 Applicants should consider opportunities to integrate district heat network infrastructure into design of the urban realm. This particularly involves allowing for, or designing in, heat distribution pipework on the priority transmission routes and distribution routes, (and the sites designated for Energy Centres) as defined in Greenwich's Techno-Economic Feasibility Study into District Heat networks. This is particularly relevant in the north of the borough, where pipework will need to cross boundaries created by roads and other infrastructure. Engagement with Greenwich's Sustainability team will furnish developers with details of proposed infrastructure.

Further Guidance

+ Global Street Design Guide, Global Designing Cities Initiative (2016)

PRINCIPLE E.3.7: PLAN FOR AND INTEGRATE UTILITIES INTO THE DESIGN

+ Applicants should consider utility requirements and maintenance access at an early stage of the design process to avoid conflicts between utility requirements, landscape features, tree planting, drainage systems and public realm designs. Early engagement with the local authority is required on district heating networks.
+ Utility runs should normally run under the footway or carriageway and the location should be carefully planned so that it does not impact on the potential for planting street trees.
+ Enclosures for utility services should be carefully designed and integrated into development so that they do not detract from the quality of streets and public spaces. Consideration of their location must therefore take place early in the design process.

Image e.16: SUDS should be designed to manage drainage and to add additional amenity space to a development

e.54 With climate change affecting Royal Greenwich as much as the rest of the UK, reducing the quantity of water run-off into the public drain system from extreme flash-flood events is paramount.

e.55 All new development should incorporate sustainable drainage systems (SuDS) as an integral part of the design and landscape structure. These should be positively designed into schemes to provide greater resilience and to add additional external amenity for users. Studies have shown that over the lifetime of a development, SUDS can have a vastly reduced operation cost in comparison to traditional drainage solutions, which should provide an additional incentive to implement SUDS.

e.56 SuDS should be based on the four pillars of SuDS design as set out in the SuDS Manual (C753F) 2015. These are:

+ Water quantity - focused on the quantity of water and the ability of a system to store, attenuate and drain the water quantity.
+ Water quality - focused on the ability (or lack thereof) of the system to remove pollutants from the groundwater water runoff that enters waterways.
+ Amenity - focused on how SuDS can deliver beneficial amenity spaces that can improve the quality of the urban environment and the well-being of residents and visitors.
+ Biodiversity - focused on SuDS ability to repair ecosystem damage and to contribute to improved air and water quality.

e.57 When working in unison the four pillars of SuDS design can greatly improve the quality of life in the city and can help areas respond proactively and more effectively to both pluvial (surface water) and fluvial (waterway) flooding.

e.58 There are many types of drainage systems to manage rainwater. The size, shape, gradient and geology of a catchment area are all factors which need to be assessed as they can influence the appropriate type of system and materials to be used for the sustainable drainage system.

e.59 The impact and interface with underground utilities and any potential archeology should be considered early to ensure a coordinated design approach.

e.60 Large areas of hard surface paving or artificial grass are not encouraged

Image e.17: Kidbrooke Park, SUDS integrated into development as a positive natural amenity

on communal gardens, front and rear gardens. Sustainable, permeable paving should be used where hard surfacing is needed.

Further Guidance -

+ SuDS Manual (CIRIA C753F) (2015)
+ Streetscape Guidance, Transport for London (2019)
+ SuDS in London - a guide, Transport for London (2016)
+ Designing Rain Gardens - A Practical Guide, Urban Design London (2018)

PRINCIPLE E.3.8: SUSTAINABLE DRAINAGE SYSTEMS

+ Applicants need consider how to manage surface water to minimise runoff, flood risk and flows to watercourses.
+ Applicants should consider all four pillars of SuDS design to deliver a holistic and successful design
+ Applicants should consider the specific qualities of the site to determine the most appropriate approach for the site topology, geology, location, etc.
+ SuDs should be positively designed into schemes from the outset as an integrated part of the wider landscape design. In larger schemes, these can include ponds, infiltration basins, swales/ rain gardens, stormwater planters. Even constrained urban sites should maximise SuDS through tree pits, planters and permeable paving.
+ The impact and interface with underground utilities and any potential archeology should be considered early to ensure a coordinated design approach.
+ Applicants will need to consult with the Local Highways, Planning and Lead Local Flood Authorities.

Image e.18: Lighting feature used to enhance a public square and to mask existing adverse frontage

Image e.19: Integrating art into building's facade

Image e.20: Lighting used to animate a dark and unsafe feeling space

Image e.21: Sculptural water feature in Sheaf Square, Sheffield, is a strong way-finding device and stipulates a strong image and identity

e.61 Public art adds enormous value to the cultural, aesthetic and economic vitality of a community. Public art is situated in the public realm and accessible and enjoyable to everyone, and not confined to a gallery and museum.

e.62 Public art can enrich and bring a spark into the flow of everyday life. It adds an element of surprise, interest and joy to urban environments and enriches the urban experience.

e.63 Public art offers an opportunity to celebrate local cultures, connect with history, raise awareness to important issues, stimulate civic discourse and literally open eyes and minds. It provides distinctiveness to places, helps legibility, fosters identity and community pride.

e.64 Public art can attract visitors and make people stay longer in a place and can have a positive effect on local businesses and values. Providing public art also provides opportunities for artist and supports creative industries more widely.

e.65 As such there are multiple community and private benefits that derive from bringing public art into a development. Therefore applicants for large schemes should consider voluntarily contributing an appropriate part of their development budget to delivering public art.

e.66 Public art can be delivered in a variety of media, and it should be designed for a specific location in the land or townscape. The provision of public art should not only consider the art as an item within the public realm, but as a place or focus that the community can actively enjoy.

e.67 Public art goes beyond the notion of placing a sculpture or art piece in a place when development is finished. The best public art is conceived with artists being actively involved in the design process and shaping the place as well as the art piece.

e.68 Involving the wider community, schools, and reaching out to local artists to participate in the process will make art more rooted in a place and relevant to the local community. Public art does not need to be permanent, but can also involve a programme of arts installations or events over times, which could be part of a place making approach. Where public art is provided, development

Image e.22: Playful street art can encourage & play

Image e.23: Community-led art can reflect local values and contribute to place identity. Image of Floyd Road mural, Charlton created in 1976 by the Greenwich Mural Workshop for the Floyd Road Tenant's Association

must make appropriate provision for its maintenance and upkeep or operation.

e.69 Public art as physical installation in the public realm should be well placed so as to not unduly effect the functioning of a street or space or block pedestrian desire lines. An appropriate setting to the art piece should be provided that allows people to perceive the art in its context, provide space for people to safely engage with it, and offer seating opportunities to allow people to sit, enjoy and observe activities within the place.

e.70 Public art can have a significantly positive impact on the perception of a public space; however, this is strongly correlated with the quality of the artwork. In other words, a poor quality artwork will not have the same impact on the streetscape and local area as a high quality and well-conceived, contextual art work. Appropriate art curating expertise should be sought when selecting and evaluating artists to be involved in a project.

Further Guidance

+ Streetscape Guidance, Transport for London (2019)

PRINCIPLE E.3.9: PUBLIC ART

+ Public art should be an integral part of a scheme and not an after-thought. Artists should have an active involvement in the design development from early on.
+ Public art should be specifically designed for a place and contribute positively to the placemaking, interest and local character.
+ Where possible, artists with a local connection to the community should be commissioned to create a meaningful art piece based on their unique and nuanced understanding of the local place.
+ Art can be delivered in a variety of medias and should not be limited to traditional forms of public art.
+ It is recommended that applicants for large schemes should consider voluntarily contributing a percentage of their development budget to delivering public art and for the operation and maintenance of piece of work over its lifetime.

Image e.24: An example of high quality landscaped open space

e.71 The Royal Borough of Greenwich is particularly rich in open space, with almost a third of the entire area of the borough being open space, the majority of it being designated as Metropolitan Open Land. Nevertheless there are some challenges facing the borough. The distribution of open spaces is uneven, particularly in the more densely developed areas in the north of the borough where provision is inadequate to the current population. This will only be exacerbated with the increase in population projected for Greenwich Peninsula, Woolwich and Thamesmead Moorings wards over the coming decade, notwithstanding the creation of new local parks within these areas.

e.72 Open spaces come in different scales and forms and often comprise a mix of soft and hard landscaping. Open spaces can include large parks, natural and semi-natural areas, neighbourhood spaces, pocket parks, urban squares, community gardens and incidental spaces.

e.73 Open spaces have significant and multiple benefits. They invite for recreation and play, have a positive impact on physical and mental health, provide spaces for children and young people to be active, promote neighbourliness and generate community cohesion, enhance air quality and reduce the urban 'heat-island effect', enable contact with nature, and support local wildlife and bio-diversity.

e.74 Open spaces also have an economic value. Well planned improvements to public spaces in town centres can boost commercial trading, while proximity to high quality public space tend to result in increased property prices.

e.75 The best places are supported by a variety of open spaces that allow for a range of activities. Each space should have their own bespoke design and character, be of high-quality, respond to their local context and catchment. Open spaces should be easily accessible via legible routes. Where possible open spaces should be integrated in the wider green infrastructure network.

e.76 Open space design should consider:

+ Providing multifunctional areas and areas for relaxation, gatherings, exercise, and play;
+ Contrasting open landscapes with more intimate and discrete areas;

+ Using visual features such as water features, sculptures, expressive planting to stimulate interest and enhance distinctiveness;
+ Providing routes for ease of crossing and leisurely walks;
+ Incorporating stimuli for each of the senses (sight, scent, touch, sound and taste); and
+ Providing seating and furniture where they support the use and animation of the park.

e.77 It is important to also consider and design for an appropriate microclimate in open spaces considering how spaces will function in rainy, sunny, windy, hot and cold conditions.

e.78 Existing mature landscape features should be retained and integrated within the design where practicable. Open spaces can have an important role to hold back surface water-run off and should be integrated into the SUDS.

e.79 Applicants that propose development in areas with an open space deficit in Royal Greenwich, should contribute to the enhancement of the local open space provision. Larger schemes are expected to deliver an appropriate range of open spaces as part of their development that serve residents, occupiers, visitors and the wider community. Smaller development projects should consider how open space qualities for public use can be provided. Smaller, incidental public spaces can enrich the character and amenity of a neighbourhood, and invite for meeting, play and sitting down.

Further Guidance
+ Streetscape Guidance, Transport for London (2019)

PRINCIPLE E.4.1: OPEN SPACES

+ The quality and planning of open spaces should be considered from early on to integrate these open spaces into a wider landscaping strategy. This can ensure that hard and soft landscaping (including planting strategies) respond to proposed urbanity, conditions, and functions of the open spaces.
+ Larger developments should consider how to develop an array of hierarchical open spaces that can better serve a broader community.
+ Open space should be provided as an integral part of new development and should be located where it is safe, most accessible and central to a scheme rather than isolated towards the edge.
+ Proposals for open space should be developed early as part of a strategic concept plan.
+ Open spaces should:
  + Be of high-quality
  + Respond to their local context
  + Reflect their role within the wider area and catchment
  + Allow for flexibility and invite a range of activities, from public to more intimate
  + Have their own bespoke design and character that contributes to the character of the place
  + Be inclusive, accessible, overlooked, and safe
  + Allow for relaxation, gatherings, exercise, and play
  + Provide routes for walking and opportunities for resting
  + Contribute to visual amenity with distinct aesthetic features such as water features, art, landscaping, etc.
  + Stimulate the senses
  + Create a positive microclimate
  + Contribute to better water drainage and SUDS infrastructure provision

Image e.25: Play areas for adults can add public life to the city

Image e.26: Play spaces should be provided for older children & young adults as well

Image e.27: The best playscapes are not over programmed but facilitate exploration

Image e.28: Public play areas can add animation to the streetscape

Image e.29: Water features can encourage play and exploration

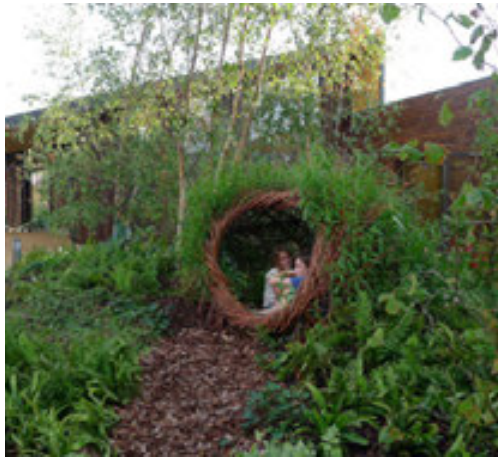


Image e.30: The best play areas consider and allow for many forms of play

e.80 Playing is important to children's wellbeing. It helps them to develop their physical abilities and their emotional responses. Where play is collaborative, it can help to improve children's interpersonal skills. Where play involves exploration and creativity, it can stimulate children to think in a flexible manner and develop learning and problem-solving skills. Play can encourage risk taking in a controlled environment which is fundamental to learning, growth and building confidence.

e.81 Children and young people's independence can be encouraged through good design of safe, secure, accessible and naturally supervised places; play areas function best when they are provided centrally in an accessible location where they are overlooked by surrounding properties.

e.82 The design of play space should meet Play England's 10 Play Design Principles:

1. are designed for their site
2. are well-located
3. make use of natural elements
4. provide a wide range of play opportunities

Image e.31: Kidbrooke Village: Integrated imaginative children's play ground provides as a central focus

5. are accessible to both disabled and nondisabled children
6. meet community needs
7. can be used flexibly
8. build in opportunities to experience risk and challenge
9. are sustainable and appropriately maintained
10. allow for change and evolution

e.83 Play spaces should provide a range of durable equipment suitable for the intended age group; the playscapes should not be over programmed, but should rather facilitate play and exploration through integration with natural landscape. They should facilitate imaginative and unstructured play, and encourages interaction with natural materials and native vegetation.

e.84 Teens and older children should also be accommodated and areas for age-appropriate activities should be provided in areas with shelter and passive surveillance.

e.85 Children's play areas and equipment should normally be provided as part of new residential developments of 50 dwellings and above and on smaller developments when there are no existing nearby facilities. Design should actively deliver places for young people to gather and partake in age appropriate activities in sheltered areas with passive surveillance. The aim is to provide every child in Royal Greenwich with easy access to high quality play space, in line with the GLA policies and guidance on quality and walkable distance from home.

Further Guidance

+ Design for Play: A guide to creating successful play spaces (Play England, August 2008); and
+ Public Space Lessons: Designing and planning for play (CABE, October 2008).
+ Voice. Opportunity. Power toolkit for youth engagement with planning process. (TCPA, 2020)

PRINCIPLE E.4.2: INTEGRATE SPACE FOR PLAY INTO THE DESIGN

+ Age appropriate play spaces provide an important community focus and they should not be marginalised to the edge of developments but provided centrally in an accessible location where they are overlooked by surrounding properties.
+ On larger developments, where there are other facilities, play areas and open space should be located close to neighbourhood centres and other areas of natural congregation to create a critical mass of activity and help to sustain the facilities.
+ Play space design should follow the 10 Play Design principles.
+ Children and young people in the local community should be consulted with in the early stages of the design process to better understand the community needs and to deliver play areas that benefit broad and diverse needs.

Image e.32: Wild flower meadows are a simple, cheap and effective way to support bio-diversity

Image e.33: Pavement triangle transformed into biodiverse parklet in Leytonstone, London.

Image e.34: Green walls and roofs can create more biodiverse urban landscapes

e.86 Enhancing biodiversity is critical to maintaining or restoring healthy ecosystems in our cities and neighbourhoods. It is critical that development should not be detrimental to biodiversity and should instead aim to deliver net gains. Any negative or detrimental impacts to the natural systems should be considered early in the proposals and should be appropriately mitigated. Development should deliver urban greening as a fundamental element of a development and building design, incorporating measures such as high-quality landscaping (including trees), green roofs, green walls and nature-based sustainable drainage (London Plan G5).

e.87 Opportunities to improve the wildlife and biodiversity value of open spaces should be maximised. Roofs and walls of buildings should be used to support biodiversity wherever possible to maximise the quantity and coherence of these ecosystems. Existing green cover on site should be retained as far as practical, landscaping should make use of native species and consider delivery of

Image e.35: Artificial nests can provide safe nesting areas for birds

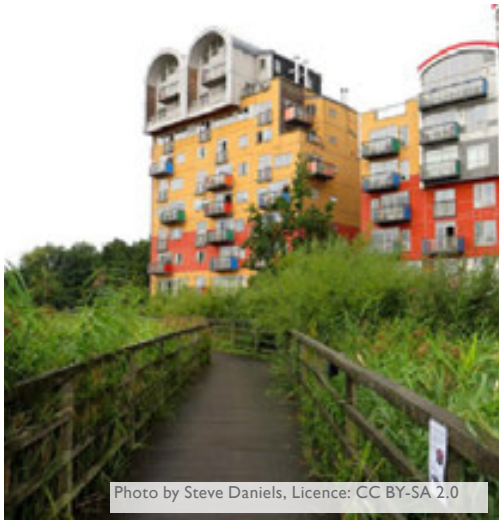


Image e.36: Access into ecological parks should be considered where appropriate

unmanaged natural areas, such as wild-flower meadows. Landscape features that have high biodiversity/ecological value should normally be retained and incorporated within proposals and consideration given to the creation of new habitats. Wildflower meadows, wild corners, mature trees, ponds, green roofs and walls, and features such as 'insect hotels' can all make a significant contribution to species diversity.

e.88 New development should actively contribute to net gains to biodiversity and should establish ecological networks that are more resilient to current and future pressures. Development should support the protection and conservation of priority species and habitats where present, and seek opportunities to create other habitats, or features such as artificial nest sites, that are of particular relevance and benefit in an urban context (London Plan G6).

PRINCIPLE E.4.3: DESIGN TO ENHANCE BIODIVERSITY

+ New development should actively contribute to net gains to biodiversity and should establish ecological networks that are more resilient to current and future pressures.
+ Landscape features that have high biodiversity/ecological value should normally be retained and incorporated within proposals and consideration given to the creation of new habitats.
+ Native species of plants and trees should be prioritised to maximise biodiversity.
+ Large developments should work with specialists to develop biodiversity strategies from the outset.
+ Applicants must speak to an aboricultural and landscape maintenance manager for species selection when working on the Transport for London Route Network.
+ All developments should seek to retain existing trees and enhance their local existing ecosystem. If trees must be felled, at least 10 year old replacement trees should be planted to ensure equivalent carbon capture capacity. The option of planting younger trees is acceptable only where these are proved to be advantageous in terms of enabling a greater amount of carbon capture through rapid growth and also ensuring greater resilience and longevity of the new green infrastructure. If younger trees are planted and subsequently die, these should be replaced to ensure that carbon savings are achieved. Attrition rates should be factored into the planting regime at inception to avoid the requirement for replacements.
+ Rewilding and carbon sequestration opportunities such as soil management,

Further Guidance -

+ SuDS in London - a guide, Transport for London (2016)
+ Greater London Authority, Urban Greening and Biodiversity design guide (2021)
+ Royal Borough of Greenwich Biodiversity Action Plan, 2010
+ Royal Borough of Greenwich Greener Greenwich SPD, 2014

Image e.37: Canada Water: a coordinated approach to the development of the public realm is critical for a place to feel joined up and whole

e.89 Larger regeneration projects are often delivered by different developers and design teams. This can lead to a range of different design approaches and qualities in the public realm, resulting in a fragmented and inconsistent approach, which can detract from the overall quality and distinctiveness of a place.

e.90 It is important that the public realm flows seamlessly across different development schemes and ownership boundaries and that the standard of design and execution remains high, even where delivered independently. Throughout an area development should apply a consistent palette of materials, a common set of public realm furniture and lighting, and a coherent approach to planting and landscaping.

e.91 As part of the plan making for the regeneration area a public realm design code should be developed and agreed that specifies the design, furniture, planting and materials to be used across the entire area. This should be binding for all developments. This for example could be achieved by the design code being part of an outline application for this site; agreed to be complied with as part of developers agreements; or alternatively, be prepared and stipulated as part of a Supplementary Design Guide by the Local Authority.

PRINCIPLE E.5: COORDINATED PUBLIC REALM DELIVERY

+ Developments should coordinate the delivery of the public realm in between schemes to ensure consistency is maintained throughout the wider area and it flows seamlessly between different developments.
+ For instance, it is recommended that a common palette of materiality, landscaping and street furniture is applied to public areas, while more variety could be considered appropriate within internal and private spaces.
+ Masterplan led schemes should set out common site specific design principles or codes for public realm areas to ensure a consistent delivery.

Further Guidance -

+ Global Street Design Guide, Global Designing Cities Initiative (2016)

e.92 Keeping the public realm and open spaces at a high quality requires consistent and continuous management and maintenance of the asset. A coherent and long term approach to the management and maintenance of open spaces and the public realm is critical to ensure it remains high quality and enjoyable. An appropriate long term maintenance and management strategy for the public realm and open spaces in a development should be prepared early on. This should include the identification of funding sources to pay for the upkeep.

e.93 Poor management approaches could lead to piecemeal, irregular and variable quality maintenance regimes. In larger regeneration or development areas a single organisation should be responsible for the management and maintenance of the entirety of the area to ensure a coherent and holistic approach, a durable legacy and consistent standards. Where significant and strategic areas of highway or public spaces are delivered it may be best for them to be adopted by the Local Authority to ensure their maintenance. It is essential that early consideration is given to determine whether streets and spaces will be adopted by the Council to ensure that the delivered design is able to be appropriately managed and maintained.

e.94 Where public realm assets are adopted within or as part of private developments a portion of the total asset replacement cost may be sought by the Local Authority from developers as part of Section 106, as a commuted sum, to fund future replacement of the public realm.

e.95 Unadopted open common spaces will need to be maintained and kept at a high standard in perpetuity by a private site management company. This could be funded from service charge payments by residents, or alternatively through investment incomes from endowments provided to this purpose to a not-for-profit organisation.

Further Guidance -

+ Global Street Design Guide, Global Designing Cities Initiative (2016)

Image e.38: High quality public realm will require an effective maintenance regime to remain well kept and attractive

PRINCIPLE E.6: MANAGEMENT AND MAINTENANCE

+ Applicants should take management considerations into account during the design development process to ensure that the management regime is consistent, continuous, sustainable, financially viable, and can be appropriately resourced over the lifetime of the development.
+ Developments must take into account the affordability for future users over the lifetime of the project and where appropriate should consider management funding sources and funding models.
+ In large developments, piecemeal management should be avoiding by the adoption of a holistic management strategy. In developments that deliver large areas of highway and public spaces, applicants should work with the Local Authority to determine if Local Authority adoption and management will be appropriate.
+ Unadopted public spaces must be maintained to a high standard in perpetuity by a private site management company.

CHAPTER F

BUILDING DESIGN

F BUILDING DESIGN

Back to document index

The quality of the design of the built form has a significant impact on how people feel and respond to a place and the choices they make when using it.

Exemplary building design should be a fundamental aspiration in every project. This chapter sets out the core architectural and urban design principles of good quality, contextual design that should be applied by any project involving new, retrofitted or extended buildings (except household extensions that are covered by Chapter I).

Any project should ensure that the quality of design is protected from erosion when moving from planning to implementation, for example by retaining architects throughout the project.

DESIGN PRINCIPLES	pg.	DEVELOPMENT TYPE: Large scale comprehensive new development	Large and medium sized urban infill sites	Housing estate renewal	(re)development or adaptation of small urban infill sites or single buildings	Household extensions	Shopfront improvements
F.1 Sustainable Buildings	174	●	●	●	●		
F.2 Building Height	176	●	●	●	●		
F.3 Tall and Large Buildings	178	●	●	●			
F.4 Rhythm, grain and scale of development	198	●	●	●	●		
F.5 Building Line	201	●	●	●	●		
F.6 Frontages	203	●	●	●	●		
F.7 Addressing corners	205	●	●	●	●		
F.8 Building threshold/ defensible space	206	●	●	●	●		
F.9 Sloping Sites	208	●	●	●	●		
F.10 Built form & architectural expression	210	●	●	●	●		
F.10.1 Roof Design	212	●	●	●	●		
F.10.2 Elevation Design	214	●	●	●	●		
F.10.3 Balcony Design	216	●	●	●	●		
F.10.4 Material	218	●	●	●	●		
F.11 Climate responsive façades	220	●	●	●	●		
F.12 Building integrated photovoltaics	221	●	●	●	●		
F.13 Modern methods of construction	222	●	●	●	●		
F.14 Smart Buildings	223	●	●	●	●		

Image f.1: Zero Carbon Greenwich Build Council Housing at Kyle Mews in Coldharbour (image of The Underwood by Fuse Architects)

f.1 The construction industry makes a significant contribution to CO_2 emissions utilising substantial volumes of nonrenewable resources and generating pollution and waste. The need for sustainable approaches to building design is therefore fundamental if the challenges associated with climate change, resource depletion and pollution are to be addressed, and will be necessary to achieve the Government's Future Buildings Standards.

f.2 Urban form and building typology has a significant impact on the energy efficiency of buildings. Site layouts and building typology and fabric should be designed to maximise passive sustainability. Care should be taken to ensure that the design will not make the user reliant on extensive heating and cooling to mitigate against the impacts of poor orientation that increases solar gains or heat loss.

f.3 Design should incorporate appropriate measures for the efficient and low carbon management of water, waste and energy resources. These should be considered from early on in the design process to increase effectiveness and reduce conflict. Rain water harvesting/grey water recycling systems should be incorporated in proposals wherever practical. In order to ensure that leakage is reduced and water used as efficiently as possible, a fittings-based approach should be used for calculating water efficiency of new development in line with The Optional Requirement set out in Part G of the Building Regulations and in compliance with London Plan Policy SI.5 - Water Infrastructure and the supporting text in section 9.5.2.
Discounts are offered by Thames Water for new development that is water efficient.

f.4 The embodied carbon of a development should be minimised wherever possible. This could be achieved through*:

+ Modularisation and product standardisation
+ Consideration of how the building will be deconstructed to maximise reuse, salvage or recyclability of components.
+ Maximise use of recycled and recyclable materials.

f.5 Items with excessive wear or requiring regular replacement should be particularly robust and easy to access. Items may include*:

+ Lifts.
+ Lighting.
+ Filters for heating and ventilation.
+ Water pumps and valves.
+ Water and waste piping.
+ Communal circulation spaces.

*Adapted from High Density Living SPD, LB Tower Hamlets, 2020

f.6 The Council welcomes innovative and inventive designs that respond to sustainability goals by minimising the use of resources and energy both through building construction and after completion.

f.7 The visual impact of renewable energy technologies will be considered favourably, subject to specific conservation concerns, as we recognise that sustainable technologies are something that people increasingly understand and appreciate.

f.8 Applicants must demonstrate how building design has incorporated the following considerations:

+ The reuse of existing buildings or materials, where relevant;
+ The use of materials with low embodied energy;
+ The use of sustainable materials that are locally sourced wherever possible following the Energy pyramid – Be Lean, Be Clean, Be Green and Be Seen (see Principle B.12 Carbon Impact);
+ Incorporating high levels of insulation (in combination with air tightness and temperature control systems) including

the use of materials with a high thermal mass, such as stone or brick, which store heat and release it slowly;

+ Orientation and design of buildings and roofs to maximise daylight / sunlight penetration and solar gain, whilst also avoiding overheating;
+ The use of green roofs or walls to reduce stormwater runoff, increase sound-proofing and biodiversity;
+ Incorporating renewable energy including photovoltaics, solar thermal water heating, ground and air source heat pumps;
+ The use of low flow technology in water fittings, rainwater harvesting systems and grey water recycling systems to reduce water consumption to 105 litres/person/day (maximum as per London Plan Policy SI 5); and
+ Laying out development to support identified opportunities for decentralised renewable or low carbon energy systems such as district heating networks.

Image f.2: Pilot Greenwich Builds housing scheme at Lister Terrace in Woolwich delivered a new generation of Eco-Homes, that exceed zero-carbon standards and are capable of providing energy back to the grid (image source Royal Borough of Greenwich)

Further Guidance:

+ Royal Borough of Greenwich Carbon Neutral Plan 2021-2030 (2021)
+ Royal Borough of Greenwich Climate Emergency (2022)
+ Greater London Authority Whole life cycle carbon assessment (2020)
+ LETI Climate Emergency Design Guide (2020)
+ LETI Embodied Carbon Primer (2020)
+ LETI Whole Life Carbon (2020)
+ ETUDE/Passivhaus Trust/Levitt Bernstein/ Elementa Net Zero Carbon Toolkit
+ RIBA Climate Challenge 2030 (2021)

PRINCIPLE F.1: BUILDINGS TO MINIMISE THEIR ENVIRONMENTAL IMPACT

+ Developments should aim to achieve high sustainability credentials and should minimise the overall environmental footprint of the development over its lifetime.
+ Developments should be of high-quality and should implement good 'fabric first' passive design measures, such as form, layout, orientation, massing, typology, and landscaping to reduce energy requirements.
+ All developments must be designed to meet the London Plan in regards to Net Zero Carbon policies, the energy hierarchy and fabric first approach to reduce their energy demand before integrating renewable alternatives (see Principle B.12 Carbon Impact).

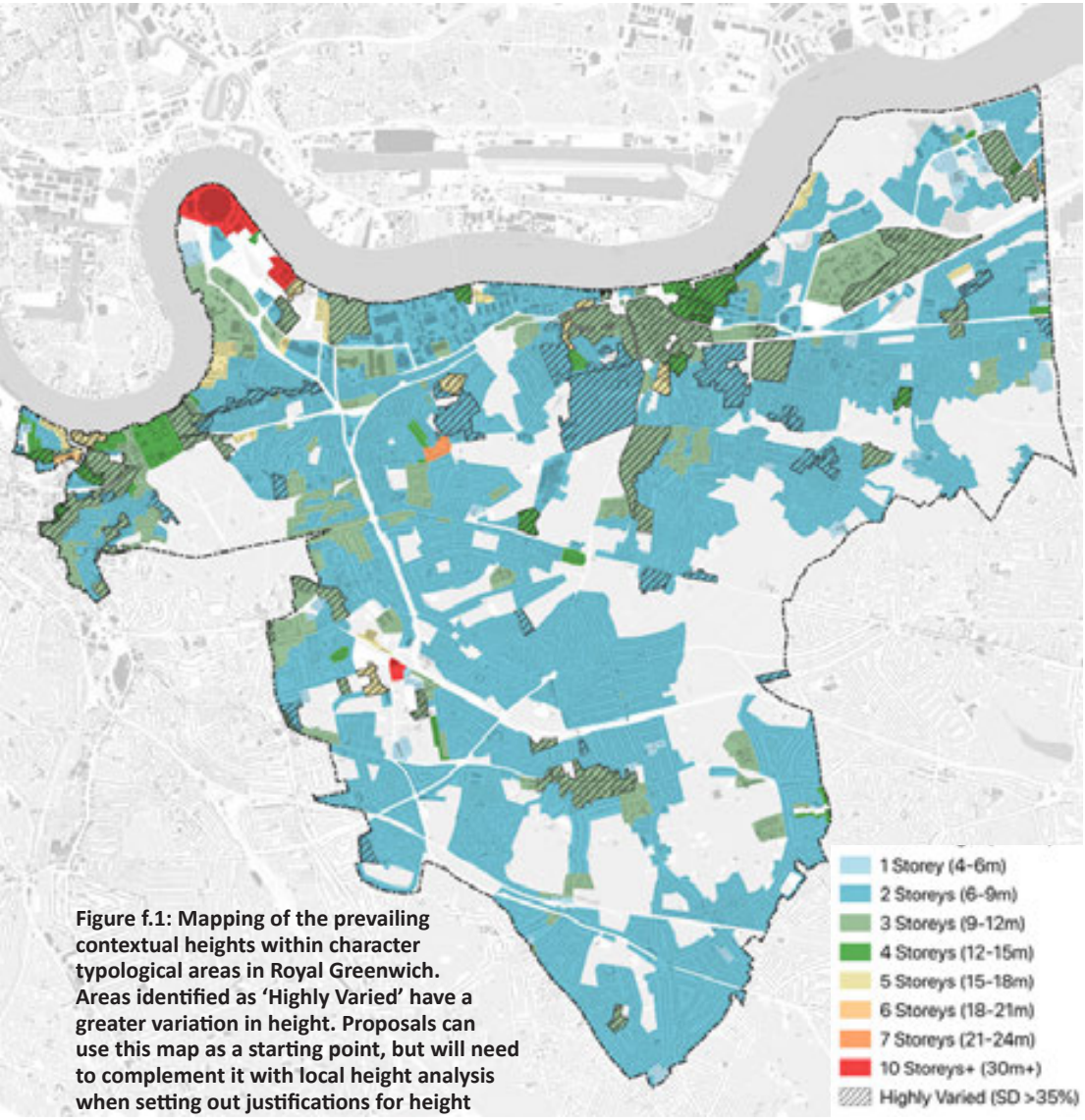


Figure f.1: Mapping of the prevailing contextual heights within character typological areas in Royal Greenwich. Areas identified as 'Highly Varied' have a greater variation in height. Proposals can use this map as a starting point, but will need to complement it with local height analysis when setting out justifications for height

f.9 Building height is one of the most defining features that contributes to the look and feel of a place. It shapes the feeling of enclosure and human scale, reinforces the hierarchy of routes and spaces, can enhance legibility and create focal points or landmarks, and can positively emphasise the topography and features of a site.

f.10 In areas that have an established valued and coherent character and that are sensitive to change, heights of new development would generally be expected to be contextual, that is being of the same height (in terms of their actual height in meters - not storeys) than their surrounding context.

f.11 In areas that are less sensitive to change and where there is a greater variation in heights, the response by development needs to reflect the wider context for change in an area, which could mean that a proportionate increase in height may be acceptable (not normally more than one or two storeys above the contextual height).

f.12 The appropriate height of a building will depend on many factors, and the following principles will all need to be taken into account, when establishing and justifying the height of a building:

+ Responding to local character (Principle B.6 Responding to local character)
+ Responding to existing townscape and heritage (Principle B.7)
+ Hierarchy of routes and spaces (Principle D.1.3 Hierarchy of routes...)
+ Density (Principle B.5 Density)
+ Scale and massing (Principle D.1.5 Scale and massing)
+ Legibility and identity (Principle D.1.6 Legibility and identity)
+ Street enclosure (Principle E.2 Street Types and Enclosure)
+ Tall buildings (Principle F.3 Tall and large buildings)
+ Sloping Sites (Principle F.9 Sloping sites)
+ Architectural expression (Principle F.10 Architectural expression)
+ Roof design (Principle F.10.1 Roof design)
+ Modern Methods of construction (Principle F.11 Modern methods of construction)
+ Privacy (Principle G.2.1 Privacy)
+ Daylighting and sun-lighting (Principle G.2.2 Daylighting and sun-lighting)

Figure f.2: Building height can be expressed as the total height of a building including roof and plant structures, or as the building shoulder height, that is the height of the effective building front in a street space above the building line, excluding set-back or roof storeys. Heights should generally be provided in meters above ground and also in number of storeys as storey heights can vary between different uses.

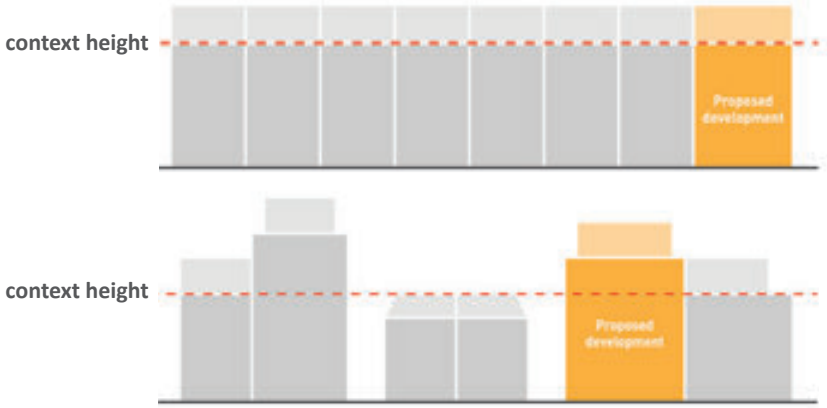


Figure f.3: The context height (as mapped in Figure f.1) sets out the broad prevailing height that will be experienced within character areas. In coherent areas this will be the height of the majority of buildings, whilst in more varied areas this will be the mean height of all buildings.

Further Guidance -

+ Royal Borough Greenwich Character and Intensification Study (2023)
+ Royal Borough Greenwich Tall Building Study (2023)

PRINCIPLE F.2:
AN APPROPRIATE HEIGHT APPROACH TO THEIR LOCALITY

+ The scale, massing and height of a building should relate to the local existing or emerging character of the place where it is located.
+ Applicants need to understand and justify their approach to height in response to the existing height context (specific heights of neighbouring and nearby buildings within the adjoining streets and prevailing heights in the wider area) and any relevant plans or guidance that may stipulate the future approach to height in the locality. Applicants should make reference to the 'context height ratio' to demonstrate the relative height of the proposal in relation to the surrounding context height.
+ Heights may not be uniform across an area and should appropriately respond to their immediate context and specifically the scale of streets and their level of enclosure.
+ Where a street or area is characterised by a relatively coherent approach to development scale, form and streetscape, new development will be expected to be coherent and well-integrated with existing shoulder, parapet and roof heights.
+ In areas that are less sensitive to change and where there is a greater variation in heights, the response by development needs to reflect the wider context for change in an area. Proposed variations in height and scale must be well-considered to demonstrate the impacts on the local surroundings, as well as on the skyline.
+ Approaches to height may vary slightly (normally by not more than one-two floors) to express important building corners at nodes or intersections where this could help the distinctiveness and legibility of an area and where this is justified in relation to the specific site context (see Principle D.1.6 Legibility and identity).
+ Building height should be designed in a way to ensure air flow and limit loss of natural light to the street level as far as possible.

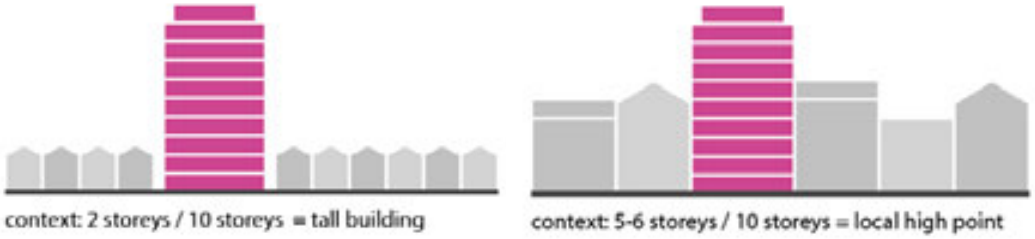


Figure f.4: The impact of a tall building is related to its context

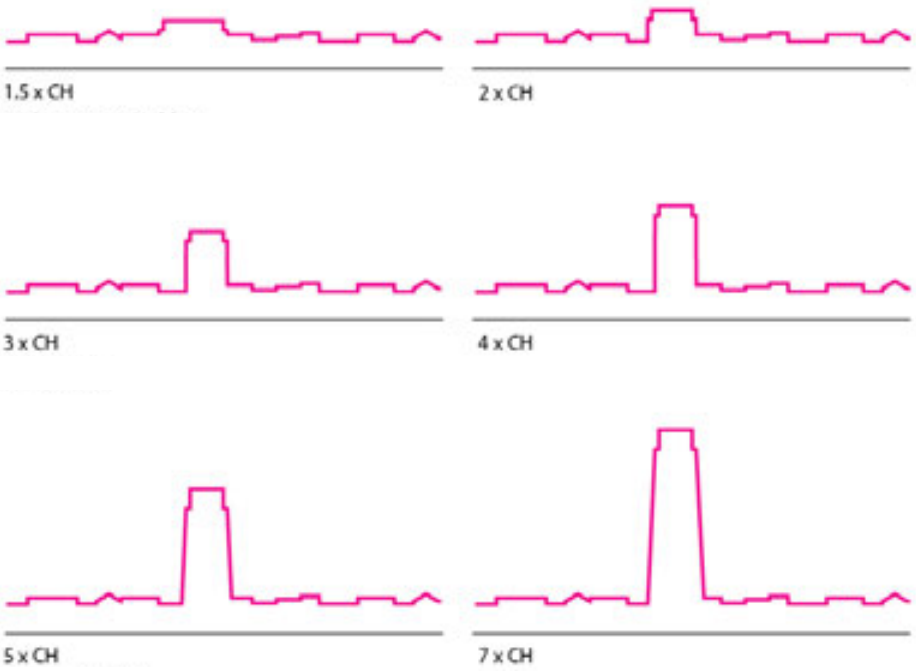


Figure f.5: The context height expressed as an impact on the skyline

DEFINITION

f.13 Coherently with the London Plan Policy D9, a tall building in Royal Greenwich is defined as a building not less than 6 storeys or 18 metres in height measured from ground to the floor level of the uppermost storey, which is twice or more the prevalent height in its surrounding context.

f.14 The definition above means that 'tall building' is a relative term. A ten-storey building might be a (very) tall building in a predominantly two-storey suburban area, yet would be considered only as a local high point in an urban five to six storey context. Thus, tall buildings must be considered in relation to their local context.

f.15 The taller a building the greater is its presence and impact, both locally as well as on the skyline. Figures f.4 and f.5 diagrammatically depict taller then surroundings buildings in their context. They illustrate how the relationship between the taller element and its surrounding context changes as its height increases.

f.16 The SPD provides guidance to facilitate designing tall buildings tailored to the places of Royal Greenwich. It does not provide indication of the specific sites suitable for tall buildings in the borough. In this regard, proposals for tall buildings should refer to the current RB Greenwich Local Plan (Policy DH2 Tall Buildings).

f.17 For further useful information on the places of Greenwich, the Characterisation Study and Tall Building Assessment provide some useful evidence-base information on tall buildings, which will inform the next review of RB Greenwich Local Plan.

CATEGORIES

f.18 The concept of prevalent context height in the SPD should be used as a methodological step for the good understanding of the different meaning of building height based on its surrounding context.
In simpler words, the assessment of context height is a useful tool to understand the real prominence and role of taller buildings within their immediate and wider context.

