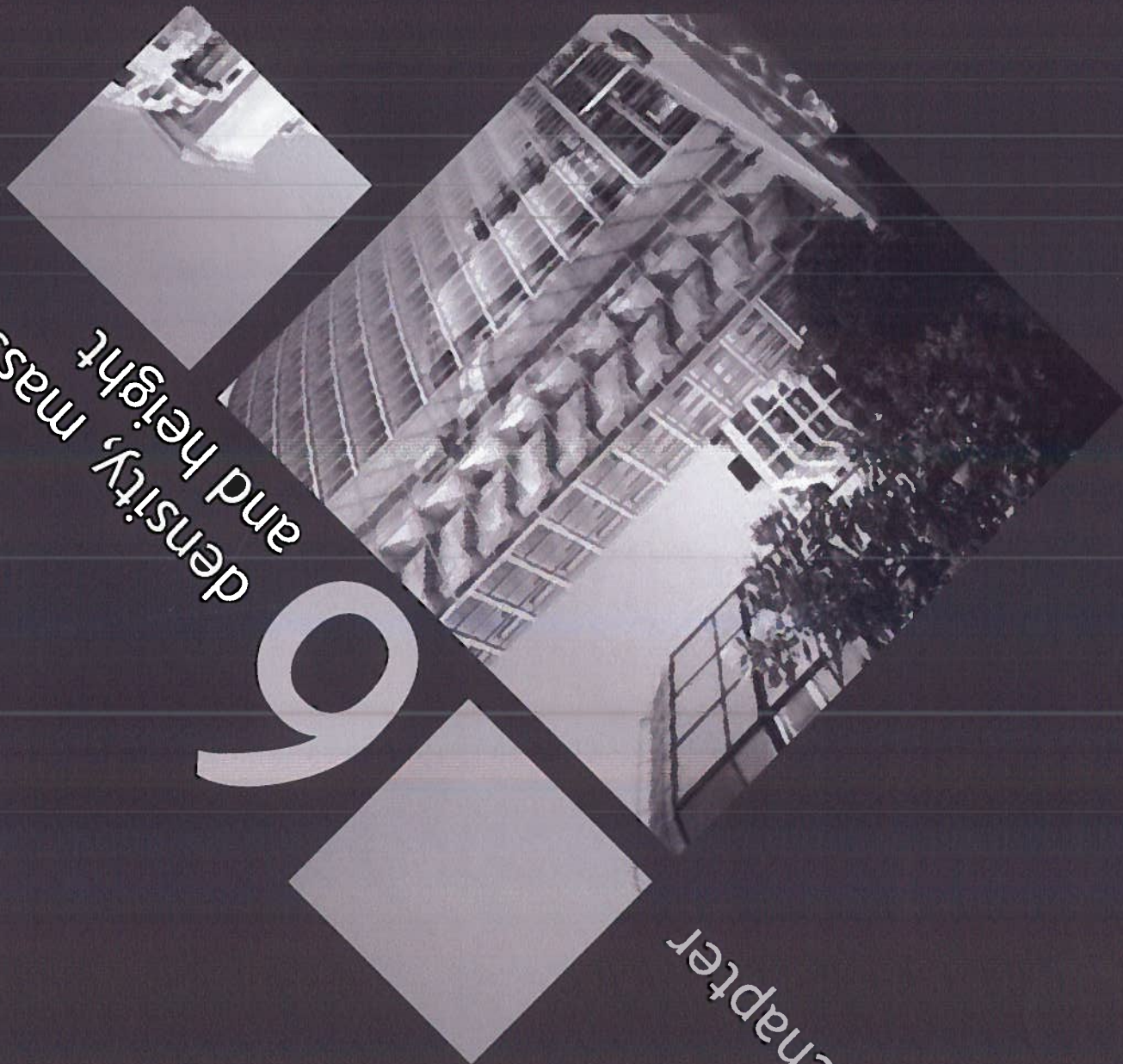


density, mass  
and height

# 9

Chapter



## chapter 06 density, mass and height

### RCAAP Policy RC13: TALL BUILDINGS

In Reading, tall buildings are defined as 10 storeys of commercial floorspace or 12 storeys of residential (equating to 36 metres tall) or above. Tall buildings will meet all the requirements below.

- 1) Within Reading Borough, tall buildings will only be appropriate within the 'areas of potential for tall buildings' as defined on the Proposals Map. These areas are as follows:

RC13a Station Area Cluster  
RC13b Western Grouping  
RC13c Eastern Grouping

Figure 8.2\* gives an 'at a glance' diagrammatic indication of the principles for each area set out in the following sections.

#### ii) RC13a, Station Area Cluster:

A new cluster of tall buildings with the station at its heart will signify the status of the station area as a major mixed-use destination and the main gateway to and most accessible part of Reading.

Tall buildings in this area should:

- Be located at the centre of the cluster, close to the station, and step down in height from that point towards the lower buildings at the fringes;
- Contribute to the creation of a coherent, attractive and sustainable cluster of buildings with a high quality of public realm;
- Ensure that adequate space is provided between the buildings to avoid the creation of an overly dense townscape and to allow buildings to be viewed as individual forms;
- Be designed to fit within a wider planning framework or master plan for the area, which allows separate parcels of land to come forward at different times in a co-ordinated manner.

\* Reproduced as figure 6.1 in this document

#### iii) RC13b, Western Grouping:

A small number of tall buildings would be appropriate to create a distinctive grouping, focused along the line of the IDR, to mark the area as the civic heart of Reading and a gateway to the centre.

Tall buildings in this area should:

- Be distinctive landmarks of a complementary design;
- Be generally lower in height than the tallest buildings appropriate for the station cluster, as well as slimmer and spaced further apart;
- Be linked to the physical regeneration of a wider area and should not be proposed in isolation;
- Where buildings are to be integrated or front onto existing streets, include upper storeys of the taller structures that are set back from a base which is in line with the general surrounding building heights, particularly where the structure adjoins a conservation area;
- Not intrude on the key view between Greyfriars Church and St Giles Church, and a view from the open space in the Hosier Street development to St Mary's Church.

#### iv) RC13c, Eastern Grouping:

One or two landmark buildings situated at street corners or other gateway sites are appropriate to mark the extent of the business area.

Tall buildings in this area should:

- Be of a smaller scale than the tallest buildings around the station;
  - Be slim in nature and avoid dominant massing;
  - Avoid setting back upper storeys on Kings Road in order to align strategic views into and out of the centre;
  - Not intrude on the view from Blakes Bridge towards Blakes Cottages.
- One tall building is already under construction, and if the permitted tall building at 120 Kings Road is constructed there will no longer be scope for additional tall buildings in this area.

v) In addition to the area-specific requirements, all tall building proposals should be of excellent design and architectural quality, and should:

- Enhance Reading's skyline, through a distinctive profile and careful design of the upper and middle sections of the building;
- Contribute to a human scale street environment, through paying careful attention to the lower section or base of the building, providing rich architectural detailing and reflecting their surroundings through the definition of any upper storey setback and reinforcing the articulation of the streetscape;
- Contribute to high-quality views from distance, views from middle-distance and local views;
- Take account of the context within which they sit, including the existing urban grain, streetscape and built form and local architectural style;
- Avoid bulky, over-dominant massing;
- Preserve and, where appropriate, enhance the setting of conservation areas and listed buildings;
- Use high quality materials and finishes;
- Create safe, pleasant and attractive spaces around them, and avoid detrimental impacts on the existing public realm;
- Locate any car parking or vehicular servicing within or below the development;
- Maximise the levels of energy efficiency in order to offset the generally energy intensive nature of such buildings;
- Mitigate any wind speed or turbulence or overshadowing effects through design and siting;
- Ensure adequate levels of daylighting and sunlit areas are able to reach buildings and spaces within the development;
- Avoid significant negative impacts on existing residential properties and the public realm in terms of outlook, privacy, daylight, sunlight, noise, light glare and night-time lighting;
- Provide managed public access to an upper floor observatory and to ground floors where appropriate, and ensure that arrangements for access within the building are incorporated in the design stage;
- Incorporate appropriate maintenance arrangements at the design stage.

## density, mass and height

### Wider policy

6.1 The Council has produced a number of local development documents and evidence studies in respect of density, mass and height which relate to central Reading and the Station Area.

6.2 Building height and massing in the wider central area is addressed in the RCAAP, particularly policies RC1-3 and RC13. Guidance in this Station Framework interprets and applies the Plan policies.

6.3 Much of the Station Area is defined as an area of potential for tall buildings, where tall buildings can potentially contribute to and not harm the urban character. The framework therefore explores a series of organising principles to guide and control tall buildings in the Station Area.

6.4 A series of height, massing and sectional studies have been undertaken, particularly examining the inter-relationship of tall buildings immediately around the Station and beside the railway tracks. These studies form the basis of the following guidance on density, mass and scale.

### Perimeter blocks

6.5 One aim of the density, scale and massing guidance is to promote the formation of perimeter blocks wherever possible. Perimeter blocks are considered to be a particularly robust form of urban development capable of accommodating a mix of uses, providing amenity space within the centre of each block whilst framing and reinforcing the network of streets and the pedestrian grid.

### Guidelines

6.6 Tall buildings and high density developments are an integral part of the vision for central Reading. The Framework therefore provides guidance on the density, mass and scale of new developments.

6.7 The guidance does not address the detailed design of tall buildings which should be individually assessed on their design merits and in the context of other policies and considerations, including those on design, amenity, sustainability and other matters.

6.8 The guidance is intended to accord with the Core Strategy, the RCAAP, and CABE and English Heritage's 'Guidance on Tall Buildings'.

Figure 6.4 Density, mass and height controls and definitions

### Three-fold approach

6.9 A summary of the proposed measures relating to density, mass and scale/height is given in figure 6.4. All of the measures are for general guidance purposes only and dependent upon the highest standards of design quality and amenity being achieved.

6.10 The specific guidelines on density, mass and scale described on the following pages are inter-dependent and are designed to combine into a coherent set of inter-related controls: a three-fold approach. This three-fold approach is illustrated in figure 6.3.

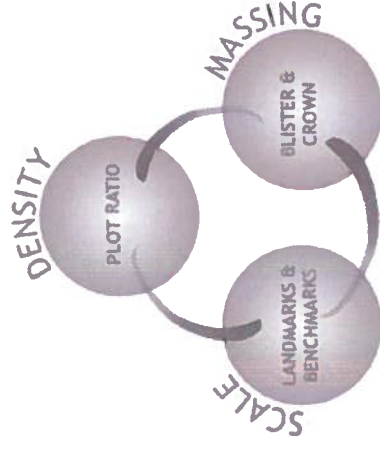


Figure 6.3 Combined density, mass and height controls

Density	<p><b>Plot ratio</b> The ratio of the total floor area of buildings to the size of the parcel of land on which they are to be located. The Framework sets a range of indicative densities based upon an analysis of the capacity and constraints on individual plots, which can be translated into broad plot ratio ranges. The range is expressed as a percentage so that a ratio of 250% is equivalent to ratio of 2.5:1</p> <p><b>Landmarks</b> Individual or groups of tall or prominent buildings which can enable people to orientate themselves and recognise where they are, emphasise important places or districts and create a distinctive and memorable skyline. Landmark heights will often exceed benchmark height controls and may exceptionally breach the 'blister' massing control principle.</p> <p><b>District landmarks</b> The very tallest and most prominent buildings visible and distinguishable from across the central Reading district.</p> <p><b>Local landmarks</b> Tall or prominent buildings above ten storeys which are nevertheless clearly subordinate and therefore lower than district landmarks.</p> <p><b>Benchmarks</b> The benchmark height is the recommended height for each plot or parcel of land, apart from landmark buildings. A plot may have a relatively low benchmark height as well as a landmark designation permitting a taller building on one part of the plot. Benchmark heights do not exceed ten storeys because ten storeys automatically triggers tall building policies, design guidance and the landmark height controls. The Benchmark height is defined in storeys, not metres. Benchmark heights are not absolute limits and may be modified upwards in certain circumstances.</p>
Height/ Scale	<p><b>Crown</b> A cluster of district and local landmark buildings located in close proximity so that they coalesce visually into a single coherent urban form or composition. The crown denotes the railway Station as the gateway to the town centre and the central or focal point of the Station Area.</p> <p><b>Blister</b> The general shape or silhouette of development formed by buildings in the Station Area where lower buildings at the periphery gradually rise higher towards the centre. The pattern may be varied but not irregular, with no sudden shifts in scale.</p>
Mass	

Station Cluster

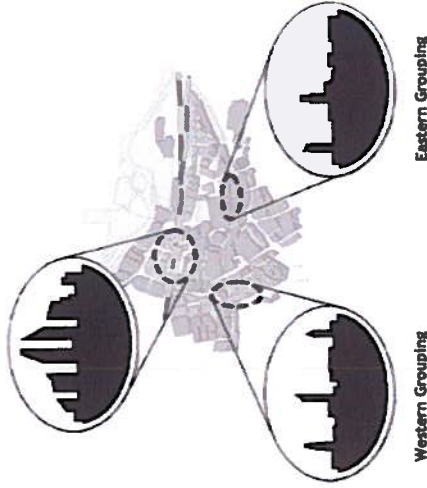


Figure 6.1 Diagrammatic Indicative representation of the Station Cluster (Adopted RCAAP).

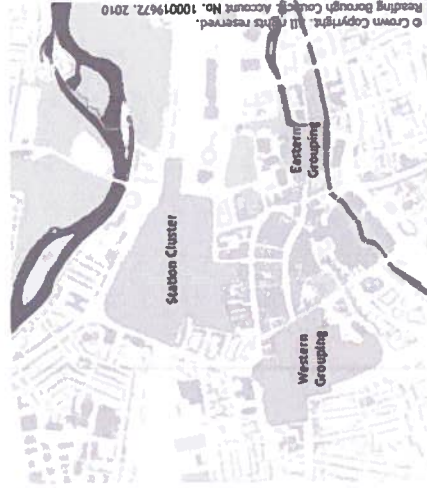


Figure 6.2 Locations potentially appropriate for tall buildings under RCAAP policy RC13

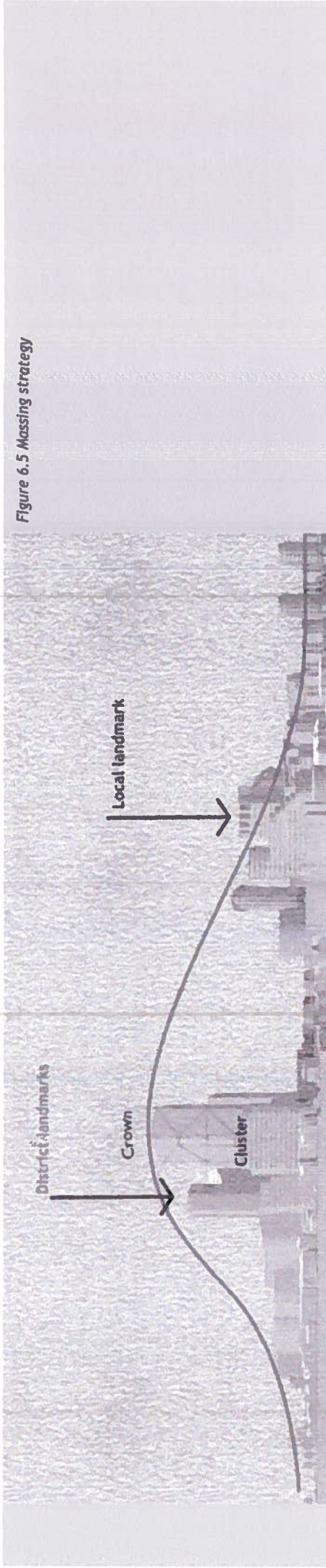


Figure 6.5 Massing strategy

### Area massing principles

6.11 Development in the Station Area should be characterised by high density development with an intense, fine grained urban fabric framing flexible development plots capable of adaptation to many land uses, combinations of land uses (vertical and horizontal) and many building types and forms.

6.12 Tall buildings should rise up around the Station 'nexus'.

6.13 The approach to building massing should be dramatic with a new cluster of taller buildings forming a new and distinctive skyline for the Station Area as a centrepiece of the centre.

6.14 The 'dome' of development is identified with the 'crown', the area of greatest permissible height, immediately adjoining and to the south of the Station entrance.

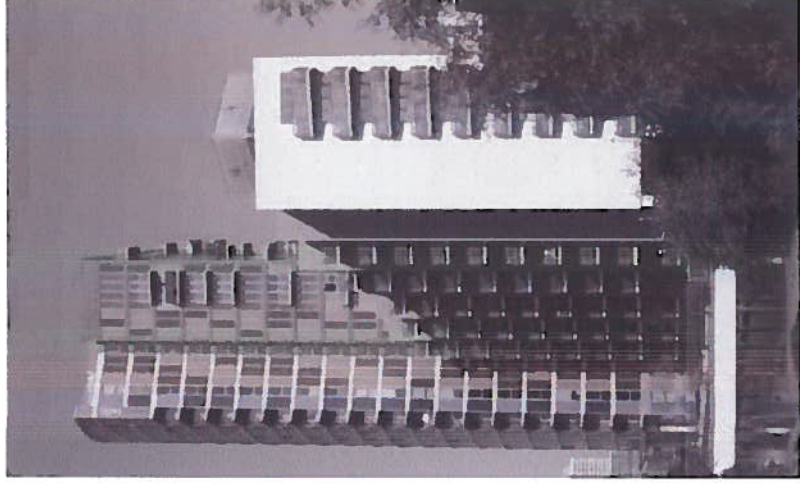
### Defining the 'crown'

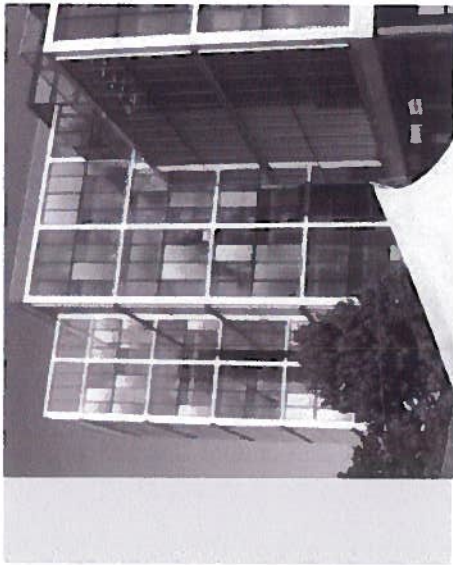
6.15 The area close to the southern Station entrance has been selected as a suitable place for the tallest buildings and for a cluster of tall buildings for the following reasons:

- The Station entrance is a major transport node at the heart of the northward extension of the town centre.
- A cluster will mark the Station as an important place and landmark in itself.
- The area marks a bluff or low hill with the ground rising from the Thames flood plain to the east, north and west. Building heights can mirror this topography. Conversely, lower buildings are to be encouraged on the lower ground.
- The combination of proximity to the Station and the existing core of the town, the availability of suitable sites and current development interest.