Figure f.6: A building is defined tall in relation to the height of its context. It can be classified by its relative height ratio into Local, District and Metropolitan Scale Tall Buildings. Outstanding buildings that are less than 2x the context height are called large buildings.

f.19 Therefore, the defined categories of tall buildings in the SPD should not be interpreted as rigid thresholds or prescriptive indication on the suitable height for specific sites, but as a useful principle to facilitate the design of tall buildings well integrated within their context in Royal Greenwich.
The following classification is established in relation to context height (fig. f.6):

+ Large Building – up to 2x context height;
+ Local Scale Tall Building – 2 to 3x context height;
+ District Scale Tall Building – 3 to 5x context height;
+ Metropolitan Scale Tall Building – 5x and above;

f.20 The area used to establish the context height and the context height ratio will need to reflect the extent of the tall building's impact. Local scale tall buildings can use the context height of their immediate local and wider surroundings, while district landmarks will need to consider heights across the wider district.

f.21 Table f.1 sets out for each of the tall buildings classification the principal perception of a tall building in relation to its context, and its principal impact on the skyline.

LARGE BUILDINGS

f.22 In this classification, buildings that are less than twice (2x) the context height are defined as "Large Buildings".

f.23 Although less prominent in the street scene than tall buildings, large buildings may still have a considerable impact on their local context and as such should remain exceptions in their area, in particular where they are taller than 1.5x the contextual height.

f.24 Given their greater height, large buildings should be subject to increased scrutiny in respect of their design and location.

f.25 Large buildings can play a role in locally increasing densities. Similar to tall buildings they can also contribute to the character and identity of places. They may also help contribute to a greater diversity of accommodation, and support vitality and place making. Due to their increased height they may help to enhance the legibility of an area for example by providing a height

Table f.1: Table of tall building classifications relative to context height

Ratio to Context Height (CH)	Building height classification	Perception in relation to its context	Visual impact on the skyline
Up to 2 x CH	**Large building**	Contextual, accented building	Limited impact primarily from adjoining space.
Above 2x CH and up to 3x CH	**Local Scale Tall Building** Tall building of local significance	Outstanding prominent exception, proportionate relationship with context height, perceived as constituent part of urban context	Tall building is notable, yet its impact on the skyline is mainly local.
Above 3x CH up to 5x CH	**District Scale Tall Building** Tall building of district wide significance	Rising out of the fabric, markedly outstanding and pronounced contrast with prevailing urban context	Can be seen across a large part of the city.
Above 5x CH	**Metropolitan Scale Tall Building** Tall building of metropolitan significance	Jarring contrast, disconnected from the prevailing urban context height across the place, often requires increased heights in its surrounding to mediate the impact on its context	Can be seen across the city and from far away.

Image f.3: Example: Large Building

Image f.4: Example: Local Scale Tall Building

Image f.5: Example: District Scale Tall Building

Image f.6: Example: Metropolitan Scale Tall Building

accent at an important corner. They may also contribute to the distinctiveness of an area.

f.26 Larger buildings can also form part of a small cluster of buildings and contribute to a highly urban and distinct character of an area.

TALL BUILDINGS AS LANDMARKS

f.27 Tall buildings are often described as landmark buildings. As taller buildings will have a greater visibility and a significant impact on their surrounding, it is principally considered important that they help to improve the legibility of an area, define points of townscape interest or mark public functions or facilities such as hospitals or transport hubs. Landmark buildings attract people, help orientation and contribute to local identity. Well-designed local landmarks can be a positive feature of new developments within a place if they integrate well with their context, respond appropriately to the setting of heritage assets and the landscape/ townscape character, and contribute to the sense of place.

f.28 Potential locations where tall buildings can act as landmarks in the urban fabric and assist legibility and orientation are:

+ Nodal points where important movement corridors come together or intersect;
+ Arrival and departure points in the urban fabric, such as transport interchanges and stations;
+ Gateway locations at the edge or border of neighbouring urban areas; and
+ Prominent focal points at the end of vistas or important streets, that can emphasise the importance of a route or mark an important destination.

CLUSTERS

f.29 Tall buildings clusters provide a positive means of grouping tall buildings together in areas that in accordance with their vision should deliver higher density development, intensification of activities and a strong sense of urbanity.

f.30 For clusters to establish and remain distinctive features on the skyline they require management and coordination in respect of the location and height of potential tall buildings. Competition

between sites for the 'tallest' building may shift the centre of gravity around and affect the reading of a cluster on the skyline. If not carefully managed, clusters can mutate into an uncoordinated sprawl of taller buildings over time, and undermine the legibility and uniqueness of the skyline.

f.31 A cluster should be confined to a limited geographical area and not allowed to stretch out too far in certain directions, for example along a street, to ensure its skyline appearance is similar and compact in views from all directions, and it remains clearly identifiable from wherever seen.

VISUAL IMPACT AND HARM

f.32 The impact of tall and large buildings on their immediate and wider context will need to be fully understood and tested. Proposals should be designed and sited carefully so as not to have an intrusive impact on heritage, to damage historic settings or to detract from local character.

f.33 Tall and large buildings should avoid harm to the significance of the borough's heritage assets and their settings. The level of significance of a heritage asset will be the guiding factor in determining appropriateness of tall buildings. Where relevant, applicants for large and tall buildings will be required to demonstrate how they have taken into account and mitigated their impact on heritage, views and the local townscape, through the undertaking of Visual, Townscape and Heritage Impact Assessments as part of a planning application.

f.34 The spatial characteristics of the immediate and wider area surrounding a tall building will be the context within which a tall building is perceived and its impact felt. A tall building proposal will need to consider and appropriately respond to the following contextual attributes:

+ The height, scale and massing of buildings, its coherence or variation;
+ The urban grain (sub-division of blocks and plots) and townscape;
+ The streetscape, including the scale of streets, the alignment of buildings and the building interface and the street level experience;
+ The building composition, silhouette and skyline characteristics;
+ Aspects of built form and articulation of building elements, such as the base, body and roofscape;
+ Architectural language, materials and detailing; and
+ The spatial response to special morphological situations such as open spaces, waterways and railway lines.

Further Guidance -

+ Royal Borough Greenwich Character and Intensification Study (2023);
+ Royal Borough Greenwich Tall Buildings Study (2023);
+ London Plan 2021 Policy D.9

Figure f.7: Diagram of a cluster of tall buildings - larger and taller buildings concentrated in a confined location. Clusters are distinctive on the skyline if they are focused around distinctive landmark buildings and have a recognisable shape

PRINCIPLE F.3: TALL BUILDINGS IN RB GREENWICH

+ Development of tall buildings will only be appropriate in locations identified in the Royal Borough Local Plan.
+ Large buildings will only be supported where it can be demonstrated that they have a significant and necessary role in enhancing legibility and placemaking.
+ Large buildings are unlikely to be acceptable in areas that are more sensitive to change, unless large buildings are already part of the character of this area.

Image f.7: A cluster of tall and large buildings marks the New Queen Elizabeth Station in Woolwich

OBJECTIVES

Based on the general, previous considerations, twelve objectives have been identified, which guide the role of tall buildings in RB Greenwich, articulated into design principles.

Proposals for tall buildings should aim to fulfil all the objectives. The objectives all have equal importance.

All the outlined design principles are coherent with the current RB Greenwich Local Plan - Core Strategy.

Image f.8: The vertical emphases of the Waterman tall building, in Greenwich

+ OBJECTIVE 1: Preserve the Outstanding Universal Value of Maritime Greenwich World Heritage Site and the significance of heritage assets
+ OBJECTIVE 2: Protect and enhance townscape views and the skyline
+ OBJECTIVE 3: Have a clear and justified purpose
+ OBJECTIVE 4: Enhance legibility. Be proportionate to the role and importance of a place
+ OBJECTIVE 5: Protect and enhance the Royal Borough's landscape character and river front
+ OBJECTIVE 6: Deliver comprehensive development as part of a proactive, plan-led approach
+ OBJECTIVE 7: Avoid speculative proposals outside of designated areas and clusters
+ OBJECTIVE 8: Respond and integrate well with the existing townscape and character, and to strengthen the sense of place
+ OBJECTIVE 9: Be positioned, dimensioned and oriented in a way to mitigate any undesirable impact on the environmental quality of the surrounding public realm
+ OBJECTIVE 10: Be Sustainable and innovative development
+ OBJECTIVE 11: Be of high architectural quality and appearance
+ OBJECTIVE 12: Result in high quality places where people want to live and spend their time

OBJECTIVE 1: PRESERVE THE OUTSTANDING UNIVERSAL VALUE OF MARITIME GREENWICH WORLD HERITAGE SITE AND THE SIGNIFICANCE OF HERITAGE ASSETS

f.35 Prior to inscription on the World Heritage List in 1997, the views to and from the WHS were altered to an extent by tall building development in Tower Hamlets and Lewisham. With the growth of Canary Wharf, this pressure has increased and it is clear that the presence of tall buildings in the area poses a risk to the appreciation of the WHS outstanding universal value (OUV).

f.36 Outside of the WHS, the Royal Borough contains a wide variety of listed buildings, conservation areas and registered parks and gardens. Tall buildings in the wrong places can cause significant and irrevocable damage to the significance of heritage assets by intruding into their setting and being overbearing or detracting from the appreciation of a heritage asset and its values.

PRINCIPLE F.3.1: PRESERVE OUV OF WHS

+ Any proposals for tall buildings in the Royal Borough must carefully consider and mitigate their impact on the WHS and the elements that contribute to its outstanding universal value.

PRINCIPLE F.3.2: PRESERVE THE SIGNIFICANCE OF RBG HERITAGE ASSETS

+ Harm to the significance of heritage assets should generally be minimised or avoided, and great care should be taken in testing and mitigating against harm. Tall buildings should mitigate against impact to the setting of heritage assets, including important views to and from heritage assets.

Image f.9: Old Royal Naval College in Maritime Greenwich World Heritage site, with Canary Wharf in the background

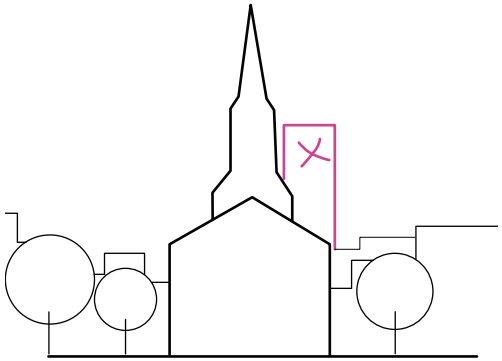


Figure f.8: Tall Buildings should not detract from heritage assets, their setting or views to them

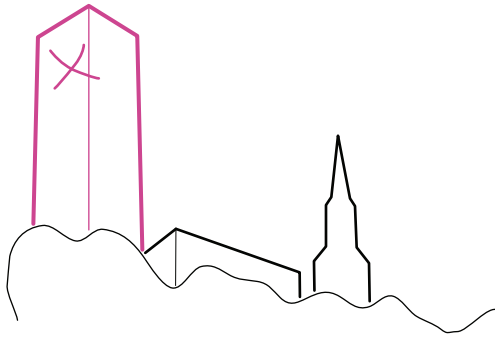


Figure f.9: Tall Buildings should not compromise heritage assets as local landmarks

OBJECTIVE 2: PROTECT AND ENHANCE TOWNSCAPE VIEWS AND THE SKYLINE

f.37 Wider townscape views and views of the skyline are important aspects of the image of the Borough and its places. They provide an overview of the Royal Borough in its wider setting and a spatial understanding of its defining characteristics. Tall buildings can have an irrevocable impact on the skyline and views, and the impact will be commensurate with the height of the building, which should be carefully considered.

f.39 The incremental cumulative impact of tall buildings needs particular attention. In areas where taller buildings are promoted they should be clustered in confined locations to reinforce distinctiveness and legibility of the skyline rather than a scattering of tall buildings over a larger area. The shape and appearance of a cluster and the cumulative impact of existing and future tall buildings will need careful consideration and aesthetic judgement.

PRINCIPLE F.3.3: PRESERVE AND ENHANCE PANORAMIC AND PROSPECT VIEWS

+ Panoramic and prospect views that allow the appreciation of distinctive and valued characteristics of the skyline and townscape, especially if they are from popular or frequented viewing points, should be preserved and enhanced.

PRINCIPLE F.3.4: TALL BUILDINGS CLUSTERS

+ Clustering of tall buildings should follow a coordinated, planned approach and be an expression of a desired character and function of a place such as an urban centre. Generally, the tallest building in a cluster should be located centrally and other buildings should step down in height towards the edges of the cluster (Figure f.10).

Figure f.10: Tall Building clusters

Image f.10: London Panorama defined in the LVMF as View 5A.1 from Greenwich Park, near the General Wolfe Statue

OBJECTIVE 3: HAVE A CLEAR AND JUSTIFIED PURPOSE

f.42 From a positive planning and place making perspective there are three principle purposes for tall buildings in the Royal Borough:

1- Landmarks: Individually or collectively, tall buildings can be landmarks that help to bring distinctiveness and legibility by being exceptional markers in the urban fabric.

2- Densification: In exceptional circumstances tall buildings (and clusters of tall buildings) could be part of a new urban character that delivers great intensification to highly central urban areas, especially where concentration of smaller apartments for young urban professionals is desirable to support the livelihood of a centre or place, or in a location where the delivery of commercial or other type of floor space is a strategic planning objective. It should be demonstrated that alternative contextual approaches to intensification or the delivery of a planning objective are not feasible or viable. A super-densification approach can deliver a stark contrast leading to a rupture in the character of the existing townscape, and should only be pursued in places where this level of development can be accommodated as part of the existing or emerging character.

3- Necessary typological response: Where the delivery of a specific planning objective requires a tall building or structure in a certain location and it can be demonstrated that other contextual solutions have been explored and would be less effective, efficient and feasible.

PRINCIPLE F.3.5: PURPOSE

+ Tall buildings are only a means to an end, not an end by themselves. As such they need a clearly defined and justified purpose as either a landmark, a means of densification or a necessary typological response.

OBJECTIVE 4: ENHANCE LEGIBILITY. BE PROPORTIONATE TO THE ROLE AND IMPORTANCE OF A PLACE

f.40 Individually or collectively, tall buildings can be landmarks that help to bring distinctiveness and legibility to the urban fabric. The height and design of landmark buildings should be proportionate to the respective role or function of a location in the hierarchy of places. The tallest buildings, particularly if clustered, will naturally read as the most important and central focus of the city. Tall buildings of lesser height should reflect the subordinate nature of other locations.

f.41 When acting as a landmark for a place of significance, a tall building should also serve to enhance local legibility and wayfinding. This can be achieved by locating the tall building in prominent places such as local hubs and destinations, at street corners, public spaces or in vistas along routes. A principle quality of landmarks is their singularity and proposed tall buildings should avoid detracting from the prominence and role of existing landmarks.

PRINCIPLE F.3.6: LEGIBILITY AND TALL BUILDINGS.

+ Tall buildings are highly prominent and so should be clearly associated with places or functions of importance and meaning. Where a landmark is expressed through a tall building, its height should be proportionate to the relative civic importance of the place or function it marks in the wider context of the town or district. The scale and height of a landmark building should provide cues to the role and importance of a place in the hierarchy of the settlement or wider area. Generally local landmarks should be marking places or functions of local importance. District landmarks should be marking places of district wide importance, while Metropolitan landmarks should mark places of metropolitan or city wide importance.

OBJECTIVE 5: PROTECT AND ENHANCE THE ROYAL BOROUGH'S LANDSCAPE CHARACTER AND RIVER FRONT

f.43 The presence of the River Thames is an important element in the identity and character of the northern part of Royal Borough of Greenwich. Tall buildings and clusters along the river are highly visible across the city and play a key role in our understanding of the spatial structure of both London and the Royal Borough. Tall building development must be coordinated to avoid the creation of a wall or canyon along the riverfront. Instead tall buildings should form clusters in specific locations, whose importance warrants highly visible landmarking along the river.

f.44 The Royal Borough has a unique landscape character due to its undulating topography and vast amounts of metropolitan open land, nature reserves, registered parks and gardens and other landscapes. The raised elevation of land at Shooters Hill, Greenwich Park, Eltham Common and elsewhere creates a leafy green backdrop to wide views of the Borough from the north (including the northern side of the river Thames) and in approaches from the south. Equally, these raised green spaces provide panoramic views of the Royal Borough and across London.

PRINCIPLE F.3.7: IMPACT ON THE RIVER FRONT

+ Tall building developments along the River Thames should enhance the public realm and natural environment, improve access for people to walk and cycle along the riverside and enhance views to and from the river Thames.

PRINCIPLE F.3.8: IMPACT ON LANDSCAPE CHARACTER

+ The location and height of tall buildings in the Royal Borough must be carefully considered to avoid competing for prominence with raised landscape spaces, blocking views to and from green spaces or detracting from their open and tranquil character.
+ Tall building applications should be thoroughly tested from popular viewing points in parks and on elevated land.

OBJECTIVE 6: DELIVER COMPREHENSIVE DEVELOPMENT AS PART OF PROACTIVE, PLAN-LED APPROACH

f.45 The NPPF makes clear the need for a genuinely plan-led and proactive approach to development. Tall buildings should only be considered where they are part of a plan-led strategy for change and regeneration of a place led by a comprehensive and widely supported vision, and where it has a clear purpose in delivering this vision.

f.46 Tall buildings should generally only be part of a comprehensive masterplan-led approach to a larger site, rather than being promoted speculatively on smaller sites. Well planned larger sites can better integrate tall buildings and mitigate their impact on the street space, deliver better servicing and parking arrangements and consider the wider townscape and skyline impact of tall buildings.

f.47 Speculative proposals for tall buildings on smaller sites can often feel out of place and can lead to a fragmented townscape, an illegible skyline, undermine regeneration and can weaken the distinctiveness and image of a place.

Image f.11: The Riverside buildings are an integral part of the Royal Arsenal Masterplan

PRINCIPLE F.3.9: PLACE-MAKING APPROACH

+ A place making approach should always be followed; a tall building must relate and contribute to the wider area and improve the sense of place, or have a clear role in the creation of a new "place".
+ Proposals for individual tall buildings will need to justify why the building is appropriate and demonstrate the benefits of the proposal.

OBJECTIVE 7: AVOID SPECULATIVE PROPOSALS OUTSIDE OF DESIGNATED AREAS AND CLUSTERS

PRINCIPLE F.3.10: PRESERVE LEGIBILITY OF CLUSTERS

+ Proposals for tall buildings outside of a designated area and existing cluster are not encouraged in design terms.

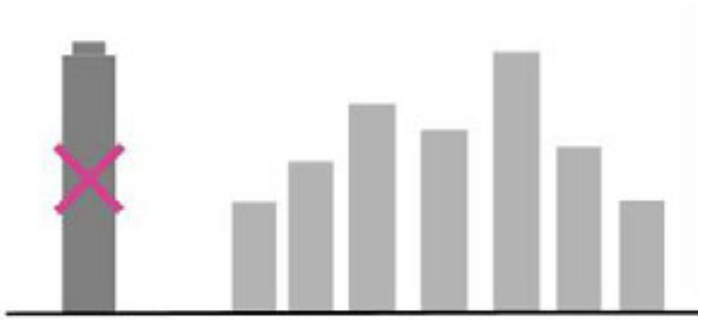


Figure f.11: Tall buildings outside of designated areas and existing clusters are not encouraged

Image f.12: Woolwich Town Centre was planned as an organic composition of historic areas and distinct clusters of taller buildings, which should not be compromised by speculative developments increasingly infilling the gaps between them.

PRINCIPLE F.3.11: AVOID MERGING OF CLUSTERS

+ Proposals should avoid the merging of clusters, as outlined in approved policies and masterplans.

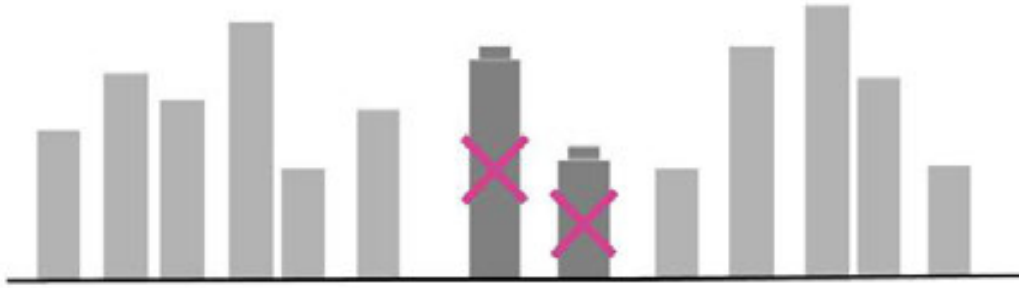


Figure f.12: The merging of clusters should be avoided

OBJECTIVE 8: RESPOND AND INTEGRATE WELL WITH THE EXISTING TOWNSCAPE AND CHARACTER, AND TO STRENGTHEN THE SENSE OF PLACE

f.48 Without careful consideration of the surrounding character, tall buildings can appear disjointed and out of place. This makes them less likely to be accepted by the local community and limits their positive role in placemaking.

f.49 Tall buildings must, through careful design, integrate into the existing built fabric rather than appearing as separate. This can be achieved by integrating tall buildings within urban blocks and responding to the grain and scale of the surrounding area. Stepping the height of a tall development may be used to mediate between the existing context and the tall element.

f.50 In new, large development areas, tall buildings may play a role in creating a new character, as part of a wider development.

f.51 As a general principle, tall buildings work better when integrated with other typologies in a way to create a legible mediation and transition with the surrounding context.

PRINCIPLE F.3.12: AVOID STARK CONTRAST IN HEIGHT

+ Taller buildings should avoid stark contrast in height with their lower height context by locating the high point away from lower neighbours or step development down to visually mediate the height difference (Figure f.13).

Image f.13: Mid-rise shoulder-buildings can help to create a legible relationship with the surrounding mid-low-rise fabric. Example: St George's Circus - M&L Arch.

Image f.14: The integration of tall buildings with other lower-rise typologies can help to deliver schemes with a strong sense of place.

Figure f.13: Avoid stark contrast in height - examples of mid-rise and high rise tall buildings

OBJECTIVE 8: RESPOND AND INTEGRATE WELL WITH THE EXISTING TOWNSCAPE AND CHARACTER, AND TO STRENGTHEN THE SENSE OF PLACE

PRINCIPLE F.3.13: A HUMAN SCALE STREET EXPERIENCE

+ Developments should respond to the scale of surrounding streets and spaces, their sense of enclosure and the quality of the ground floor experience. Excessive enclosure or the creation of a 'canyon' effect should be avoided, for example by applying set-backs to effectively limit the visual impact of greater height on the street space (Figure f.14).
+ The size and width of pavements and public realm surrounding the scheme should be designed organically with the height and bulk of the building.

Image f.15: The excessive height of buildings in comparison to the width of the streets has created a canyon effect on parts of City Road and East Road

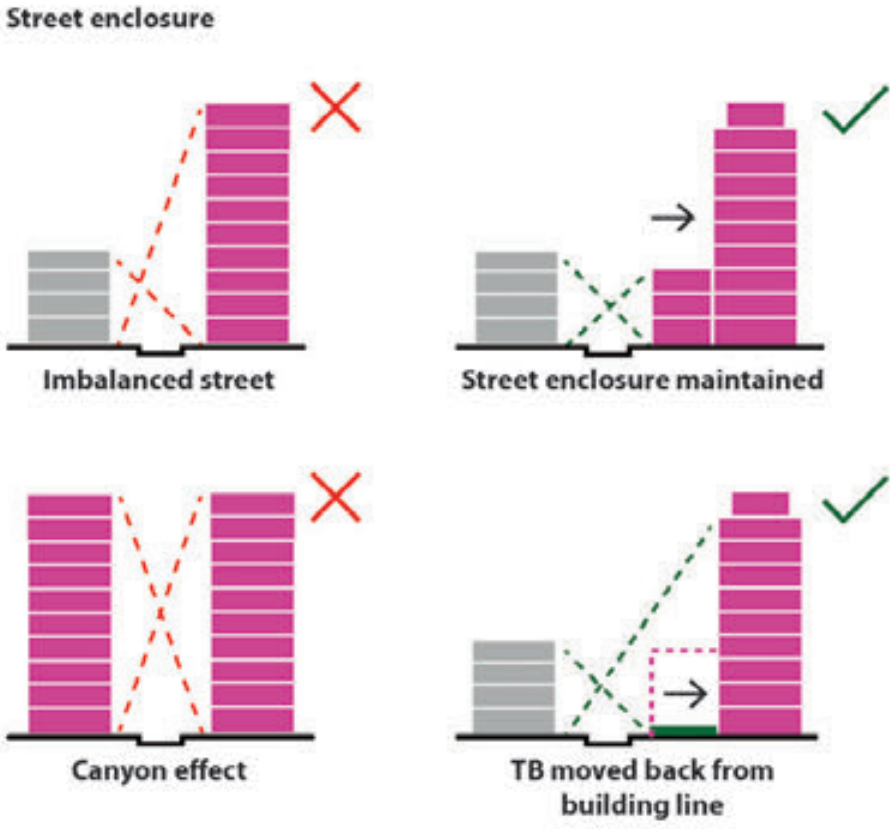


Figure f.14: Tall buildings must provide good street enclosure without becoming overbearing

PRINCIPLE F.3.14: ACTIVE STREET FRONTAGES

+ Tall buildings should provide a positive interface with the surrounding public realm. The design and distribution of uses especially at ground floor levels should provide positive overlooking ("eyes on the street") and animation to the street space. Blank frontages and exposed servicing or car parking areas should be avoided.

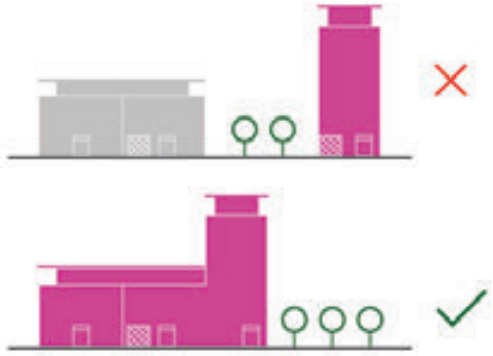


Figure f.15: Integrating a tall building within a street block can help to internalise parking areas, avoid exposed servicing yards and blank frontages, and provide active frontages

OBJECTIVE 8: RESPOND AND INTEGRATE WELL WITH THE EXISTING TOWNSCAPE AND CHARACTER, AND TO STRENGTHEN THE SENSE OF PLACE

PRINCIPLE F.3.15: LANDMARK BUILDINGS SHOULD BE MIXED USE

+ Tall buildings should generally be mixed use buildings with active ground floors and offer a meaningful facility for the local residents and wider public, unless it can be demonstrated that active ground floor uses such as community, retail, leisure, cultural, health, employment are not viable in a location and the landmark is justified purely from a legibility point of view (Figure f.16).

Figure f.16: Landmark buildings should be mixed use

PRINCIPLE F.3.16: RESIDENTIAL AMENITY

+ Tall buildings on compact sites can result in overlooking between dwellings and lack of privacy for both existing and new residents in an area (Figure f.17). The layout of buildings should ensure adequate separation between buildings where dwellings face each other, communal spaces or the public realm.
+ Design should ensure that all proposed and existing dwellings and private amenities, especially on lower floors and single aspect units, have an adequate outlook and sky view that is not over-dominated by other buildings and receive adequate day and sunlighting in the interior of the unit (Figure f.18).

Figure f.17: Tall buildings should mitigate adverse effects on residential amenity and avoid overdominating existing homes and gardens

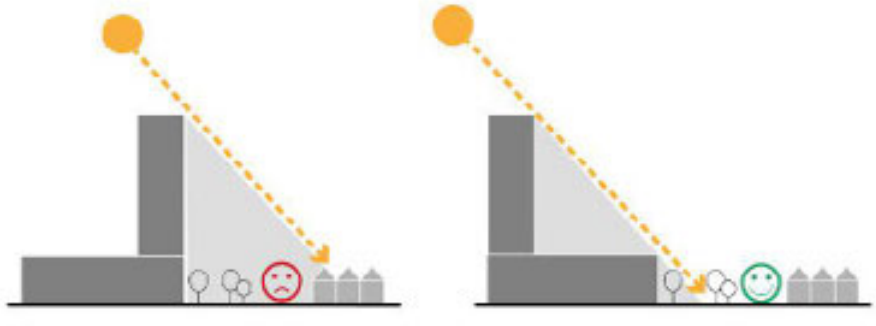


Figure f.18: Tall buildings should be moved away from sensitive areas to avoid overshadowing

OBJECTIVE 8: RESPOND AND INTEGRATE WELL WITH THE EXISTING TOWNSCAPE AND CHARACTER, AND TO STRENGTHEN THE SENSE OF PLACE

f.52 The underlying topography of the Royal Borough is an important aspect of its urban form and identity. Land of higher elevation has the effect of giving greater prominence to buildings on it. Proposals for tall buildings on elevated land are therefore at higher risk of appearing overly prominent on the skyline and can compete with existing landmarks nearby as well as further away, and by this may affect the legibility of the skyline.

PRINCIPLE F.3.17: LIMIT HEIGHT ON ELEVATED LAND

+ The siting of tall buildings on elevated land should generally be avoided unless the intention is to create a highly visible landmark and the broader effects of this on the skyline are acceptable (Fig. f.19). Tall building proposals should be understood both in terms of their height above ground and their height above ordnance datum.

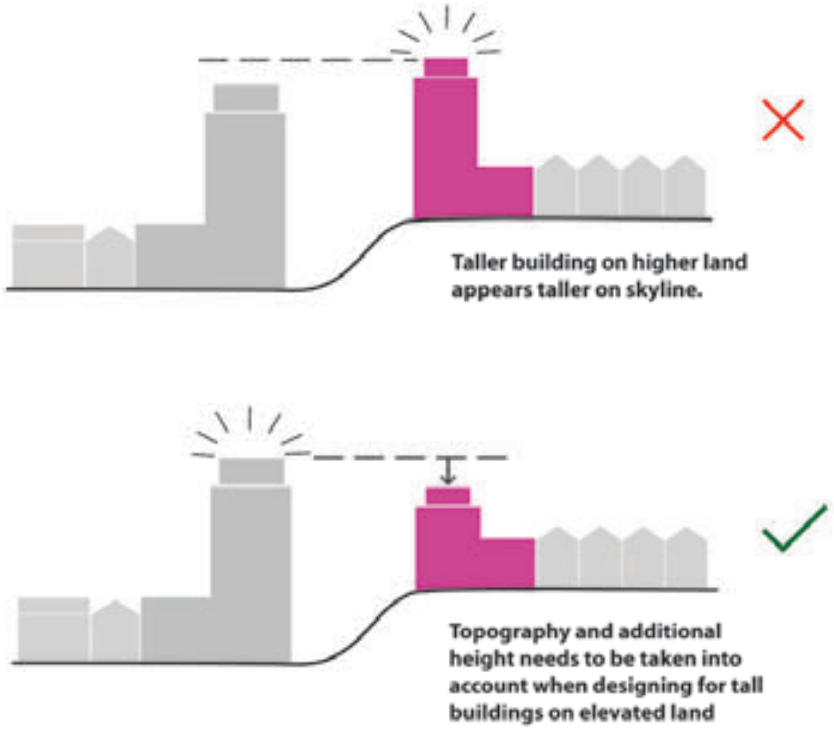


Figure f.19: Topography affects the prominence of tall buildings

Image f.16: The visual prominence and consequential visual harm created by the tall building in the background of the statutory listed Town Hall in Woolwich is exacerbated by its position at the higher end of Wellington Street

OBJECTIVE 9: BE POSITIONED, DIMENSIONED AND ORIENTED IN A WAY TO MITIGATE ANY UNDESIRABLE IMPACT ON THE ENVIRONMENTAL QUALITY OF THE SURROUNDING PUBLIC REALM

PRINCIPLE F.3.18: MICROCLIMATE

+ **Tall buildings should be designed to minimise negative microclimate effects (Figure f.20). The design process should involve wind testing to ensure there is not excessive windiness or wind noise affecting the quality, amenity and safety of spaces around the building.**

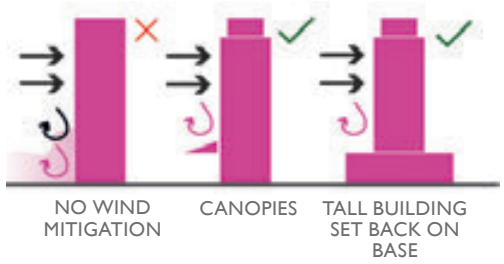


Figure f.20: Good design of tall buildings should mitigate excessive wind at ground level

PRINCIPLE F.3.19: PUBLIC SPACE PROVISION

+ Tall buildings can block sunshine from reaching neighbouring uses and overshadow public and communal spaces. The location, height and design of tall buildings should test and ensure its impact on surrounding spaces and buildings is minimised. Tall building design should minimise adverse impacts from solar glare and limit light pollution.
+ Tall buildings intensify the pressure on the urban environment and should contribute to the provision of quality spaces in their vicinity. The design of public space should reflect the needs of residents and the wider public, and where appropriate provide a setting for the tall building and be orientated to maximise sun exposure. Overshadowing by a tall building located to the south or west of a public space may undermine its attractiveness and amenity and should generally be avoided (Figure f.21).

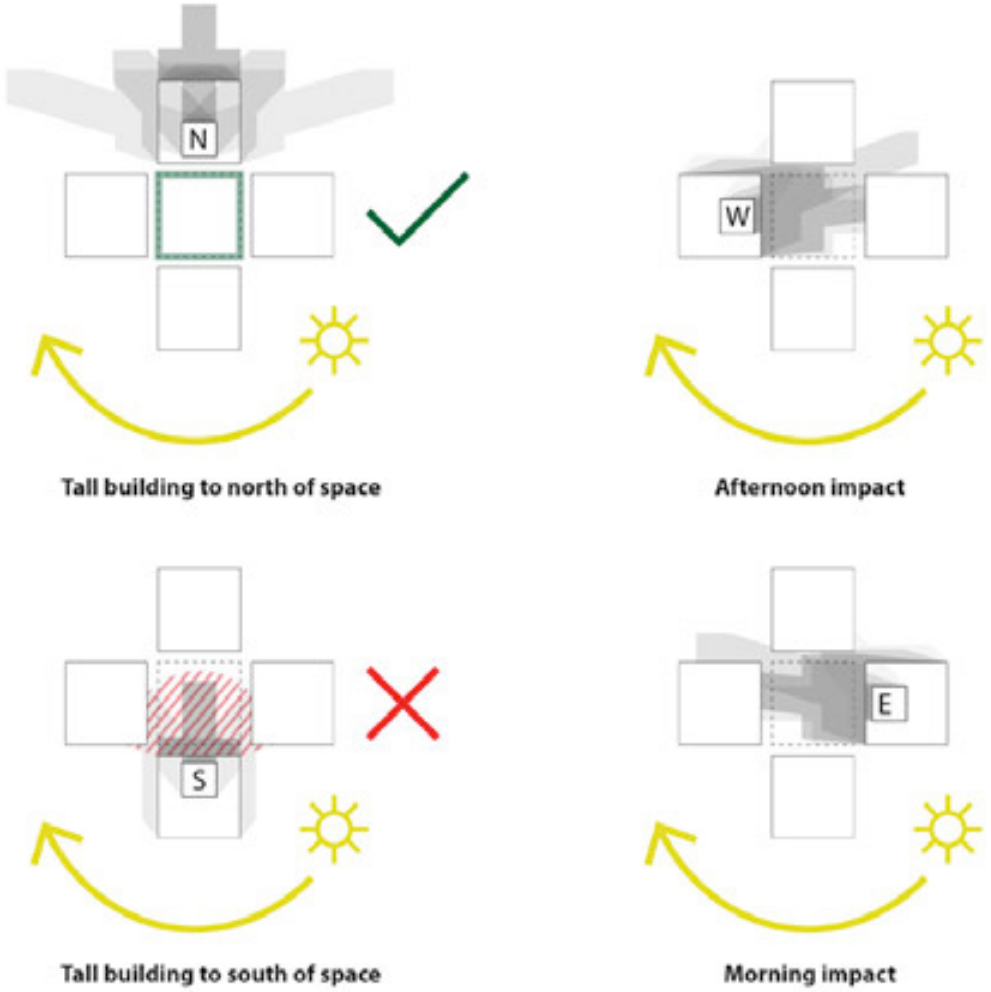


Figure f.21: The orientation of tall buildings in relation to open space will effect levels of overshadowing and daylighting

OBJECTIVE 10: BE SUSTAINABLE, INNOVATIVE DEVELOPMENT

f.53 Tall buildings may be used to optimise density on a site, thereby making sustainable use of land. However, tall buildings are generally more resource intensive to build and to run compared to low or mid-rise buildings. Therefore, they should only be promoted where they clearly support the wider sustainability of an area.

f.54 Tall buildings should be located in areas with high quality public transport, walking and cycling links to facilitate low carbon transport modes over private car use.

f.55 The construction and operation of tall buildings must be designed to high sustainability standards to minimise their impact on the environment. Tall buildings must respond to the climate emergency by ensuring they are designed to adapt to and mitigate climate change.

f.56 From the outset of design, the embodied energy and life cycle of the building should be considered, prioritising local materials with good longevity. Tall buildings should also be designed for future retrofitting and adaptation to other uses through adequate floor to ceiling heights and flexible spaces. This will reduce the need for carbon-intensive redevelopment in the future.

f.57 Detailed consideration should be given to the building's form, configuration and orientation, energy sources and conservation, material source and life cycle, internal temperature control and use of natural ventilation, water use and conservation and mitigation of water run-off, waste management and on-site ecology. Renewable energy generation and the installation or future proofing for Photovoltaics (PVs) should also be considered.

f.58 Innovative solutions to urban greening and provision of green and blue infrastructure should be explored in the design of tall buildings. This may include vertical greening, green walls and green or blue roofs.

f.59 Tall buildings, particularly their upper floors, are typically exposed to direct sunlight much more than lower rise development. This is particularly true when they are designed with large amounts of glazing and floor to ceiling windows. Whilst this may be welcomed during cooler parts of the year, during the summer it can lead to overheating.

f.60 Summers in Britain are projected to become hotter with more frequently occurring heat waves as a result of climate change. The design of tall buildings should take into account how the local climate will change so residents are protected from extreme weather. In the instance of heat waves, this may include external shading structures and the ability for residents to control the amount of shading, for instance through shutters.

f.61 Instances of flooding are also expected to increase in Britain and this must be taken into account when locating tall buildings. In certain instances, it may be inappropriate to include residences on ground floor if these would be at risk of flooding.

PRINCIPLE F.3.20: SUSTAINABILITY

+ Tall buildings must be sustainable, innovative and efficient buildings that minimise use of resources, are adaptable to change and are long lasting. Tall building proposals should demonstrate how they have minimised the carbon footprint of the building and benchmark the proposal against comparable best practice schemes, and contribute to the city's commitment to tackle climate change. Developments should aim for the highest industry standard sustainability ratings.

OBJECTIVE 11: BE OF HIGH ARCHITECTURAL QUALITY AND APPEARANCE

PRINCIPLE F.3.21: WELL ARTICULATED DESIGN TO RESPOND TO ITS CONTEXT

+ A tall building must be a building of integrity that presents a high quality design response to the local character without resorting to pastiche solutions. The design attention should be on the careful articulation of the overall form and design, drawing on local characteristics in terms of rhythm of facades, plot width, materials, details and building articulation (Figure f.22).

Image f.17: On Vauxhall Walk, Lambeth, the design of new buildings has been articulated in a way to create a legible mediation with the historic context.

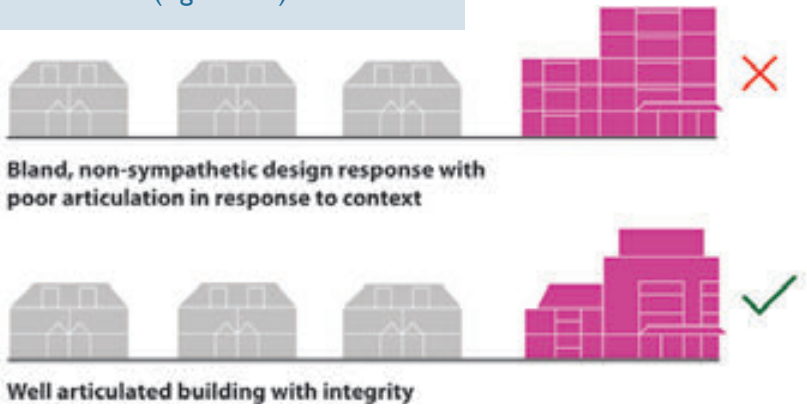


Figure f.22: Articulation and sensitive architectural response to context

PRINCIPLE F.3.22: ARCHITECTURAL EXPRESSION AND COMPOSITION

+ Due to their exceptional prominence tall buildings of greater height must have a well-articulated, balanced and coherent overall form, appropriately expressing their base, shaft and top. The upper floors of the buildings will be highly visible and their form, design and lighting will significantly determine their distinctiveness on the skyline. Façade design should be varied and respond to their role and position in the building.
+ Balconies should be integral aspects of the building design and not appear as later additions. The underside of balconies are highly visible and poor balcony design can detract from the overall quality of a tall building.