• The area is suitable for the formation of a cluster of tall buildings which will form a dramatic skyline in views from higher ground and open space to the north and also in views from the south east and south west.

- There are appropriately sized sites available for development in the short and medium term so that the setting of tall buildings can be controlled and adapted in ways which may not be possible with small or confined sites.
- The Council has resolved to grant the Station Hill redevelopment scheme (SH2). The redevelopment of the area will change the character of the central area by introducing a tall building cluster.
- The relative lack of areas sensitive to tall buildings compared to other potential locations.
- RCAAP policy RC13 requires that the tallest buildings will be located in the centre of the cluster, and gradually step down in height to the outer areas.





## Density

6.16 Strategic and local development policies require that new developments make the best possible use of their sites to accommodate planned growth. The general aim for the Area is therefore to maximise densities provided this is compatible with the local context, urban and sustainable design principles and public transport capacity.

6.17 The purpose of the density ranges, outlined in figure 6.7, is to guide the intensity of development and enable assumptions to be made about the impact of development. They are not exact building controls but provide a general indication of the range of densities likely to be appropriate, subject to other considerations.

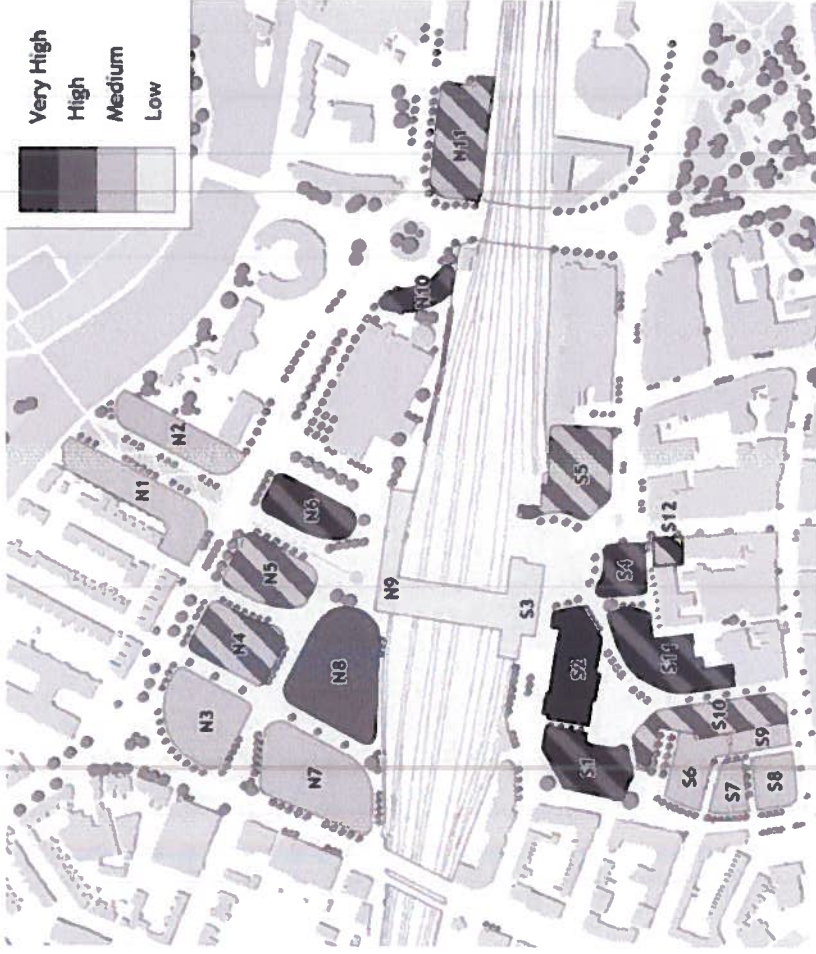


Figure 6.6 Indicative appropriate densities for individual development plots

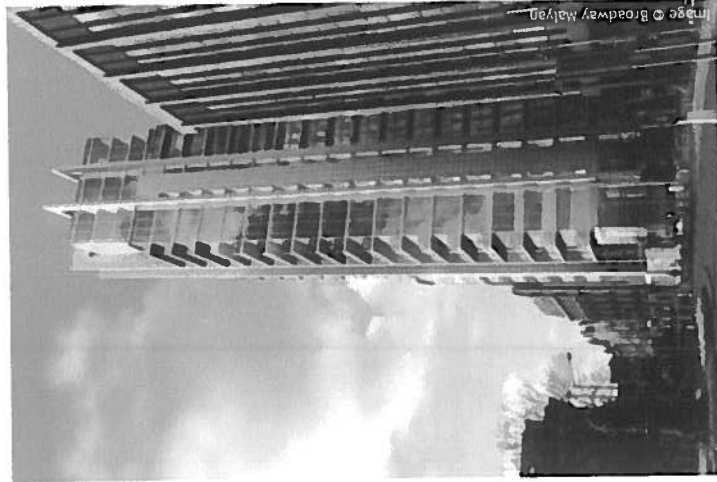
6.18 The densities equate approximately to the following plot ratios:

- Low: Less than 200% (or 2:1)
- Medium: 200-500% (or 2:1 - 5:1)
- High: 500-1,000% (or 5:1 - 10:1)
- Very High: More than 1,000% (or 10:1)

6.19 Generally, low densities, e.g. those found in suburban areas, are not appropriate for the Central Area due to the levels of accessibility and high land values. The exception is the new station complex, as higher densities are not considered to be achievable (see paragraph 9.11).

Plot reference	Density range
N1	Medium
N2	Medium
N3	Medium
N4	Medium - High
N5	Medium - High
N6	High - Very High
N7	Medium
N8	High
N9	Low
N10	High - Very High
N11	Medium - High
S1	High - Very High
S2	Very High
S3	Low
S4	High - Very High
S5	Medium - High
S6	Medium
S7	Medium
S8	Medium
S9	Medium
S10	Medium - High
S11	High - Very High
S12	Medium - Very High

Figure 6.7 Density guidance



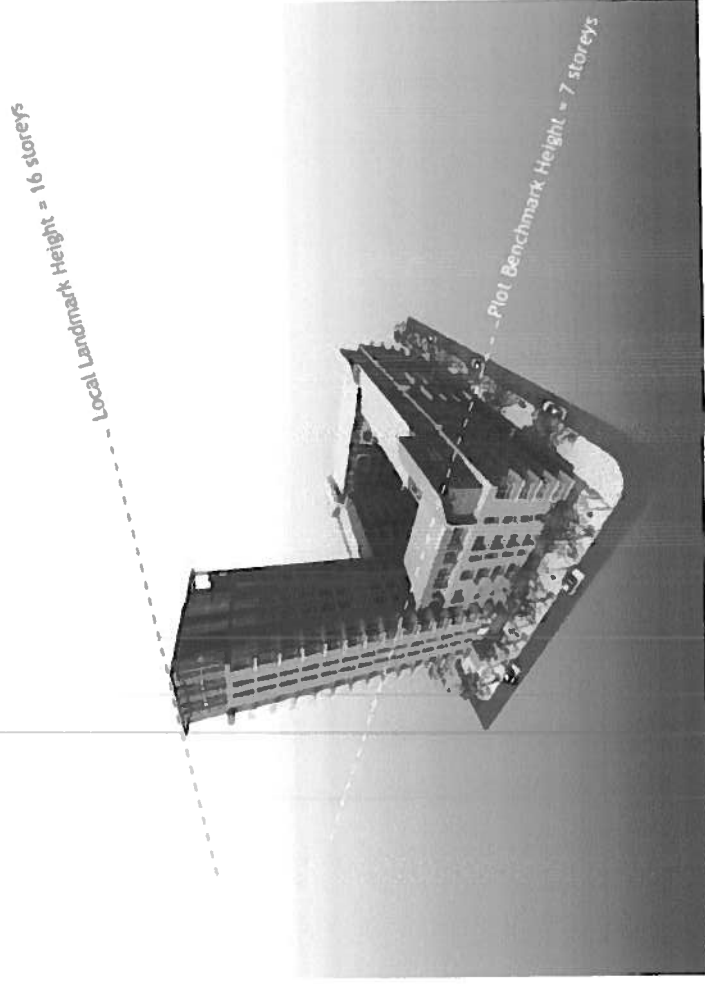
### Building heights

6.20 The approach to the height guidelines set out in figures 6.8 and 6.9 is a simple one. Two main measures, landmark heights and benchmark height, are applied to each main development area which may then be modified according to circumstances.

6.21 Benchmark and landmark heights are applied to areas broadly defined by the urban design and development analysis in this Framework which identifies the major development sites and the main blocks of development between the existing and proposed pattern of streets and public spaces.

6.22 The benchmark height is the general recommended height for each area. The benchmark height is defined in commercial storeys, not metres and does not exceed ten storeys because this is the point at which tall building controls and design guidance applies. As a general rule, 10 commercial storeys equate to 12 residential storeys.

6.23 Benchmark heights may be modified upwards in order to realise certain urban design or other major planning benefits, or where applicants have demonstrated convincingly that the potential impact of higher buildings on the surroundings can be mitigated.



6.24 Benchmark heights are not guarantees and may be modified downwards where it becomes clear that proposed buildings will harm residential amenity or affect the setting of listed buildings, important views or open spaces.

6.25 There is a general presumption that benchmark heights should grade back to the established heights in the surrounding areas.

6.26 Landmark buildings may exceptionally 'puncture' the benchmark heights and the general 'dome' massing pattern in order to create emphasis and to mark important places. It is not envisaged that every potential landmark location in figure 6.9 will necessarily provide a landmark building.