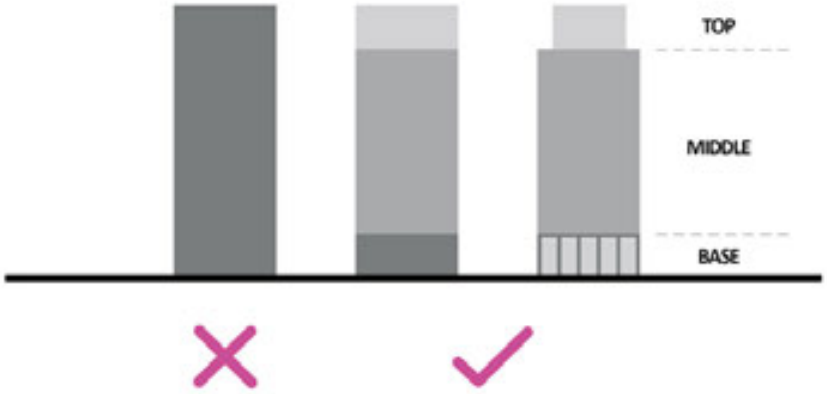


Figure f.23: Compositional elements of tall buildings

OBJECTIVE 11: BE OF HIGH ARCHITECTURAL QUALITY AND APPEARANCE

f.62 The impact of a tall building is not only determined by its height, but also its footprint. Tall buildings that reflect the urban grain and building footprints of the surrounding context, particularly in historic locations, will integrate better and feel like a coherent part of the place. In contrast, buildings with very large footprints, simply extruded into bulky, tall forms should be avoided as they appear out of scale and create poor quality environments.

f.63 A slender tower with a strong sense of verticality, 'reaching to the sky', is commonly considered more attractive and elegant. The slenderness of a tower can be expressed through the height to width ratio - the greater the ratio - the more slender the building. The slenderness of a building typically is appreciated only from further away, along a vista, across a water body or across the rooftops of the surrounding buildings.

f.64 Floor plan efficiencies that require a certain footprint size within the tower element can make designing a slender tall building challenging, especially in areas where heights are limited to local landmarks only. Here the modulation of the building form and other design measures can help achieve a sense of verticality. For example, the bulk of a building can be subdivided to visually appear composed of a number of vertical elements rather than a single block.

f.65 Buildings that are recognisable as a single coherent sculptural object from all around are easier to recognise than buildings that appear different from different angles. While a tall building may assume a special response towards a particular side or direction, all facades should have openings or windows and provide an active frontage. No blank frontages should be permitted.

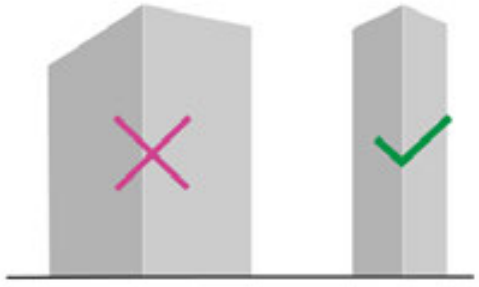


Figure f.24: Point blocks are more elegant and slender. Bulky forms should be avoided.

f.66 The cores and communal circulation of tall buildings in the Royal Borough should be designed in line with the latest, national fire regulations. Ideally residential tall buildings should have no more than 6 units per floor, with a maximum of 8 in exceptional cases.

Image f.18: Slender forms create more appealing landmarks - Example: Keybridge House, Vauxhall - Allies and Morrison

Image f.19: The thoughtful modulation of a building form together with high quality architecture, materials, detailing and finishes can assist in integrating broader footprints within finer grain contexts - Example: 333 KIngsland Road, Hackney - Henley Halebrown Architects

PRINCIPLE F.3.23: SLENDERNESS AND ELEGANCE

+ Proposed tall buildings should have a legible vertical emphasis and slender form.
  Bulky forms should be avoided.
+ Tall buildings should work 360 degree, with expressive elevations approaching them from all directions.
+ The number of flats per floor should not exceed a maximum of eight units.

OBJECTIVE 12: RESULT IN HIGH QUALITY PLACES WHERE PEOPLE WANT TO LIVE AND SPEND THEIR TIME

f.67 The ultimate objective of tall buildings should always be to contribute to creating inclusive, sustainable, high quality places. They should be underpinned by a comprehensive knowledge of Royal Greenwich, its places and their history, local communities and their needs.
They should not be reduced to a tool to increase the delivery of homes only, but also implemented as a means to diversify that delivery for different resident profiles, needs and pattern of uses.
They should be used to free-up space at the street level and create unique outdoor amenity for the new residents and the wider community. In this sense, they should be generous in terms of what they give back to local communities in exchange of the elements of stress they might create on their surroundings because of their bulk, pressure on services and infrastructures.

Image f.20: Cator Park, Kidbrooke Village

Image f.21: Fine grain development with a formal symmetric design on Nelson Road in Greenwich Town Centre focuses the view on St. Alfege Church

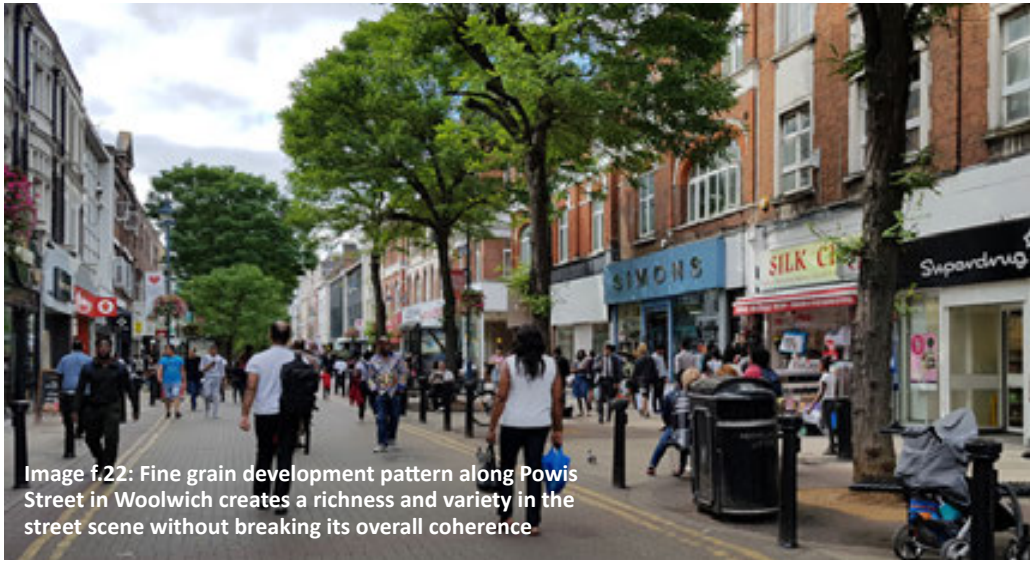


Image f.22: Fine grain development pattern along Powis Street in Woolwich creates a richness and variety in the street scene without breaking its overall coherence

f.68 The majority of historic urban areas in Royal Greenwich is characterised by fine grain development patterns made up of individual buildings. In town centres and Victorian residential areas buildings join up to form terraces, while in suburban areas development units, such as short terraces, semi-detached or detached houses, are arranged spaced out along streets. Only in post-war housing estates, industrial and employment areas and larger development ensembles fine grain development pattern are not prevalent (see Principle D.2.3 A Fine Urban Grain).

f.69 An important way by which people experience cities is by moving through its streets and spaces. The visual focus is forward and greatest detail is perceived in the centre of our vision, while lateral environments are generally seen as pattern through peripheral vision unless something attracts our attention and the view is specifically directed at it. Perspective views along streets and onto the foreshortened rhythm of buildings and facades provide a principal understanding of a streetscape including the scale of buildings, the sense of enclosure, and the pattern, materiality and colours that characterise the environment. Buildings that stand at the end or perpendicular to the street, even when only partially seen above the roofscape, will assume a greater prominence in views along streets, than buildings that sit regularly in the frontage. Only where spaces widen, the direction changes or where people stop, the eye will scan around more widely and take in and observe the environment and buildings more consciously, and by that appreciate uses, architecture and articulation in more detail.

f.70 As such the grain and scale of development, the rhythms and pattern of buildings and facades, intervals in the frontage, roof forms and buildings features (fenestration pattern, formats, porches, bays, protrusions and set-backs, roof shapes and dormers), collectively have a great bearing on the quality, consistency and harmonious impression of a streetscape. Places with rhythms of more common patterns of elements will be perceived more coherent and calming, while places that lack recurring features, where rhythms are frequently broken or there is great variation in elements can feel dynamic (positive) or fragmented (negative).

f.71 The rhythm and grain of buildings is therefore an important feature in the character of areas, and development should respond consciously to the prevailing pattern of development in the street scene where a building is placed.

f.72 Especially in character areas with a higher level of coherence (See Principle B.6 Responding to local character), development should integrate with and sympathetically respond to the pattern, rhythm and intervals of the existing built form along the street. Where a larger development is proposed this could be achieved by breaking down its mass into smaller proportionate elements whilst responding with its fenestration and detailing to the rhythm of elements and spectrum of colours and materialities in the street scene.

f.73 The mechanistic repetition of the same building form or unit type along a street, however, does not create an interesting or distinct street scene or quarter. Designers should consider a variation in the built form, apply difference within a sympathetic range of options, superimpose rhythms of building layers with landscape elements, break pattern to respond to special situations

Image f.23: New development should respond to contextual grain, scale and patterns (example: Woolwich)

or functions, respond to the landform or express the urban structure.

f.74 In areas that suffer from incoherent built form, the introduction of street trees at regular intervals and landscaping can have a positive impact on the street scene. This can contribute to greater visual coherence between common elements while also softening the visual presence of the inconsistent pattern of development along a street scene.

f.75 Fine grain development with lively facade detail tend to relate better to human scale and feel more welcoming

Image f.24: In places with little existing context, new development should establish a cohesive grain, scale and pattern (example: Kidbrooke Village)

than areas with larger scale buildings and uniform fenestration pattern. Fine grain areas naturally have a greater diversity of uses, contribute to vibrant streets and more active social life. Fine grain neighbourhoods can manifest as anything from messy ensembles of different forms and heights to highly coherent quarters. Some of the most successful and desirable urban quarters are built on small to medium size footprints and offer a lively pattern of buildings, brought together by a restrained use of forms, materials and details.

Image f.25: Lack of a coherent rhythm, grain and pattern of development adds to a fragmented sense of place (example: City Road developments, Islington)

f.76 See also Street types and enclosure (Principle E.2 Street Types and Enclosure), architectural expression principles (Principle F.10 Built form and architectural expression)

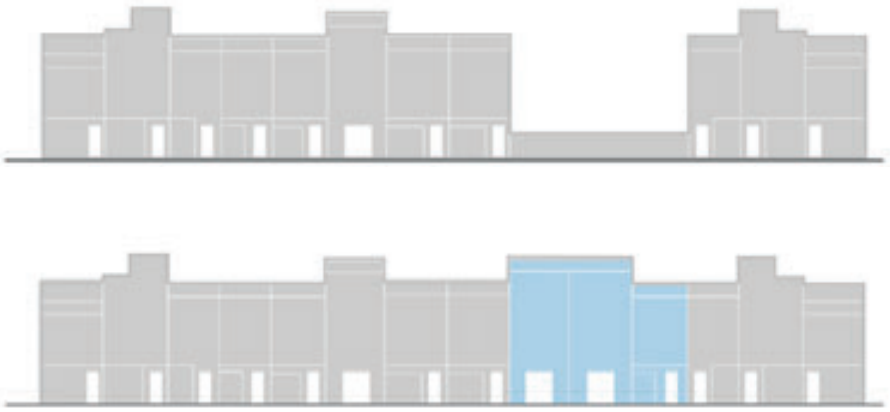


Figure f.25: Development should reflect the typical urban grain, scale of buildings and the pattern of the existing settlement

Figure f.26: Where a larger building is proposed, its mass should be broken down to respond to and be proportional to the surrounding context

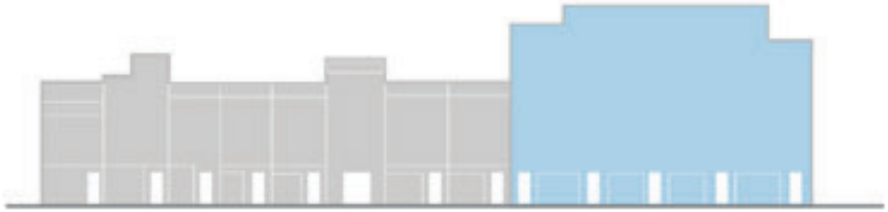


Figure f.27: New developement should avoid creating stark contrasts, detracting from coherence, breaking the rhythm and grain of a street and become overbearing

PRINCIPLE F.4: SCALE AND GRAIN

+ Within areas that are highly sensitive to change (see Royal Borough of Greenwich Character and Intensification Study), new development should generally respond sensitively to the prevailing pattern, rhythm and intervals of existing development to reflect the cohesive scale and grain of the existing townscape and respond to the human scale.
+ Where a larger development is proposed this could be achieved by breaking down its mass into smaller proportionate elements whilst responding with its fenestration and detailing to the rhythm of elements and spectrum of colours and materialities in the street scene. This should follow a design-led approach to create a varied, distinct, human-scaled street scene.
+ On large development/regeneration sites in areas identified as having low sensitivity to change there may be potential to introduce a new character / development form and massing. Here development should generally create a development frontage with a rhythm of vertically proportioned bays or individual buildings. A coarse grain with larger monolithic buildings or extended uniform development frontages should be avoided.
+ In areas that suffer from incoherent built form, the introduction of regular street trees and landscaping can have a positive impact on the street scene, as it creates greater visual coherence with common elements while also soften the visual presence of the inconsistent pattern of development along a street scene. This should compliment high-quality architectural proposals that work towards establishing greater coherence and should not be used as a way to deliver lower quality new developments.

Image f.26: The building line should define the street and create a positive sense of enclosure

Image f.27: Buildings that do not respond to and define the street do not contribute to a positive streetscape

Image f.28: Undefined streets do not encourage people to use them for pleasure, to linger, or stay

f.77 The way a building sits in relation to the street space has an important impact on the character and coherence of a street. Continuous building lines or regular and planned variation in the building line (for example to articulate spaces within a street) can deliver a coherent and well defined street scene. Where buildings do not follow a common building line the street scene feels fragmented.

f.78 In most situations the building line is set back from the back of the footway. This enables the definition of a building threshold or interface space that mediates between the public realm of the street and the private realm of the property and building. Only in few occasions, such as in local or district centres or mews-type developments buildings may be located directly to the rear of the footway or public realm. See Principle F.8 Building Thresholds/ Defensible Space on building thresholds for more detail.

f.79 New development should generally be delivered at a common building line. Larger development should set out clear building lines along streets that should be adhered to by development. New buildings in existing contexts should follow common building lines based on adjoining development (where it has a positive relationship to the street). In absence of an existing reference building line, a new building line should be established. This should be set off from the road centre line and should be based on common buildings lines on the opposite street side or in reference to other comparable streets.

f.80 In some places existing buildings sit too close to the street, perhaps they have been built at the back of footway without providing defensible space, footways may be too narrow or the street space is too tight for its movement function. In such cases the building line should be corrected and may need to be pushed back to provide adequate space.

f.81 Building lines should generally be parallel to the road centre line to establish a coherent sense of space with the development opposite. Road splays at junctions or land-ownership boundaries at the back of footway should not be used as reference for the positioning of buildings, as theses are not relevant for the spatial definition of the street space.

f.82 The main front of a building should be positioned on the building line. Only subordinate elements to the main body of the building, such as porches, bays, balconies or limited and short protrusions from the building line that provide architectural interest and articulation should be permissible. Garages, side extensions and outbuildings

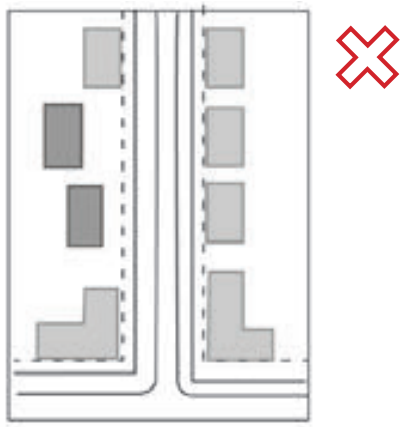


Figure f.28: Buildings should not be randomly set back from the common building line

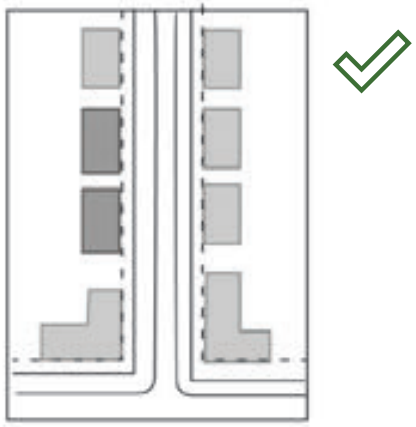


Figure f.30: Buildings should follow the common building line and be oriented towards the street

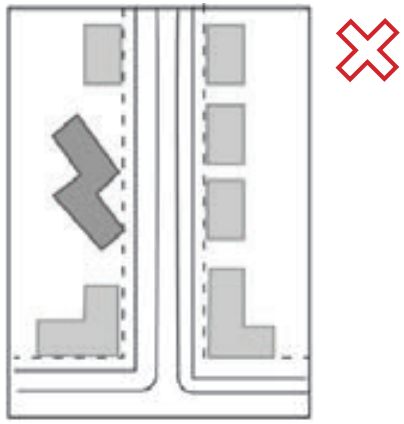


Figure f.29: Buildings should not be oriented away from the street line

should normally be confined to the rear and set back from the building line to ensure the pattern of gaps between buildings is retained.

f.83 Buildings that turn the corner should also follow the principles set out in Principle F.7 Addressing Corners.

f.84 No part of any building (including foundations, outward-opening windows, domestic drainage, downpipes, external lighting, gas meter boxes, porches, balconies etc) shall overhang the highway (this includes the footway).

f.85 On shared surfaces no part of any building (including foundations, outward-opening windows, domestic drainage, downpipes, external lighting, gas meter boxes, porches and balconies etc) shall be located less than 0.5m from the carriage. If street lighting is installed in shared areas, this distance increases to 1m in the vicinity of each column".

PRINCIPLE F.5: BUILDING LINE

+ The majority of the main frontage of a building should be situated at the common building line
+ Only minor elements such as porches, bays, balconies or limited and short protrusions are acceptable before the building line, whilst garages, side extensions and outbuildings should be set back from the building line
+ Building lines should generally be parallel to the centre line of a street and/ or buildings opposite.
+ In absence of a common building line development should set out a new coherent building line to be adhered by all development. This should generally be based on the building line of adjoining properties or on comparable best practice development.
+ Where an existing building line results in a too narrow street profiles for the movement function, scale and role of a street and adjoining development, the building line of new development should be moved back by an appropriate distance.
+ Buildings should not overhang existing or proposed highways unless in exceptional circumstances, such as to provide an important gateway feature or historically informed jetty. In such instances, when a specific licence will be required.

Image f.29: Active uses at the ground floor of buildings animate the street space and can create a spill out of activity on the street space

Image f.30: Commercial ground floor use provide animated frontages and overlooking of the street space

Image f.31: Traditional high street frontage animated by active ground floor uses

Image f.32: Fine grain terraced houses in Borneo Sporenburg Amsterdam provide positive frontage and overlooking from habitable rooms

f.86 Buildings that are situated along streets should orientate with their frontage (ie. their main elevation) towards the public realm. Buildings that front onto the public realm create a positive and mutually supportive relationship with the street space. The uses in buildings benefit from visibility and direct physical access from the street space, while the overlooking and animation by activities within buildings animates the street space and make it feel safer.

f.87 In cases where buildings orientate their backs towards the public realm, street spaces are often poorly animated and overlooked, and feel less safe and welcoming. These back-to- front conflicts often result in defensible interface design, with high and unsightly walls and fences that detract from the quality of a street space.

f.88 Development should generally and throughout provide **positive building frontages** towards adjoining streets and spaces. Positive frontages are those that provide entrances, windows and balconies that allow people from inside the building to see the street space and engage with its activities. Habitable rooms or active spaces in non-residential uses should be oriented towards the public realm to help ensure that urban streets and public spaces have good levels of natural surveillance from buildings, and feel safe without the need for additional security measures.

f.89 **Active frontages** are frontages that benefit from building uses that actively contribute to the animation and an active engagement with the street space. Places with active frontages are often the most vibrant and dynamic areas within a neighbourhood. They add stimulation to the streetscape and can provide a sense of safety and security to the streetscape. These are often places where people choose to gather, work and engage in public life.

f.90 In centres and local hubs, mixed use areas and places with significant pedestrian activity and footfall, active frontages should be delivered along principal streets and around public spaces. This involves the establishment

of active ground floor uses, especially in locations where they can benefit from natural footfall, but also in places where animation of the street space is desirable.

f.91 Active ground floor uses will need to be appropriate to their local context and market demands, and may include Class E uses (Commercial, Business and Services), Class F uses (Local Community and Learning) or sui generis use (such as cultural or leisure uses). The animation of streets can be enhanced where ground floor activities are permitted to spill into the public realm, for example through cafe-seating or the display of fruits or vegetables or other goods. Chapter H provides detailed guidance on shop front design that should be considered when proposing active ground floor units.

f.92 It is recognised that not all frontages in central places can be active and that areas with lesser footfall may be able to accommodate residential or other less active uses at the ground level. Such uses will need to be carefully designed to ensure both the passive surveillance of the street space and the privacy and amenity of occupants.

f.93 Blank facades and uninhabited frontages visible from the public realm detract from the quality of the street space, and should not be permitted. Where inactive facades are unavoidable, care should be taken to ensure that the opposing street frontage is active. Inactive facades must be detailed with high quality materials and could explore the provision of vertical landscaping.

f.94 A temporary solution to exposed party walls of buildings could be the provision of public art or green walls to provide a positive feature in the street space. The use of these spaces for advertisement is not recommended as this detracts from the civic qualities and the character of a street space.

f.95 It is best practice to limit extensive gaps between development along a street so that there is a coherent street frontage and a sense of continued natural surveillance. Where there are large gaps in the frontage, infill development can be a successful way to strengthen the continuity of frontage and enhance the cohesion of a place.

PRINCIPLE F.6: ESTABLISH POSITIVE AND ACTIVE FRONTAGES

+ Development should front with their main building elevation and entrances onto the street space and establish a coherent frontage line and definition of the public realm
+ Frontages should provide appropriate openings in the facades at ground and upper levels to facilitate the overlooking and passive supervision of the street space from habitable rooms of residential uses or other active building uses.
+ In places with a concentration of activities, such as a major street intersection, a high street, district or town centre, development should encourage the establishment of active ground floor use. This will provide local facilities and services where they benefit from footfall, animate the street, create visual interest and provide active and passive surveillance of the street space.
+ Blank facades and uninhabited frontages towards the public realm should generally be avoided and will not be supported.
+ Residential uses at the ground floor should be designed to avoid bedrooms at the ground floor level facing the public realm as this can reduce privacy for residents and reduce passive surveillance of the public realm. It is often more appropriate to incorporate maisonettes on the ground and first floor of apartment buildings to avoid such scenarios.

Image f.33: Woolwich: increased building height and architectural expression lends greater prominence to this street corner

Image f.34: Buildings should provide active facades to the public realm on both publics sides of a corner plot

Image f.35: New buildings should wrap corners and should avoid designing blank facades along the street front

f.96 Street corners are exposed and prominent places in the urban street network. In successful places corners of streets are appropriately expressed through the massing, form and articulation of buildings, often featuring a slight increase in building height and greater architectural detail. Active uses at street corners such as the literal 'corner shop' benefit from greater accessibility, footfall and visibility at intersections and junctions.

f.97 It is best practice to design corner buildings to 'turn the corner', to wrap the building around the corner, maintain a continuity of the building frontage and provide active fully fenestrated facades on both streets.

f.98 Corner buildings should follow the building line of each street they are located on. The principal frontage should always orientate towards the higher order street to aid legibility. Exposed, blank gable ends with no windows fronting the public realm will not be supported. In urban and central areas with greater pedestrian activity active uses should be provided at the ground level at corners.

f.99 Corner buildings should be designed specific for their location. Corner buildings are often well defined by 'L' shaped buildings. This can have some design challenges such as increased visibility of rear spaces through building gaps, potential overlooking and privacy issues for inner corner units, the accommodation of gardens adjacent to the public realm. Additional care therefore also needs to be given to the design and articulation of corner buildings, the privacy of residential units and the boundary condition.

PRINCIPLE F.7: ADDRESSING CORNERS

+ Applicants should demonstrate how the design of corner buildings will make the most of their unique position to aid legibility and provide amenity.
+ Architecturally, consideration must be given to corner buildings to ensure that they positively contribute to the townscape.
+ Exposed, blank gable ends with no windows fronting the public realm will not be supported.
+ The rear elevations of corner houses are often more visible than other houses because of the gap in the street frontage to accommodate the rear garden. Additional care therefore also needs to be given to their articulation.

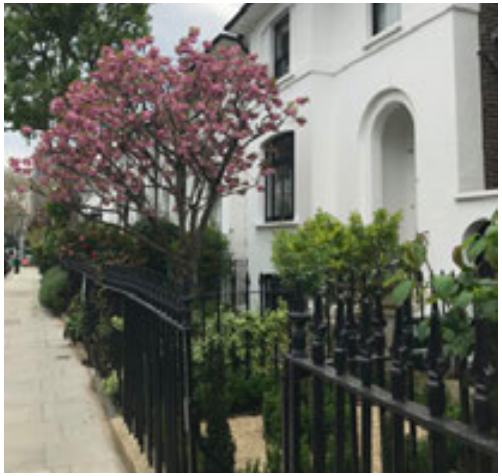


Image f.36: Traditional fenced front gardens provide a threshold between the public and private realm

Image f.37: Landscaping, outdoor seating, and canopy make a welcoming threshold

Image f.38: Landscaping outside private treshold space will create a coherent street interface

Image f.39: Use of threshold strip outside of cafe for out-door seating

f.100 Building thresholds or interfaces are a fundamental design detail that is often overlooked or poorly conceived within the design. Thresholds serve an important purpose to separate public and private realms at both a physical as well as a psychological level. The threshold creates an interface between the pavement and the entrance, and can contribute to the feeling of security as they are a 'defensible space' in which residents can take ownership of their private domain.

f.101 The threshold should follow the language of the surrounding area, architectural styles, and typologies. The dimensions, scale and design of a threshold should respond to the local character (existing or emerging).

f.102 Within existing contexts development should respond appropriately to prevailing edge treatments, such as low walls, railings or hedges, and the common characteristics (including type and proportion of landscaping and materiality) of building thresholds to ensure the coherence and character of the street scene is enhanced. This is especially important in areas that are highly sensitive or sensitive to change (Principle B.6 Responding to local character). Thresholds should make a positive contribution by being well integrated with the building design. Lighting, landscaping and material choices are fundamental to the design of effective thresholds.

f.103 Detailing of thresholds should allow users to take ownership of this zone with plantings, landscaping, seating, etc. In shared entrances, thresholds should be considered inside and outside to ensure they are welcoming and accessible, and where appropriate provide formal or informal seating opportunities. Canopies or recessed entrances have an important role as they give entrances both shelter and additional prominence. There should be a clear visual and physical connections from the public realm to the front door of a development, and access routes should be appropriately dimensioned and designed for its intended use.

Image f.40: Residents of mews space take ownership of space with planting and temporary furniture

Image f.41: Narrow paved threshold space that offers little privacy screening, is poorly integrated with the building design and lacks landscaping

f.104 Where they are well maintained, front gardens and landscaped thresholds can significantly enhance and soften the street scene and character, mitigate against noise, pollution and privacy impacts on dwellings, and enhance the sense of ownership for users.

f.105 Proposals should ensure that the management arrangements adequately cover the maintenance and quality of building thresholds including its landscape elements. In new apartment developments this could include providing a planting strip maintained by the management company outside of private threshold spaces of ground floor units, where the quality of the interface cannot be guaranteed.

f.106 Building thresholds should maximise on the provision of permeable surfaces and avoid any surface water run-off onto the public realm (see also Principle E.3.8 SUDS).

f.107 Where habitable rooms of residential dwellings are proposed at ground floor a sufficiently large building threshold (recommended minimum width of 1.5m) should be established to ensure the quality, amenity and privacy of residents in consideration of the levels and impact of footfall and traffic along the street.

f.108 Generally no car parking within the threshold space should be proposed, unless outside of single dwelling homes and compliant with Principle D.3.5 Vehicle Parking.

f.109 The design of the threshold space should not compromise the general overlooking and passive surveillance offered to the street space from ground floor habitable rooms and uses.

f.110 Heights of permanent and largely impermeable installations, such as the storage for bins or bicycles or landscape elements such as hedges, should generally not continuously exceed 1.2m at the front of threshold and 1.5m at the side of the threshold (perpendicular to the street space). See also Principle D.3.6 Cycle Parking on providing cycle storage in threshold spaces, and Principle D.3.3 Servicing.

PRINCIPLE F.8: POSITIVE THRESHOLD SPACES

+ Applicants should design appropriate threshold spaces between the private realm of the building and the public realm of the street space that respond to the ground floor use, the nature of the street and the intended use of the threshold space itself
+ Threshold spaces should be a minimum of 1.5m wide and provide adequate physical and visual screening by low walls, railings or planting to protect the privacy of residential ground floor units and to avoid individual use of these spaces to dominate the street space.
+ The design and detailing of threshold spaces should be integrated with the architecture of the building and the landscape approach to the area
+ Threshold spaces should encourage and support residents and occupiers of ground floor units to take ownership of these spaces.

Image f.42: Buildings that respond well to their sloping sites with frontages that step in an ordered and harmonious manner

Image f.43: Additional care needs to be taken to accommodate awkward slopes. In this example inadequate consideration has been given to the configuration of the front threshold and the back gardens.

f.111 The Royal Borough of Greenwich is characterised by a strong topography and development will need to appropriately respond to its underlying landform. See also Principle B.8 Topography.

f.112 Historic development on hill sides often is of a finer urban grain, with buildings stepping up with the landform. Buildings should be designed so they elegantly respond to the gradient of sloping streets while also facilitating level /step-free access to ground floor entrances and allowing the main façade to fully address the street. Front elevations and rooflines should normally be evenly stepped so that they echo the angle of the slope and avoid both prominent retaining walls and over-large flank elevations.

f.113 Large buildings on slopes should be carefully designed so that they respond positively to the topography, breaking its mass down into smaller elements that step naturally with the slope. Monolithic buildings that starkly contrast with the underlying landform should be avoided.

f.114 The Royal Borough of Greenwich offers many views across the borough and onto the hill sides and ridge lines, which contribute to the image and identity of the Royal Borough. Buildings situated on higher ground are likely more visually prominent in views and may affect the landscape character of the borough. The Visual and Landscape Impact of proposed larger buildings in elevated locations should be carefully tested to ensure an appropriate response to local and wider views. The Royal Borough Greenwich Characterisation Study (2023) is a good starting point to identify relevant views for testing.

f.115 New buildings on cross slopes that run from the front to the back of building plots, also need to be carefully designed. They should deliver level access to the building from the rear garden as well as from the street, while also avoiding overly-large retaining walls and fences along the rear boundaries. On steep slopes, this can be addressed by split level buildings. On shallower slopes, a gently angled garden and stepped/ landscaped rear boundary can sometimes be an acceptable arrangement providing that a flat patio area is provided and the building on the upper part of the slope

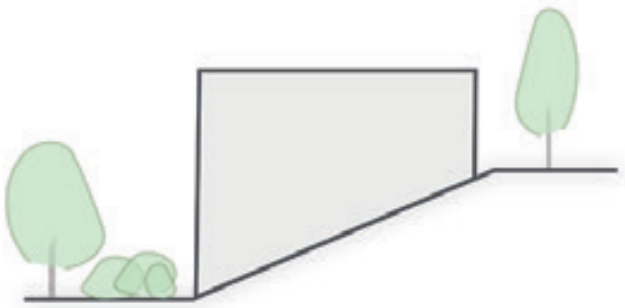


Figure f.31: Monolithic buildings that starkly contrast with the underlying topography should be avoided.

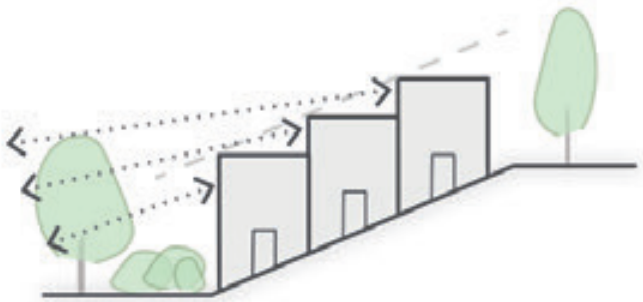


Figure f.32: Buildings should be designed so they elegantly respond to the gradient of sloping streets. Views to and from the site must be carefully studied.

does not overwhelm the building and garden (in terms of its proximity and/or relative height) on the lower slope.

f.116 Additional consideration should be given to accommodating parking on sloping sites and avoiding retaining structures around them. Sloping sites can sometimes provide the opportunity to discreetly accommodate under-croft parking within a split-level arrangement.

f.117 Sloping sites can constrain development but can also create unique opportunities for creating new viewpoints and landmarks.

f.118 Site issues such as local drainage, micro-climate and orientation will need to be carefully considered on slopes.

PRINCIPLE F.9 : ADDRESSING SLOPING SITES

+ Buildings should elegantly respond to sloping sites, and step down to mirror the underlying topography
+ Large scale buildings on slopes should be broken down into smaller elements that respond to the topography
+ Overly prominent or bulky buildings on hills-sides or ridge lines may affect the Borough's character and identity and should be avoided.
+ Visual and Landscape Impact assessments will need to be undertaken for large buildings on elevated positions.
+ Level access to buildings from the street and the rear garden should be provided, and overlarge retaining walls and fences avoided.
+ The design of outdoor spaces on slopes need careful consideration in terms of access, usability, drainage, orientation and outlook.

Image f.44: Heneghan Peng Architects contemporary University of Greenwich Library and Academic Building responds sensitively to and integrates well with the world heritage site whilst becoming a landmark of its own (image of The Stockwell Street building, University of Greenwich © Hufton+Crow / heneghan peng architects

f.119 This section outlines the important principles to consider in designing new buildings. New development in the Royal Borough should be of high quality design, provide a contextual response to their place and minimise their environmental impact.

f.120 Good architecture involves the successful co-ordination of proportions, materials, colour and detail. Buildings should therefore be holistically designed with each part in harmony with its whole while appropriately responding to both its context and modern living requirements.

f.121 Being responsive to the character of the existing built form should not result in pastiche replicas; instead the emphasis should be placed on contemporary interpretation of the local vernacular to suit today's needs, or the use of new architectural approaches where it is appropriate for a new character to be established.

f.122 Generally the architectural design intent for new buildings should be to contribute to a greater level of coherence, richness and beauty of the existing or emerging character of an area. The emphasis should be on finding 'excellence

Image f.45: Mixed-use building responds contemporarily to heritage (image of The Officers' House, Royal Arsenal by Allford Hall Monaghan Morris © Timothy Soar)

Image f.46: Affordable single storey housing for the elderly on a former garage sites responds to it unique backland context (image of Coldbath Street by Bell Phillips Architects © Edmund Sumner)

Image f.47: New affordable townhouse define a new character and enhance local distinctiveness (image of Rochester Way by Peter Barber Architects © Morley von Sternberg)

in the ordinary', by considering the detail, craft, longevity and flexibility of a building, rather than to showcase design flair for its own sake.

f.123 Building design should deliver an appropriate degree of variation, richness and diversity in an area, and not rely on the mechanistic application of standard building and design typologies that lack character and identity. There are no off-the-shelf solutions to contextual design, and the architecture of a building should be conceived through an understanding of the local context and its inherent (existing or emerging) characteristics. The design process and contextual justification should be described in the Design and Access Statement.

f.124 In some places it may be appropriate for singular buildings to stand out and break with established pattern of development, through their height, form or architectural expression, in particular where they express a significant spatial or functional location that is meaningful for local people. As architectural landmarks they can help to convey distinctiveness and legibility to an area. Diverting from the local vernacular however should reflect the civic aspiration and vision for a locality and require a robust townscape and place making justification.

f.125 Development proposals are encouraged to use the significance of the historic/archaeological context of the site to inform and shape proposed design.

Further Guidance -

+ Living with Beauty, Building Better Building Beautiful Commission, 2020

PRINCIPLE F.10: FORM AND ARCHITECTURE

+ New development should be of high quality design, provide a contextual response to their place and minimise their environmental impact.
+ Buildings should be holistically designed with each part being in harmony with the whole.
+ Buildings should respond to the characteristics and vernacular of a locality, and contribute to a greater level of coherence, richness and beauty of an area, whilst avoiding pastiche design solutions.
+ Buildings should seek 'excellence in the ordinary' that emphasises detail, craft, longevity and flexibility over the showcasing of design flair for its own sake.
+ A strong place making and townscape justification is required for buildings that stand out or strongly contrast with the existing or emerging character of a locality.

Image f.48: Progress Estate, the articulation of the roof forms is a defining feature of the area's character

f.126 The roofscape is an important townscape feature that can contribute to a distinctive local character.

f.127 Roofscapes vary throughout Royal Borough of Greenwich depending on the period and architectural style predominant in local areas. This includes simple gable and hipped roofs in suburban locations, roof forms hidden behind parapets in historic centres, flat roofs in post-war estates and others.

f.128 New development should respect the characteristic roof lines of their local area and should respond to prevailing roof forms in a contemporary way, if appropriate. In areas with higher levels of coherency in their character, major variations to the roof form, pitch, colour and materiality will generally not be acceptable.

f.129 Proposals should normally avoid inconsistent roof pitches on the same or adjacent buildings as this can generate clumsy juxtapositions. The roof form should also be influenced by sustainability/orientation considerations.

f.130 Generally the top of new buildings should be appropriately expressed through an articulated roof form that is proportionate and in harmony to the whole building design. Subject to its context this could be a mansard roof, an expressed roof-parapet, a top floor set back or other roof forms.

f.131 Generally not acceptable are buildings that end abruptly and lack an articulation of the top, disproportionate and over-bearing roof parts, or the mimicking of a roof through a cladding solution that lacks design integrity.

f.132 In urban areas consistent roof parapets can assist in creating a coherent streetscape. Variations in the roof parapet can also be beneficial, to mark prominent points and the hierarchy of routes in the scheme and break down any excessive monolithic feel created by the designed buildings.

f.133 In larger developments that establish their own character, providing a variety of roof forms can help creating legible character areas and give schemes diversity and a varied skyline. For instance, adopting a consistent roof-form in one street can help to distinguish it from another street with a different roof form.

Image f.49: Reference to traditional gable standing roofs is a defining feature of these houses in Kidbrooke Village

Image f.50: Top-floor setbacks with extended roof edges skilfully articulate the top of the buildings in Kidbrooke Village

Image f.51: Contemporary articulated pitched roofs create a distinct skyline pattern, Birmingham Park Central

f.134 Generally the roof finishes and installations should comprise of a more subdued colour spectrum and avoid bright or highly reflective surfaces. Rooftop plant equipment should be appropriately screened to avoid unsightly views which detract from the townscape quality.

f.135 Given the topography of the borough and elevated view points, the design of a roof form should respond to views from above, and avoid false roofs or screens without an integral function.

Roof plants and lift overruns should be considered as integral elements of the building design.

PRINCIPLE F.10.1: ROOF DESIGN

+ New development should respond to characteristic roof forms of their local area.
+ In areas with higher levels of coherency in their character, major variations to the roof form, pitch, colour and materiality will generally not be acceptable.
+ New development should appropriately express the top of a building with an articulated roof form that is proportionate and in harmony to the whole of the building design and the existing or future character of the area.
+ The roof finishes and installations should comprise of a more subdued colour spectrum and avoid bright or highly reflective surfaces.
+ The design of roof forms should respond to views from above and roof plants and lift overruns should be considered as integral elements of the building design.

Image f.52: Articulated facade with set-backs, balconies and contrasting materials can create an animated rhythm along the street.

f.136 The elevations of buildings create a rhythm, proportion, and sense of scale to the townscape. Each building's elevation should have architectural and visual integrity and should also work in relationship to the neighbouring buildings and the surrounding public realm.

f.137 The facade and elevation treatment, roofscape, fenestration and materials used in existing buildings within the locality should be a starting point for the consideration of architectural design of new buildings. However, this should not result in pastiche replicas of traditional buildings. Instead a high-quality re-interpretation of key aspects of their form should be demonstrated. Applicants should take care not to clutter elevations with downpipes, cables, etc.

f.138 Street elevations generally should express and appropriately articulate the base of the building, the main-body and the top or roof as part of an integrated design for the whole of the building. Elevation designs should achieve a balance of proportions between each part of the building. Design should avoid squat ground floors, bland and non-articulated main-bodies or overbearing roofs structures. This applies to buildings of all scales.

f.139 Elevation design should consider how to terminate the facade at the roof line, the treatment to the ground line, junctions between buildings, fenestration, the proportion of open to solid facade, window placement and orientation, recessed versus projected areas, balconies, material and detailing.

f.140 Thought should be given to the articulation of the parapet line as consistency of roof parapets can assist in creating a coherent streetscape, while variation in roof parapets can be applied to differentiate buildings, for instance to mark prominent or hierarchical points of the streetscape or to punctuate a monolithic facade.

f.141 The detail of elevations at lower floors and entrances should receive specific consideration as they are viewed and directly experienced at close range from people in the public realm. Greater floor height at ground level can help to convey a more proportionate base of a building, whilst also offering greater flexibility and adaptability for different uses. Proposals for buildings of all scales

Image f.53: Rhythm of elements create vertical emphasis, sculptural expression of entrances and the roof line create well articulated building

should be well-proportioned to avoid the appearance of squat lower floors and overbearing or top-heavy upperfloors.

f.142 A vertical emphasis in the articulation and design of elevations and in the format of windows delivers in perspective street views a rhythm of vertical lines that can provide a rich and restful quality to a street scene. Overly horizontal facade emphasis should be avoided.

f.143 In large developments, breaking down an elevation into separate bays can

Image f.54: Excessive use of colour and pattern and uncontextual materials can make facades look overloaded and poorly conceived

Image f.55: Undifferentiated bland elevation with tiny windows, lack of entrances and poor articulation of the facade can create a hostile environment

add visual interest and help to relate the building to the surrounding context and human scale.

f.144 Window openings should respond to the use and desirable level of privacy of internal rooms. Inappropriate room height windows can create a sense of visual exposure to views from street level and affect the privacy and amenity of residents. This may result in drawn curtains or windows boarded up by residents and affect the coherence and quality of an elevation.

f.145 Large amount of glazing in elevations should generally provide external shading in sun-exposed facades to limit thermal heat gain to the interior from solar radiation. Sufficiently large ventilation openings should be provided, and residential properties should maximise on opportunities for natural cross-ventilation.

f.146 Developments should also consider soft landscaping at a micro-scale (including vertical and roof space), and should encourage users to green their spaces through providing space for micro-allotments, window boxes, trellises, planters, planted edges, etc.

PRINCIPLE F.10.2: ELEVATION DESIGN

+ Elevation design should respond to the rhythm, proportion and sense of scale in the townscape.
+ An analysis of the facades of existing buildings within the locality should be the starting point. Elevation design should reinterpret key aspects of their form without resulting in pastiche replicas of traditional buildings.
+ Elevation design should appropriately express and articulate the base, main-body and top of a building, providing a balance of proportions between each part of the building.
+ The detail, articulation and materiality of lower buildings floors and entrances should receive greater design emphasis.
+ Elevation design should aim for a vertical emphasis in the articulation of the facade, the arrangement of balconies and other elements, and the format of windows.
+ Larger elevations should be broken down into separate bays or smaller elements to provide interest and a proportionate response to the street scape.
+ The design and size of window openings should be appropriate to the intended use of the internal space and desired levels of privacy.
+ External shading elements should be provided where extensive glazing is proposed on sun-exposed facades, and opportunities for natural ventilation should be maximised

Image f.56: Vertically grouped balconies provide a rhythm to the facade, balconies are integral features of the design and their underside is well finished

Image f.57: Large balconies extend the living space out. Balcony arrangement add rhythm and interest to the facade

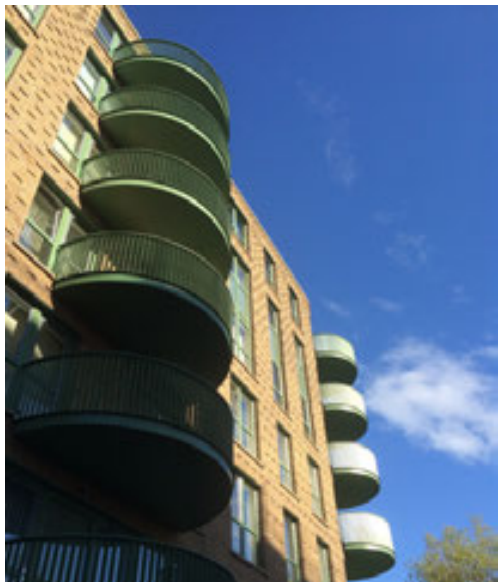


Image f.58: Generous balconies that are integral elements of the architectural design and expression of the building

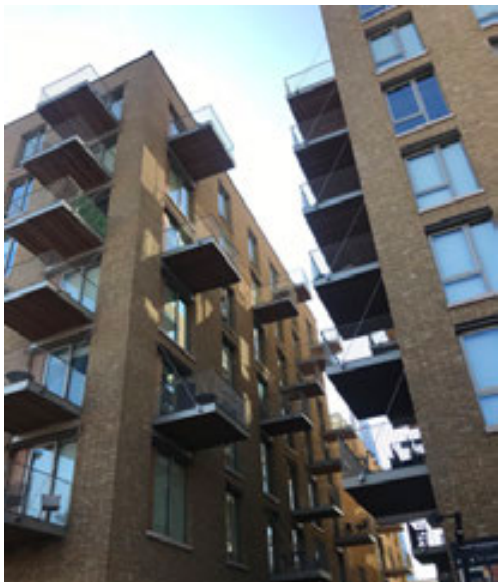


Image f.59: Balconies lack adequate amenity when they are too small, lack privacy, have a limited outlook and poor day and sun-lighting, and are affected by wind funnelling, and should be avoided

f.147 Balconies or terraces should be provided for residents in upper floors of apartment buildings to fulfil the need for private outdoor amenity space. Balconies should be generously proportioned, with enough space for a table and chairs (minimum 1.5m width).

f.148 In dual-aspect flats, the potential for balconies on more than one side should be explored. Balconies will be more successful where they benefit from regular sun-exposure and a positive outlook.

f.149 On upper floors where wind speeds are higher, external balconies can feel exposed and unsafe. In these situations, recessed balconies may be more appropriate as they provide a sense of shelter and enclosure and may therefore be used more by residents. The perception of safety on balconies should be considered through the use of deep sills, recessed balconies, and the materiality of the balcony floors and balustrades.

f.150 Balconies and Juliet balconies not only provide useful outside amenity space or sense of the outside, they can help articulate a façade providing they are carefully organised and integrated; for instance, vertically grouped balconies can provide a rhythm and order to the facade and can help define the architectural language of the building. Conversely, balconies can appear inappropriate if they dominate an elevation by covering a large part of the frontage and/or if they extend horizontally across the façade.

f.151 Balconies should read as integral parts of the architectural language of

the facade and care should be taken that they do not unintentionally distort other elements. This should be considered in detail to avoid looking monotonous or bolted onto the design later on.

f.152 The underside of balconies are very prominent in views from the street space and should be appropriately considered by design. They should be coherent with the overall design language, avoid exposed uncharacteristic materials or details, prevent bird roosting or nesting and consider the future maintenance and cleaning.

f.153 Balconies should be well drained to avoid balconies flooding, dripping onto balconies below, structural damage and staining. This could be achieved through a controlled drainage with a drip tray channelling water to the front edge of the balcony or through a spout, or by positive drainage through connection to a rainwater pipe.

f.154 Deep balconies (exceeding 1.5m projection) can work well in terms of providing more generous space for outdoor activities, like for example dining. Projecting balconies contribute the overall thermal efficiency of the envelope as they minimise the surface where energy transfer happens, a patio or insert balcony create more surfaces and therefore increase the chances for heat to be lost through the walls, floors and ceilings; however, they must be carefully designed as balconies that project too far from the main facade can sometimes appear to be poorly-integrated and create excessive overshadowing to the floors below. They are often more successfully visually integrated if they are either recessed or partially recessed within the main façade.

f.155 The design of balustrades should both fulfil safety requirements and be designed to integrate well with the rest of the façade. Care should be taken when specifying balustrades as they can age quickly and negatively impact the appearance of the building. Exposed balconies with transparent or permeable balustrades can affect the visual coherence of a facade as residents use improvised screens to enhance their privacy. The partial screening of balcony balustrades can enhance the privacy and amenity of residents and minimise visual impact of individual furniture and planting on the overall facade.

PRINCIPLE F.10.3: BALCONY DESIGN

+ Balconies should be generously sized and appropriately designed to maximise on their potential as private outdoor space for residents.
+ Balcony design should consider their flexibility of use, sun-exposure, shelter from wind, privacy, perceived safety, impact on daylighting below, and appropriate drainage.
+ Balconies should be integral to the overall design of an elevation and should avoid being overly dominant or appear as later bolt-ons. Recessed balconies should be considered at greater height or for larger terraces.
+ Balcony balustrades should be specified to ensure longevity and provide adequate shelter, privacy and perceived safety of the balcony space.
+ The underside of balconies need careful consideration to be integral with the overall elevation design, prevent bird roosting and nesting and ensure ease of maintenance.
+ Balcony and external amenities should be design with form factor considerations in mind to support the thermal performance of the building envelope

Image f.60: High quality materials can be used to add visual interest to the facade and can be used to differentiate landmark buildings

f.156 The materiality of buildings can strongly impact the character of an area and the overall visual cohesion of a place.

f.157 Whilst architectural style varies within the Royal Borough, a prevailing characteristic of most successful buildings is a simple, restrained palette of materials, detailing and architectural features integral to the design.

f.158 Materials should reflect the character of the area and the style of architecture adopted. It is often desirable for a new building to blend into its surrounds by using similar or complementary materials and colour ranges and to ensure that the new building does not inappropriately draw the eye or undermine local distinctiveness.

f.159 Contemporary development in large new developments should establish its own coherent approach to the range and palette of materials. This should be well considered and coordinated, and respond to the envisaged character, place making aspirations and the wider local context.

f.160 Facing materials (particularly secondary materials) should be fully integrated and consistently used on all sides of buildings and not limited to just the front elevation as this can undermine the building's integrity and appear to be a bolted-on facade.

f.161 If too many materials are used, facades risk appearing untidy or overloaded; on the other hand, if a façade or townscape lacks a contrasting material there is a risk of it looking bland.

f.162 Materials should also be chosen based on their durability, ease of maintenance and repair, overall cost over their lifetime, overall carbon impact, and impact on other natural resources.

f.163 Materials which support biodiversity are strongly encouraged. For instance, the use of bee bricks, bat and bird boxes, and hedgehog boards are encouraged to support local wildlife.

Image f.61: Use of different brick colour to create variation and interest in a street scene

Image f.62: Limited and coordinated spectrum of colours and materials

Image f.63: Use of material and colour contrast to emphasise architectural or functional features

Image f.64: Materials that encourage biodiversity are encouraged (image credit: Green & Blue)

Image f.65: Uncoordinated use of materials creates an untidy and overloaded facade

Image f.66: Rendered facades can look dishevelled if not painted and maintained regularly

PRINCIPLE F.10.4: MATERIALS

+ Materials should be chosen to reflect the character of the area and style of architecture adopted and be fully integrated and consistently used on all sides of the building.
+ Generally the material and colour choice of a building should help buildings to blend into the area and avoid inappropriately to draw the eye or undermine local distinctiveness.
+ Materials should also be chosen based on their longevity, maintenance, sustainability credentials such as embodied carbon and recyclability (See Principle B.12 Carbon Impact).

Further Guidance -

+ Royal Borough of Greenwich Carbon Neutral Plan
+ LETI Embodied Carbon Primer (2020)
+ BS 42021:2022 Integral Nest Boxes (2023)

Image f.67: Operable screens and shutters in front of windows are much more effective than internal shutters in avoiding the overheating of indoor space. They also facilitate customising the level of natural light to the residents' needs and reducing exterior noise.

Image f.68: Integrated screens, shutters, louvres and awnings can be beneficial to ensure the environmental quality and usability of the outdoor amenity space in the hottest periods of the year and be positive contributors to the architectural expression of the building.

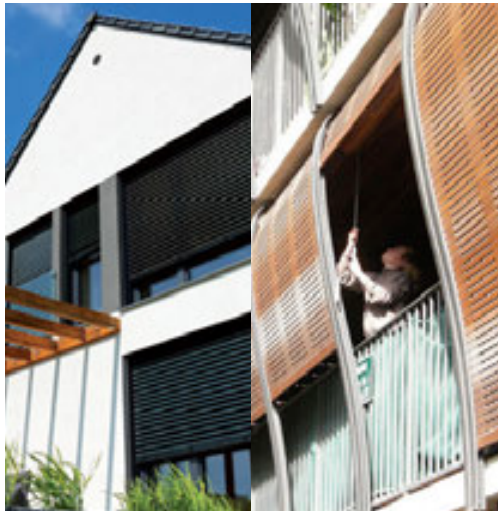


Image f.69: Rolling shutters can be well integrated with the architectural expression of a building, and carefully detailed to avoid any cold bridges on facade.

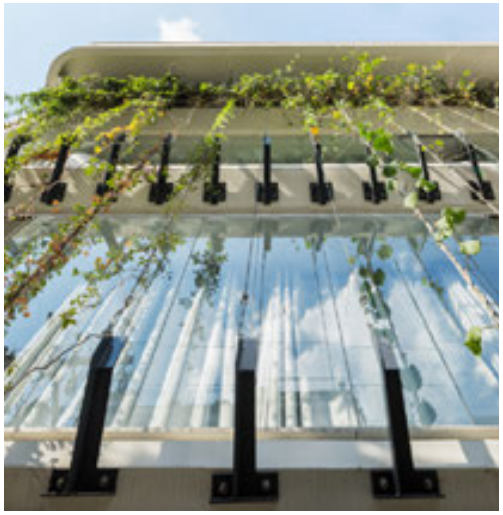


Image f.70: Well integrated, easy maintenance greenery can assist in delivering appealing facades that naturally adjust to the different seasonal weather conditions.

f.164 Climate change makes more urgent than ever to create buildings that are resilient and can effectively adjust to markedly different weather conditions. The external envelop of new developments should operate as an active skin, which assists in regulating and optimising the microclimate conditions and thermal comfort levels in indoor spaces.

f.165 Operable screens, shutters, louvres and awnings can be effectively integrated in the facades most exposed to sunlight, providing shading to rooms and outdoor amenity spaces.
Different types of green features can also be been effectively incorporated in the overall design, naturally adjusting the provided level of shading to the different seasons of the year.

f.166 Climate responsive facades should be considered from the outset of the scheme and assist in defining the best possible form, orientation and layout of the building.

f.167 These climate conscious solutions should also be considered to enhance the thermal performance and indoor microclimate conditions of a building.

PRINCIPLE F.11: CLIMATE RESPONSIVE FACADES

+ Climate responsive facades should be integrated in the overall concept from the outset of the design process.

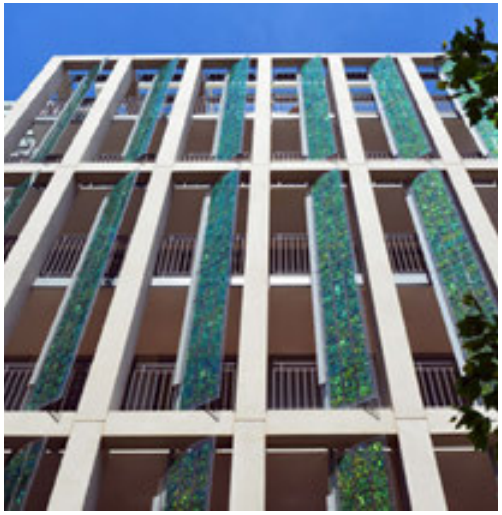


Image f.71: Photovoltaic panels can be designed as a fully integrated architectural feature, while also contributing to the shading of most exposed to sunlight, south facing facades - Example: Kingsgate House - HCL Architects

Image f.72: PV double skins can address overlooking issues on constrained sites and provide expressive light/shadow effects on facade - Example: 740 Fulham Road - HCL Architects

Image f.73: BIPV can be successfully expressed into a range of building elements, including wall-cladding, balustrades of balconies and window glazing.

Image f.74: PV panels can successfully replace other materials on the roofs and canopies. Other products suitable to historic buildings are available, including solar slates systems.

f.168 Building-integrated photovoltaics (BIPV) can serve as both the outer layer of a structure and generate electricity for on-site use or export to the grid.
If thoughtfully integrated in a scheme from the outset of the design process, BIPV systems can provide savings in materials and electricity costs, reduce pollution, and add to the architectural appeal of buildings.

f.169 BIPV can be expressed into different forms and elements, including cladding, screens, roofs, window glazing, balustrades and so on.
Beside generating energy, PV screens can assist in shading overexposed façades and outdoor amenity spaces.

f.170 BIPV can also be successfully applied to the retrofit of existing buildings, significantly improving their energy performance and positively contribute to their refreshed aesthetic. They can be tailored into forms suitable to some historic buildings.

f.171 Other fully integrated products suitable to historic buildings are available, including solar slates systems.

PRINCIPLE F.12: BUILDING INTEGRATED PVS

+ Where suitable, building integrated photovoltaics (BIPV) should be integrated in the development from the outset of the design process as a positive contributor to the architectural quality of the scheme, while maximising their energy related benefits.

f.172 Modern methods of construction (MMC) utilises modern technologies, processed and raw materials to find efficiency in the construction process.

f.173 There are a number of modern methods of construction which include:

+ Full or partial prefabrication of:
  + Panellised units for assembly on site
  + Volumetric, three-dimensional modular units assembled in factory
  + Hybrid techniques that combine both panellised and volumetric approaches.
+ Floor or roof cassettes
+ Pre-cast concrete foundation assemblies
+ Pre-formed wiring looms, mechanical engineering composites and innovative techniques such as tunnel form or thin-joint block work.

f.174 The pre-fabrication of building components off-site can deliver numerous benefits such as efficient construction methods, higher quality finishes, reduced waste, lower environmental impacts and lower cost.

f.175 Prefabrication can range from more common parts, such as window and facade systems, plant equipment, lifts and structural components, to bathroom, kitchen and furnished room cells, preinstalled wall, floor and roof panel systems, and masonry facade panels. Generally the scope and dimensions for prefabricated parts is limited by the means and feasibility of transportation from the factory to the construction site and the scope for installation on site.

f.176 Development should explore what means of modern methods of construction are appropriate in respect of the unique circumstances of a development and site context. Any proposed construction method should be proved to be at least as durable as any high-quality traditional method of construction.

f.177 The challenge of modern methods of construction is where prefabrication results in a uniform, bland and undifferentiated approach to development, with buildings that fail to articulate the base, the main-body and the top, and that poorly respond character, form and materiality of the context. Another challenge is development where the joints between facade panels are visually prominent and divulge the prefabricated nature of a building.

f.178 Prefabricated buildings should have the architectural coherence and integrity and an appropriate response to the context as would be expected from any other building that is constructed on site. Particular care should be taken on the detailing of joints between panels, so that they a visually disguised and appear natural to the means of construction and architecture (timber panels, brick bonds).

f.179 Care should be taken with the prefabrication process to ensure different batches of elements result in a coherent finishes and colours, as even slight differentiations in colours or materiality between facade panels will be highly visible. This includes exceptional and special elements, such as the roof parapets, corner details or entrances.

PRINCIPLE F.13: METHODS OF CONSTRUCTION

+ In appropriate contexts, pre-fabrication approaches should be explored. They should be guided by detailed pre-application conversations to ensure the a contextual, coherent and high-quality development can be achieved.
+ Care should be taken to ensure consistency and quality of assembly and finishes and standardised off-site construction methods should not result in buildings that are bland, monotonous, poorly detailed, and uncontextual.

Further Guidance -

+ Royal Institute of Chartered Surveyors, Modern Methods of Construction; A forward-thinking solution to the housing crisis? (2018)

f.180 Integrating technology into building processes has the potential to have significant impacts on such quality of life, greater resilience, greater efficient of systems, increased economic benefits, improved health outcomes etc. Designing for smart buildings means allowing for future capacity and flexibility to provide smart infrastructure in the future.

f.181 Applicants should consider how each stage of the planning and development process could support smart building opportunities. For instance, this could include smart technology for smart glazing, smart lighting, water management, electric vehicle charging etc.

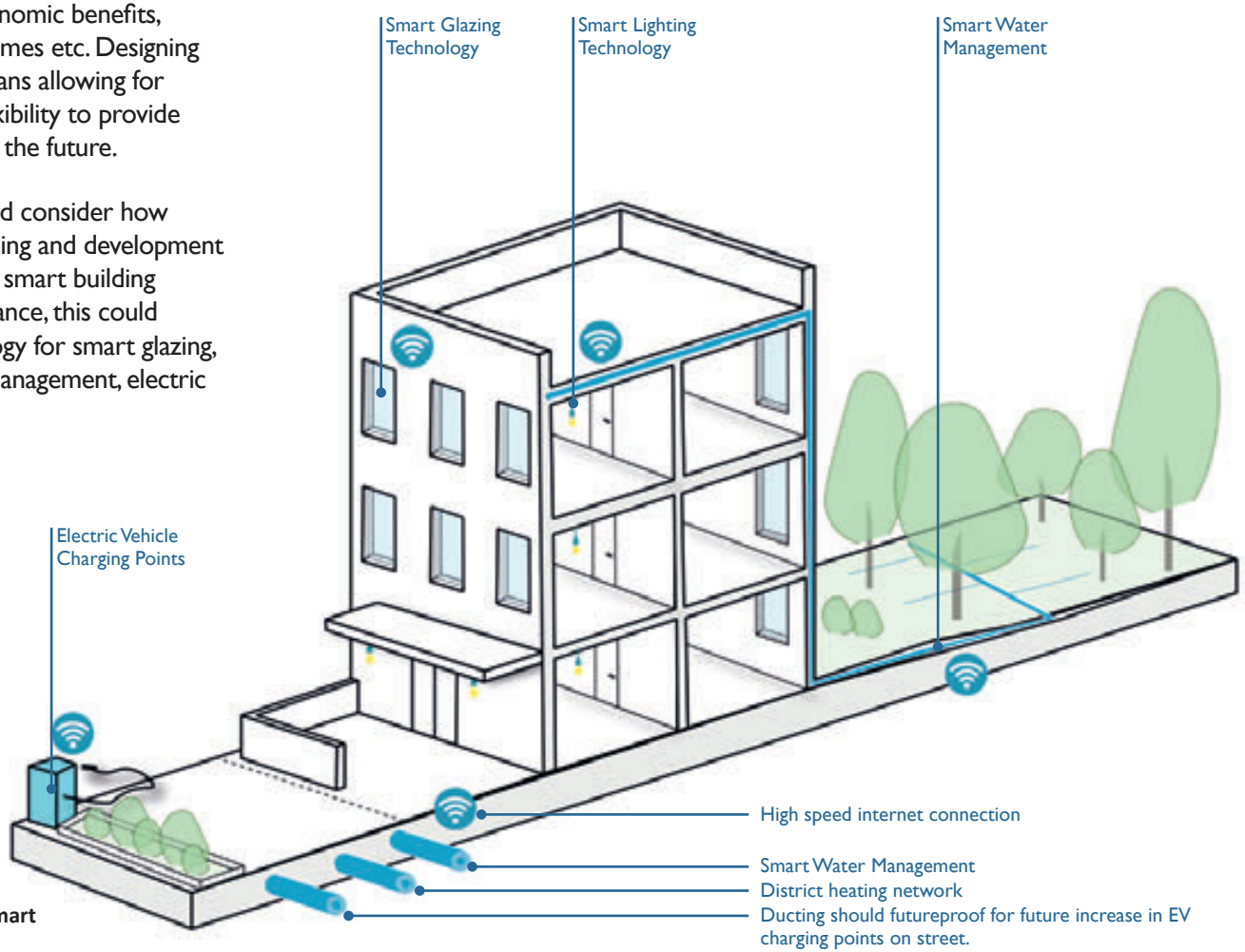


Figure f.33: Examples of smart building technologies

PRINCIPLE F.14: SMART BUILDINGS

+ Developments should try to anticipate and allow for any technologies which will support homes in the near future. This should be allowed for in the building and unit layout and sizing of internal spaces.
+ Homes should be as adaptable as possible for communal and individual 'smart' infrastructure to be integrated in the future.

CHAPTER G

RESIDENTIAL AMENITY AND WELLBEING

G RESIDENTIAL AMENITY AND WELLBEING

Back to document index

The core aim of any residential development should be to deliver high quality homes, together with well designed private and communal outdoor spaces that ensure the well-being, privacy and amenity of residents.

A quality living environment contributes to happiness and supports social sustainability and community resilience.

DESIGN PRINCIPLES	pg.	Large scale comprehensive new development	Large and medium sized urban infill sites	Housing estate renewal	(re)development or adaptation of small urban infill sites or single buildings	Household extensions	Shopfront improvements
		DEVELOPMENT TYPE					
G.1 Consider the Experience of Building Users	226	●	●	●	●	●	
G.2 Well being in buildings	227	●	●	●	●	●	
G.2.1 Privacy	228	●	●	●	●	●	
G.2.2 Daylighting and sun-lighting	229	●	●	●	●	●	
G.2.3 Noise, air and light pollution	230	●	●	●	●	●	
G.2.4 Communal Amenity Space	231	●	●	●	●		
G.2.5 Private amenity space	233	●	●	●	●	●	

Image g.1: Designers should think how people will use the building and its outdoor spaces on a daily basis as well as for events and gatherings

g.1 The design of homes has a direct impact on quality of life of residents. In well designed developments, residents enjoy the right balance of privacy within the home and private amenity spaces, and access to communal facilities and public realm.

g.2 The most successful places protect the privacy and amenity of residents, while supporting and facilitating random social interactions in communal spaces or shared access areas. Design that considers and responds to a wide variety of end user experience and living patterns in detail is most successful in delivering places that contribute to a higher sense of well-being and attachment to place.

g.3 Designers should think through the user experience of residents and occupiers, and how the proposed design will facilitate and enhance their day to day activities and support an active social life at the building, street and neighbourhood scale.

PRINCIPLE G.1: THINKING THROUGH THE USER EXPERIENCE

+ It is good practice to design with a range of end users in mind and to think in detail about the realities of living and moving through the building for a range of users, including residents, visitors, service providers, building staff and contractors. Design should reflect the end user's experience and daily living patterns.
+ Where practical, design should facilitate random social interactions with neighbours in common areas, while not negatively compromising privacy. This can be achieved through a number of design considerations, such as:
  + the synergy and visual connection between public realm, lobbies (and circulation) and communal courtyards.
  + The use of shared and inviting circulation, such as open staircases from a communal lobby space and short deck-accesses instead than internalised, double-loaded corridors.
+ Applicants are encouraged to consider full journeys to and from the home, thinking about both the practicalities and the experiential qualities of each journey. Some prompting questions to start this process could be:
  + What is the approach and access look like? Is it well-lit and inviting?
  + What can people smell? Are there flowers blooming near the entrance?
  + What does the building feel like? Is there robust and elegant ironmongery?
  + What can they hear? Is there a cafe spilling out onto the street? Children playing? Or perhaps there is a rustle of leaves in the nearby street trees?
  + Is there any chance to have a random interaction with neighbours in the communal spaces?

Image g.2: Designers should focus on how they can create environments that support well being, mental health and happiness

g.4 There is a vast disparity in well-being within the UK, especially between wealth and deprived areas, and people of different incomes and demographic background. It is more important than ever for places, homes, offices, and neighbourhoods to support and contribute to the well-being of all of their users. The WELL Standard for buildings defines seven criteria which contribute to the sense of well being. These are the quality of air, quality of and access to water, access to nourishment, levels of exposure to light, levels of fitness, levels of comfort, and the peace of mind.

g.5 Architectural design plays an important role in delivering qualities for the health and wellbeing of residents and building users. Buildings support well-being when they are designed to:

+ Encourage activity
+ Promote community civic engagement
+ Ensure accessibility
+ Provide community space that is open to use and accessible from the street

g.6 New developments, including office and residential uses, should aim to incorporate the following measures:

+ Outdoor space
+ Adequate daylight and sunlight, along with appropriate shading control;
+ Openable windows and natural ventilation;
+ The use of materials, paint and furnishings with low amounts of Volatile Organic Compounds (VOCs), which cause poor air quality;
+ Natural elements such as planting, stone, timber and access to green space to promote biophilia which has been shown to support cognitive function and well-being;
+ Measures to promote active travel and use of stairs over elevators;
+ Protection from external sources of air, noise and light pollution.

g.7 This chapter sets out guidelines that cover privacy, daylight/sunlight standards, protection from pollution and the provision of external amenity space. This will apply for all residential schemes including householder extensions.

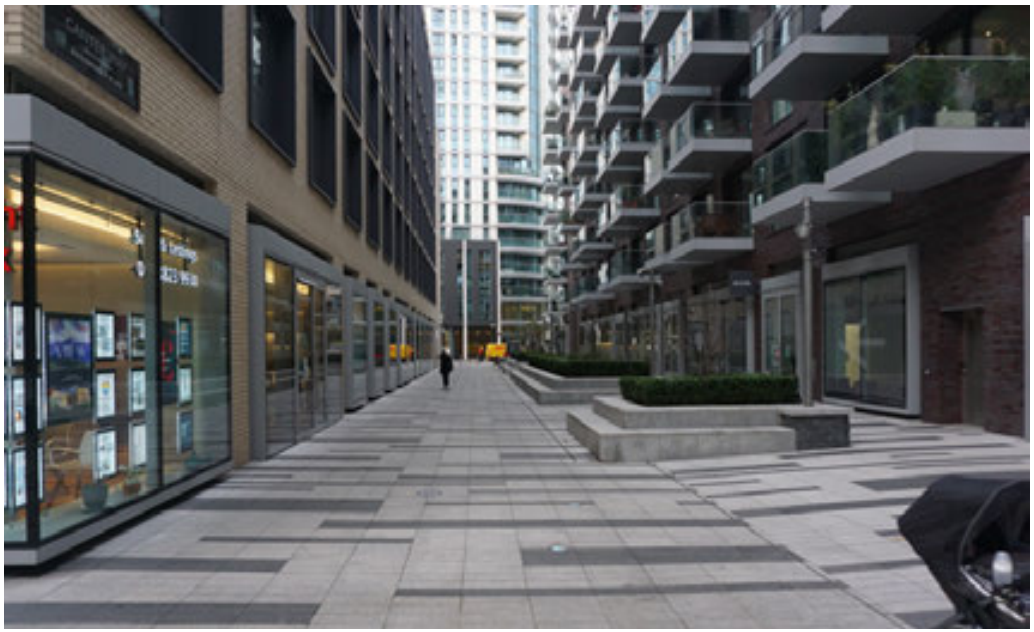


Image g.3: Narrow and strongly enclosed spaces, not only receive little day and sun-light, but often also lack an adequate outlook, sky view and privacy for residents, and should be avoided

g.9 In urban areas, the ability to have privacy inside private spaces is a important factor in residents feeling of well-being. In high density areas in can be particularly challenging to allow for adequate levels of privacy. The following aspects should all be considered when designing for privacy:

+ The relationship of buildings to each other including the dimension of street and courtyards, and the positioning and design of windows and doors;
+ The topography and relative height of adjacent buildings;
+ The provision of good noise insulation;
+ The relationship of the parking, gardens, front defensible space, balconies with the adjacent buildings; and
+ The position and arrangement of habitable rooms.

g.10 Separation distances of a minimum of 18m between habitable rooms should be achieved to maintain good levels of privacy and avoid unreasonable overlooking. This should consider existing and future neighbours as well as between windows of the same building.

g.11 The application should demonstrate steps to improve privacy and outlook if separation distances fall below 18m. This could include staggering windows and/ or locating circulation space and communal rooms in tight locations.*

* Paragraphs g.10 and g11 adapted from High Density Living SPD, LB Tower Hamlets, 2020

PRINCIPLE G.2.1: PRIVACY

+ Developments should consider the privacy of future and existing residents, including:
  + Demonstration of home privacy will be achieved between new and existing developments.
  + Avoidance of direct overlooking from habitable rooms in neighbouring properties
  + Corner properties should take care when designing units at the inner corner
  + Consideration of acoustic privacy
+ Development should achieve a separation distance of minimum 18m between habitable rooms. If this is not possible, applications will need to demonstrate how adequate privacy and outlook will be achieved through other design measures.

g.12 Direct sunlight can support increased activity levels, landscape benefits, and support the health of the building fabric. In terms of health and well-being adequate exposure to daylight is critical for circadian rhythm, sleep hygiene, and mental health. As people age, daylight becomes more important in maintaining overall health and well-being.

g.13 Resident well being is supported by ensuring that habitable rooms and occupants receive adequate levels of daylight throughout the year. A lack of perceived privacy may encourage residents to keep window treatments closed which can significantly reduce the levels of daylight exposure for residents.

g.14 Outdoor spaces are best when there is an adequate amount of sunlight to support plant growing, children's play, and use by the community. Landscaping of areas should allow for appropriate levels of sun lighting and shading throughout the seasons.

g.15 To achieve good levels of daylight and sunlight to homes, development proposals should maximize the number of dual aspect homes (dual aspect through and dual aspect corner).

g.16 If single aspects homes are proposed, all layouts should aim to be 6m deep and no more than 7.5m deep and north facing single aspect homes should be avoided.

g.17 Dual aspect through home layouts should be less than 11m deep where possible.

g.18 To achieve good levels of daylight and sunlight floor to ceiling height should be generous, a minimum of 2.5m. At lower floors or deeper home layouts floor to ceiling heights should be greater, 2.9m where possible.*

*Paragraphs g.16 to g.19, adapted from High Density Living SPD, LB Tower Hamlets, 2020

PRINCIPLE G.2.2:
PROVIDE HOMES WITH SUFFICIENT DAYLIGHT AND SUNLIGHT

+ Outdoor spaces and building facades should be designed to receive high quality daylight and sunlight. Planting should be carefully considered to not obstruct winter sunlight to units or amenity spaces.
+ All dwellings and spaces should benefit from daylight and sunlight levels that conform to BRE (Building Research Establishment) standards. However overheating risk and solar gain should be mitigated by following passive design principles such as glazing ratio, orientation and shading strategy.
+ Development should maximise on dual aspect units. Single aspect north facing apartments can receive insufficient sunlight and should be normally avoided, in line with London Plan Policy D6.
+ South facing apartments will need to be carefully designed to avoid overheating problems. Window sizing should also take internal furniture layouts into consideration to ensure that the placement of windows does not significantly limit the way rooms can be arranged.

Further Guidance

+ BRE (Building Research Establishment) standards
+ Good Homes Alliance, Overheating in new homes (2022)
+ LETI, Climate Emergency Design Guide (2020)
+ ETUDE/Passivhaus Trust/Levitt Bernstein/Elementa Net Zero Carbon Toolkit

g.20 Homes and buildings support their users best when they are designed and situated to minimise on noise, air and light pollution.

g.21 Single aspect homes facing towards a major noise source should be avoided. Bedrooms of dual aspect homes should be orientated away from the source.*

g.22 Homes should be sufficiently insulated from noise, including noise that comes from corridors and communal amenity spaces.

g.23 High quality designs have:

+ Openable windows
+ Low exposure to toxins and particulate in the air
+ Manage asbestos, lead, and other building material hazards
+ Low level of condensation and mold
+ Reduced solar glare
+ Reduced glare from lights
+ Adequate levels and consistency of internal lighting
+ High levels of occupant controllability
+ Manage background noise
+ Provide acoustic privacy
+ Ensure adequate wall and door specifications
+ Reduce reverberation of sounds
+ Recuse impact noise between units
+ Implement safe and non-toxic cleaning strategies
+ Manage off-gassing from building materials and furnishings

g.24 All proposed residential developments in the proximity of industrial or other noisy areas should incorporate adequate pollution and noise mitigation measures, in line with the Agent of Change principle, as stated by Policy D13 of the London Plan.

*Adapted from High Density Living SPD, LB Tower Hamlets, 2020

PRINCIPLE G.2.3: PROVIDE CLEAN AND COMFORTABLE HOMES

+ Noise disturbance and air/light pollution should be minimised through careful design including the following measures:
+ Setting buildings away an appropriate distance from polluted highways, industrial sites or other sources of pollution;
+ Orienting or organising buildings so that the principal habitable rooms and sitting-out areas face away from the source of the pollution;
+ Incorporating design features such as recessed balconies and acoustic lobbies;
+ Using landscape features (including trees and earth mounding) to absorb noise/air pollution and deflect light; and
+ Avoiding parking where it will create noise and headlight nuisance from vehicle movements.
+ Developments should achieve high level of air tightness and have an adequate ventilation strategy in place to ensure thermal comfort and healthy environment for their end users by following PassivHaus principles

Further Guidance

+ Royal Borough of Greenwich, Climate Emergency Design SPD (2022)
+ LETI, Climate Emergency Design Guide (2020)
+ ETUDE/Passivhaus Trust/Levitt Bernstein/Elementa Net Zero Carbon Toolkit

Image g.4: Formal and informal play offer within a communal courtyard space

g.25 The best designs encourage random social interactions between residents which can contribute to a stronger sense of community and in turn contribute to a stronger sense of place. Social and community spaces function best when they are located in busy, visually and physically accessible areas. Social spaces also function best when they are level with the pavement to minimise conscious or subconscious barriers, which can isolate gathering spaces.

Principal communal spaces

g.26 New residential developments should provide healthy outdoor spaces. In apartment buildings this should include a principal communal outdoor amenity space, which should be central to a development so that it is easily accessible by residents from the main routes from residential entrances to homes. It should be well overlooked and be directly adjacent and visible from building lobbies. Access and design should ensure communal spaces are well used and encourage social integration. Resident interaction may be supported by programming events for residents.

Secondary communal spaces

g.27 In addition development should seek to provide smaller secondary communal space that support the regular interaction between residents, aiding familiarity and opportunities for interaction and friendship. These spaces should be distributed throughout the buildings, and may include outdoor and indoor spaces.

Design and Facilities

g.28 Landscaping in communal spaces should be multifunctional. Design should foster social interaction but not impede on privacy. It should encourage physical activity but also serve as a place of rest. Planting and green spaces should improve biodiversity and be resistant to impacts of climate change.

g.29 The design of part of the outdoor amenity areas should promote rest and relaxation. This should include:

+ Seating integrated into the landscaping. Half of the seating should be suitable for those with restricted mobility.
+ Native planting that includes interesting texture, colour and scent.
+ Design that incorporates open spaces to encourage informal uses.
+ Water features where appropriate.
+ Features that provide shade in the summer months such as a pergola or planting where appropriate.

g.30 The design of part of the outdoor amenity area should promote physical activity for example through the use of outdoor gym equipment, informal or formal play spaces and/or gardening.

g.31 All of the minimum play space requirement for children under 12 should be provided on site and outdoors. Where there are demonstrable site constraints, play space for under five year-olds must be on site and older children's play space must be within the GLA's specified recommended distances. See also Principle E.4.2 Play Spaces.

g.32 Designated space for gardening, local food growing projects (community orchards and/or fruit and vegetable plots) should be encouraged and are expected where there are good opportunities. This should:

+ consist of beds that are easy to install, move or remove according to demand.
+ be adjacent to a water point, bin and seating.
+ include access to designated storage space.

* Paragraphs g.25 to g.33 have been adapted from / informed by High Density Living SPD, LB Tower Hamlets, 2020

Image g.5: Internal semi-private courtyards intrinsically provide natural surveillance and can create a sense of safety and enclosure

Image g.6: Building design can help to tackle social isolation among older residents by providing spaces to interact (image of the John Morden Centre by Mae Architects © Jim Stephenson)

+ be managed by residents.

g.33 Where possible, there should be some homes at the same level and directly facing the outdoor communal amenity space and outdoor play space. These should have direct access onto the space. Between the home and the outdoor communal amenity space private amenity space should be provided in the form of a terrace for defensible space and privacy. The boundary treatment of the terrace should be permeable.

Management

g.34 All communal amenity spaces should be shared between different housing tenures. Where this is not possible the majority of communal space should still be shared.

g.35 When it is well-structured, self management of shared facilities by the community can greatly assist in the feeling of local ownership and pride in a place.

g.36 Larger developments should explore how to provide spaces that can be managed independently by local residents, for example as a community garden, and facilitate and support the set-up and management.

PRINCIPLE G.2.4: COMMUNAL AMENITY SPACES

+ Development should provide adequate healthy communal outdoor amenity spaces. These should be located central to a development where they are easily accessible by residents. Larger buildings should also explore the provision of secondary communl spaces (outdoor and/or indoor) distributed throughout the development, including on roofs.
+ Communal spaces should provide a multifunctional landscape design that promote rest and relaxation, and foster social interaction without impeding on privacy. Design should promote physical activity for for example through the use of outdoor gym equipment, informal or formal play spaces and/or gardening.
+ Formal children's play spaces should be provided and integrated in communal spaces.
+ Communal amenity spaces should be shared between different housing tenures.

Image g.7: Private outdoor terrace facing a communal courtyard, providing privacy shields to the sides and an open outlook over the communal space

g.37 External private amenity spaces are beneficial for well being. They can contribute to a sense of space and openness in the home and can provide opportunity for relaxation and leisure. Private amenity space can take many forms, from a ground floor garden, a roof top terrace or a balcony. Private outdoor spaces offer secondary places for people to spend time outside of their private dwellings.

g.38 The design, size and orientation of private outdoor spaces have a significant impact on the quality and usability of a space. Their access to day light, sunlight and outlook, impacts from noise and air quality, and the perceived privacy of private amenity spaces, all directly impact the frequency and type of use.

g.39 The design of private outdoor spaces should be adequate to the size and use of a dwelling. They should comply with and exceed where possible standards set by the London Plan, the London Housing SPG and LB Greenwich's Local Plan.

g.40 Private amenity spaces should avoid facing onto areas of poor air quality and unacceptable noise. Where this cannot be avoided, they should be provided sheltered in inset balconies or winter gardens.

g.41 Family homes should be located on the lower floors with private amenity space in the form of a terrace or garden. If private amenity space for family homes at upper levels are only in the form of balconies, these should be generous and feature improved safety and security measures such as higher balustrades.

g.42 In larger or taller buildings where a wind assessment is required this should assess balcony design. Design should explore how to mitigate windy condition for example by providing solid balustrades, semi-recessed or inset balconies, or winter gardens.

g.43 Where winter gardens are proposed they should be thermally separate from the home and not contain radiators or heating. Their internal enclosure should be predominantly glass and be openable at least 30% of the all area. They should provide effective enclosure from wind, noise and pollution.*

g.44 See also Principle F.10.3 Balcony Design.

* Paragraphs g.36 to g.42 have been adapted from / informed by High Density Living SPD, LB Tower Hamlets, 2020

PRINCIPLE G.2.5: PRIVATE AMENITY SPACE

+ Private amenity spaces such as gardens, terraces, balconies serve an important role in residents' well-being and should be planned for by the design from the outset.
+ The design of private outdoor spaces should be adequate to the size and use of a dwelling and comply with relevant London and Greenwich Policy and Guidance.
+ The location, orientation and design of private outdoor spaces should maximise on their access to day light, sunlight and outlook, protect from unacceptable noise and poor air quality, and ensure adequate privacy of private amenity spaces.
+ Family homes should be located on the lower floors with private amenity space in the form of a terrace or garden. On upper floors private amenity space should be generous and feature improved safety and security measures.

CHAPTER H

SHOP FRONTS

H SHOP FRONTS

Back to document index

High streets and town centres in Royal Greenwich make an important contribution to the economic-, social- and cultural life of the borough. Shop fronts and signage help to define the identity of each place, define the buildings and street, shape the experience and are a testament to a building's history.

The move to online retail platforms is re-shaping the business landscape. Successful high streets are diversifying, complementing their retail offer with culture, social opportunities and entertainment. Royal Greenwich is determined to enhance the quality of its town centres, to make them more inclusive, thriving and vibrant places. Design is an important constituent to achieving this aim.