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Figure 6.8 Main development plots

Plot reference	Benchmark	Landmark
N1	4	None
N2	6	None
N3	6	None
N4	7	Local
N5	8	Local
N6	*	Local
N7	6	None
N8	8	Local
N9	6	None
N10	8	Local
N11	8	Local
S1	*	Local
S2	*	District
S3	4	None
S4	*	Local
S5	6	Local
S6	6	None
S7	6	None
S8	6	None
S9	6	None
S10	8	Local**
S11	8	District**
S12	*	Local

\* Benchmark height likely to be at least 10 storeys - refer to tall building policies and design guidance.

\*\* Only parts of the plot within the Tall Buildings Clusters as defined by the RCAAP are appropriate for landmarks.

Figure 6.9 Scale/height guidelines

6.27 The Station Area borders the attractive open spaces and nature areas of the Thames riverside. The area also has an exceptional built heritage, both archaeological and architectural. Building heights should have regard to the qualities of buildings and areas of architectural and historic interest and important views and prospects.

6.28 Whilst encouraging high density generally, the Framework does not necessarily advocate the provision of tall buildings across the Area. Much of the surrounding area consists of fairly low density, low rise residential areas. High-density development can also be achieved through lower-rise compact development forms and this will be particularly appropriate immediately adjoining low rise residential areas to the west of Caversham Road and the residential streets leading from Vastern Road northwards towards the Thames (e.g. Lymouth Road).

6.29 A transition zone (buffer zone) should be formed towards adjacent areas (particularly the historic core of the town and low-rise residential areas to the west and north) with heights stepping down so that they relate appropriately to surrounding development and residential areas. Development should respect the amenity, privacy and light requirements of these properties, and not have significant detrimental effects on them in terms of noise and pollution.

6.30 All plant on top of tall buildings will need to adequately screened from public view.

### Sensitive receptors

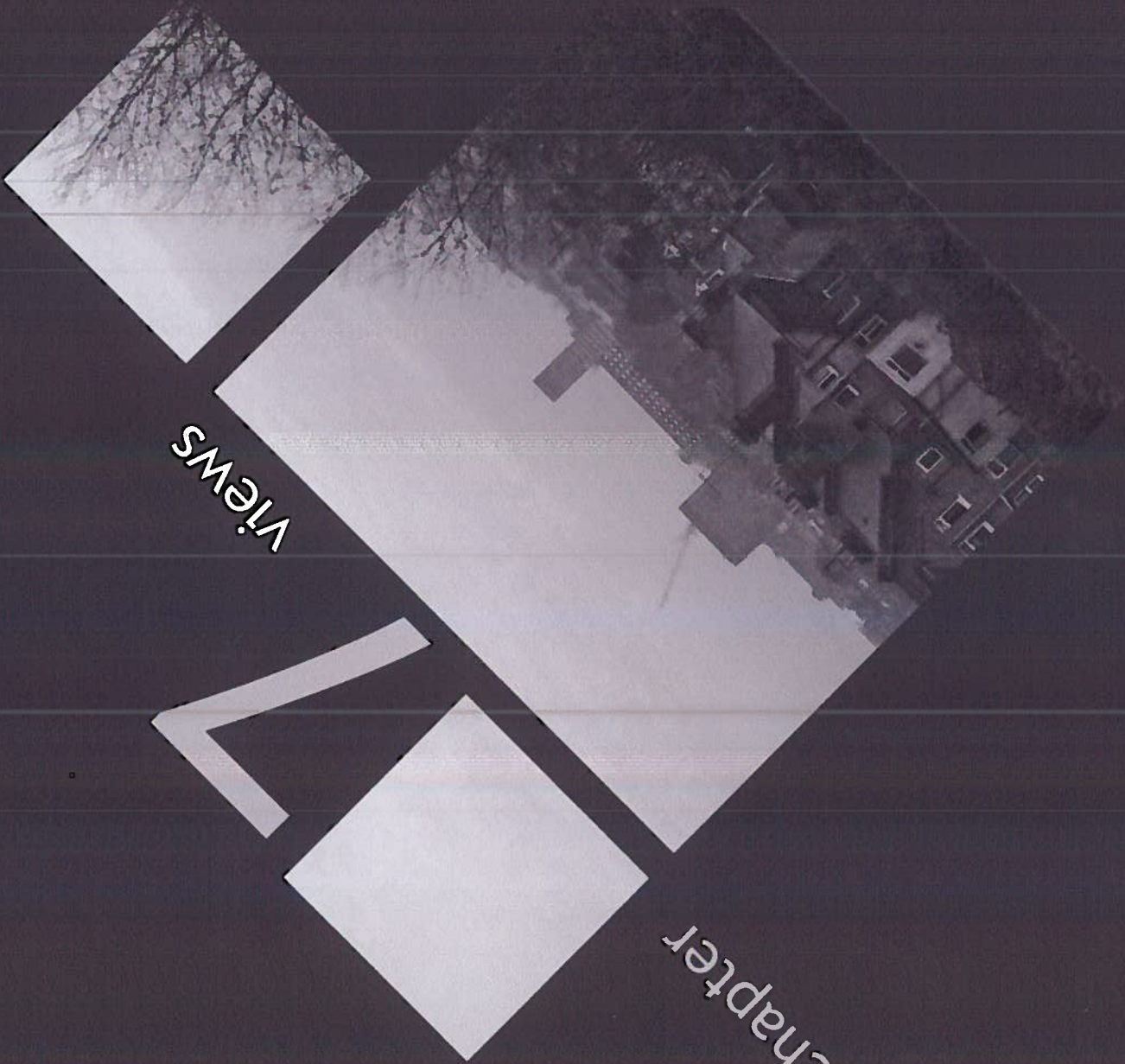
6.31 A number of constraints impose limits on the densities that can realistically be achieved in some parts of the area. The Station Area is already well developed and most sites are already constructed to relatively high plot ratios. Parts of the area are 'sensitive' to intensification in terms of the established urban character or the need to safeguard residential amenity.

6.32 Areas which might be harmed by high density development ('sensitive receptors') are indicated in figure 6.10. It is important to ensure that new development in or near such areas does not harm local amenity or the established urban character. Figure 6.10 also shows the overall height strategy (the 'crown' and 'blister' concept).

6.33 New buildings, whether or not they lie within the boundaries of a Conservation Area, will be expected to make a positive contribution to the area and they should conserve and where appropriate enhance the character or appearance of Conservation Areas and conserve the setting of listed buildings.







Views

Chapter

# views

7.1 It is likely that the scale of development proposed will have a significant effect on views within the Station Area and the rest of the centre, and on views of the centre from further afield.

7.2 This section identifies key views, and potential views, of the Station Area. They have been derived from various sources, including the Tall Buildings Strategy and evidence for the Reading Central Area Action Plan, and detailed work relating to the Station Hill application. They should be taken into account in considering development proposals in the area.

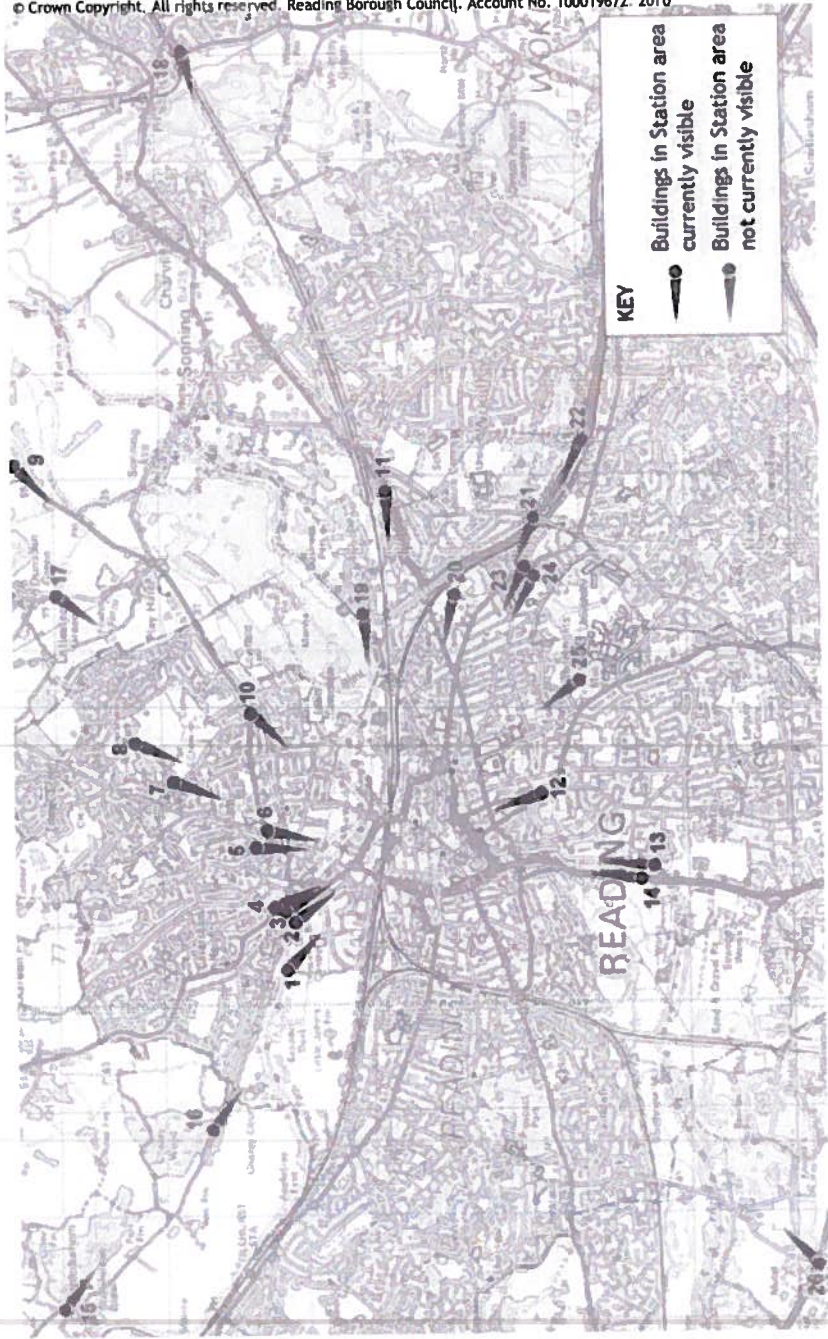
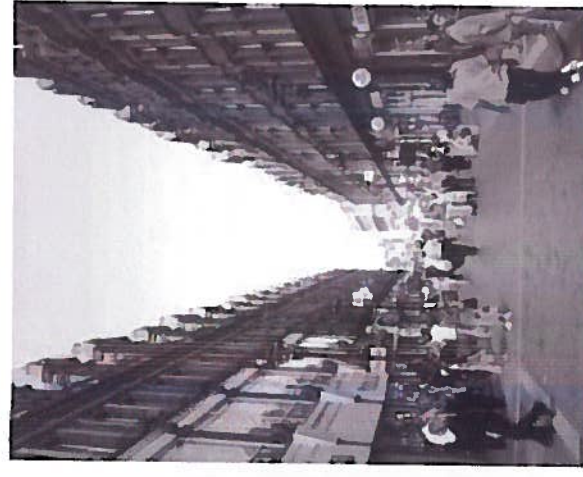
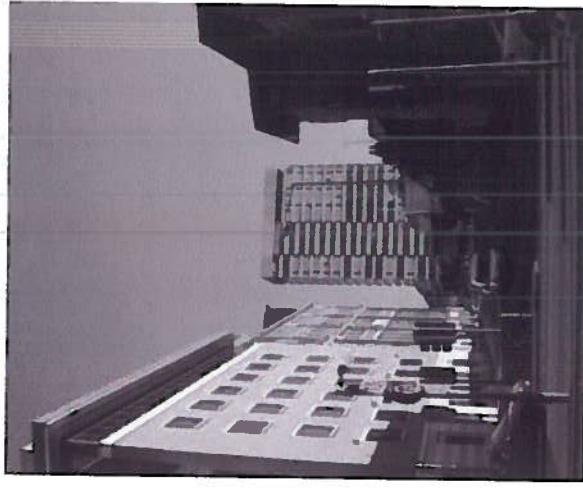