This chapter provides guidance for the repair and replacement of shop fronts and signs. It also provides guidance for new-built ground floor premises in town centres and those being re-purposed to accommodate new uses.

DESIGN PRINCIPLES	pg.	DEVELOPMENT TYPE: Large scale comprehensive new development	Large and medium sized urban infill sites	Housing estate renewal	(re)development or adaptation of small urban infill sites or single buildings	Household extensions	Shopfront improvements
H.1.1 The Shop Front As Part Of The High Street	236						●
H.2.1 Typologies: Victorian/Edwardian Terraces	237						●
H.2.2 Typologies: Mock Tudor/Garden Town	239						●
H.2.3 Typologies: Postwar (1950-60's)	241						●
H.2.4 Typologies: New Built	243						●
H.3.1 High Street Rhythm +Legibility	246						●
H.3.2 Renewal vs. Replacement	247						●
H.4.1 What Makes A Successful Shopfront	248						●
H.4.2 How Can I Future-Proof My Shop Front?	249						●
H.4.3 What Makes A Good Sign?	250						●
H.4.4 What Should I Include On My Sign?	251						●
H.4.5 Sign Illumination in Conservation Areas	252						●
H.4.6 How Do I Keep My Shop Secure?	254						●
H.4.7 How Can I Be More Accessible?	255						●
H.4.8 What Makes A Good Display?	256						●
H.4.9 How To Utilise My Forecourt?	257						●
H.5.0 Non-Retail Use	258						●
H.5.1 Process	259						●

The Shop Front As Part Of The High Street

h.1 Shopfronts and signs cannot be considered in isolation. A shopfront forms part of a host building, a building may form part of a terrace and a terrace part of the wider townscape. The scale, materiality, arrangement and colouration of a shopfront and the shop signage need to appropriately relate to this context.

h.2 Different historic eras have brought about different approaches to the integration of shopfronts and signs with host buildings. In Royal Greenwich one can differentiate between;

+ Victorian-/Edwardian Terraces;
+ Mock Tudor/Garden Town;
+ Postwar (1950-60's);
+ Contemporary (1980s–present);
+ New built.

h.3 A typology-responsive approach means that the host building and shopfront work in harmony and in alignment with the original design intent of the façade. Where architectural features are lost, preserved features of adjacent buildings that form part of the same terrace can sometimes give clues about the historic design intent of the building subject to the proposals.

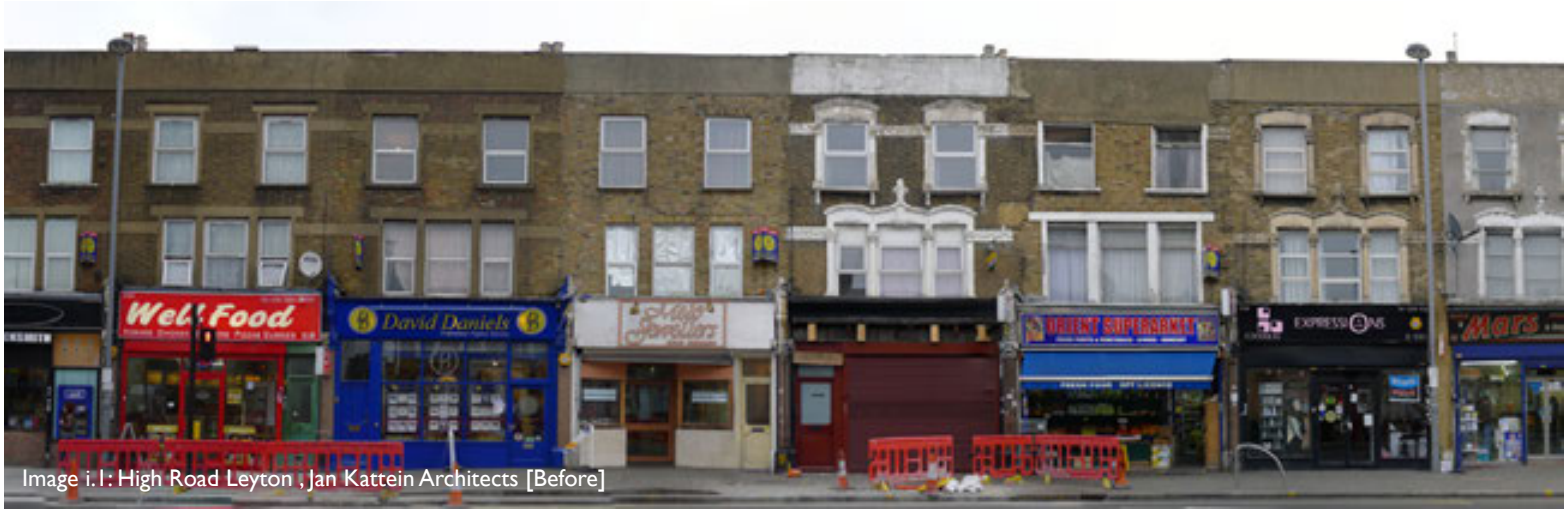


Image i.1: High Road Leyton , Jan Kattein Architects [Before]

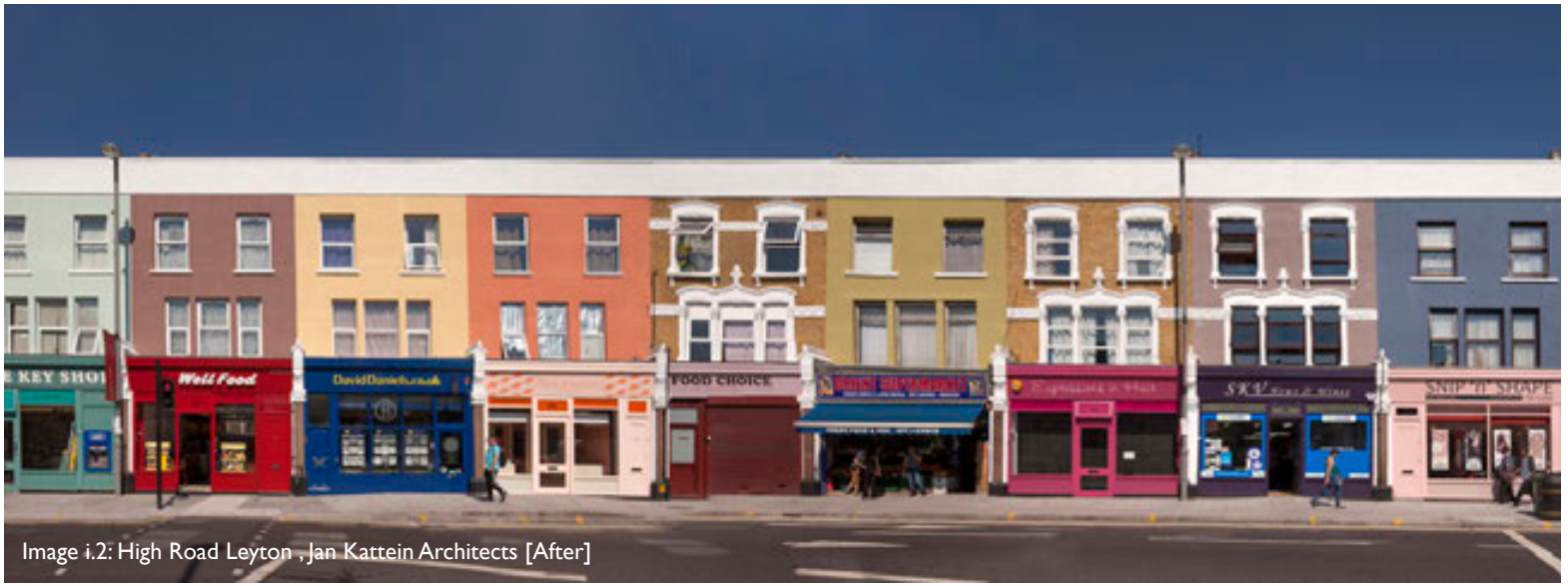


Image i.2: High Road Leyton , Jan Kattein Architects [After]

Typologies: Victorian/Edwardian Terraces

h.4 Victorian buildings have a number of recognisable features that position shopfronts and signs in relation to the building as a whole.

CORNICING:

h.5 Many Victorian buildings feature a horizontal stucco cornice which delineates the shop and sign from the remainder of the building façade. Some cornicing has fine dentil patterning, other cornicing is made from painted wood.

h.6 Any new signage should preserve and where possible repair damaged cornicing. Care needs to be taken that the sign is aligned horizontally below the cornicing and that it does not protrude forward of the cornicing. Internally illuminated signs or those featuring deep light boxes are not appropriate on Victorian Buildings.

CORBELS + PILASTERS:

h.7 Many C19 Buildings feature corbels and pilasters. The corbels are intended to book-end the shopsign and the pilasters to frame the shop. Corbels are an important architectural element that provides rhythm to the high street façade, breaking it up into smaller segments and adding an element of legibility where perceived at oblique angles from the pavement. Any new signage should preserve and where possible repair damaged corbels. Fixing awnings, lights or projecting signs to corbels is not appropriate.

h.8 Corbels also signify the division between two premises. They should be painted in a neutral colour, preferably white to relate equally to both adjacent premises.

STALL RISERS:

h.9 Victorian shops commonly had stall risers. Stall risers were intended to protect the glazing and in combination with raised internal displays they brought displayed wares closer to the gaze of the passing customer. Stall risers also served to achieve harmonious proportions in the building façade. The removal of stall risers is only acceptable where it can be demonstrated that the composition of the proportions of the façade as a whole are not detrimentally affected.

h.10 Where stall riser are an established character of the area they should be maintained.

h.11 Stall risers on Victorian buildings can be made from panelled timber, glazed bricks or tiles. In certain circumstances stone lining is also appropriate.

CONSERVATION MATTERS:

h.12 The removal of stall risers in conservation areas or on listed or locally listed buildings is not acceptable.

SET BACKS:

h.13 Many Victorian buildings had set-back entrances, sometimes combining an external lobby for the shop with the entrance to the dwelling above. Set-backs give useful shelter in front of the entrance door and they give the façade greater depth. Where they exist set-backs should be retained. Metal gates that are carefully integrated with the entrance and folded back during opening hours can provide security to the external lobby at night.

MATERIALS:

h.14 Victorian shopfronts were almost always made from timber. Timber is a sustainable material which can be repaired, altered and re-painted. Stall risers were sometimes built using glazed bricks, lined with stone or tiles or simply built from timber panels to match the shopfront. Proposals should generally endeavour to maintain the original timber shopfront unless it can be clearly demonstrated that this is beyond repair. Where a new shopfront is installed, timber is the preferred material.

CONSERVATION MATTERS:

h.15 In a conservation area or a listed or locally listed building a replacement shopfront should be made from timber and be of high quality design.

h.16 In addition to planning permission for any alteration to shop fronts which would materially change the appearance of the premises, changes regarding listed buildings require listed building consent.

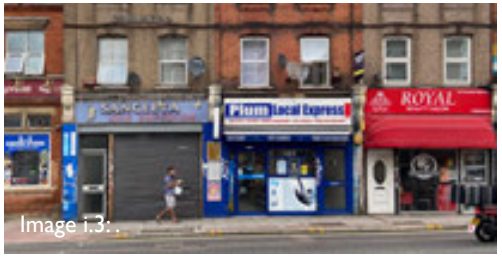


Image i.3: .


Image i.4: .

Figure h.1: Shopfront design guidance:Victorian/Edwardian Terraces

DESIGN PRINCIPLES

01 fascia sign between pilasters and below cornice

02 awning box recessed between pilasters

03 timber shop front with undivided glazing

04 large display glazing panels (no horizontal mullion subdivision)

05 timber framed entrance centred or to one side

06 stall risers at either side of entrance door (tiled or timber)

07 cornice marks maximum shop front / fascia height

08 pilaster corbel to be kept clear and undivided

09 pilaster shaft to be kept clear and undivided

10 pilaster plinth to be kept clear and undivided

11 openable sash windows can provide further opportunities to better address the street.

h.17 Many high streets in outer London saw rapid development in mock tudor or garden town style during the 1920s and 30s. Eltham High Street in particular features many mixed-use buildings from this period. Terraces often feature fewer vertical divisions with an emphasis on horizontal features and an overall grander appearance reminiscent of large country houses or agricultural buildings.

CORNICING:

h.18 Mock tudor cornicing is of great architectural significance helping to visually link a number of buildings together. Care must be taken when installing new signage that signboards are aligned below the cornicing and that they do not obstruct this feature. Some buildings from this era have a masonry cornicing frame for the shopsign. Where present, this feature should be respected, and the sign integrated within the confines of the frame. Internally illuminated signs or those featuring deep light boxes are not appropriate on mock tudor buildings.

CORBELS:

h.19 Corbels are less pronounced and sometimes omitted entirely on mock tudor buildings. Care must be taken with the vertical alignment of signboards. Where the building features a corbel, the sign should be aligned to use the corbel as a book-end. Where there is no corbel, the sign can be aligned with the shopfront opening below.

GLAZING BARS:

h.20 Many mock tudor shopfronts have delicate, decorative window mullions that help to emphasize the squat proportionality of this particular architectural style. This feature occurs in particular adjacent to doors or in the glazing of fanlights. Any new timber shopfronts should consider replicating this detail where evidence or historic photographs or drawings of the original arrangement exist.

CONSERVATION MATTERS:

h.21 Original mock tudor shop fronts in conservation areas or on listed or locally listed buildings should be retained and repaired wherever feasible.

STALL RISERS:

h.22 Stall risers on Mock Tudor buildings help to emphasize the horizontal and squat proportion inherent to buildings from this era. Simple decorative lines or panels were sometimes used to sub-divide the stall-riser. Stall risers should be preserved or re-instated when replacing shopfronts.

h.23 Stall risers made from painted timber panels, dark coloured tiles or glazed bricks are sympathetic to this building typology.

MATERIALS:

h.24 Replacement shopfronts for Mock tudor buildings should be made from painted timber as aluminium shopfront systems cannot replicate the delicate detail and glazing bars that define shopfronts from this era. Where a historic shopfront is lost a frameless contemporary shopfront system can be used.


Image i.5: Eltham High Street

Image i.6: Eltham High Street


Image i.7: Eltham High Street

Figure h.2: Shopfront design guidance: Mock Tudor/Garden Town

DESIGN PRINCIPLES

01	fascia sign between pilasters and below cornice
02	fascia depth approx 1/6th height of structural opening
03	timber shop front
04	shop front subdivision with timber mullions and transons
05	timber framed entrance centred or to one side
06	stall risers at either side of entrance door (tiled or timber)
07	cornice marks maximum shop front / fascia height
08	brick piers to be kept clear

h.25 Royal Greenwich features a number of postwar high street terraces. This building typology omits ornamentation, corbels and cornicing and takes on a much simpler, more geometric appearance. Shop units are often larger, occupying several adjacent bays. Canopies or set-backs are common features on this building typology and sometimes a distinct raking external lobby provided a welcoming entrance sequence.

SIGNAGE:

h.26 The signage in this typology was often set-back and aligned with the shop front within the structural opening. Aluminium fascias are an acceptable type of signage on postwar buildings so long as they are integrated within the shopfront opening.

h.27 Internally illuminated lightboxes can be acceptable on Postwar properties when works are carried out sympathetically to the host building.

SHOPFRONTS:

h.28 Postwar buildings sometimes feature precious hardwood shop fronts, chrome shop fronts or historic frameless glazing systems. Where there is evidence of a well-designed existing shop front, this should be retained and repaired where feasible. Contemporary frameless shop front systems or timber shop fronts with simple and plain detailing would complement existing buildings of this typology.

STALL RISERS:

h.29 Stall risers sometimes featured in modern shop fronts. Where they are proposed, they should be set-back from the building façade. They should be of a high quality material such as polished stone or coloured tiles.

h.30 Stall risers on postwar buildings should be of nominal height. Victorian/ Edwardian style stall risers above 400mm are not typically appropriate, unless part of the original detail.

h.31 Where no stall riser is envisaged a low plinth built from dark engineering brick or painted concrete levels the shopfront opening at its' base. This is of particular significance where there is a sloping pavement. Approx 100-150mm above the ground level is appropriate.

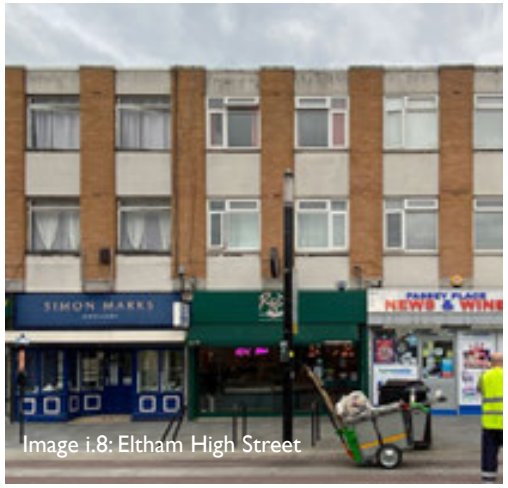


Image i.8: Eltham High Street

Postwar building in Eltham high street, with shops on the ground floor taking up two bays.

Shops are located between the brick columns that run vertically up the building facade.

Image i.9: Eltham High Street

In this Postwar building in Eltham shops are housed on the ground floor underneath a projecting canopy. They are book-ended by projecting canopy features.

The canopy divides the ground floor shopfronts from other building uses above. Shops have minimal division, with contemporary aluminium shopfronts.

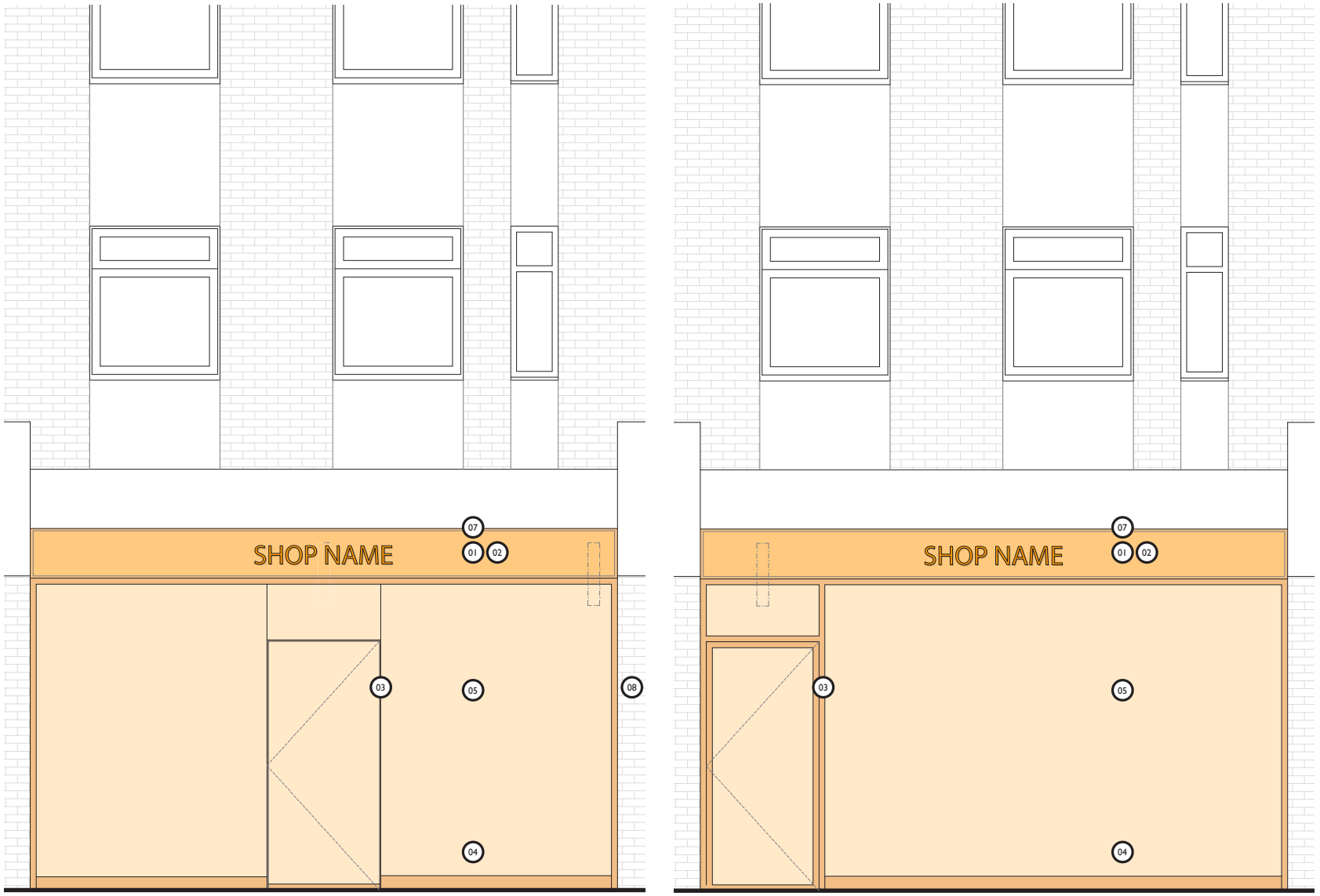


Figure h.3: Shopfront design guidance: Postwar (1950-60's)

DESIGN PRINCIPLES

01 fascia sign between brick corbel and below protruding cornice/canopy

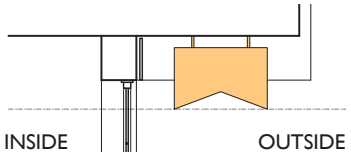
02 aluminium or timber fascia acceptable, however aluminium lettering should be separate / removable.

03 contemporary frameless shop front systems or timber shop fronts with simple and plain detailing

04 minimal stall risers approx 100mm are appropriate.

05 large expanses of glazing with nominal subdivision are appropriate.

06 protruding cornice/canopy can accomodate hanging sign above 2.4m. (section below)



07 cornice/canopy marks maximum shopfront / fascia height

08 brick piers to be kept clear

h.32 Good shop front design in new developments can have a significant impact on the quality and liveliness of public spaces and the high street environment.

h.33 New developments should provide a diverse range of types and sizes of retail units to accommodate different types of businesses. In Royal Greenwich this can include spatial arrangements that create up to 2 storeys of active frontage.

h.34 The following is fundamental to achieving a successful street life on high streets and in town centres:

+ Locating passive uses such as plant rooms, bike and waste stores at the rear or side of the building.
+ Maximising glazing and minimizing any blank or louvered doors or wall sections
+ Designing flexibly and for a variety of uses that positively contribute to the street life such as retail, food + beverage, community, workspace or cultural uses.
+ Future proofing designs to minimize the risk of vacancies by considering options for sub-division of larger units from the outset.
+ Entrances to retail spaces should be at regular intervals. Long and continuous retail frontages without doors are not acceptable.
+ Inward facing retail space that turns its back onto the high street will not be supported.

h.35 Where future uses for ground floor units are not yet defined at planning stage, proposals should demonstrate how proposals can flexibly accommodate a range of uses.

h.36 Where appropriate, operable shop fronts with counter-folding doors are encouraged.

SIGNAGE

h.37 A shop sign should be considered an integral part of any design proposal for a new retail unit, and feature in any pre-application. Signage strategies should be devised to cater for the short, long and medium term, allowing for re-branding and customisation. Specific and inflexible signage solutions are not sustainable in the long term and when shops change.

PRINCIPLE H.2.4: SUPPORTING A DIVERSE OFFER

+ Large retail units should be designed to allow for sub-division and to accommodate a range of different business types and sizes suitable for start-ups, newcomers and specialist businesses and community uses.

h.38 Prime, high-street facing retail should be complemented by secondary retail to ensure that new businesses and specialist businesses have access to affordable retail space.

h.39 Entrances to retail spaces should be at regular intervals. Long and continuous retail frontages without doors are not acceptable.

h.40 Inward facing retail space that turns its back onto the high street will not be supported.

h.41 Large shops like supermarkets or national chains that are unable to make use of window displays should consider sharing retail spaces with smaller retailers, cafes or services providers who can maintain an active frontage onto the high street.

h.42 Where appropriate, operable shop fronts with counter-folding doors are encouraged.

h.43 Where appropriate set-back entrances, in particular combining an external lobby for the business premises with the entrance to the dwellings above are acceptable, and can give the facade greater depth and interest.

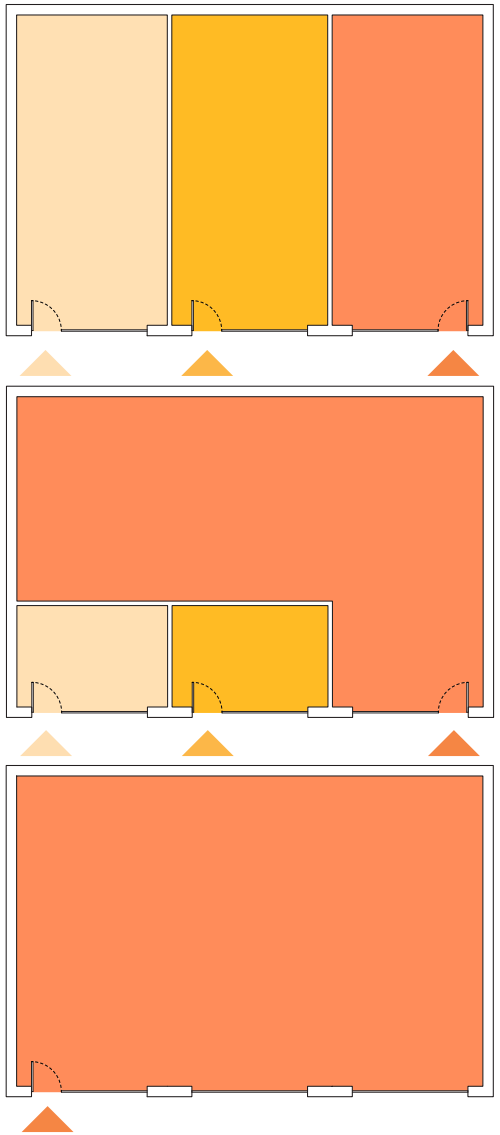


Figure h.4: New-Built. Plan guidance.

New developments should feature a range of retail units including smaller units and units for start-ups.

Large retail spaces should be designed so they can be subdivided in the future. Where large shops are unable to utilise the display space, they should share their frontage with smaller retailers who can maintain an active display.

Continuous retail frontages without doors are inflexible and turn their back to the high street.

PRINCIPLE H.2.4: SUPPORTING A DIVERSE OFFER

+ High streets are highly dynamic retail environments. All new retail space should be designed to be outward-facing with active frontages and displays up to 2-storeys (including lower ground floor level where appropriate).

h.44 Good shop front design in new developments can have a significant impact on the quality and liveliness of public spaces and the high street environment.

h.45 In Royal Greenwich this can include spatial arrangements that create up to 2 storeys of active frontage.

h.46 5m floor-to-floor height is generally appropriate for most ground floor commercial and community uses after factoring in above head servicing.

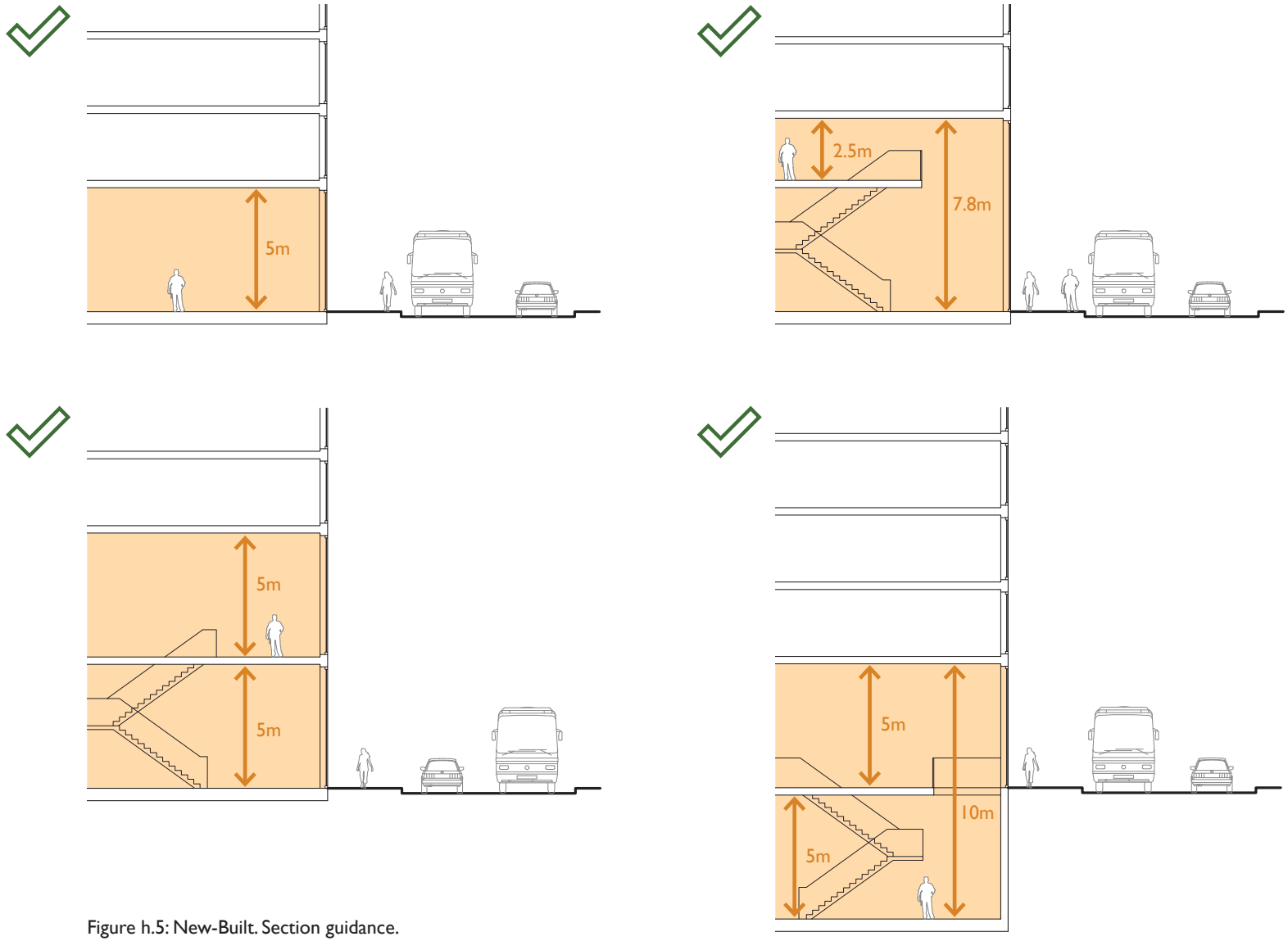


Figure h.5: New-Built. Section guidance.

PRINCIPLE H.3.1:
MAINTAINING THE HIGH STREET RHYTHM AND LEGIBILITY.

+ Works must maintain legibility along high street terraces. Pilasters, columns and party-wall ends, between shops should be maintained in relation to the host-building, rather than individual business. This means they should not be covered or removed; should be kept free of services and signage; should not be 1/2 painted in different neighbouring colours, materials and styles.

h.47 One of the high street's most treasured assets is the individuality and diversity of local businesses. Successful high streets are individual and specific and embrace an agenda of regular change and adaptation.

h.48 The boundaries between shops define the rhythm of the terrace and frame the individuality of signs and shop fronts, ensuring that the facade as a whole can be read as a uniform surface.

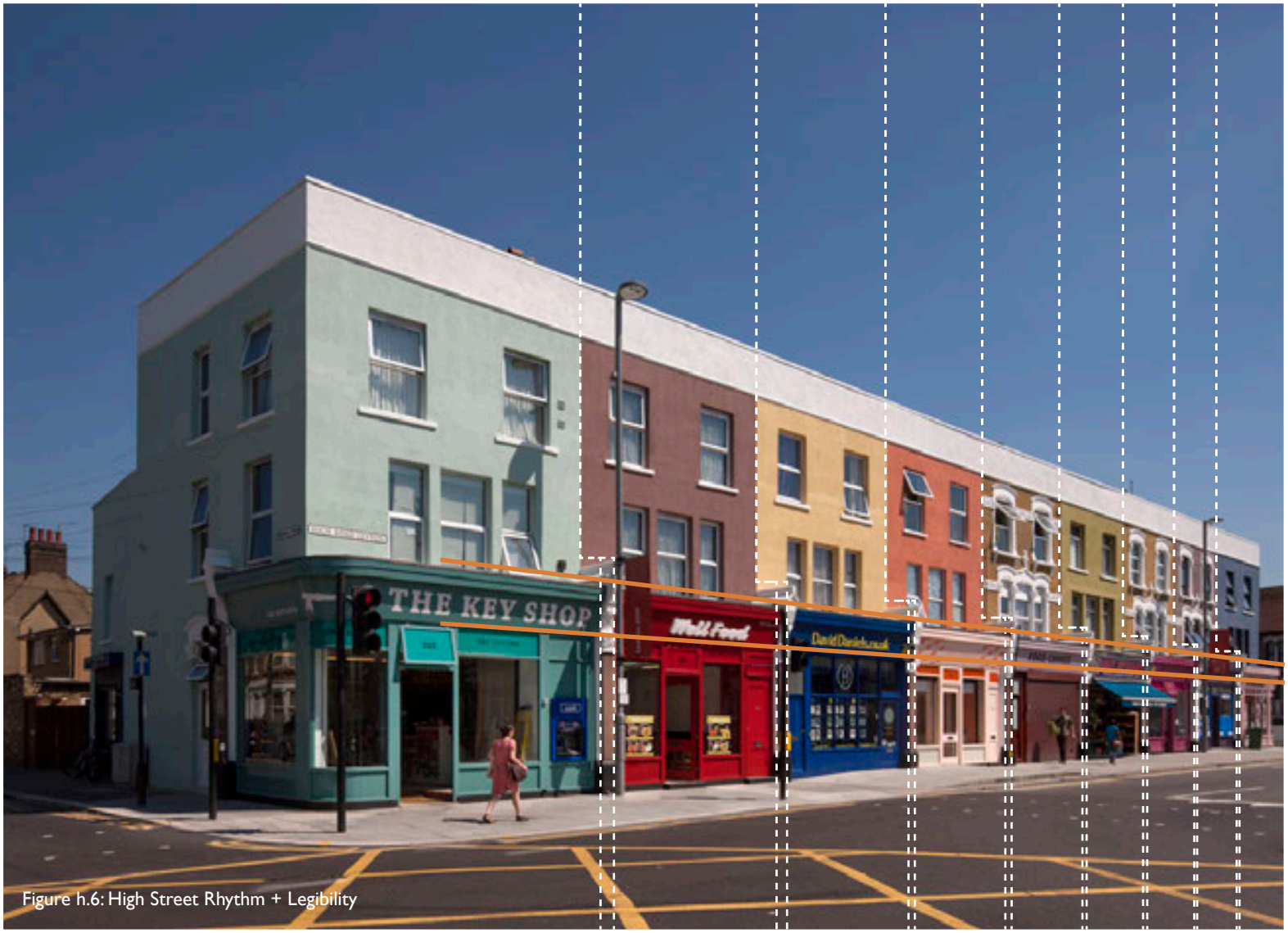


Figure h.6: High Street Rhythm + Legibility

PRINCIPLE H.3.2: HIGH STREET RENEWAL

+ Royal Greenwich supports the investment in the upkeep of historic buildings and building frontages. The repair of historic features, frames, corbels and stall risers can achieve a much greater level of visual enhancement than the wholesale replacement of a shopfront.

h.49 Making the correct decision on renewal or repair and re-decorating can save money and also preserve historic building fabric.

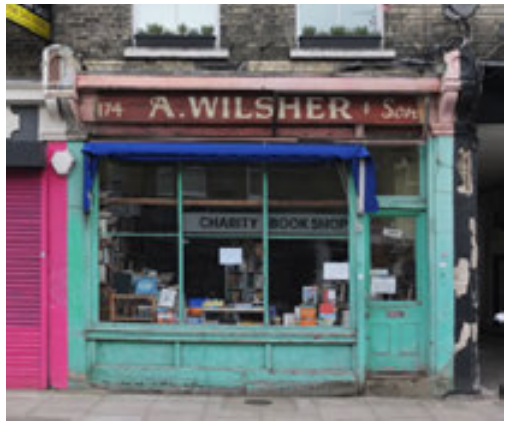
h.50 Investing in a high quality shopfront once and undertaking regular maintenance is cheaper and more sustainable than relying on wholesale shopfront replacement.

h.51 Visual improvements can often be achieved through repairs and adaptations to existing shop fronts. Allowing for this when designing your new shop front has significant, long-term cost benefits and achieves the reduction of construction waste. For more examples see Section H.4.2.

RE-NEW
Works can be 'low cost / high impact' to make tight budgets stretch as far as possible.

REPLACEMENT
Works can be comprehensive and transformative to a business, and provide a long standing high street presence.

PRECEDENT IN PLUMSTEAD HIGH STREET



BEFORE: A tired, poorly illuminated and sparsely-stocked display creates a hostile and uninviting shopfront.

BEFORE: The above shopfront is covered in notices and third party advertisement. This, as well as the semi-solid shutter create a hostile shop front which is not inviting to customers.

BEFORE: The shopfront is in poor state of maintenance. Its signage is awkwardly positioned below the original fascia of the building.

AFTER: The fresh, vibrant contrasting colours and a clear view through the shopfront in a bright, well-stocked shop is the most direct kind of advertising.

AFTER: Interior lighting, an uncluttered display and replacement of the shutter with security glazing advertises the business by allowing the public clear views in from the street.

AFTER: The facade is decluttered, the new windows, door and uprisers provide the shop with a slick finish and high level of transparency from the street.
The signage is coherently repositioned on the interfloor fascia.

Figure h.7: Renewal vs Replacement

PRINCIPLE H.4.1: DESIGNING WITH CLEAR EXPRESSION OF IDENTITY

+ Shop fronts should clearly express the shop's identity and purpose through simple design and graphics, an attractive display, and overall appearance.

h.52 Every business and shop is different. Varying locations and a diverse customer base require individual design solutions.

h.53 The following are examples of great shop fronts where the proportions, colour, advertising, have all been carefully considered and designed, and finished to a high quality. All examples given show refurbished shopfronts where colours have been co-ordinated and historic features repaired.

Bajan Spice in Nunhead has a clear and uncluttered sign with contrasting colours and well-proportioned lettering, with a clear hierarchy between the shop name and secondary information.

The sign of the Projekt Store in Sutton is clear and well-proportioned in comparison to the main fascia sign, using two contrasting colours. The pilasters are kept clear of the individual shop's branding.

The colour scheme of M. Manze in Sutton is simple and consistent, featuring a dark green background with gold lettering. The awning sits below the fascia sign, giving the shop name prominence.

Only 10% of the shop above is covered in vinyl graphics. The shop front is instantly more open and inviting as customers can physically see into the shop. Any third party advertisements are displayed in a designated area.

The sign of Pak Butchers is simple and bold, and contrasts the green background. Secondary information is well proportioned in comparison to the shop name.

Chicken Express sign in Finsbury Park is bold and well-proportion, contrasting the vibrant turquoise background. The sign is "halo" illuminated, giving the shop presence at night.

Figure h.8: Shop front design ideas

PRINCIPLE H.4.2: ACCOMMODATING CHANGE.

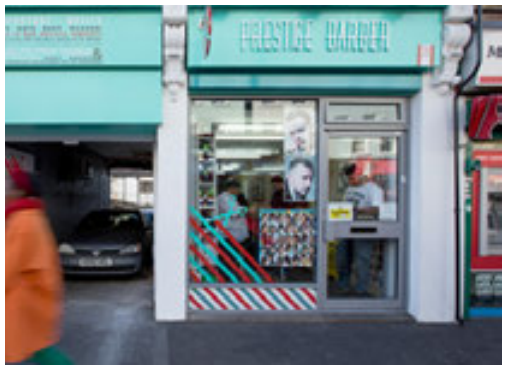
+ A shop front needs to be designed so that it can be customised and to accommodate change. To ensure that a shop front can accommodate change, it will need to be designed:
+ Using low-tech construction methods that allow alteration, adaptation and adjustment by local tradespeople.
+ Using paints/finishes that are changeable so they can be customised with corporate colours.
+ Avoiding large constructional elements (internally illuminated signboxes etc.) that are very specific to a particular business in favour of more customisable/individual elements.
+ Improving your shopfront to be more accessible. For more information see Principle H.4.6 - Being accessible to your customers

Albert & Francis in Leyton provides outside seating. Apart from extra covers, large open windows and carefully conceived interiors, outside seating can attract new customers.

Quality Fish Bar's shopfront features a playful tile pattern which compliments the sign's distinct colour palette, creating an inviting appearance.

Karaho Kulture's sign has bold colours with contrasting white lettering. The shop name is well proportioned in comparison to secondary information.

The large open windows and bright interior of Nunhead Corner, invite people to look into the shop from the street. The shop utilises its forecourt with planting. Festoon lighting above the well-proportioned sign give the shop a distinct appearance on the street.



Prestige Barber's sign takes up two spaces book-ended by historic stucco features. The colour scheme unifies the two signs, while keeping the pilasters and corbels clear. Lighting above the sign give it a presence at night. A projecting sign is integrated with the fascia sign.

Verona's display is kept clear of clutter, allowing customers to see into the restaurant. The playful and consistent colour scheme and tile pattern, as well as the distinct lighting of the sign create an inviting shopfront.

Figure h.9: Shop front design ideas

PRINCIPLE H.4.3: LEGIBILITY AND CONTRAST

+ To ensure that Royal Greenwich's shop signs are clearly legible and inclusive to those with visual impairments, the sign-writing should contrast the background.
+ A muted background colour with vivid and rich font colours, makes the text stand out. A bold background colour with muted text makes the text recede.

h.54 A shop's branding is the first impression that potential customers have on the high street. Well-composed and proportioned text, font, layout, and colour palettes help customers remember and recognise a brand.

h.55 It is often best to limit the number of colours. Working with shades of the same colour is the easiest way of providing your shop front with an appealing colour scheme.

The sign graphics use two complimenting fonts in yellow and white contrasting a muted background. The shop name uses fret-cut wall mounted lettering, while the secondary graphics are painted onto the fascia sign board.

Pak Butcher has a simple colour palette. The shop name is displayed in large letters with secondary information shown in a smaller font. Iconography is combined with text to make the sign more legible.

This sign uses painted lettering on the corner of the white fascia sign board in a contrasting blue colour. The sign uses blue neon on top of the painted lettering to give the shop a presence at night.

Classic Dry Cleaners use a consistent colour palette. In both the projecting sign and the fascia sign, the colours of the lettering contrast the background colour. The colours are inverted on the projecting sign.

Gina has a simple suspended iconographic sign affixed to the fascia board, which communicates the shop's function.

AG flowers has a projecting sign affixed to the brickwork in a palette which contrasts the building, making the sign more visible.

Figure h.10: Signage design ideas

PRINCIPLE H.4.4: APPROPRIATE SCALE OF TEXT

+ Royal Greenwich will resist overtly large letters that are hard to read from the pavement. Fascia lettering of between 250mm and 350mm will read well from street level and from across the road if the correct font and colours are selected. Where the size of the fascia is defined by the building typology or detailing, the font size should be proportionate to the fascia.

h.56 Bigger is not always better. A sophisticated and proportionate font size will ensure that your shop name communicates well.

h.57 A carefully considered hierarchy of lettering on the fascia sign will ensure clear messaging. The shop name should always be the largest font size. Secondary information such as telephone numbers, house numbers or a website address can be added to the sign in a smaller font.

Figure h.11: Signage design parameters

Fascia lettering of between 250mm and 300mm will read well from street level and from across the road if the correct font and colour are selected. Where the size of the fascia is defined by the building typology or detailing, the font size should be proportionate to the fascia.

Bigger is not always better. Overtly large letters are hard to read from the pavement.

The shop name should be immediately identifiable and always be the largest font size. Any secondary information should be kept to a minimum and added to the fascia sign in a smaller font. The house number should always feature in the top left or right corner.

An overload of secondary information creates a crowded fascia sign which can be hard to read. The shop name can also become lost if it is overpowered by secondary information in large fonts.

Additional information can often be applied to glazing using vinyl lettering.

PRINCIPLE H.4.5: DISCREET LIGHTING

+ External illumination in the form of LED-strip or trough-lighting or halo-illumination is acceptable. However, fittings must be detailed in a way to look discreet and fully integrated within the overall design of the signage.

+ Internally illuminated signs are generally not supported within conservation areas.

+ Swan-neck lights and their connecting framework are visually obtrusive and are no longer considered acceptable in conservation areas.

+ Advertisements displayed inside the building and visible externally should generally not be illuminated and will require planning permission.

h.58 The following types of lighting are generally acceptable in conservation areas, subject to the following conditions:

Halo-illumination - Provided the lighting is discreet and the depth of the lettering is relatively shallow.

Strip Lighting - Preference is for a narrow strip of lighting or LED tape which should be positioned directly beneath the cornice, so that it is mostly concealed from view.

Trough lighting - Directly concealed beneath the cornice. If this is not possible, a discreet trough, which is flush with the fascia and not projecting, may be suitable. The trough surround should match the fascia in terms of material and colour.

Lighting on projecting signs - External illumination in the form of discreet trough lighting, positioned flush with the bracket or halo-illuminated lettering are acceptable provided they are well integrated within the overall design of the signage.
Trough lighting where the lighting projects out either side of the bracket is not considered acceptable.

Fascia - Halo illumination
In this example, the lighting is discreet and the depth of the lettering is relatively shallow.

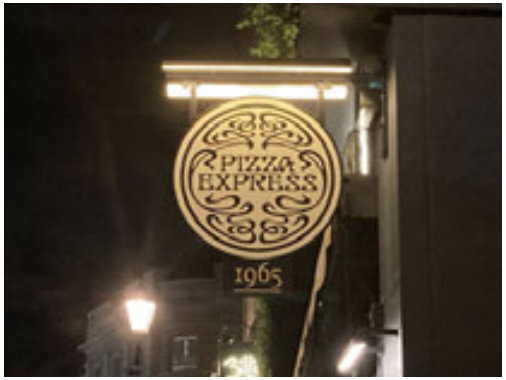
Fascia - Strip lighting
Lighting is carefully integrated and partially concealed within the overall design of the fascia.

Fascia - Halo illumination
The lettering is too deep and bulky.
The lighting is overdominant.

Fascia - Swan neck lighting
Swan-neck lights and their connecting framework are visually obtrusive and are no longer considered acceptable in conservation areas.

Figure h.12: LIghting design

Fascia - Trough lighting
This lighting looks discreet, and well integrated with the detailing of the fascia.



Projecting signage
Lighting is carefully integrated within the overall design of the signage.

Internally illuminated fascia signage

Fascia - Trough lighting
In this example, lighting is too invasive, as it visually projects out of the fascia.

Projecting signage
In this example, the projecting metal structure and lighting are too dominant

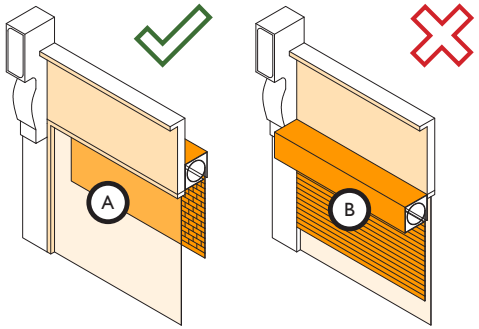
Internally illuminated projecting signage

Figure h.13: Lighting design

PRINCIPLE H.4.5: SHUTTERS AND SECURITY

+ Shop front security is paramount. An ill-conceived and overambitious security strategy is expensive, can encourage anti-social behaviour and have a detrimental effect on trade.
+ Royal Greenwich will not support the use of solid or pinhole external roller shutters as they have a hostile appearance on the high street. Typically, only open mesh / grill shutters will be supported.
+ Protruding shutter boxes will also be rejected as they can obscure shop signage from the pavement - even when the shutter is open, and they collect dirt and can cause water ingress.

Figure h.14: Shutter box arrangment



h.59 There are a range of secure and cost-effective alternatives to external roller shutters:

h.60 'Toughened Glass' is heat treated and more durable than regular glass.

h.61 'Laminated Glass' is the most commonly used security glass in the UK. It is a composite material comprising two layers of glass bonded together with a layer of resin. Various thicknesses are available to account for varying pane sizes and security needs. Laminated glass of the appropriate thickness cannot be broken through with hand tools.

h.62 'Clear, Self-Adhesive Security Film' is applied to existing glass to upgrade its integrity. Special films applied to the outside of the glass can also protect against scratches, marks + graffiti.

h.63 If a roller shutter is unavoidable, anecdotal advice from the Metropolitan Police states that the use of 'Internal Roller Shutters' helps to reduce crime and anti-social behaviour on the high street. The following considerations can help to save money and ensure a coherent design.

h.64 Can the shutter be reduced in width to only cover the door? Most burglars in the UK gain access to premises via a door and very few burglaries occur through shop windows. A roller shutter on the inside of the door will help prevent break-ins through the door whilst maintaining a visible display, advertising the shop at night.

h.65 Can the shutter be set-back from the shop front? An internal shutter is protected from the elements. Weather protection can extend the life expectancy of the mechanical and electrical parts which operate the shutter. A set-back shutter allows clear view of the shop display even when the shutter is closed, advertising the shop at night.

h.66 A coloured shutter will attract attention and dominate, whilst a black shutter will fade into the background, giving emphasis to the shop front and display.

h.67 Leaving (low energy) light on inside the shop display at night will help to deter burglars while creating a friendly and welcoming appearance.

Figure h.15: Interior open grill/mesh

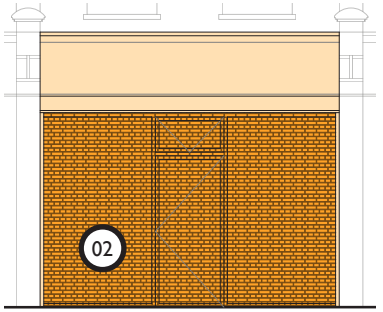


Figure h.16: Exterior open grill: ** Not advised, but could be accepted if replacing solid or pinhole external shutters*

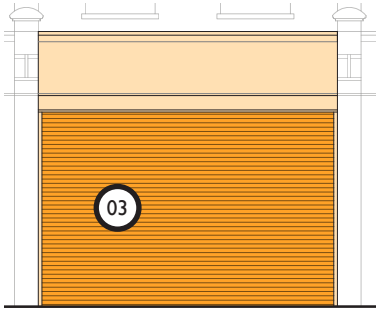


Figure h.17: Solid or pinhole shutters

PRINCIPLE H.4.6: BEING ACCESSIBLE TO CUSTOMERS

+ Entrance doors must be sufficiently wide to ensure access for wheelchair users, mobility scooters and prams. The width of all new shop entrance doors should comply with the provisions of the Building Regulations.
+ All new shops must be designed with a level threshold to the pavement.
+ Where a new shop front is proposed for a premises with an existing, stepped entrance, appropriate adaptation should be made to provide a ramped access in accordance with the Building Regulations.
+ Where ramped access to an existing retail unit would impact on ease of movement or would unreasonably impact on the existing retail/display space, an access statement with an alternative access strategy should be included with the planning application. Alternative access strategies may include portable ramps or automatic door openers.

h.68 Many buildings, in particular from the 18th and 19th centuries have raised ground floors. Stepped entrances can create barriers for people with limited mobility.

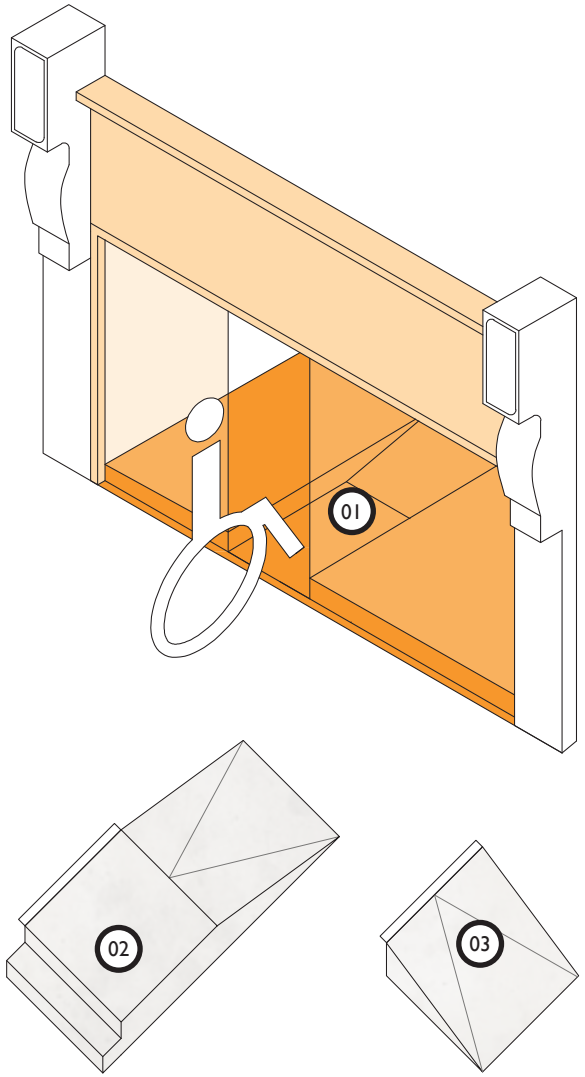
h.69 The Disabilities Discrimination Act 1995 (DDA) provides the legislative framework by which the government seeks to ensure that all persons are treated equally - irrespective of any disabilities. A high street business would - in the context of the legislation - need to ensure that they put measures in place to provide the same services to all customers.

h.70 Aside from complying with regulations and best practice, a business that's accessible to all will increase its customer base.

RAMP OPTIONS

01	access with internal ramp
02	removable ramp + steps
03	removable ramp

Figure h.18: Accessibility options



PRINCIPLE H.4.7: DESIGNING YOUR DISPLAY

+ Views into shops should not be overly restricted with cluttered displays or large expanses of opaque vinyl graphics + posters.
+ Displays should be carefully considered and internally illuminated to best advertise the business both in the daytime and after dusk, in support of Royal Greenwich's evening economy.

h.71 Notices and posters on windows are commonly used to advertise new services and special offers. Too many notices and/or a poorly conceived arrangement of notices in the window can create a messy appearance and confuse customers. Notices and posters also cut out daylight, creating dead frontages that make the shop interior appear dark and unattractive from the outside.

h.72 There are alternatives to affixing paper on the inside of the glass. Consider the use of advertising set back from the glass.

h.73 For shops that have regular/changing special offers, consider a chalkboard as part of the shop display. To display posters, consider a suspended acrylic poster holder. Digital displays or pegboard lettering is an effective means to capture customers' attention.

h.74 When fixing vinyl to the inside of the glass, don't apply opaque sheets, instead use individually cut out lettering or graphics to allow light and views in.

TABLE H.4.7

✓	✗
Select items and services that best promote your business.	Do not place shelving and storage right up against your glazing. This can block views and light..
Consider how the branding and colours of your display can complement the branding of your fascia signboard	Avoid cluttering your display with too much information. A long list of available services will often be ignored..
Consider a pavement licence and use your forecourt to create a lively display and attract new customers.	When utilising forecourts, do not block people's way or make it difficult for customers to find their way through into your shop. Carefully consider how much you are displaying. Less is often more.
Maintain and update your display with new products and seasonal offers.	

✓ A tidy and well thought-out fruit and veg display makes a good impression and helps with stock management.

✓ A well designed and tidy display which still allows for views through to the shop can invite passers-by.

✗ 60% of this shopfront is covered in large vinyl. The logo is unnecessarily repeated and there is a large amount of secondary information which can confuse customers.

✓ A well designed illuminated sign on the inside of the glass can attract people's attention. However, this should be generally avoided in conservation areas.

Figure h.19: What makes a good display

PRINCIPLE H.4.8: DESIGNING YOUR FORECOURT

+ Forecourt seating should be moveable and not obstruct the pavement or access to your shop.
+ In some cases, utilising your forecourt might require a license and/or planning permission.

h.75 Occupying the forecourts in front of your business can help to create a lively and bustling high street and also advertise and attract new customers.

h.76 The forecourts can be activated using moveable furniture, chalkboard signs or product stands. These should not obstruct the pavement and should be either secured or taken inside your shop at closing time.

h.77 Shopowners should note to occupy a forecourt you may require a license. Planning permission might also be required, especially if the forecourt design includes permanent structures.

This shop utilises its forecourt with a bar which allows the customers to interact with the shopfront. This, as well as the large open windows which create views through the shop can attract more customers.

Tidy and well-stocked fruit and veg stands give a good impression.

Providing movable planting outside an unobstructed shopfront entrance can attract passers by.

Benches outside a shop gives a welcoming impression for customers while they wait and can accommodate additional customers while they wait for a table.

Outside seating can attract new customers and provide extra space on tight urban sites.

Movable seating and tables in the forecourt, large open windows can give an inviting appearance.

Figure h.20: How to utilise my forecourt

PRINCIPLE H.4.9: MAINTAINING AN ACTIVE FRONTAGE FOR NON-RETAIL USE

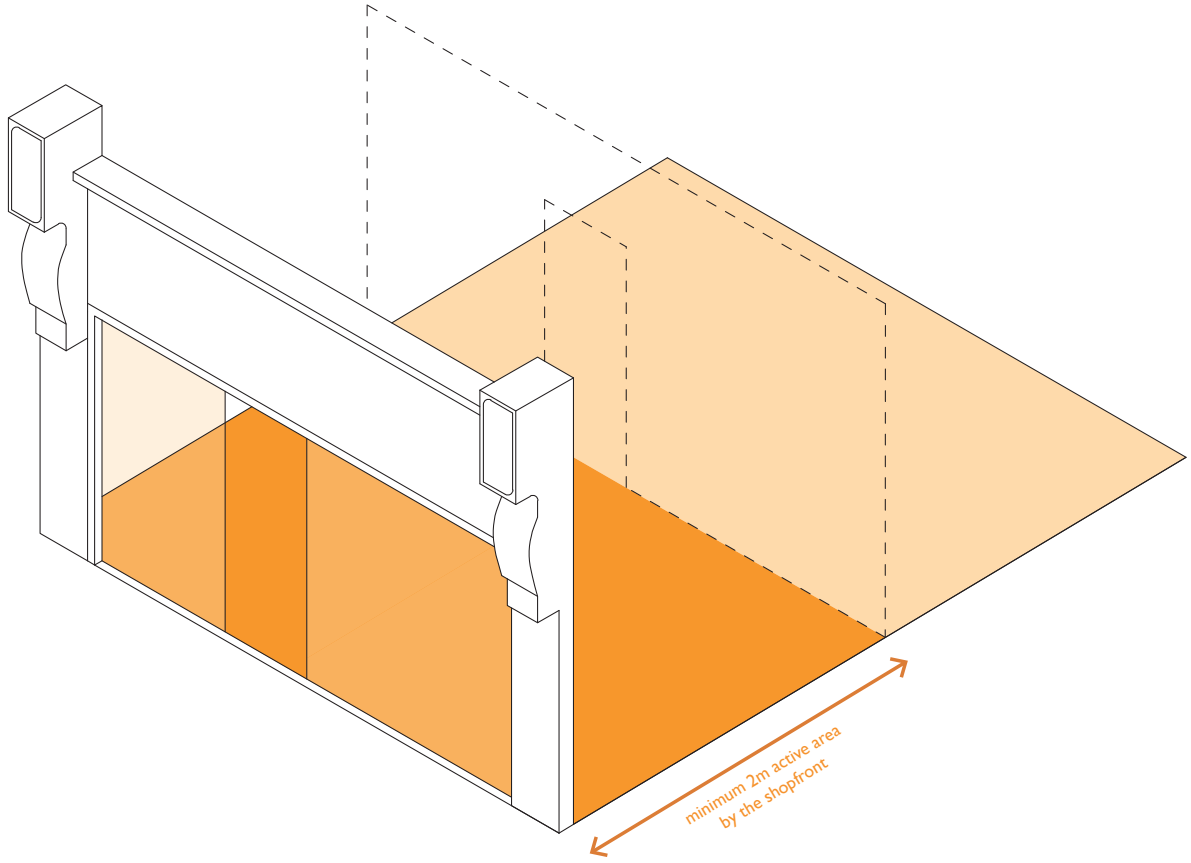
+ A diverse offer on the high street secures its success into the future. The Royal Borough supports the diversification of high street premises to include community facilities and workspaces. However, not all uses are compatible with retail premises.

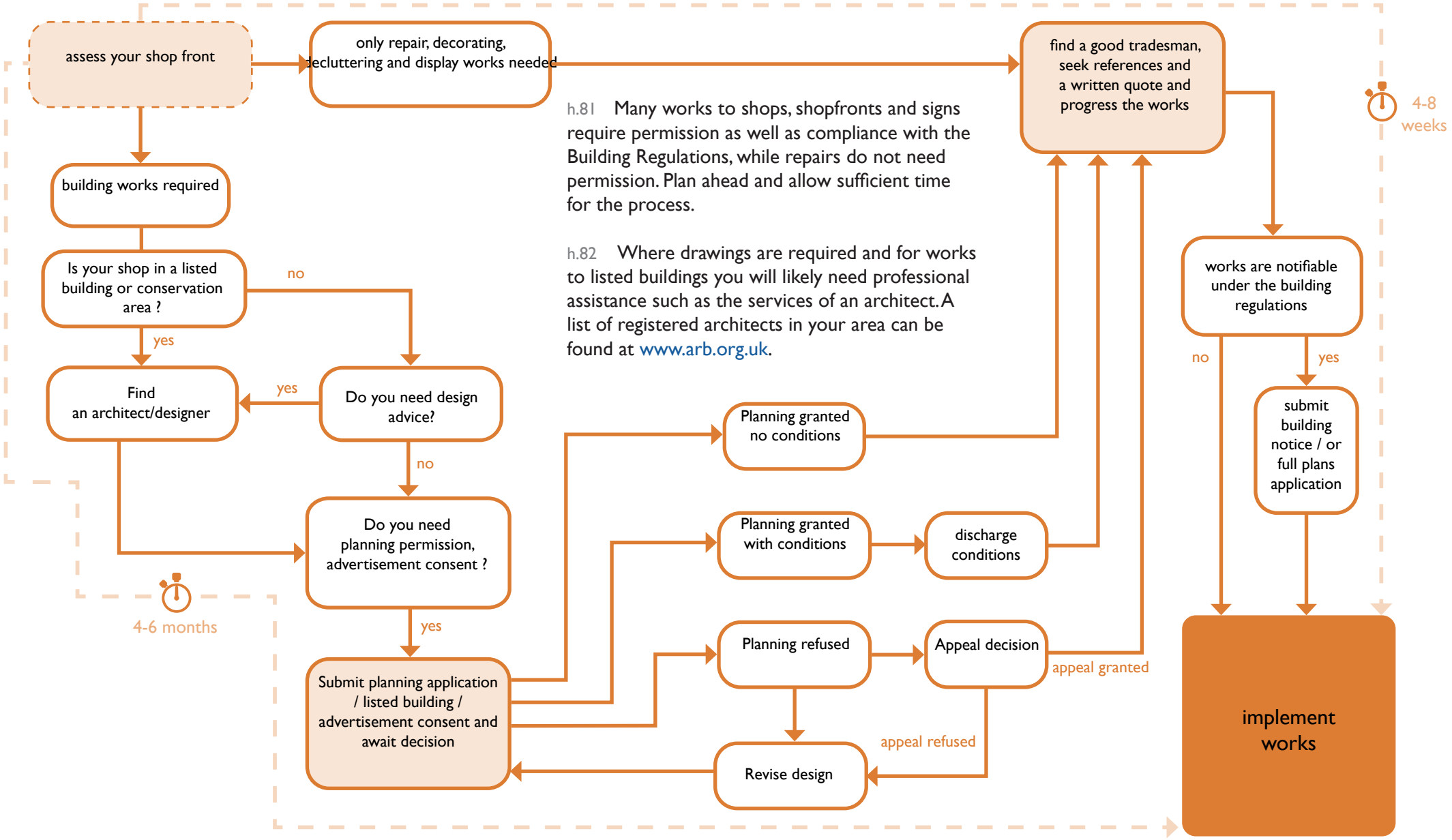
h.78 Any alternative uses taking up retail premises must maintain an active frontage + display min. 2m into the depth of the unit.

h.79 Blocking up shopfronts or obcuring windows is not acceptable and can create an unpleasant, passive street environment.

h.80 Non-retail users should consider locating the public functions of their operation near the shop window. This can include a reception desk, waiting area or display.

Figure h.21: Maintaining an active frontage, for non-retail use.





h.81 Many works to shops, shopfronts and signs require permission as well as compliance with the Building Regulations, while repairs do not need permission. Plan ahead and allow sufficient time for the process.

h.82 Where drawings are required and for works to listed buildings you will likely need professional assistance such as the services of an architect. A list of registered architects in your area can be found at www.arb.org.uk.

CHAPTER I

HOUSEHOLD EXTENSIONS AND ALTERATIONS

I HOUSEHOLD EXTENSIONS AND ALTERATIONS

The single greatest land use in Royal Greenwich is housing. There were 106k households in the borough in 2017.

Domestic extensions are an important means to account for the changing needs of families in the borough and they are a sustainable way to increase density and to provide additional living space.

A well thought-out and carefully planned extension can add value to a property, while a poorly conceived alteration or an extension built without the appropriate consent in place can be detrimental to the property value, streetscape, character and amenity of neighbours.

This guide has 4 sections intended to assist householders in making successful planning applications which cover: an overview of common housing typologies; design principles; typological design considerations; a check list for planning applications.

Back to document index

DESIGN PRINCIPLES	pg.	Large scale comprehensive new development	Large and medium sized urban infill sites	Housing estate renewal	(re)development or adaptation of small urban infill sites or single buildings	Household extensions	Shopfront improvements
		DEVELOPMENT TYPE					
I.1.1 Permitted Development Rights	262					●	
I.1.2 Housing Typologies In Royal Greenwich	263					●	
I.2.1 Design Principles: Impact on Others	265					●	
I.2.2 Design Principles: Scale and Massing	267					●	
I.2.3 Design Principles: Materials	268					●	
I.2.4 Design Principles: Preserving Heritage	270					●	
I.2.5 Design Principles: Protecting Amenity and Biodiversity	271					●	
I.2.6 Design Principles: Carbon Reduction	273					●	
I.3.1 Extension Type: Loft/Roof Extensions	274					●	
I.3.2 Extension Type: Side Extensions	279					●	
I.3.3 Extension Type: Rear Extensions (Single Storey)	282					●	
I.3.4 Extension Type: Rear Extensions (Double Storey)	285					●	
I.3.5 Extension Type: Outbuildings	288					●	
I.3.6 Extension Type: Front Extensions	289					●	
I.3.7 Extension Type: Basements	290					●	
I.3.8 Residential Conversions	293					●	
I.3.9 Houses in Multiple Occupation	295					●	
I.4.1 Planning Checklist	297					●	
I.4.2 Planning Process	298					●	

PRINCIPLE I.1.1: PERMITTED DEVELOPMENT RIGHTS

+ Where works are deemed to be covered under 'permitted development rights', householders are still expected to follow best practice as described in this guide.

i.1 Certain alterations and extensions are covered by permitted development rights and do not require planning permission.

i.2 For more information on what works are covered under permitted development rights please visit the 'Planning Portal Website' where you can find an 'Interactive Guide' on common elements, changes and adaptations. In conservation areas certain permitted development rights have been removed, as specified in the Heritage Matters box aside. If in doubt whether your specific proposal constitutes permitted development you can apply for a certificate of lawfulness through the Council's prior approval process.

i.3 For more information please also visit the 'Technical Guidance on Household Permitted Development Rights'.

i.4 The guidance set out in this section represents good practice and should also inform proposals that fall under permitted development rights.

HERITAGE MATTERS:

i.5 Householders should note that for properties located within a Conservation Area, certain developments that would normally be allowed under permitted development are not permissible and require planning permission (eg. loft conversions which include dormer windows).

i.6 In certain conservation areas 'permitted development rights' have been removed completely by an Article 4 Direction. This can include a change of use as well as physical works.

i.7 For more information on Royal Greenwich's conservation areas and where Article 4 Directions apply please visit: 'Protecting the Character of Local Areas' and 'Article 4 Direction Areas' on the Council website.

i.8 Statutory listed buildings may have permitted development rights if they are residential properties. However listed building consent must still be sought for all listed buildings. It is a criminal offence to carry out work to Statutory Listed buildings without the necessary consents. For more information visit: 'Historic England'

i.9 For more information on the types of consents required for Listed Buildings please visit: 'Works to Listed Buildings'.

i.10 Applicants should also verify if their site sits within an Area of High Archaeological Potential, as shown on Figure 4 of the current RBG Core Strategy, to establish whether archaeology is a consideration that requires consultation.

i.11 The Greenwich Character Study identifies a number of typologies that define the residential neighbourhoods in the borough. Understanding the specific characteristics such as typical roof form, facade arrangement and materiality of each typology is a prerequisite to establishing an appropriate design approach for an extension.

i.12 A design for an extension may be appropriate for one typology but entirely inappropriate for another typology. Unusual typologies such as corner buildings and listed buildings require a bespoke approach that responds appropriately to their form, arrangement or historic significance.

Figure i.22: Housing typologies in Royal Greenwich

DETACHED / SEMI		FLAT	
PRE 1919	1919 - 1950	PRE 1919	POST WAR
			
			
Villas / Semi-Detached	Suburban Semi-Detached	Mixed Use (above a shop)	Post-War Slab Block/Mid-Rise
Villas / Semi-Detached	Suburban Estates	Mixed Use (above a shop)	Post-War Low Rise


Image i.1: 1919-1950. Detached


Image i.2: 1919-1950. Semi Detached


Image i.3: 1919-1950. Suburban Estate


Image i.4: Post- War. Low Rise

TERRACE

PRE 1919		1919 - 1950		POST WAR	1970 +
					
					
Terraces (large properties)	Terraces (small properties)	Suburban Estates (Classic)	Suburban Estates	Low Rise / Mixed Typology	Modern Suburban
Terraces (small properties)	Terraces (large properties)	Suburban Estates (Classic)	Suburban Estates	Low Rise / Mixed Typology	Modern Suburban


Image i.5: Pre-1919. Terrace (small properties)


Image i.6: Pre-1919. Terrace (large properties)


Image i.7: 1919-1950. Suburban Estate


Image i.8: Post 1970+ . Modern Suburban

i.13 Proposals must demonstrate that they would not result in an unacceptable loss of privacy to neighbouring properties or gardens. This is a particularly important priority when designing double-storey extensions. Window positions, angles, distance and orientation are fundamental considerations. Individual site context and any natural screening from 'evergreen' planting can be taken into account.

i.14 The same scrutiny applies to roof terraces and balconies that extend beyond the building line, which would also be required to demonstrate that there is no unacceptable loss of privacy.

i.15 As a general principle, proposed extensions should not significantly overshadow windows to neighbouring habitable rooms, private gardens or terraces, nor should the extension have a significant negative impact on daylight received.

i.16 Habitable room is defined as any room used or intended to be used for sleeping, cooking, living or eating purposes.

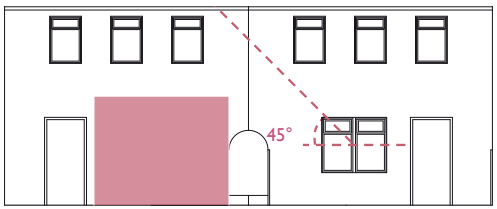
i.17 Where appropriate it is encouraged that the BRE 'Site Layout Planning for Daylight and Sunlight' guidance is used to assess impact to daylight. The diagrams below set out the general 25° and 45° guidelines on when a detailed daylight and sunlight study may be required.

i.18 Extensions that create an unacceptable sense of enclosure and

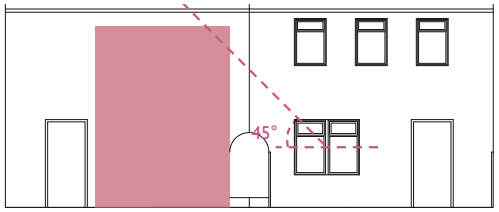
PRINCIPLE I.2.1:
IMPACT ON OTHERS

+ An extension will only be granted permission if it does not create an unacceptable level of impact on neighbours' daylight, sunlight, overshadowing and privacy.

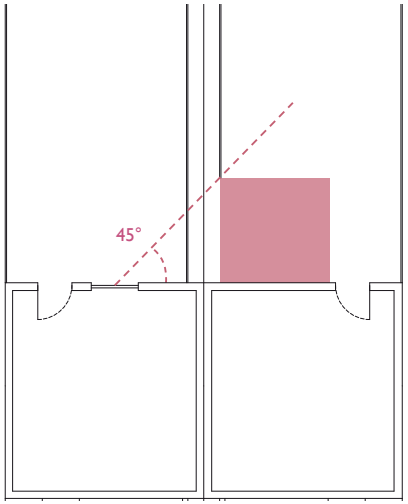
Figure i.23: Design Principle: BRE 45⁰ guidelines



Daylight and sunlight likely to be acceptable

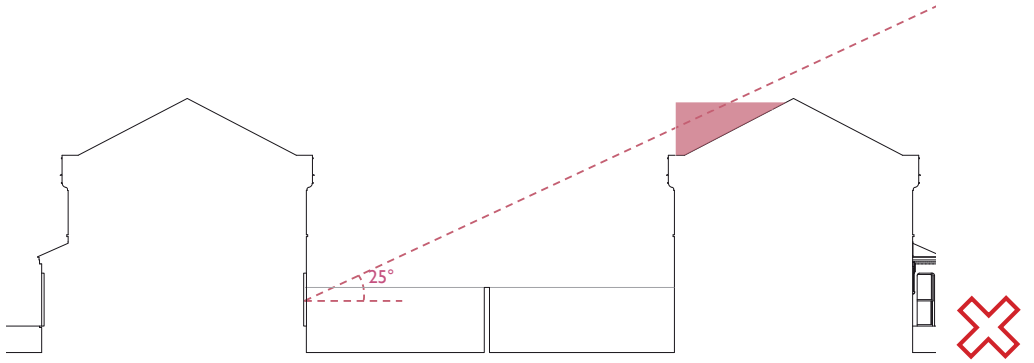


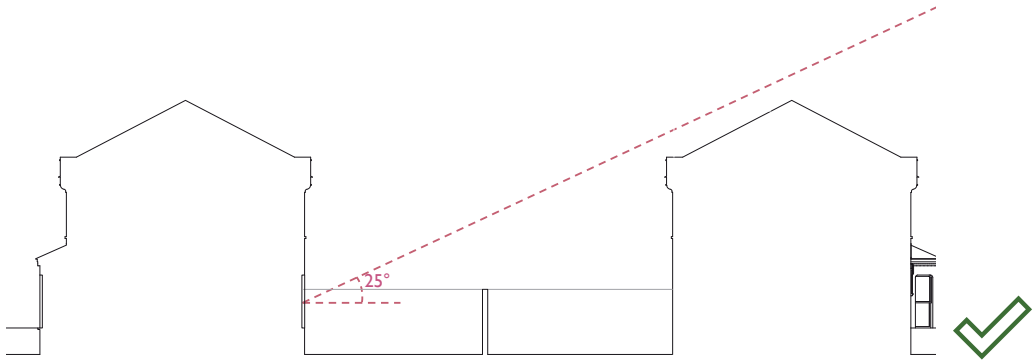
Detailed daylight and sunlight study required



Daylight and sunlight likely to be acceptable

Figure i.24: Design Principle: BRE 25⁰ guidelines





level of overshadowing, extensions that dominate principal views from neighbouring windows, and extensions that appear unsightly or overbearing from the neighbouring properties or gardens are unlikely to be granted permission.

i.19 It is expected that the greatest part of any overshadowing caused by a new extension should be confined to the applicant's own land. Two storey extensions are more likely to cause issues with overshadowing because of their height, size and orientation.

i.20 Windows should not overlook or increase existing overlooking of a habitable room or garden of a neighbouring property and as a general rule there should be no new windows above ground floor level in any side wall directly facing and within two metres of a neighbouring property. Any windows to the side of a property may be acceptable if they cannot be opened and are obscurely glazed up to 1.7m (when measured from finished floor level) .

i.21 Extensions that dominate the existing building in height, bulk or area are not supported. A simple, contemporary form is often preferable, in particular where the existing building has decorative facade features or a complex roof form.

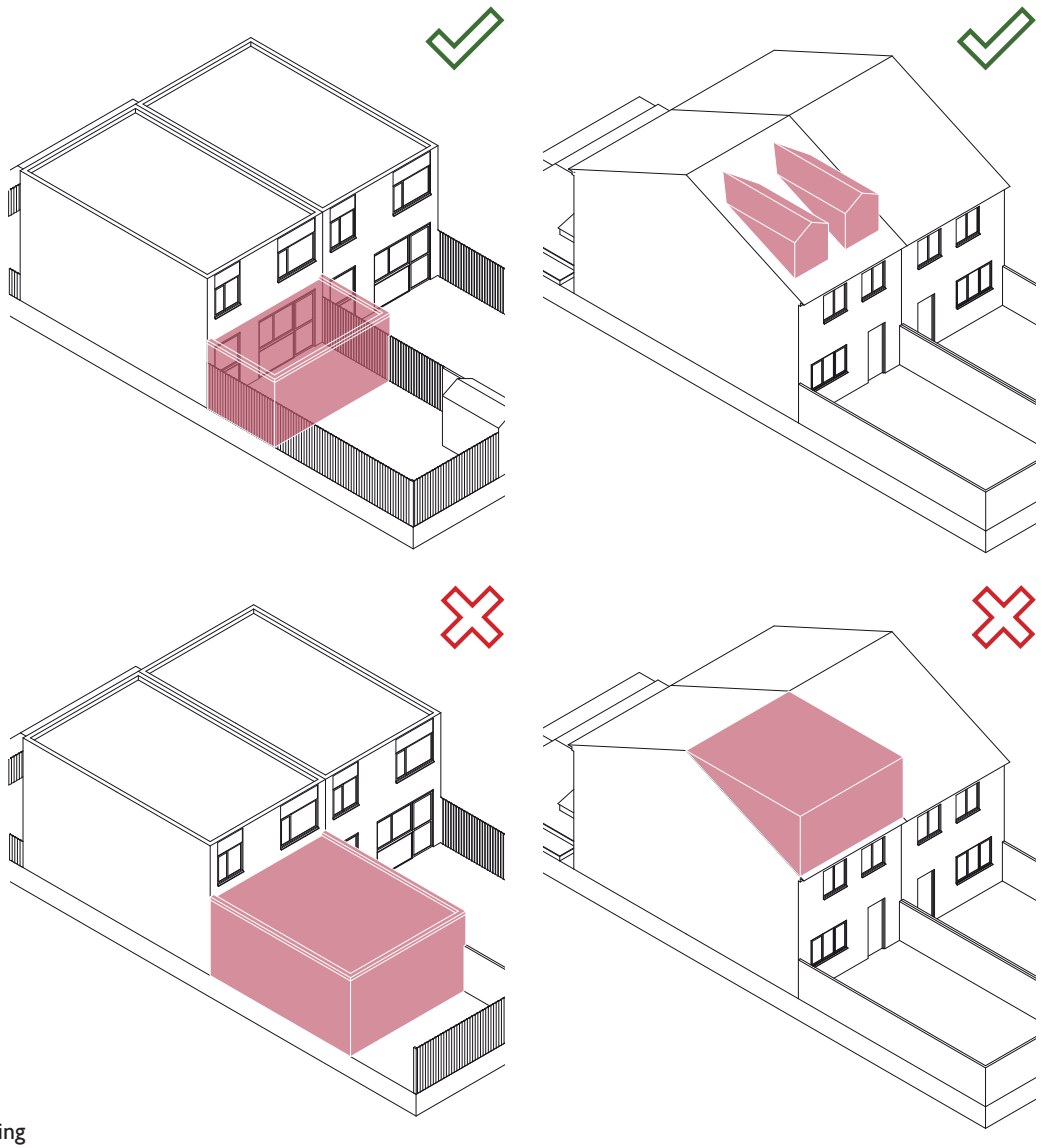


Figure i.25: Design Principle: Appropriate scale + massing

PRINCIPLE I.2.2:
SCALE + MASSING

+ The need for more space must be proportionally balanced with the existing floor area and volume of the dwelling and any adjacent land or garden.

i.22 The materials chosen for an extension are very important and should aim to be of high-quality and well integrated with the existing property.

i.23 Reclaimed and re-used materials are supported where compatible with the proposed use and the existing building.

i.24 Cladding materials such as zinc, copper, slate or glazed bricks, with minimal, contemporary detailing are supported if associated with the highest quality of architecture and detailing, in order to create a contrasting, nevertheless well integrated foreground, to the features of the host building. Sympathetic materials to the host building are acceptable in principle. The proposed architecture should be contemporary in character and avoid any undesirable pastiche effects.

i.25 Some external alterations may fall under Permitted Development, and as such may not require planning permission. However, it is recommended to liaise with the Council for external wall alterations to a property if the external materials used change the

contrasting contemporary material: Metal standing seam roof beside original painted brick | Robert Dye Architects

contrasting contemporary material: dark timber slats beside original brick | Russell Jones

contrasting contemporary material: timber shingles beside original brick | Marta Nowicka, Photographer: Wojciech Ketz

complementary materials, but contrasting contemporary detailing | ZCD Architects

Figure i.26: Design Principle: appropriate material examples

PRINCIPLE I.2.3: MATERIALS

+ Two alternative approaches could prove applicable: either sympathetic or complementary to the host-building. However, both approaches will be subject to the proposed quality of architecture, materials and detailing. All materials used should be of the highest quality, sustainable, durable, and age well.
+ Re-used or existing materials should be considered at the outset of the design. Recycled and low embodied carbon materials should be used to limit the carbon impact of the development.

colour or texture of the existing property.

i.26 In most cases, windows and doors should be of the same proportions, materials and style as those in the existing building, in order to preserve the original character. In addition, windows should be positioned to match the symmetry of those in the existing building.

i.27 Further, useful guidance on materials can be found in the following documents:

Further Guidance -

+ Royal Borough of Greenwich Carbon Neutral Plan
+ Greater London Authority (2020) Whole life cycle carbon assessment
+ LETI (2020) Climate Emergency Design Guide
+ LETI (2020) Embodied Carbon Primer
+ LETI (2021) Whole Life Carbon

HERITAGE MATTERS

i.28 Extensions should respect the original architectural features and detailing of the dwelling and should be well integrated with the host dwelling in terms of windows, doors, openings, roofs and materials. UPVC replacement windows and doors are discouraged, except when replacing like-for-like UPVCs. When planning permission is required for replacement windows and doors in conservation areas, UPVC replacements will generally not be supported.

i.29 In conservation areas, where the proposal for the exterior of the house includes cladding of any part of the house or replacing external cladding with stone, artificial stone, pebble dash, render, timber, plastic or tiles the proposal will need planning permission rather than a certificate of lawfulness. Please refer to the adopted conservation area Character Appraisal and Management Strategy (CAMS) where one is in place for further guidance on external wall materials and colours.

i.30 Listed building consent is required for interventions on statutory listed buildings that might affect their significance, including on their facade.

i.31 The preservation of the character, materials and significance of the exteriors of locally listed buildings is also strongly encouraged.

i.32 Where proposals include the alteration of historic fabric, they need to be considered with great care and include compensatory measures such as the repair or reinstatement of other historic features.

i.33 Extensions should be designed to work harmoniously with the host historic building. Roof extensions such as dormers will only be considered at the rear of the roof slope and should, where permitted, be designed to replicate the historic style of the building. The design approach of any extension should look to complement but not detract from the existing building.

i.34 In some circumstances a simple and contemporary design approach that quietly contrasts but does not detract from the existing building, may be appropriate.