Figure 7.1 Longer-distance views



### Longer distance views

7.3 Figure 7.1 identifies longer-distance views that should be considered, i.e. those over 0.5 km from the Station Area boundary.

7.4 Buildings within the Station Area are already visible from some viewpoints:

1	Thames Promenade at northern end of Cow Lane
2	Thames Promenade opposite canoe club
3	Caversham Court Gardens
4	St Peter's Churchyard
5	Balmore Walk
6	Junction of Prospect Street and Peppard Road
7	Horse Close
8	Caversham Park
9	Span Hill (A4155)
10	Junction of Henley Road and Lower Henley Road
11	A4 at Shepherds Hill, Earley
12	Junction of Mount Pleasant and Southampton Street
13	Rose Kiln Lane at bridge over River Kennet
14	A33 near water treatment works

7.5 Generally Western Tower, Thames Tower and the ibis/Novotel hotels are the main buildings visible, although from some viewpoints, e.g. Balmore Walk, many of the lower-rise buildings are also evident. The emphasis from these points will be enhancement of the views, and on making a positive contribution to an overall skyline for Reading.

7.6 From other points, taller buildings may bring the Station Area into the view for the first time:

15	Unclassified road north of Mapledurham
16	The Warren footpath at Chazey Wood
17	Dunsden Way, south of Dunsden Green
18	Hurst Road, Twyford
19	Thames Path at Thames Valley Park
20	Palmer Park
21	Church Road, Earley at bridge over A3290
22	Footbridge at Earley station
23	Junction of Wokingham Road and Green Road
24	Green Road
25	Whiteknights Campus, University of Reading
26	Burghfield Road at bridge over M4

7.7 From these points, the emphasis will be on ensuring that, where development is visible, that it makes a positive contribution to the view.

### Shorter-distance views

7.8 There are a number of important views within the central area which development in the Station Area has the potential to affect. Some of these are panoramic views of the centre, others are direct views of the Station Area, while others still are local views of individual streets or spaces where buildings in the Station Area may form a backdrop. Not all views will be applicable to all developments.

27	Chatham Street
28	Weldale Street
29	Great Knollys Street
30	Junction of Friar Street and Greyfriars Road looking along Friar Street
31	Junction of Friar Street and Greyfriars Road looking along Greyfriars Road
32	Vachel Road
33	Junction of Vachel Road and Greyfriars Road
34	Stanshawe Street
35	Tudor Road
36	Network Rail depot
37	Cardiff Road
38	Northfield Road
39	Caversham Road
40	Caversham Bridge
41	War memorial, Christchurch Meadows
42	Wolsey Road
43	Christchurch Meadows

44	De Montfort Road
45	Lynnmouth Road
46	Reading Bridge looking west
47	Reading Bridge looking south west
48	Hills Meadow
49	Kings Meadow
50	Napier Road
51	Forbury Road near Reading Prison
52	Junction of Forbury Road and Vastern Road
53	Forbury Gardens
54	Blagrove Street
55	St Laurence's Church
56	Duke Street and Market Place
57	Queen Victoria Street
58	Station Road
59	Friar Street looking west
60	Unton Street
61	Junction of Castle Street and St Mary's Butts

7.9 Views of particular sensitivity are those where historic assets form part of the composition of the view. These are marked in red on figure 7.2, and, in these cases, the effect any change to the view has on the historic asset should be taken into account. For other views, the emphasis will be on ensuring that, where development is visible, that it makes a positive contribution to the view.



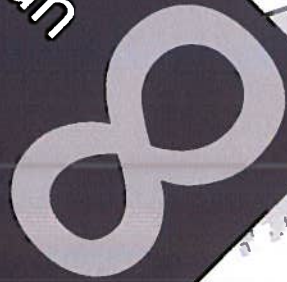
Figure 7.2 Shorter-distance views

7.10 The new development will result in new views being opened up within the Station Area itself. Of particular significance are views along the direct north-south link, between the Station and the Thames, where there should be an unbroken line of sight.



62	Station Square north looking north
63	New public space on Thames looking south

Urban design  
framework



Chapter

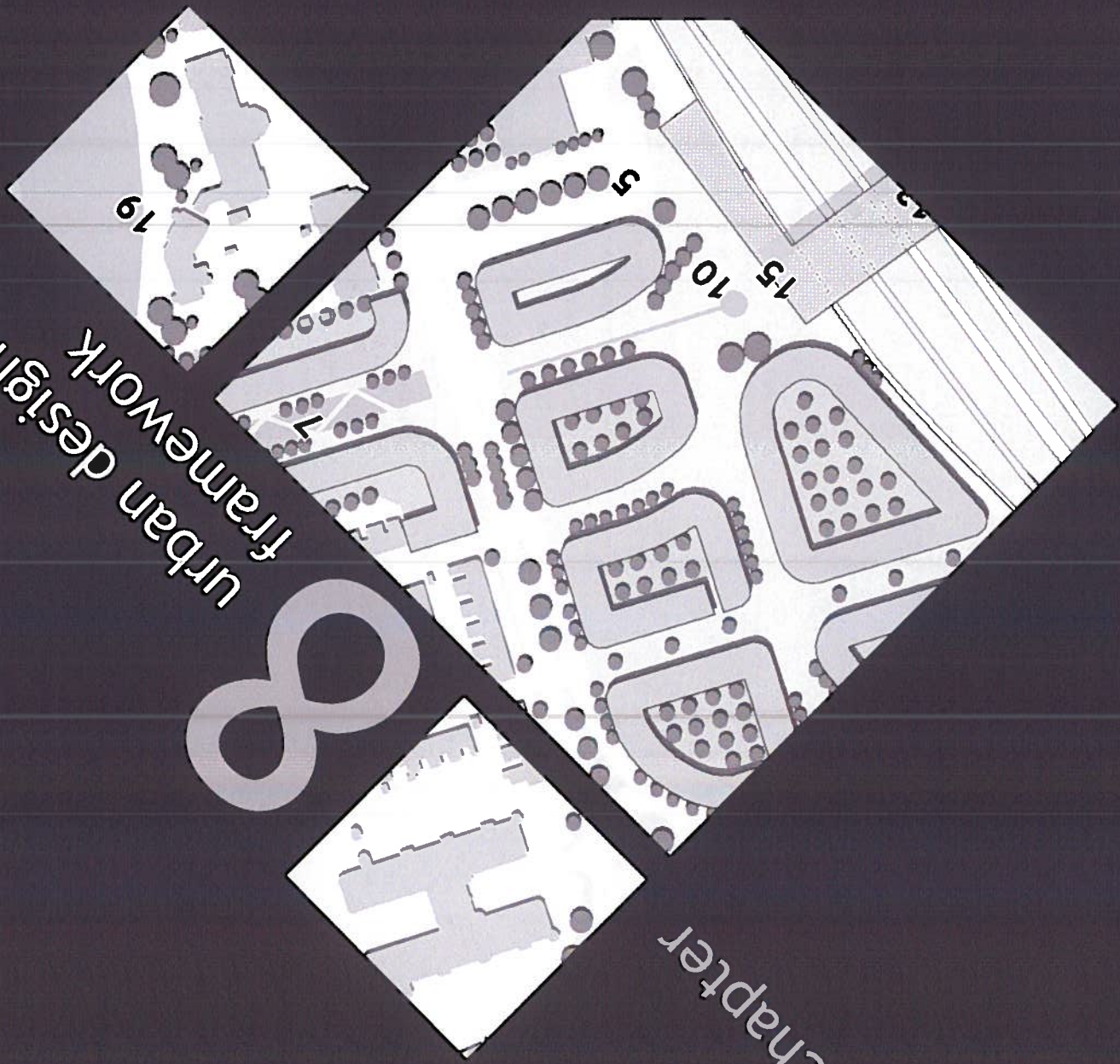


Figure 8.1 Exemplars



Potsdamer Platz, Berlin

City of London north fringe (City Wall and Broadgate)

Paddington Basin and Paddington Central, London

Brindley Place, Birmingham

## urban design framework

8.1 This chapter sets out the Urban Design Framework based on an analysis of the planning policy context and the site. It outlines the principles that will underpin the successful transformation of this area by:

- Integrating transport infrastructure with development;
- Creating a mix of complementary land uses; and
- Promoting high quality buildings, streets and spaces.