HERITAGE MATTERS

i.35 Listed buildings are particularly sensitive to alterations. There are two types of listed building, locally listed and statutory listed.

i.36 Statutory listed buildings are afforded a higher degree of protection than locally listed buildings and any alterations, including to the interior of a statutory listed building requires listed building consent.

i.37 Proposals for external alterations, internal alterations or additions to statutory listed buildings should respect the integrity of the building and harmonise with their architectural character. Development should not detract from the setting and proportions of a listed building.

i.38 Locally listed buildings should be protected and their character preserved. Proposals for unsympathetic alteration of locally listed buildings will be resisted.

i.39 Interventions on other non-designated heritage assets as identified by the Council are also encouraged to follow the general guidance in these grey boxes.

PRINCIPLE I.2.4: PRESERVING HERITAGE

+ Royal Greenwich has a remarkable heritage. Its built environment, including residential neighbourhoods, streets, terraces and individual homes make an important contribution to the character of the borough. Proposals for extensions and alterations to listed buildings or locally listed buildings must demonstrate that they are not detrimental to the existing building or street scene.

i.40 Rear extensions must not compromise external amenity space and should seek to preserve a useful and proportionately sized outside space in relation to the intended number of occupants of the dwellings that use the garden.

i.41 No less than 50% of the original rear amenity space should be retained by any new extension, cumulatively with existing extensions. For local areas with particularly large gardens, this key spatial characteristic should be preserved.

i.42 Gardens provide natural surface water drainage which helps to prevent flooding. Attention should be paid to compensate a reduction of garden space with biodiversity and flood prevention improvements elsewhere, such as removal of forecourt car parking, tree planting, green roofs, SuDS or biodiversity enhancements in the remaining garden.

i.43 For more information on the design of green roofs or living walls refer to the practises set out in the forthcoming Climate Resilience SPD.

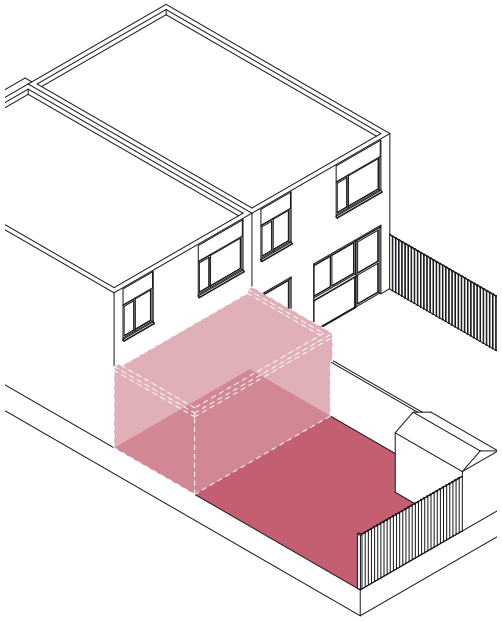
i.44 Rainwater collection by means of a rainwater butts should be considered, in particular where extensions will increase the amount of rainwater run-off from the site.

i.45 Driveways must remain permeable to mitigate flood risk. If you wish to replace your driveway, materials such as gravel and permeable paving grids should be used. In all cases, including those incorporating up to 5sqm of impermeable paved area within Permitted Development rights, proposals should be designed to effectively direct water from the hardstand into a border of vegetation or soakaway. Planning Permission may be required if you are intending to replace your driveway.

i.46 The use of materials such as bee, bird and bat bricks is strongly encouraged in any new extensions or home improvements, as they help to increase biodiversity within the building fabric.

i.47 Trees are an important part of the natural environment and some trees are protected. Works to a tree may require permission; therefore before undertaking any works the applicant must check if a

Figure i.27: Design Principle: Minimum amenity



A minimum of 50% of the original rear amenity space should be retained

PRINCIPLE I.2.5: PROTECTING BIODIVERSITY

+ Gardens are an important asset in urban areas. They contribute to the character of a neighbourhood, provide important amenity space, support biodiversity and help to mitigate flood risk, and should therefore not be compromised by an extension.
+ Trees provide a vital habitat for wildlife and contribute significantly to the character of Royal Greenwich. Some trees are protected and works to a tree may require permission. If any trees are to be felled in a garden, two young trees should be planted to replace the habitat lost, however this will depend on existing site constraints and landscaping provision.
+ Native species should always be prioritised and where possible should be of the same species as the tree that is being felled.

tree is in a conservation area, if it has a Tree Preservation Order (TPO) attached to it or if the tree has been protected by a planning condition. Further information can be found on the Royal Greenwich website.

i.48 Existing trees should be shown on plans. If there are trees close to your proposed extension you will also be expected to protect them and their root systems during the construction process. For example, no work should be undertaken within the root protection area of the tree and the roots should be protected with fencing which cannot be moved during the construction process.

i.49 Where a tree is affected by proposed works in its vicinity, an arboricultural management plan must be prepared and implemented during the works.

i.50 If alterations or extensions are likely to impact on protected species, measures should be taken to ensure that no harm, loss or long term threat to those species arises from the works. The Greenwich Biodiversity Action Plan and Greenwich's Tree Officers should be consulted for further advice.

i.51 You must notify Greenwich Planning Department of any intent to prune or remove trees within a conservation area or any tree that has a Tree Preservation Order (TPO) attached to it.

This rear extension includes biodiversity improvements in the form of a sedum planted sloping green roof. | Turner Architects, Photographer: Adam Scott

The green roof in the foreground maintains the character of the garden space. | Fraher & Findlay, Photographer: Jack Hobhouse

This extension includes a biodiverse roof providing pollinator food. | Fraher & Findlay, Photographer: Jack Hobhouse

Some green roofing systems are also suitable for pitched roof profiles. | Scenario Architecture

Figure i.28: Green Roof : Examples

HERITAGE MATTERS:

i.52 Generous garden space is often a key defining characteristic of Conservation Areas. As such, further restrictions to maintaining outdoor amenity space, and in particular green space, may apply.

i.53 Royal Greenwich promotes and encourages a sustainable approach to new buildings and extensions. For more information refer to the practises set out in the Greener Greenwich SPD, Core Strategy and London Plan.

i.54 Net zero refurbishment should be the aspiration of all interventions. Whole house retrofit approach is strongly encouraged and should follow a retrofit plan which will carefully assess existing conditions of the dwelling, identity opportunities and sequence the recommendations to avoid implementing measures that would compromise future refurbishment to achieve net zero. All measures to be implemented should follow the Energy pyramid: achieved by:

i.55 Be lean – fabric first approach, enhance the thermal performance of the house to reduce the energy demand (i.e. insulation floors, walls, roofs, windows, doors) and clear metrics should be targeted (space heating demand, airtightness, u & g values)

i.56 Be clean – decarbonise the power source as rightly mentioned, phase out of fossil fuel, and install renewable such as air source heat pump and PVs, on site battery storage and EV charging point. Note this is particularly relevant when it comes to draft a retrofit plan. ASHP operate at much lower temperature and therefore relies on good insulation and bigger heating surface, so building an extension can be an opportunity to carry out these works in the rest of the house to minimise disruption.

i.57 Be green – match the house energy consumption with on site renewable metric to enforce its Energy Use Intensity.

i.58 Generally, proposals that include new car ports or garages (unless they support mobility impaired residents) or the conversion of front gardens into driveways are not supported.

i.59 Solar panels should be designed in good location for solar gain, while not negatively impacting on the streetscape. On flat roofs, the panels should be set-back from the parapets of the building and kept as low as possible to not impact on views from the public realm.

i.60 Further, useful guidance can be found in the following documents:

Further Guidance -

+ LETI (2021) Climate Emergency Retrofit Guide
+ Sustainable Traditional Building Alliance (2021) From Retrofit to Regeneration
+ London Councils (2021) Retrofit London Action Plan

PRINCIPLE I.2.6: CARBON REDUCTION

+ Buildings contribute significantly to carbon emissions in the UK. Extensions should be designed to minimize environmental impact through:
+ the choice of sustainable building materials and construction techniques or the re-use of existing or reclaimed materials such as reclaimed brick
+ excellent environmental performance of the external envelope and the specification of energy efficient appliances and environmental systems
+ a design that benefits from natural ventilation and appropriate solar gain

HERITAGE MATTERS

i.61 Further rules and obligations may apply in relation to solar panels and heat pumps in conservation areas and listed properties. For more information please refer to the planning portal.

Extension Type: Loft / Roof Extensions

Back to chapter index
Back to document index

i.62 Roof extensions and loft conversions are a useful way to gain additional living space with potentially minimal impact, however when ill-considered they can change the architectural character of the building and its relationship to the street, as well as compromising the daylight to adjacent properties and intruding on a neighbour's privacy.

i.63 Roof extensions and loft conversions are only permitted if the impact on neighbours' daylight, sunlight, loss of privacy and overshadowing, is negligible. The same applies to any roof terraces or roof-level balconies.

i.64 Certain loft conversions are classed as permitted development and do not require planning permission. For more information please visit the planning portal website and the 'Technical Guidance on Household Permitted Development Rights'.

i.65 Sloping rooflights are generally acceptable. They should be aligned with window openings on the facade below.

i.66 Dormers at the rear are generally acceptable, subject to the building typology. They should be well spaced and positioned within the existing roof slope, and should reflect the position of the existing windows below. A general guideline is for dormer windows to be set 0.5m below the roof ridge, set 0.5m in from party walls on either side, and set 0.5m above the roof eaves. Dormers at the front of the roof are acceptable on certain typologies subject to alignment with window openings on the facade below and appropriate spacing from the party walls, ridge and eaves.

i.67 A roof extension should generally follow and complement the pattern and pitch of the main roof, and should be secondary in scale to the main roof, seeking to preserve or enhance the existing appearance in terms of height, scale and visual interest.

i.68 Generally, the Council do not support proposals to alter or to convert a sloped hip end roof into a flat gable end roof on the side of the house as this would create an unbalanced, overbearing appearance to the property.

Figure i.29: Loft / Roof Extensions: Examples

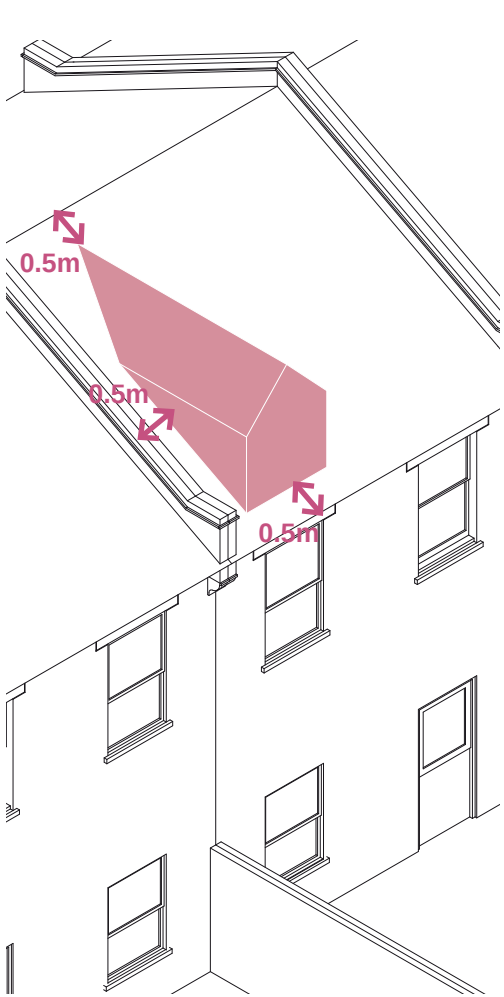
✓ Contemporary dormer extension set back from the ridge and eaves, providing generous light into the loft. | STUDIO 30

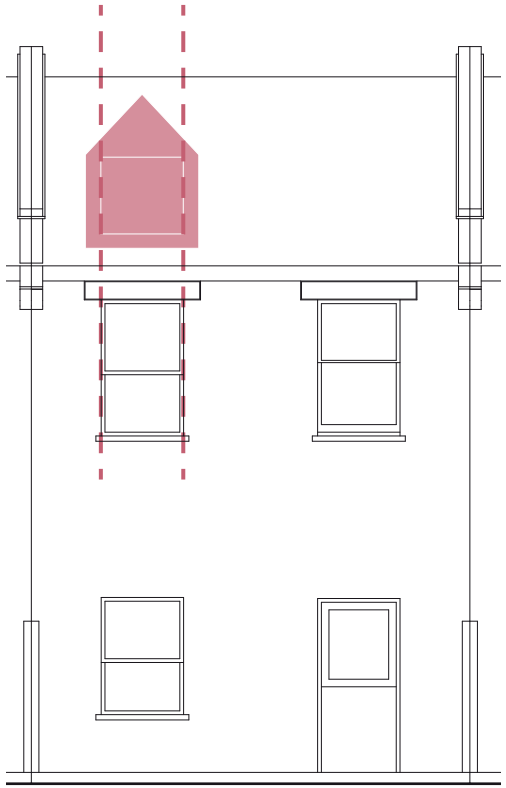
✗ This suburban semi-detached property's roof extension substantially alters the pitch of the original roof. The massing is disproportionate, and the extension features a window which could overlook the neighbouring property.

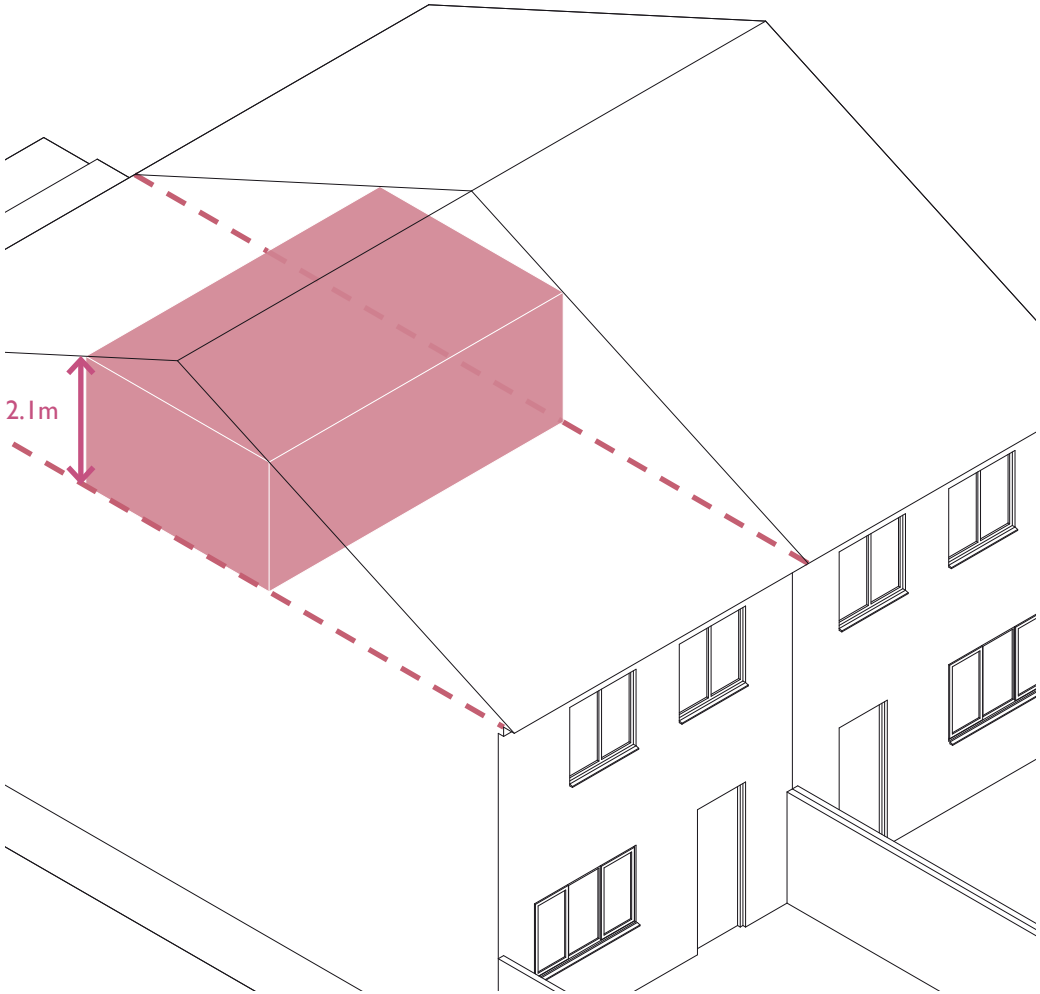
PRINCIPLE I.3.1: LOFT / ROOF EXTENSIONS

+ Roof/Loft conversions will only be accepted where adequate headroom is achieved without raising the height of the ridge of the roof. 2.1m head height across an area of min. 11.5 sq/m for double bedrooms and 7.5 sq/m for single bedrooms is generally acceptable for loft conversions where the width of the highest portion of the room is min. 2.15m.

Figure i.30: Loft / Roof Extensions: Parameters







A general guideline is for dormer windows to be set 0.5m below the roof ridge, set 0.5m in from party walls on either side, and set 0.5m above the roof eaves.

Dormer windows should align with windows below.

2.1m head height across an area of min. 11.5sq/m for double bedrooms and 7.5sq/m for single bedrooms is generally acceptable.

TYPOLOGICAL EXAMPLE: PRE 1919

Figure i.31: Loft / Roof Extensions: Typological manifestation on a pre-1919 property.

TYPOLOGICAL EXAMPLE: 1919-1950

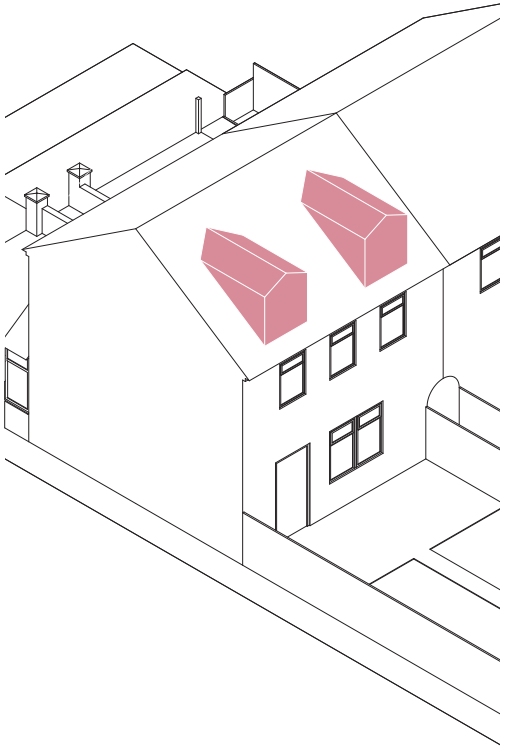


Figure i.32: Loft / Roof Extensions: Typological manifestation on a 1919-1950s property.

TYPOLOGICAL EXAMPLE: POST-WAR

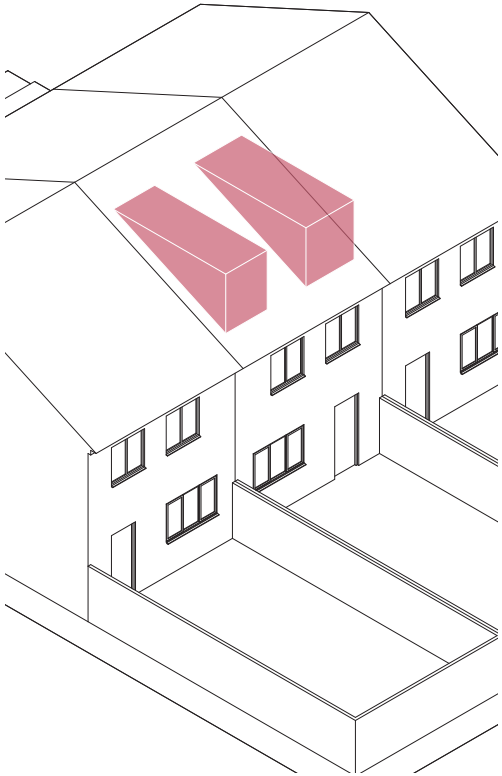


Figure i.33: Loft / Roof Extensions: Typological manifestation on a post-war property.

PRINCIPLE I.3.1: LOFT / ROOF EXTENSIONS: TYPOLOGICAL RESPONSE.

+ Royal Greenwich are supportive of extensions where form, features, material, and colour of the proposed extensions reflect the architectural character of the existing building and its neighbours.
+ In many circumstances, Royal Greenwich will also be supportive of more contemporary dormer extensions, that have slender and minimal detailing, in particular on post-war and modern properties.

Figure i.34: Full width , box-type dormer extensions will be discouraged on any roof face as they do not integrate well with pitched roof houses.

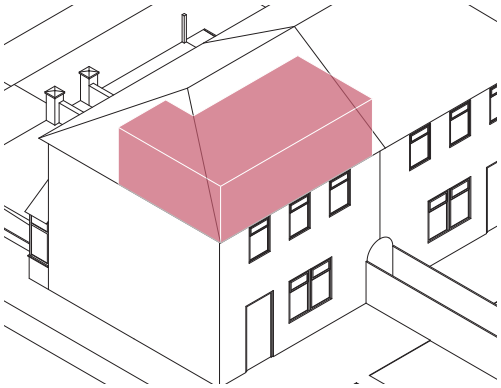


Figure i.35: If dormer extensions are proposed on both the side and rear roof slopes they must remain separate extensions and not wrap around the side of the roof and join to create one volume.

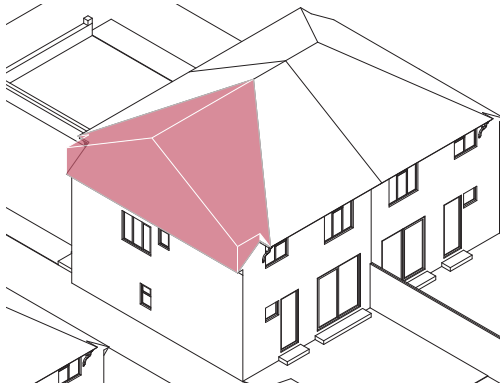


Figure i.36: The Council do not support proposals to alter or convert a sloped hip end roof into a flat gable end roof on the side of the house, as this would create an unbalanced, overbearing appearance to the house, semi-detached house or terrace.

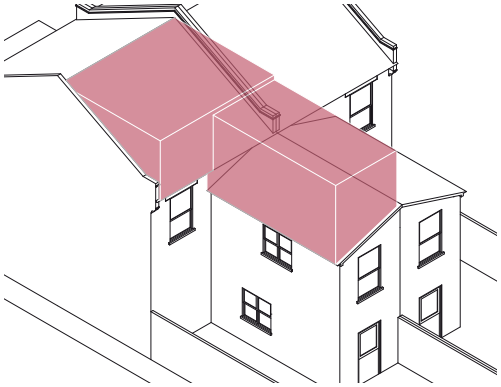


Figure i.37: L outrigger roof extensions will be refused as they become overbearing and can cause loss of daylight to neighbouring properties, as well as loss of the original pitch of the property's roof.

HERITAGE MATTERS

i.69 Proposals for front-facing mansards or dormers to listed buildings, locally listed buildings or in conservation areas are discouraged. They may be supported only in exceptional circumstances where it is an established feature and it can be clearly demonstrated that they do not detrimentally impact on the building, terrace and streetscape.

i.70 Rear dormers in buildings in conservation areas may not be supported for some building typologies.

i.71 If your house is listed you will need to apply for Listed Building Consent to alter the roof space, timbers and the outside of the roof.

PRINCIPLE I.3.1:
LOFT / ROOF EXTENSIONS:
RIDGE HEIGHT.

+ Ridge height must remain continuous over the whole length of the terrace.

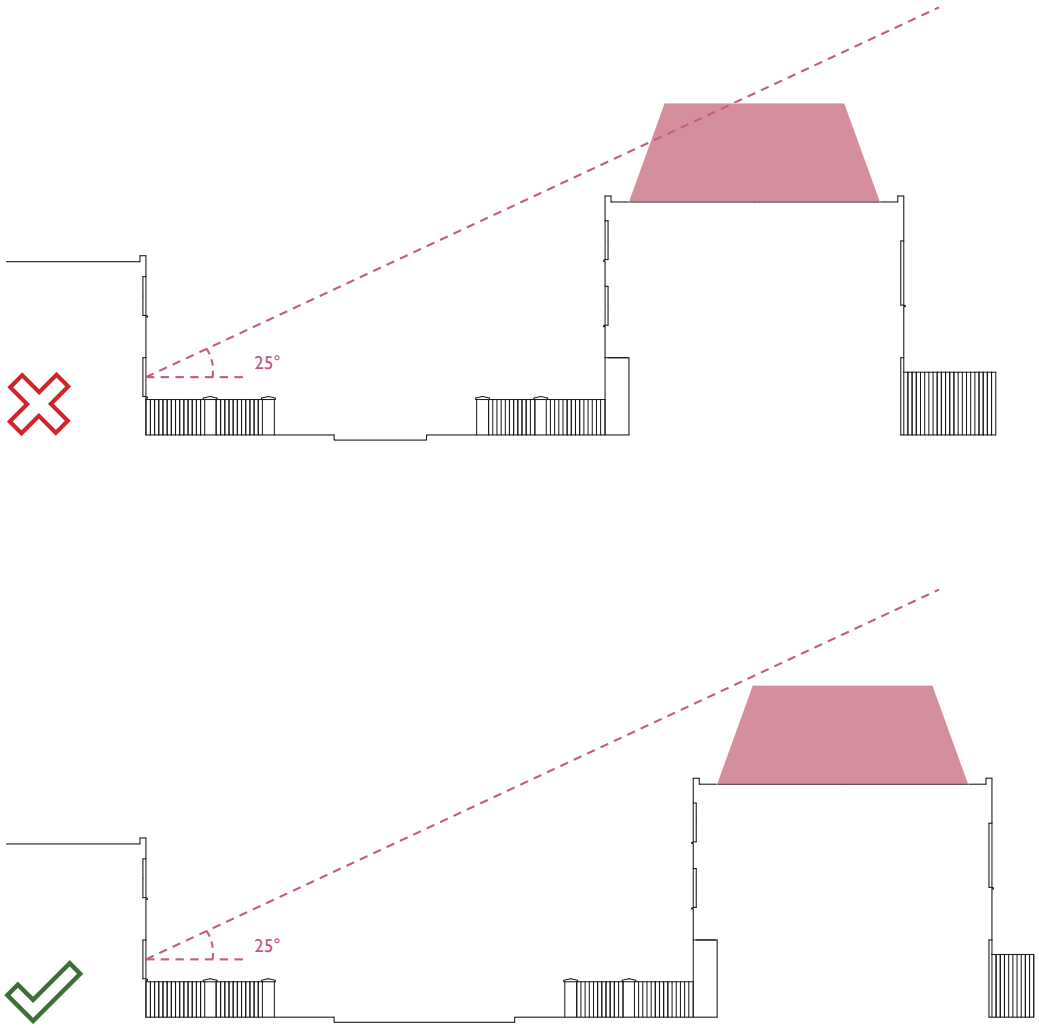


Figure i.38: Loft / Roof Extensions: Whole storey and mansard extensions must not impact neighbouring daylight and sunlight. Relative heights as well as street widths will be considered in line with BRE guidelines.

i.72 There are two types of mansard roof extension: Flat-topped and Double-pitched (with <70/<30 principal/upper slopes). Each type of extension might be appropriate where they are part of the established character of the building typology and streetscape, and where the existing roof is concealed behind a front parapet, often a feature of Georgian or Victorian terraces.

i.73 Mansard roof extensions will be refused where they are not an already established character in the area.

i.74 Mansard extensions should be set back from front and rear facades and any dormer windows should be aligned as indicated above. Where party walls need to be raised to accommodate a mansard, chimney stacks should be raised and reinstated to their original arrangement at a higher level.

Extension Type: Side Extensions

i.75 For detached, semi-detached, and in certain circumstances end-of-terrace houses, side-extensions are an attractive means to create additional living space. Side extensions have a much greater impact on the streetscape compared to rear extensions and therefore careful consideration must be given to ensure they are of the highest quality and respond appropriately to the host-building and streetscape.

i.76 Certain side extensions are classed as permitted development and do not require planning permission. For more information please visit the planning portal website and the 'Technical Guidance on Household Permitted Development Rights'.
In certain conservation areas Permitted Development rights have been removed for side extensions. This can be checked on the conservation area appraisals and Article 4 directions on the Council's website.

i.77 The conversion of garages into residential accommodation is supported in principle. Planning permission is not usually required, providing the work is internal and does not involve enlarging the building. In any case, attention should be paid to ensure that the amenity of the resulting room is of high quality including adequate head-height, daylight ingress, privacy, and a thermal performance of the external envelope that complies with approved document L of the building regulations.

i.78 The rhythm of rows of semi-detached homes, the view through between houses, as well as the proportions of the row of terraces, contributes to the character of the streetscape. Two storey side extensions are likely to have a greater impact on the character and setting of the street. Therefore, side extensions must be designed so as to avoid a terracing effect, or the loss of the open character between properties. This also applies to first floor extensions above existing garages. Two-storey side extensions to semi-detached houses or small groups of four houses will not be supported. Any extension to listed buildings, locally listed buildings or in conservation areas that results in the unacceptable loss of original fabric which is central to the special character and appearance of the building or area will be refused.

i.79 The roofs of both single and two-storey side extensions should reflect the roof pitch of the original house in order to maintain the character of the street.

i.80 New windows to the side of a semi-detached property are generally acceptable where they don't compromise the privacy or amenity of neighbouring homes.

i.81 Windows visible from the road should match the original house in terms of proportion and position and where appropriate relevant design features should be copied from the main house.

Figure i.39: Side Extensions: Examples

This two storey side extension in a conservation area in Sheffield looks subservient to the host building and sits comfortably within the existing streetscape | HEM Architects

This one storey side extension is set back from the front wall of the original house, seeming secondary and allowing for the original house to still read clearly in the context of the street. It is built with materials to match the original house and roof pitch.

A two storey side extension impacts on neighbouring amenity. In this example there is no set back from the original front facade which results in breaking rhythm of the streetscape. The roof is flat, not following the pitch of the original roof, making the extension look out of place.

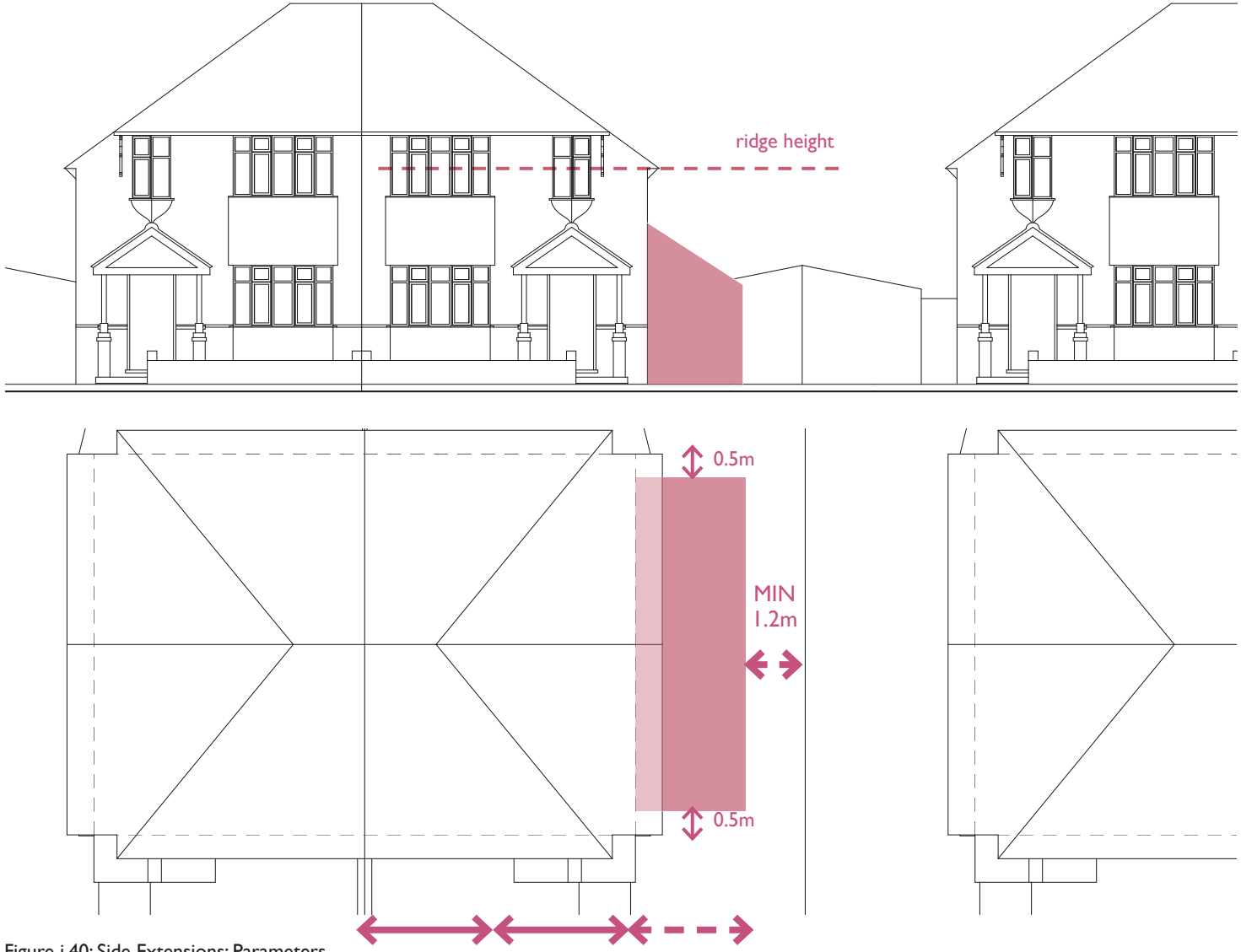
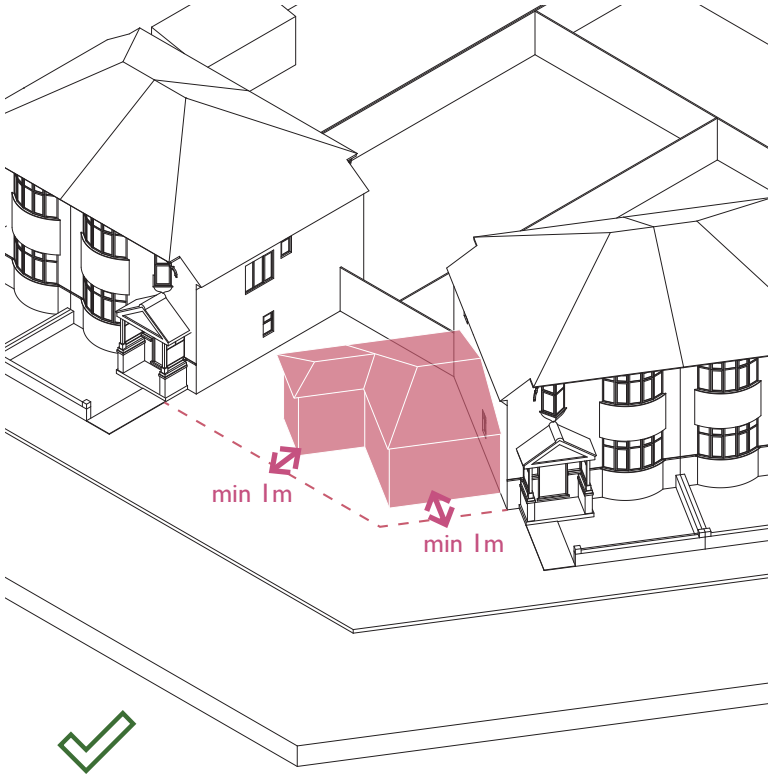


Figure i.40: Side Extensions: Parameters

PRINCIPLE I.3.2: SIDE EXTENSIONS

+ Side extensions must remain secondary in scale in relation to the existing building and comfortably fit below the ridge and slope of the existing building.
+ They should also be set-back by min 0.5m from the front facade of the existing building. A contemporary facade treatment with high quality materials that complements the existing building is acceptable for side extensions.
+ Side Extensions should typically be no more than 50% of the width of the original house and maintain an access walkway (minimum 1.2m wide from the property boundary) where this is an established feature of the area.



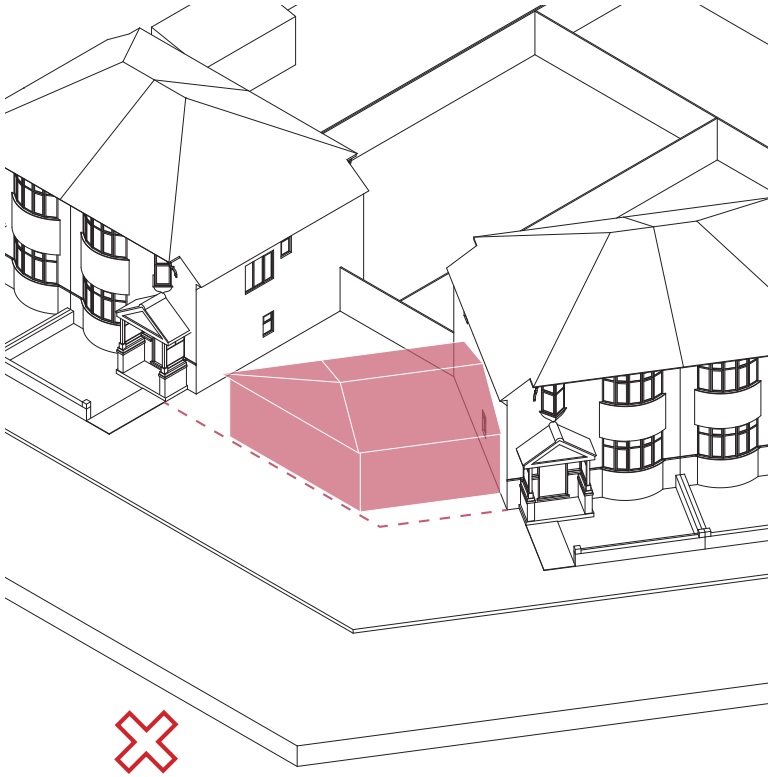


Figure i.41: Corner plot extensions should be staggered parallel to the main house and set back 1m from the property boundary.

i.82 Where the house is on a corner plot with a road alongside it, a side extension will be visible from the public highway. The extension should therefore be set back from the boundary by one metre and be proportionate to the dimensions of the main house in order to maintain the open aspect and protect the character of the street. Materials should be carefully considered so as to complement the existing property. Additionally, if the boundary does not run parallel to the house, the extension should be staggered to run parallel to the house.

i.83 In order to maintain the street character, the roofs of corner plot side extensions should match the pitch, material and style of the original roof.

HERITAGE MATTERS:

i.84 Planning permission is generally required for all side extensions in Conservations areas. This includes any side infill extensions to L-shaped properties.

i.85 As a best practice approach, applicants should consider seeking planning advice on all side extensions visible from the public realm, within conservation areas.

i.86 The gaps between buildings can contribute to the character of the streetscape, particularly in conservation areas. Side extensions must be scaled and aligned to preserve the character of the street.

i.87 The proposed architecture for a side extension should contribute to preserving and enhancing the established character of the conservation area and be well integrated with the host building.

Extension Type: Rear Extensions (Single Storey)

i.88 A single storey back extension provides additional living space but can also improve the relationship of the existing building with the garden.

i.89 Certain rear extensions are classed as permitted development and do not require planning permission. For more information please visit the planning portal website and the 'Technical Guidance on Household Permitted Development Rights'.
In certain conservation areas PD rights have been removed for rear extensions. This can be checked on the conservation area appraisals and Article 4 directions on the Council's website.

i.90 Applicants must demonstrate that careful consideration has been given to the size, proportion, window orientation, and design of the rear extension as to prevent any unacceptable, negative impact on neighbouring daylight and privacy. New windows should not lead to an unacceptable loss of privacy to neighbouring amenity. This is of particular importance where new side windows are proposed.

i.91 A flat roof form is generally preferred as it helps to reduce the overall bulk and impact of the extension, in particular where a green/biodiversity roof is provided. Careful consideration needs to be given to the relationship with the first floor window sill. Generally the roof line of the extension should be 300mm below the 1st floor window sill, although it is recognized that this cannot always be achieved. Additionally, the minimum floor-to-ceiling height of the extension should be 2.5m in keeping with the current GLA indication.

i.92 Other roof forms can be considered, in particular where they are a response to site specific constraints and/or the character.

i.93 No part of the proposed extension works is permitted to exceed or oversail a boundary line. As such, parapet wall details are often appropriate along party walls/property boundaries.

i.94 Generally, the Council does not support new terraces or balconies above the flat roof of extensions.