8.2 The framework has been developed in the light of a long history of design work in this area, including the City Centre Framework, as well as a series of central area urban redevelopment schemes of a similar scale and mix. These are illustrated in figure 8.1. The Framework needs to be read in conjunction with design policies in the Core Strategy (CS7) and the RCAAP (RC5).

8.3 The framework is based upon five key concepts:

- Establishing a layout that maximises the potential of sites compatible with the local context;
- Creating permeable development that strengthens north-south links and improves connectivity across the area;
- Integrating public spaces and active frontages to establish vibrant, safe and enjoyable areas and create a focus to the sites;
- Incorporating gateway and landmark buildings and focal points that create a 'sense of place' and identity for the area; and
- Complementing the character and historical context of the Central Area.



## A framework for development

8.4 Figure 8.2 illustrates the broad urban design structure that will guide the development and forms the foundation for this Framework.

8.5 The various diagrams aim to:

- Address infrastructure and connectivity, particularly the integration of the station and interchange with planned redevelopment;
- Resolve highways, servicing and car parking matters, highlighting potential conflicts/pressures;
- Describe a balance which has been struck, after testing, between routes, spaces and buildings. The development sites and parcels described in the diagrams result from site planning exercises which considered geometry and plot testing and found the approach to be robust. The overall framework is designed to be capable of accommodating a wide variety and many combinations of land uses at a range of densities;
- Describe a potentially high density central district which is compact and urban in character, connected to the existing town centre and which in turn connects to the surrounding inner suburbs;
- Specify the amount and distribution of open spaces and incorporate connections to adjoining spaces;
- Define parcels and plots in a way which works with the grain or pattern of land ownership so that development can progress in stages.

## chapter 08 urban design framework

### Core Strategy Policy CS7: DESIGN AND THE PUBLIC REALM

All development must be of high design quality that maintains and enhances the character and appearance of the area of Reading in which it is located. The various components of development form, including:

- Layout: urban structure and urban grain;
- Landscape;
- Density and mix;
- Scale: height and massing; and
- Architectural detail and materials.

will be assessed to ensure that the development proposed makes a positive contribution to the following urban design objectives: .

- Character - a place with its own identity and sense of place
- Continuity and enclosure
- Quality of the public realm
- Ease of movement and permeability
- Legibility - clear image and easy to understand
- Adaptability - capable of adaptation over time

- Diversity - meets a wide range of needs. Developments will also be assessed to ensure that they: -
- Respond positively to their local context and create or reinforce local character and distinctiveness, including protecting and enhancing the historic environment of the Borough and providing value to the public realm;
- Create safe and accessible environments where crime and disorder or fear of crime does not undermine quality of life or community cohesion;
- Address the needs of all in society and are accessible, usable and easy to understand by them; and
- Are visually attractive as a result of good high quality built forms and spaces, the inclusion of public art and appropriate materials and landscaping.

Applications for major and minor developments should be accompanied by a design and access statement that deal with all the above matters.

### RCAAP Policy RC5: DESIGN IN THE CENTRE

Applications for development within the Reading central area should demonstrate the following attributes:

- a. Development will build on and respect the existing grid layout structure of the central area, providing continuity and enclosure through appropriate relationships between buildings and spaces, and frontages that engage with the street at lower levels, and contributing towards enhanced ease of movement through and around the central area;
- b. Development will provide appropriate, well designed public spaces and other public realm, including squares, open spaces, streetscape, utilising high quality and well-maintained hard and soft landscape, public art, that provide suitable functions and interest, sense of place and safe and convenient linkages to adjoining areas;

- c. The architectural details and materials used in the central area should be high quality and respect the form and quality of the detailing and materials in areas local to the development site;
- d. Development and any associated public realm should contribute to the diversity of the central area, be capable of easy adaptation over time to meet changing circumstances, and be designed to enhance community safety.

## What the framework diagrams describe or guide

### Public Realm

8.7 The Framework identifies the approximate location, extent and inter-connectivity of the public realm forming the context for all development. The scale and distribution of the principal and secondary public spaces and the connecting streets and paths are indicated.

### Land Use

8.8 The Framework sets out a range of appropriate land uses in the area, and emphasises the principle of mixed use. The principal active and activity generating frontages are indicated.

### Transport and Access

8.9 The Framework indicates how development can integrate with transport infrastructure, particularly the rail station, interchanges, and pedestrian routes but also car parking, bus routes, cycle routes, roads and service access. The main distribution routes and indicative site accesses are shown.

### Railway

8.10 The Framework indicates the proposed railway 'footprint', the Station platform layout, concourse alignment and the Station entrances and potential connections across the railway.

8.6 In terms of the building plots identified, the Framework is a good indicator of the size and form of plots needed to achieve the level of permeability shown in figure 8.2. Plots of a slightly different size and shape, or sub-division of plots will be acceptable where the structure in figure 8.2 can still be achieved. Likewise, the building shapes identified in figure 8.3 are indicative of the appropriate type of building form, and deviation from these shapes that fulfils the aims of this Framework will be acceptable.



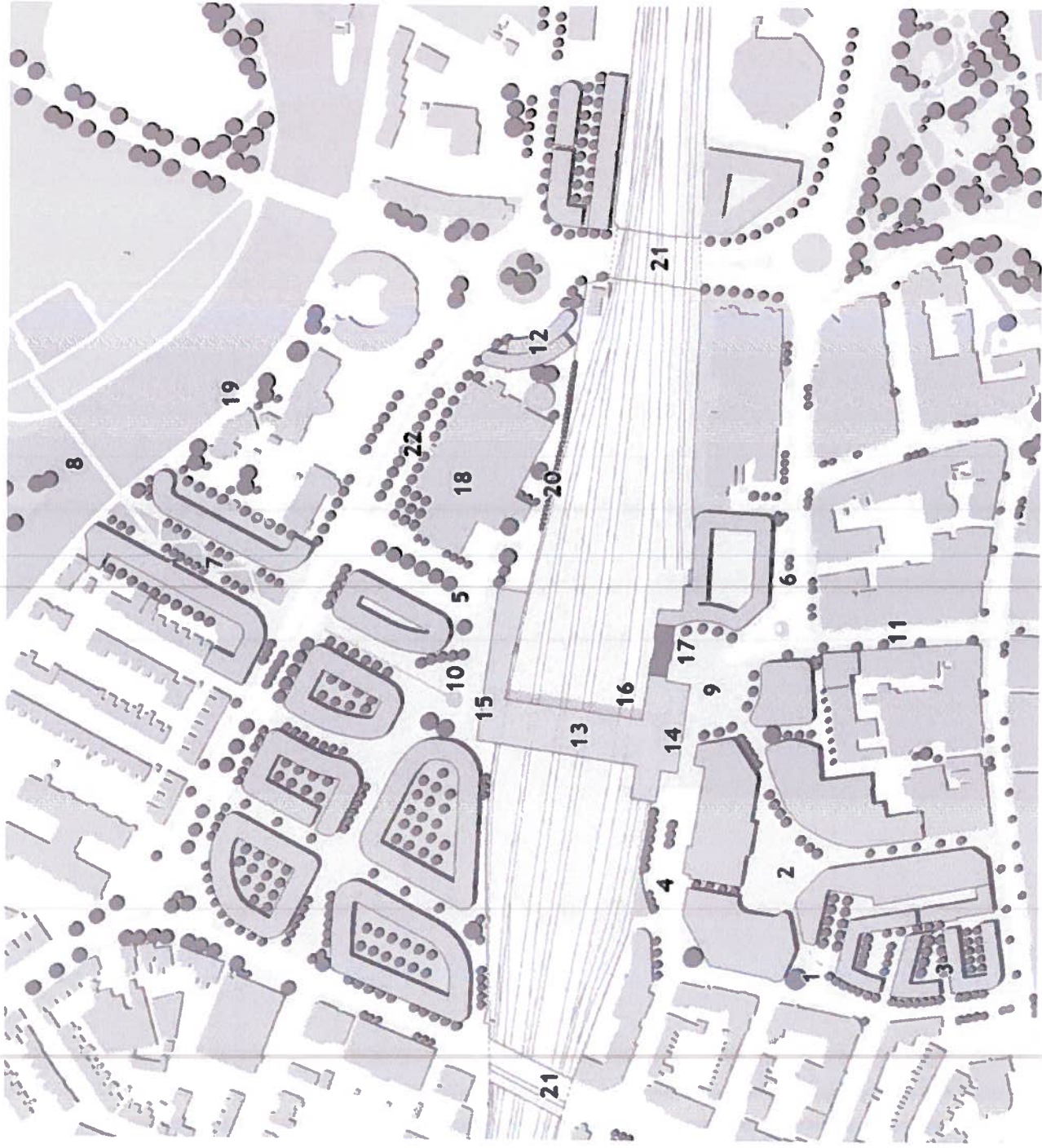


Figure 8.3 Framework diagram

Key	
1	Potential footbridge link across Garrard Street
2	Station Hill central piazza
3	Permeable network of lanes and alleyways, potentially connecting through to the Station Hill site
4	South west interchange
5	Northern interchange
6	South east interchange
7	Ingress of creek
8	Potential new foot and cycle bridge across the River Thames
9	Station square south
10	Station square north
11	Station Road pedestrian and bus priority scheme
12	Potential land mark building at Reading Bridge roundabout which masks the car park
13	Station overbridge
14	Station entrance south
15	Station entrance north
16	Widened and enhanced public subway link underneath the railway
17	Historic station entrance (the 'heritage building') in improved setting
18	Potential re-cladding with green walls or reinforced landscape buffers to car park
19	Riverside walk and strategic pedestrian route
20	Green walls to retaining wall adjoining the railway
21	Enhancements to pedestrian routes under the railway
22	Creation of a tree lined avenue along Vastern Road

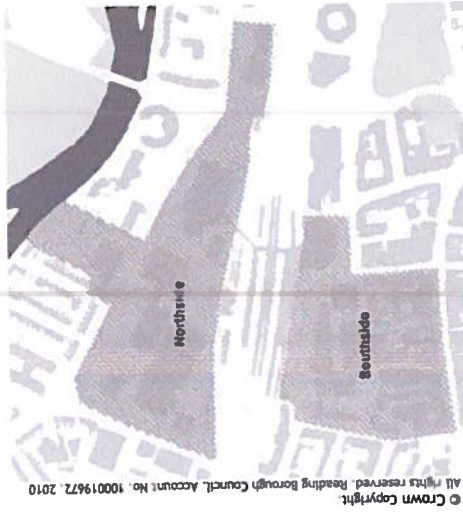


Figure 8.4 Northside and Southside

## Northside

8.11 The Framework portrays a grid of streets focusing upon the north side station entrance. The range and proportions of city blocks are such that they are able to incorporate a wide range of building forms and dimensions up to and including major new commercial and residential buildings (and also retail) with some scope for tall buildings as local landmarks. This area will incorporate car parking. A number of potential MRT corridors traverse the area, which should be protected.

8.12 There are three key elements of the public realm in the area: the north-south spine between the station and Thames (and across the river), and two public spaces along the spine - a new Station entrance square, and a public space on the southern bank of the Thames. In addition, high quality public realm will be created along new and existing streets, particularly the link to Caversham Road.

8.13 The new foot and cycle bridge across the Thames will improve access to the riverside open spaces and links between central Reading and Caversham, and will be a key element of the north-south spine.

8.14 Whilst new pedestrian links to the east are constrained by the existing station car park and proposed transport interchange, pedestrian routes that travel through to Reading Bridge/ Napier Road via the car park and interchange should nevertheless be provided.

8.15 The proposed new northern station entrance will connect into the station square. Potentially, commercial development can wrap around and over the station entrance. A new bus, taxi and vehicle set down will be located in front of the new entrance, around the existing station car park, and along Vasterm Road.

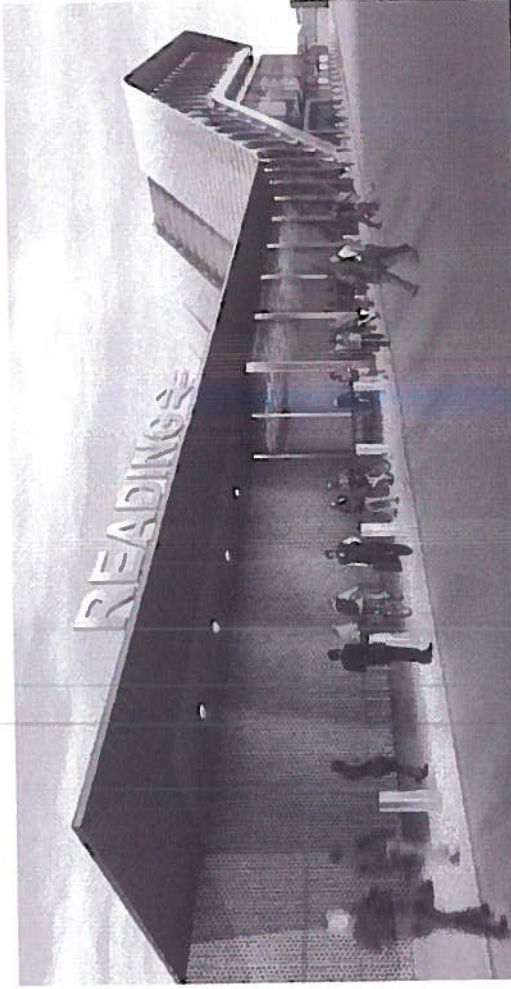


Figure 8.5 Proposed Northern Station Entrance (Network Rail)

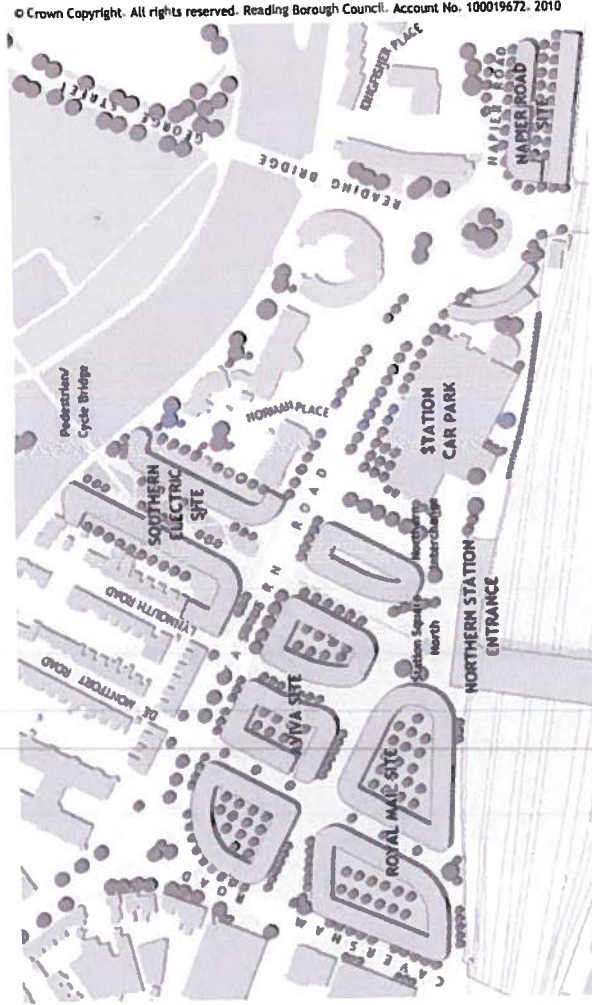


Figure 8.6 Framework for the Northside area

## Southside

8.16 Southside will contain a balanced mix of residential, commercial and retail development with leisure uses. The Framework portrays existing and proposed streets converging upon the new Southern Station entrance. The range and proportions of city blocks are more constrained than in Northside, due to the configuration of sites and ownerships and proximity to existing developments.

8.17 Some parcels are considered sub-optimal, but a balance has been struck with the need to provide routes and public spaces on the best alignments. Nevertheless, they are able to incorporate a wide range of building forms and dimensions up to and including major new commercial buildings (and also retail), with some scope for tall buildings including the buildings likely to be the tallest in central Reading.

8.18 The Framework illustrates a pedestrian route from Friar Street to the station passing through a new public space. This follows as direct a route as possible, given that an entirely direct diagonal path, when combined with the constrained dimensions of the site and land ownership boundaries, results in unnecessarily restricted development parcels. A second route travels northwards to a possible new second railway bridge/concourse, linking to the Northside development area. Routes through the area are aligned with surrounding streets to encourage better integration.

8.19 This area can incorporate a significant amount of undercroft car parking where the general ground plane is formed at the level of the station entrance, although active frontage and public routes will still be required at the lower level of the sites and connecting to the proposed subway link through the station. The northern edge of this area will share a boundary with the reconfigured bus interchange (the 'South West Interchange').