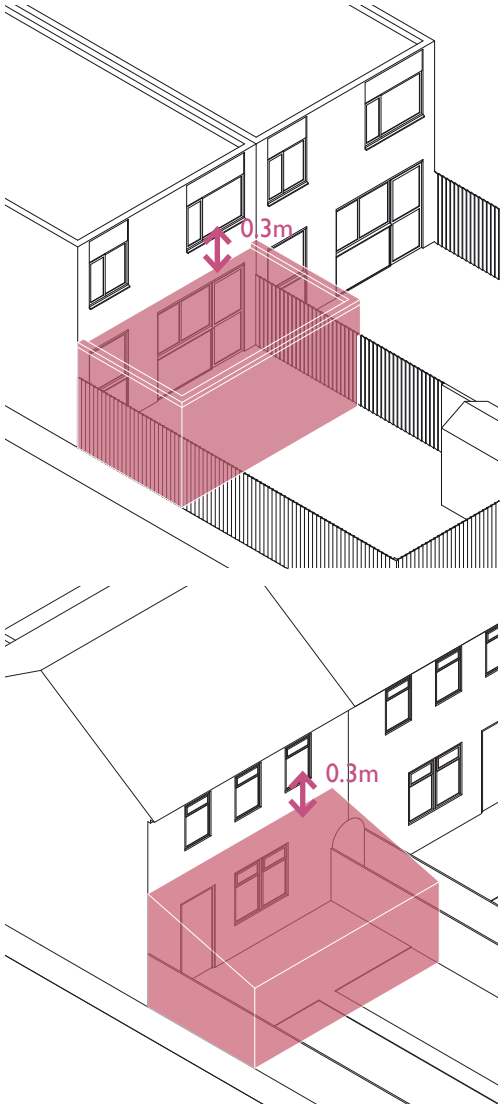


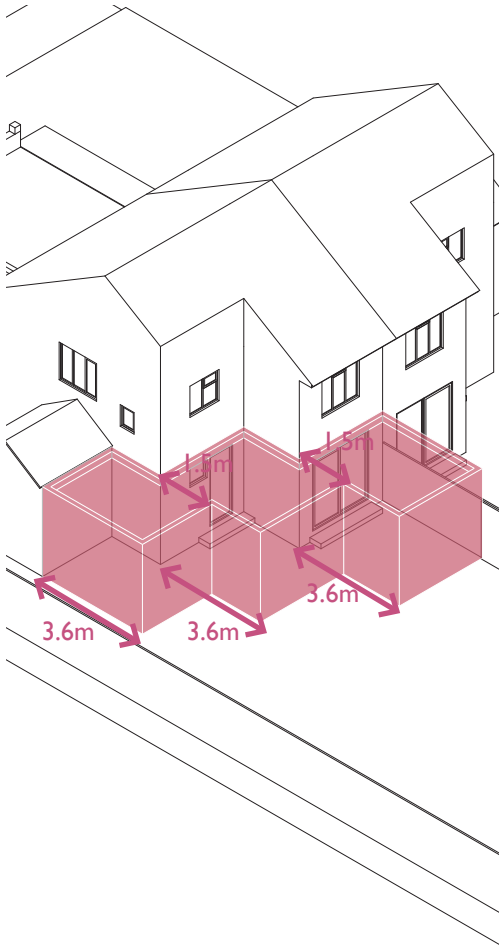
Figure i.42: Rear Extensions: Parameters

PRINCIPLE I.3.3:
REAR EXTENSIONS (SINGLE STOREY)

+ All rear extensions are required to respond appropriately to the scale of the existing building and the size of the garden.
+ A 3.6m projection from the rear is typically considered appropriate in Royal Greenwich. However, projections beyond this can be considered for certain typologies where neighbourly amenity is not compromised. This is particularly significant in the context of Royal Greenwich's dense urban grain prevalent in C19 neighbourhoods.
+ Any new windows must be positioned to avoid overlooking.

i.95 The inclusion of appropriate screening to avoid any unacceptable overlooking can be explored, however this should be carefully considered in terms of its contribution to the perceived bulk of the extension. Obscured glazing may also be explored.

i.96 Where the original rear wall of a house is stepped then each of these stepped walls will form the rear wall of the original dwelling house. In such cases, the limits on extensions apply to any of the rear walls being extended. As can be seen in the diagram on the right, each wall of the original house can be extended as long as the original stepped appearance of the property is maintained. Extensions that do not follow this principle will be discouraged unless the applicant can demonstrate that the impact on neighbouring properties and amenity is negligible.



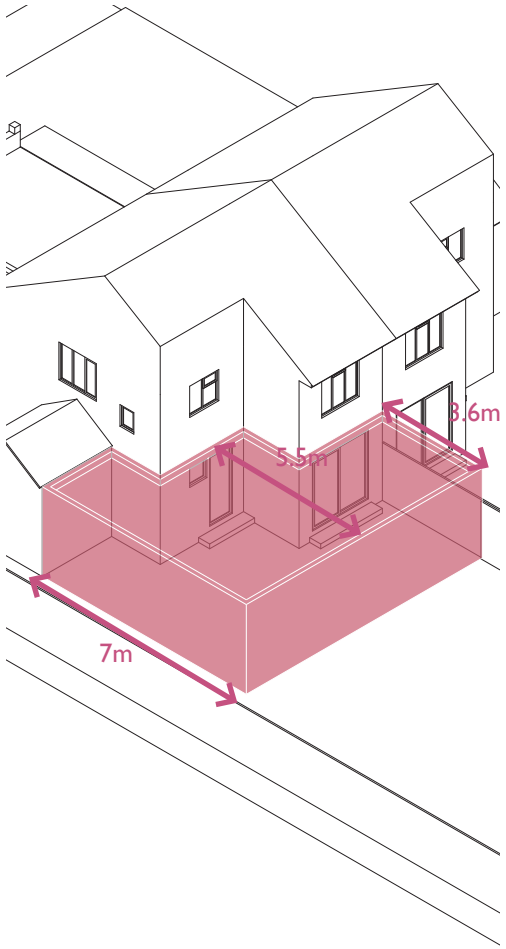


Figure i.43: Rear Extensions (Single Storey) : Examples

Large glazed expanses and minimal framing details contrast with the original brickwork and create a visual connection to the garden. | Una Gru Architecture

Strategic small scale infills and facade adjustments to the rear, have opened this internal living space to the courtyard outside. | Mimodo Architects

This rear and side return extension has been carefully designed in its proportions and materials and follows the same roof pitch as the original property, reducing impact on the neighbouring gardens. | nimtim Architects, Photographer: Megan Taylor

Classic brickwork parapet detailing allows this single storey extension to integrate with the party wall without over-sailing property boundaries. The choice of a lighter brick tone with light mortar modestly complements the existing brickwork. | Oliver Leech Architects

This brick extension features complementary materials to match the existing, but introduces contemporary windows for improved daylight ingress and thermal performance. | CCASA Architects, Photographer: Juliet Murphy

This contemporary extension, uses tonal metal cladding to contrast with the original brickwork. It retains a high level of privacy through more modest glazing, while blending into the garden through a subtle concrete banding. | deDraft, Photographer: Nick Dearden

This concrete cast addition uses the colours of the surrounding landscape to create a carefully crafted and contextual extension. | Office S&M Architects, Photographer: Megan Taylor

Extension Type: Rear Extensions (Double Storey)

i.97 A two-storey extension is acceptable in certain circumstances, however, its width, height, and orientation must be carefully considered to avoid impacting on neighbouring homes and gardens.

i.98 Certain double-storey rear extensions are classed as permitted development and do not require planning permission. For more information please visit the planning portal website and the 'Technical Guidance on Household Permitted Development Rights'.

i.99 Two-storey rear extensions and first-floor rear extensions are not classed as permitted development in conservation areas. All rear extensions are assessed by the Council cumulatively with existing extensions.

i.100 The impact on sunlight and daylight to neighbouring properties should be assessed using the BRE 'Site Layout Planning for Daylight and Sunlight' guidance method and submitted as part of the planning application.

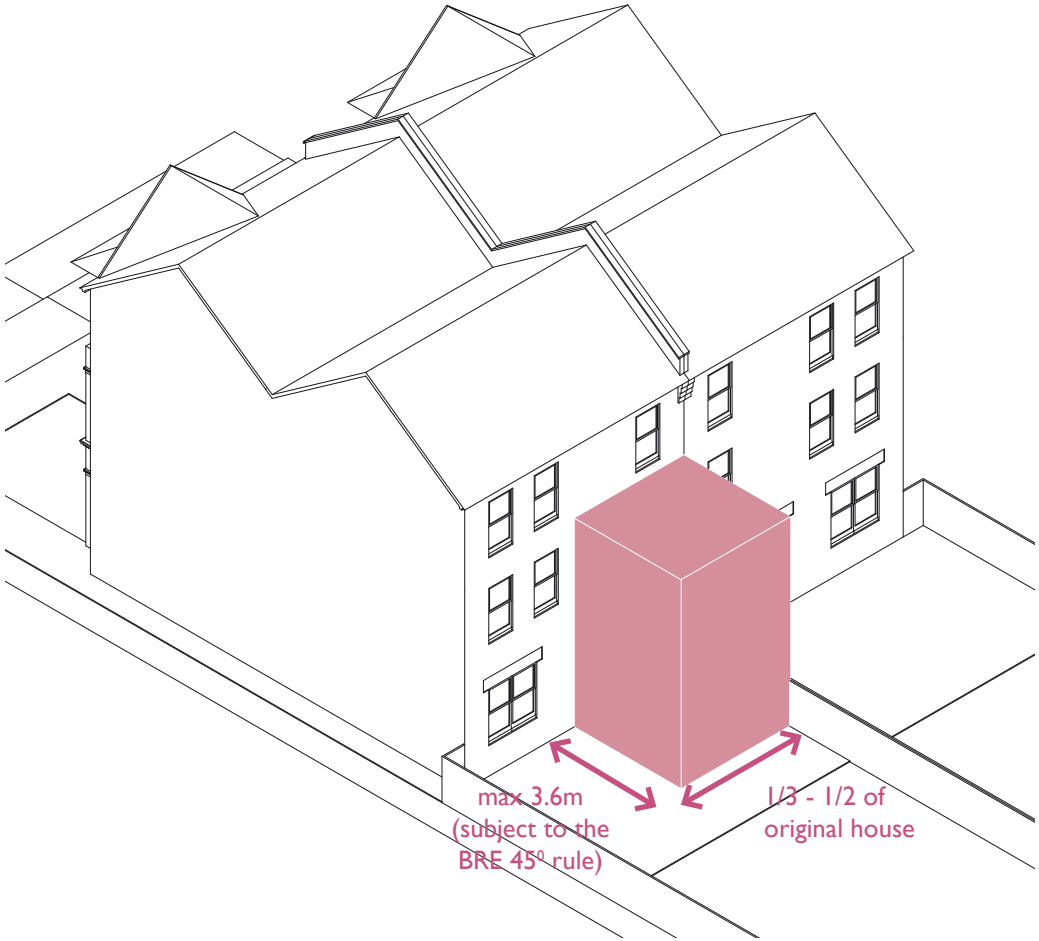
Figure i.44: Rear Extensions (Multiple Storey) : Example

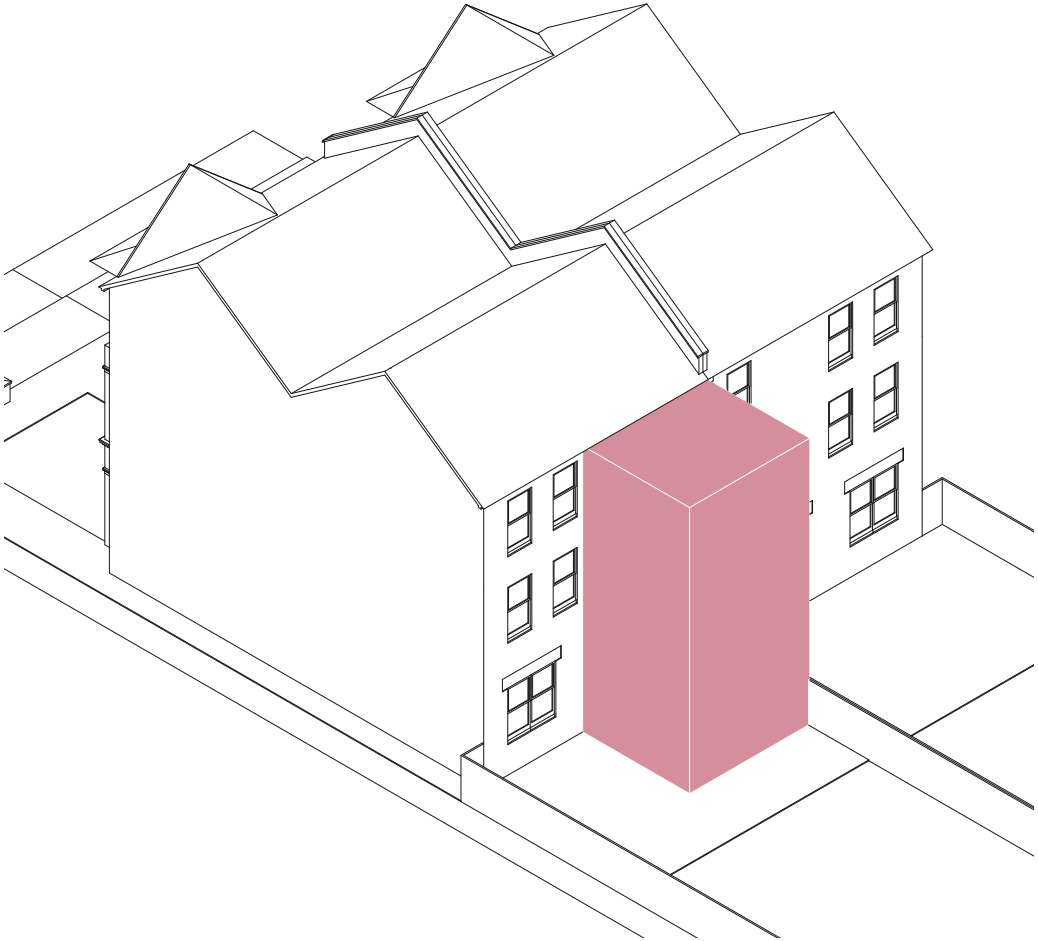
Even up to 3 storeys this extension remains proportional to the existing dwelling, is slender at less then half the width of the house and does not impact on neighbouring daylight. | Pitman Tozer Architects

PRINCIPLE I.3.4: REAR EXTENSIONS (DOUBLE STOREY)

+ Generally, the provisions for single storey extensions also apply to double storey extensions, subject to the following additional considerations:
+ The scale, bulk and massing of any double storey extension must be carefully considered in relation to the existing building. Generally, any extension must not overwhelm the existing building. This can be achieved by:
+ maintaining appropriate distances between the roof of the extension and the eaves of the existing building. Double storey extensions are not normally supported where the existing building has 2-storeys or less.
+ reducing the width of the extension to 1/3 or 1/2 of the width of the plot
+ building any large extension partway into the ground to reduce its height and bulk

Figure i.45: Rear Extensions (Multiple Storey) : Parameters





Extension Type: Rear Extensions - Heritage matters

HERITAGE MATTERS

i.101 A new extension should not dominate a historic building. The appropriate size of any extension to a listed building depends on the impact it would have on the special architectural and historic significance of the property. The use of appropriate materials is particularly pertinent.

i.102 In certain cases there may be an opportunity to replace a poorly built and designed extension with a new structure, however it should be noted that this may not always be permitted.

i.103 All applications for listed building will require Listed Building Consent and will need to be informed by their special architectural and historic significance. Applicants are advised to seek pre-application advice for applications affecting statutory listed buildings.

i.104 Within conservation areas it is particularly important that extensions respect the original architectural features and detailing of the host building. Planning permission will be required for many rear extensions in conservation areas, particularly those covered by additional planning controls through Article 4 Directions. Any planning application in a conservation area will be expected to take account of the adopted conservation area Character Appraisal and Management Strategy (CAMS) where one is in place. In addition, Guidance Notes should be referred to where they are in place for those areas covered by Article 4 Directions.

i.105 For L-shaped properties that are statutory or locally listed or in a Conservation Area, infill or wraparound extensions will not generally be supported, especially when they result in the loss of the original building footprint and dominate the historic building.

Extension Type: Outbuildings

i.106 Outbuildings can provide useful separate work- or play- space in the garden, however these must be designed to complement the use of the existing dwelling.

i.107 Any outbuilding that could function as a self-contained building will be considered as new homes and need to comply with housing standards including minimum floor areas and internal space standards set out for new dwellings in the 'London Plan 2021 (Table 3.1)'. They must provide adequate privacy to their occupants and any neighbouring dwellings and gardens. They must be in line with the current Royal Greenwich Core Strategy Policy H(c) for backland development.

i.108 Certain outbuildings are classed as permitted development and do not require planning permission, subject to their height and distance from neighbouring properties. For more information please visit the planning portal website and the 'Technical Guidance on Household Permitted Development Rights'.

i.109 Cumulatively with existing extensions, the proposed outbuildings should not result in the loss of more than 50% of the original rear garden.

i.110 Generally, the provisions for extensions also apply to outbuildings.

i.111 Particular attention should be given to the design of any outbuilding in terms of its scale, bulk and height so as not to result in any unacceptable sense of enclosure or overshadowing

This cork clad garden studio sits away from property boundaries. It is built from sustainable materials, with timber used for structure, internal linings, external cladding and openings. | Surman Weston

The outbuilding is of small scale proportionate to the garden. The roof slopes to the sides minimising impact on neighbouring gardens. There are no windows to the sides preserving privacy. | Weston Surman & Deane

This polished stone clad oubuilding features timber biofolding windows to connect to the rear garden of the main property. | Alexander Owen Architecture

Large sliding doors allow garden studio spaces to link with outdoors and help external amenity spaces to be enjoyed year-round. | Richard John Andrews, Photographer: Chris Snook

Figure i.46: Outbuildings: Examples

i.112 Front extensions have great prominence in the street context. Their size, bulk, alignment, and materiality must be carefully considered. Front extensions of listed buildings, locally listed buildings or in a conservation area are particularly sensitive.

i.113 Certain front extensions are classed as permitted development and do not require planning permission. For more information please visit the planning portal website and the 'Technical Guidance on Household Permitted Development Rights'.

i.114 Front extensions and porches should be minor and should not alter the overall appearance of the house or dominate the character of the street. Front extensions and porches must remain detached from bay windows and should not protrude in front of them.

i.115 Minimal details, a flat roof, and a high-quality, contemporary material palette that is distinct but complements the existing building is appropriate for most front extensions.

Figure i.47: Front porches should not be attached to any bay windows.

Figure i.48: Front Extensions: Examples

The front extension on the left hand side is kept separate from the projecting bay window. It uses similar colours and materials.

This front extension does not take into account the existing property in its materiality, resulting in an ill-fitting front extension which dominates the view of the property from the street

PRINCIPLE I.3.6: FRONT EXTENSIONS

+ Where front extensions are permissible, they must not dominate the front façade of the existing building or the front garden. Their roof line should be well below the 1st floor window sill level.

HERITAGE MATTERS:

i.116 Small front porches are permitted development even in conservation areas unless a separate article 4 direction is in place. Any type of front extension to a listed building, however, will require Listed Building Consent.

i.117 Basement development includes any excavation to form new or additional usable floorspace under the ground level (subterranean) of an existing property or within its curtilage and under its garden. This guidance applies to any extension or enlargement of existing basement accommodation and to any conversion of a cellar or cellars into habitable accommodation.

i.118 Due to their structural complexity, basement extensions tend to cause significant disruption to neighbours during the construction process.

i.119 Most proposals for the construction of a basement will require planning permission. There may be certain circumstances where basement extensions are classed as permitted development and do not require planning permission. For more information please visit the planning portal website.

i.120 Where permitted, lightwells, skylights, vents, railings, steps, means of fire escape, and any other features of a basement extension visible from the public highway should be sensitively designed and located to respond positively to the character of the area, the street scene, landscape and surrounding heritage assets, and to avoid contributing to visual clutter, looking out of place or interrupting the prevailing streetscape.

i.121 Where permitted, front lightwells shall be designed to retain most of the front garden.

i.122 Construction methods commonly used for basement extensions means that they have a high environmental impact compared to above ground construction.

i.123 Carbon off-setting or improvements to the environmental performance of the existing building such as better insulation or the installation of heat pumps should be considered to mitigate the impact of basement extensions.

i.124 Planning applications must be accompanied by a sustainability statement detailing the measures taken to mitigate the environmental impact of the proposal.

i.125 Planning applications must also be accompanied by Basement Impact Assessment (BIA). The level of information herein varies based on each sites unique context, but can include:

+ Location in relation to any aquifer;
+ Location within 100m of a watercourse;
+ Depth in relation to the water table;
+ Whether the site is sloping and the geology the site is on;
+ Impact on flooding and drainage;
+ Flood prevention measures;
+ Structural stability (in the form of a Structural Method Statement signed and endorsed by a Chartered Civil or Structural Engineer);
+ Construction methods including how noise, disruption and vibration to neighbouring properties will be minimised;
+ Impact on neighbouring properties and amenity, character of the area and disruption during construction;
+ Impact and location in relation to public sewers which may require approvals to be sought from Thames Water;
+ Location in relation to public transport networks, which may require approvals to be sought from Transport for London (TfL).

i.126 Only single-storey basement extensions will be supported in Royal Greenwich due to the negative environmental impact and increased flood risk associated with multiple storey excavations. Any basement extension should also therefore generally be limited to the footprint of the host building in order to remain subordinate in scale.

i.127 Basements will not be permitted in flood zone 3 and will not normally be permitted in flood zone 2 unless no habitable rooms are proposed, or it can be proven the risk has been minimised appropriately. Sustainable drainage systems (SuDS), such as rain water tanks and permeable surfaces, can be used to reduce flood risk. Applicants will also need to consider the drainage hierarchy in policy SI.13 of the London Plan and if there are practical reasons for not utilising this hierarchy then this must be justified.

i.128 To determine the flood risk zone of your property visit the Environment Agency website.

i.129 More information on the types and location of flood risk across the borough can be found in the Royal Greenwich Strategic Flood Risk Assessment (SFRA) and the Core Strategy policies.

i.130 If planning approval is granted, a Construction Management Plan providing full details of how adverse impact on neighbours is reduced will be required, and, until it is approved, no works may commence. Other matters to be addressed in the Construction Management Plan will be required by planning condition. These are likely to include (but are not limited to):

+ Hours of work;
+ Traffic and site access management;
+ Dust;
+ Noise;
+ Vibration management;
+ Piling methodology

i.131 A basement extension will require some or all of the below additional consents:

+ Building Regulations
+ Highways Act
+ Party Wall Act
+ Freeholder Permission
+ Environmental Health
+ Housing Act
+ Utility Providers such as Thames Water
+ Environmental Permitting Regulations

HERITAGE MATTERS:

i.132 Basement extensions are not supported for listed buildings. Front lightwells are not typically supported for locally listed buildings and in conservation areas.

i.133 Front lightwells may be supported where they are an established feature of the area, or where the property is set back from the highway and the lightwells are proportionately sized so as not to affect the character and appearance of the host building or conservation area.

i.134 Planning applications for basement excavation and associated light-wells in a conservation area will be expected to take account of the adopted conservation area Character Appraisal and Management Strategy (CAMS) where one is in place. In addition, Guidance Notes should be referred to where they are in place for those areas covered by Article 4 Directions.

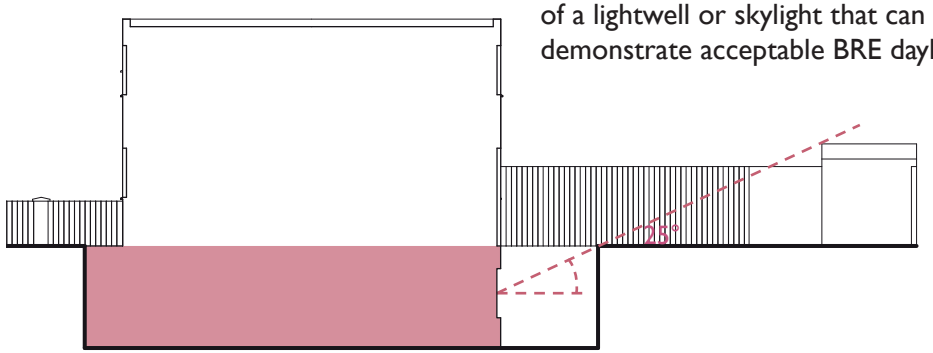
i.135 In areas where basement light-wells are not a traditional or established feature, the excavation required can have a significant impact on the appearance of the house, the streetscape and the character of the conservation area, by enlarging the front elevation and removing part of the front garden. In such cases light-wells are unlikely to be acceptable. This will have implications if it is intended to use the basement as habitable space.

i.136 It is paramount that the advice of an engineer experienced in dealing with historic structures and complex ground conditions is sought.

PRINCIPLE I.3.7: BASEMENTS

+ Where basement extensions are permissible, planning applications must be accompanied by a detailed Basement Impact Assessment that itemises measures taken to mitigate impact on neighbours.
+ More environmentally friendly construction methods should be considered including the use of low carbon concrete and lean design.

Figure i.49: Basement: Parameters [Lightwells + Skylights]



i.137 Where a lightwell is proposed in conjunction with a basement in order to provide sufficient amenity, the presence of a lightwell or skylight that can demonstrate acceptable BRE daylight and sunlight levels, must be factored into the design. The BRE 25° rule of thumb can apply here, alternatively a detailed study may be conducted.

i.138 Lightwells should be prioritised at the rear of the properties to minimise impact on the streetscape.

i.139 Additionally, lightwells that are set away from buildings within the garden itself are likely to be refused because they harm the garden setting and may result in harmful illumination or light spill.

i.140 Where the provision of sufficient daylight and sunlight would result in the loss of more that 50% of the rear or front garden cumulatively with existing extensions, a basement extension may not be supported.

i.141 If well designed, lightwells can be used as a sunken gardens to limit the loss of garden space.

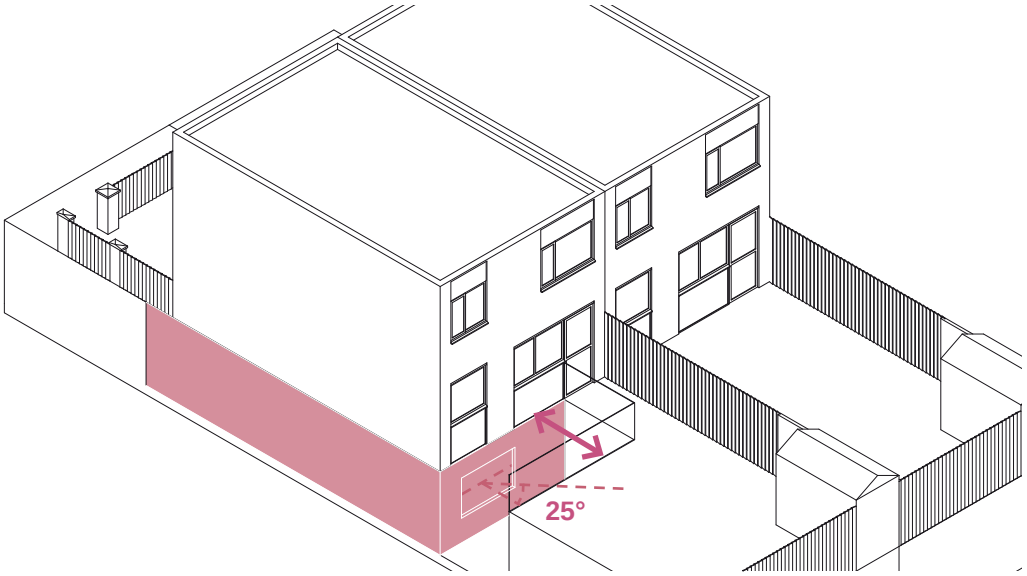


Figure i.50: Basement - Rear Lightwells: Where the provision of sufficient daylight and sunlight would result in the loss of more that 50% of the rear or front garden, a basement extension may not be supported

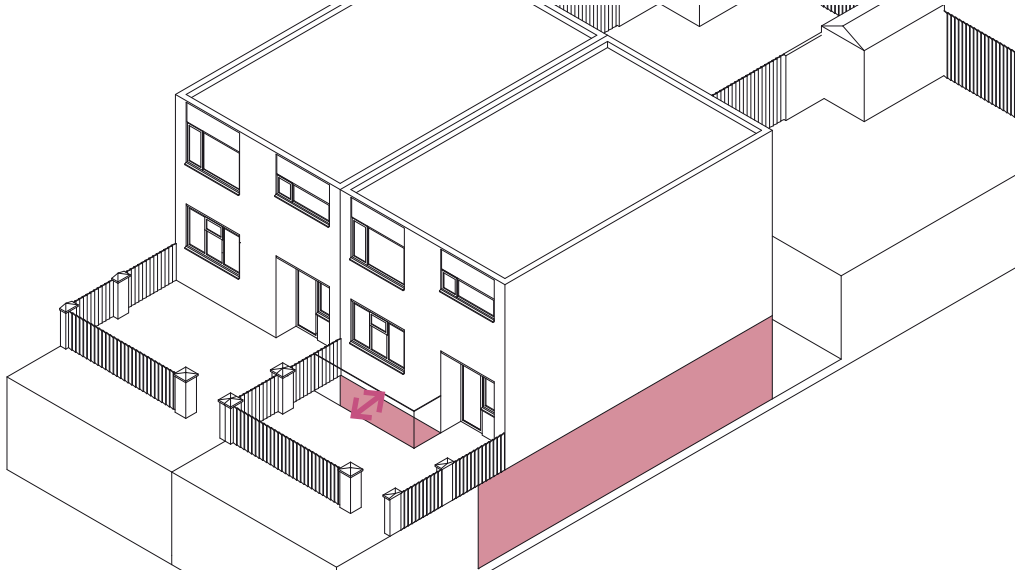


Figure i.51: Basement - Front Lightwells: Shall be designed to retain most of the front garden. The loss of more that 50% of the front garden is not supported.

i.142 Converting non-residential buildings into dwellings, or houses into multiple apartments can be a sustainable means to provide additional homes and protect the character of neighbourhoods. However, any homes formed from converting existing buildings must meet the same high standards in terms of amenity as new homes.

i.143 Permitted development rights may allow the conversion of non-residential buildings into dwellings (use class C3). For more information please visit the planning portal website.

i.144 Where a change of use occurs through permitted development, a prior approval application must still be submitted to Royal Greenwich. Other aspects of development which may be associated with a change of use, such as external alterations and extensions often still require planning permission.

i.145 All residential conversions should meet the same minimum internal space standards set out for new dwellings in the Nationally Described Space Standards and 'London Plan 2021 (Table 3.1)'.

i.146 Where planning permission is needed, units should have access to minimum 5m^2 amenity space for a 2 person dwelling + 1 additional sq/m for every additional resident in the flat. This can be achieved through a good sized balcony, terrace or communal garden, where neighbouring privacy is protected.

i.147 Regarding the conversion of multistorey houses into flats, the shared use of existing large gardens will be encouraged where adequate access is possible for all flats.

i.148 All habitable rooms including bedrooms should offer a good outlook, including those created through extensions and conversions.

i.149 Planning permission for the conversion of a single house into self-contained flats will not be granted if the original premises have a net floor area of less than 130m^2 for a terraced property, and 111.48m^2 for a non-terraced property (excluding any garages and existing extensions) to protect the demand for family housing in Royal Greenwich. To measure net floor area, exclude outside walls and floor space with existing headroom of less than 2.3m, and include partitions, cupboards, chimney breasts or flues, as well as the area taken up by any staircases or external toilets.

i.150 For all changes of use to residential, a high standard of sustainable design is expected. All homes derived from sub-dividing or changing the use of existing buildings must meet the current building regulations, and should also meet the same minimum space standards as new build homes to ensure a high quality of residential accommodation according to the National Housing Space Standards.

i.151 Proposals that include car ports or garages (unless they support mobility impaired residents) are not supported.

i.152 In controlled parking areas where there is no ability to provide street-parking, then conversions must be determined 'Car Free' and the right to obtain a residents' parking permits are removed. It is at the applicant's expense to amend the trafiic order.

i.153 Cycle storage should be provided, in line with the requirements of the 'London Plan 2021 (Table 10.2)'. This

PRINCIPLE I.3.8:
RESIDENTIAL CONVERSION

+ Planning permission is required to convert single residential houses into flats. Any extension as part of the conversion must follow the same guidance set out in this chapter and should meet the same minimum internal space standards for new dwellings to ensure a high quality of residential accommodation.

should be in a secure location at ground floor level.

i.154 The original entrance door to the dwelling should be retained and separate internal entrance doors to each flat provided.

i.155 As general principles, shared hallways or lobbies should be well lit and individual flat numbers and letter boxes should be standard fixtures on all internal front doors. Flat numbers and doorbells should be provided on the main entrance for each individual flat. Developers should contact the Royal Borough's 'Street Naming and Numbering Department' to apply for new addresses for self-contained flats.

i.156 External staircases to flats above ground floor level will only be allowed where they do not overlook neighbouring properties.

i.157 Waste, recycling and compost provisions must be sufficient, in a secure and accessible enclosure that does not obstruct access to the flats or detract from the appearance of the building in line with 'Royal Greenwich Waste Guidance Notes for New Developments'.

HERITAGE MATTERS:

i.158 The conversion or change of use of a statutory listed building must also consider whether the proposal would materially affect the special architectural and historic interest of the building, both with regards to its internal and external appearance, and the layout of the property.

i.159 Depending on type of use change, permitted development rights may not apply in conservation areas and to statutory listed buildings. For more information please visit the planning portal website. Listed building consent will be required for any change of use or conversion of a listed building.

DEFINITION

i.160 A House in Multiple Occupation (HMO) is any building or part of a building, such as a flat, where all of the following apply:

+ at least three people live there, forming more than one household
+ at least one amenity (such as the bathroom, or kitchen facilities) is shared with other tenants
+ it is the tenants' main or only home.

i.161 This includes bedsits and student housing. The Royal Borough operates an HMO Licensing Scheme, which means that all HMOs need to be licensed.

i.162 HMOs are a form of non-self-contained accommodation and generally include a private bedroom with shared living/amenity facilities. Proposals that include self-contained accommodation (where neither kitchen or bathroom facilities are shared), regardless of whether or not additional communal/amenity space is provided, are considered as self-contained accommodation and must therefore comply with the minimum space standards for dwellings set out in Policy D.6 and Table 3.1 of the London Plan.

PLANNING PERMISSION FOR SMALL HMOS

i.163 It is important that the Royal Borough supports a range of homes in terms of size and tenure in order to meet a variety of housing need. HMOs that are of a good standard form an important part of the provision of lower cost housing. However, the unmanaged conversion of family housing stock to HMOs can undermine the Royal Borough's objective to meet these varying needs and make it difficult to achieve mixed and balanced communities as set out in the Core Strategy.

i.164 Large HMOs (more than 6 people) are classified as Sui Generis use and have always required planning permission and a mandatory licence from the Royal Borough.

i.165 In 2018, the Royal Borough confirmed an Article 4 Direction which removed the permitted development rights for conversion of dwellinghouses (use class C3) to small HMOs occupied by between three and six unrelated people (use class C4). The Article

Figure i.52: HMOs in historic terraced houses can present many challenges. If not well designed, they can result in undesirable harm to the architectural and historic value the host buildings.

4 Direction came into force on 27 September 2018, and from this date those wishing to convert any size of property to an HMO have required planning permission to do so.

QUALITY STANDARDS FOR HMOS

i.166 The quality of accommodation provided by HMOs can be poor and can give rise to concern. To be considered good quality, proposals for conversion to an HMO will need to:

+ provide sufficient internal space;
+ provide occupants with a reasonable standard of amenity;
+ not give rise to significant adverse amenity impacts to the surrounding properties/residential neighbourhood.

i.167 The Royal Borough's Standards for HMOs were adopted in 2018. These set out detailed amenity standards as well as additional further requirements relating to the management of the HMO. In all cases, applicants are advised to refer directly to the Standards for HMOs when developing proposals to ensure that they will comply with the licensing requirements.

i.168 Applications for conversion to small HMOs will be considered against the Royal Borough's internal space standards, which are based on the type of accommodation and the type of room. Plans should illustrate the size of each room and the number of people the room is intended to be used by.

i.169 There is further guidance in the Standards for HMOs relating to other types of accommodation/rooms not included in Table i.1 below and also in relation to requirements for kitchen and bathrooms. Compliance with all applicable standards should be demonstrated as part of the planning application.

i.170 In addition to ensuring that proposals provide sufficient internal space, applications will also be considered in terms of the standard of amenity they provide to potential future occupants and the impact on the amenity of the surrounding area. Any planning applications for HMOs should therefore demonstrate how they have complied with the design guidance set out within the Conversions section of this document as well as the relevant Core Strategy policies.

Table i.1: HMO Minimum Internal Space Standards

Type of Room	Minimum Room Size (sqm)
Single room without kitchen facilities	9sqm
Single room with kitchen facilities	11sqm
Double room without kitchen facilities	12sqm
Double room with kitchen facilities	15sqm

PLANNING APPLICATIONS:

i.171 A Householder Planning Application should be used for proposals to alter or enlarge a single house, and is therefore required for most types of extensions.

i.172 If the proposed extension falls under permitted development rights, planning permission will not be required. To confirm if the proposal is permitted development, please visit the 'Planning Portal Website' , and apply to your local planning authority for a Certificate of Lawful Development Proposed.

i.173 Before submitting a Planning Application, it is good practice to seek pre-application advice to ensure you are meeting all the planning requirements. For more details on the pre-application process please contact the Royal Borough's Planning and Building Control Department.

i.174 If a Householder Planning Application is required, it should be submitted electronically via the Planning Portal. It is important to submit all the information itemised on the validation check-list. Failure to provide all relevant information may result in delays to validating your application. Once the planning application has been validated, the local planning authority will aim to assess and determine householder planning applications within 8 weeks of the valid date.

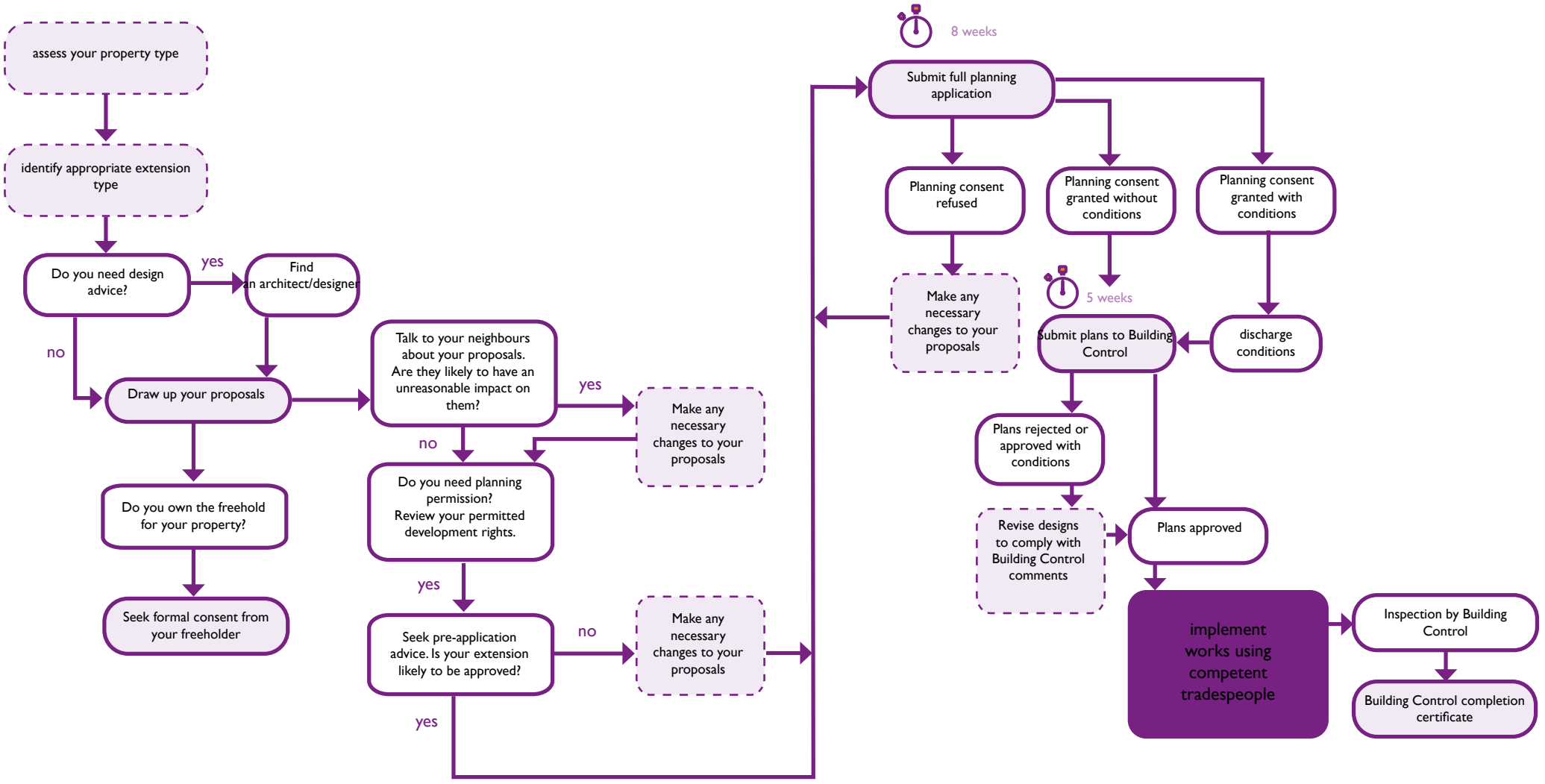
i.175 Please refer to the local validation checklist for full details: https://www.royalgreenwich.gov.uk/downloads/download/691/local_information_requirements_list_for_planning_applications

BUILDING CONTROL:

i.176 Before you commence any development work, you must also serve a building notice or submit a full plans application.

i.177 You can do this using the local authority building control service. Building Regulations assess whether a development is constructed to an appropriate standard, assessing matters such as foundations, drains and structural requirements.

i.178 You can find their details below.
Address: Fifth floor, The Woolwich Centre, 35 Wellington Street, Woolwich SE18 6HQ
Email: building.control@royalgreenwich.gov.uk
Tel: 020 8921 5410


assess your property type
identify appropriate extension type
Do you need design advice?
yes
Find an architect/designer
no
Draw up your proposals
Do you own the freehold for your property?
Seek formal consent from your freeholder
Talk to your neighbours about your proposals. Are they likely to have an unreasonable impact on them?
yes
Make any necessary changes to your proposals
no
Do you need planning permission? Review your permitted development rights.
yes
Seek pre-application advice. Is your extension likely to be approved?
no
Make any necessary changes to your proposals
yes
8 weeks
Submit full planning application
Planning consent refused
Planning consent granted without conditions
Planning consent granted with conditions
Make any necessary changes to your proposals
5 weeks
Submit plans to Building Control
discharge conditions
Plans rejected or approved with conditions
Revise designs to comply with Building Control comments
Plans approved
implement works using competent tradespeople
Inspection by Building Control
Building Control completion certificate