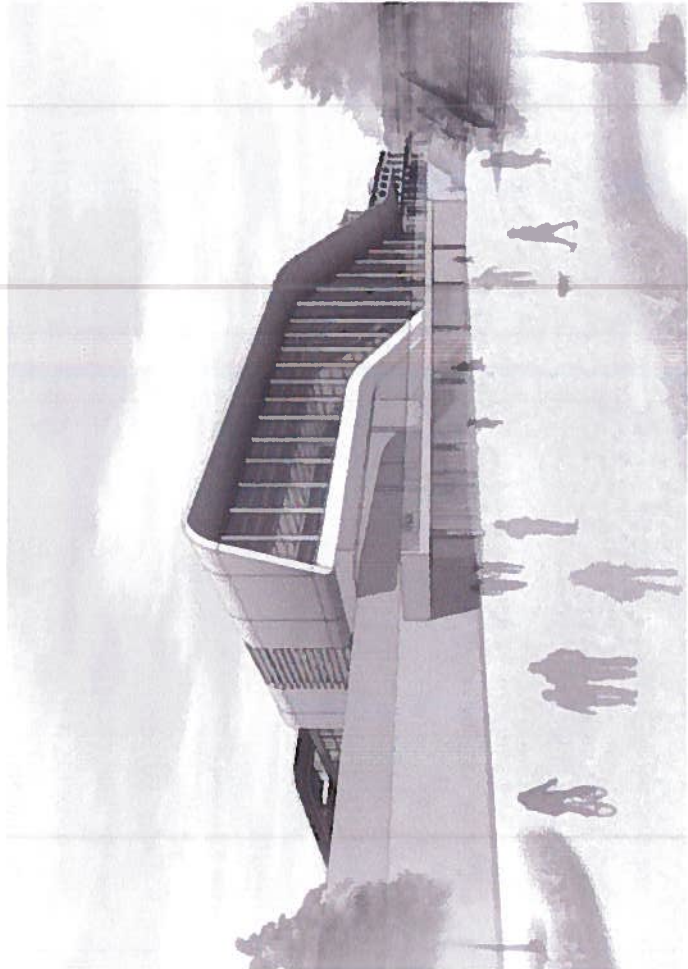


Figure 8.7 Proposed Southern Station Entrance (Network Rail)

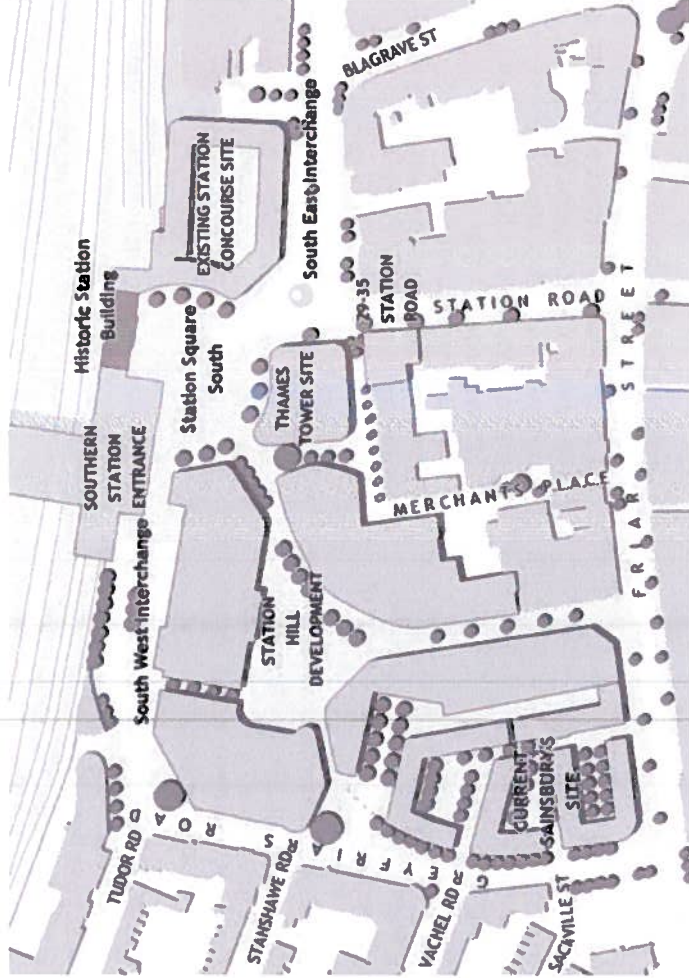


Figure 8.8 Framework for the Southside area

## Key opportunity sites

8.20 There are a total of fourteen potential development opportunity sites within the Station Area, the development of which may contribute to realising the objectives of this framework.

8.21 Seven sites in seven land ownerships are identified as key to the realisation of the framework objectives (RCAAP site references are given in brackets):

- Royal Mail and Vastern Road Retail Park and Station Car Park (RC1e);
- Rail station (RC1d);
- Riverside (SEB) (RC1g);
- Napier Road (RC1h);
- Station Hill and Friars Walk (RC1b and c);
- Thames Tower (RC1a); and
- Station concourse (RC1d).

8.22 The key sites have been selected for the following reasons:

- They cover the centre of the station area and immediately adjoin the station.
- They are affected by, or their development may help to facilitate, transport improvements (rail, interchange and roads) and other infrastructure such as public car parking.
- They are the largest opportunity sites with the greatest potential development capacity and therefore offer the major opportunities for crosssubsidy.
- There are indications that they may become available for redevelopment (although not necessarily in the short term).
- They are the locations for the principal public open spaces and links in the framework.

8.23 In addition to the key opportunity sites the remaining sites within the framework area and other adjoining sites may be redeveloped, in time, and integrated with the new district.

8.24 The opportunity sites are broad groupings of sites which together appear to require some degree of coordination or integrated development across existing property and ownership boundaries. They do not correspond exactly with the land ownerships pattern, although this has been taken into account.

8.25 In some cases proposals are already well advanced, with schemes that have been developed in detail, such as Station Hill. Other sites are in active economic use and represent only longer term development potential. Realisation of the principal components of the framework are not dependent upon these longer term prospects.

## Designing for Safety

8.26 This Framework has been drawn up having regard to principles of designing for safety and crime prevention. Policy CS7 of the Core Strategy ensures that new developments create safe environments, and this will apply to the Station Area, since central Reading, as a focus for large gatherings of people, already experiences significant crime levels. Developments should have regard to the principles of Secured By Design, as well as other national guidance on designing for safer places, including:

- Safer Places: The Planning System and Crime Prevention;
- Crowded Places: The Planning System and Counter-Terrorism; and
- Protecting Crowded Places: Design and Technical Issues.

8.27 Planning for prevention of terrorism will have particular relevance for the design of the new public spaces, such as the Station Squares North and South, and transport interchange areas.

8.28 Crime prevention design advice should be sought from Thames Valley Police at the design stage. CCTV provision should link into the existing coverage. In terms of terrorism prevention, advice should also be sought from the Council's Emergency Planning Officer.



land use

# 6

Chapter



## land use

9.1 The Station Area is highly appropriate for the development of a mixed use district, integrated with the rest of the centre by overcoming key barriers such as the railway and IDR. The RCAAP states that the key theme that underpins the strategy and the context in which it should be read, is of a mix of uses across the central area, both vertically and horizontally, although the emphasis will differ in different areas. Mixed use development should be encouraged within each site, each neighbourhood and across the district as a whole incorporating as great a multiplicity of uses as practicable.

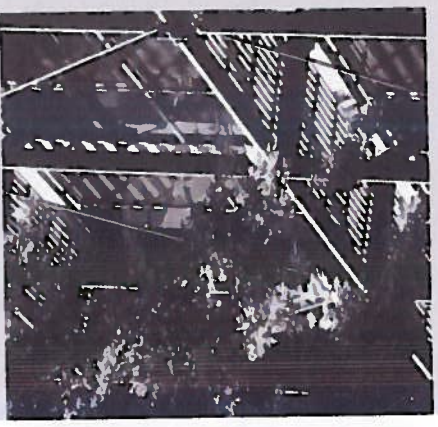
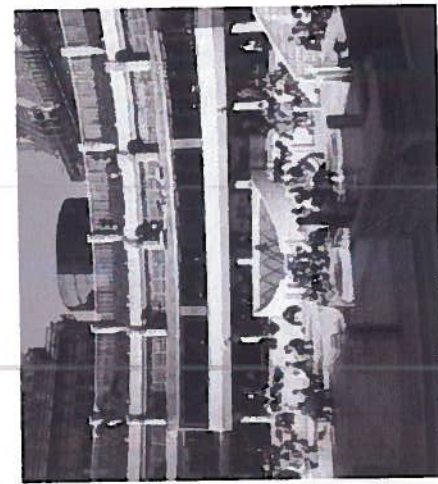
9.2 Policy RC1 of the RCAAP states that development in the area will contribute towards providing a high-density mix of uses to create a destination in itself. Although the policy sets out appropriate ranges of land uses in certain locations, it contains as little prescriptive detail as possible. Likewise, the Framework does not prescribe specific or rigid land uses, but encourages a flexible approach within the broad parameters of policy, recognising that developers and investors need, as far as reasonably possible, to be free to define the particular mix and content of individual schemes.

### RCAAP Policy RC6: DEFINITION OF THE CENTRE

Retail development will take place in the Primary Shopping Area, as defined on the Proposals Map. The extension to the Primary Shopping Area (RC6b) will be in place once a new pedestrian link is operational across the railway between Caversham Road and Vastern Road.

Major office development of over 1,000 sq m will take place in the Office Core, as defined on the Proposals Map.

Other main town centre uses will take place in the Central Core, as defined on the Proposals Map.



N1, N2	Mainly residential, with small-scale offices and leisure (possibly food and drink)
N3, N4, N5, N6, N7, N8, N10	Retail and leisure (ground floor), mix of uses on higher floors including residential, offices. Retail contingent on improved links across railway.
N11	Residential, offices, active commercial use on ground floor.
N9, S3, S5	Station/transport interchange uses, potential for other mixed uses.
S1, S2, S4, S6-12, other sites on Station Road/Friar St	Retail and leisure (ground floor), mix of uses on higher floors including residential, offices.

Figure 9.1 Appropriate range of uses on plots

9.3 Figure 9.1 sets out the appropriate range of uses on each plot according to the RCAAP. Retail and leisure uses will bring ground floor activity to the key streets, whilst a range of uses including residential and business space will be spread across the area. Leisure uses include hotels, bars and restaurants, as well as larger format leisure uses. Community uses, although not specifically mentioned in figure 9.1, will be appropriate across the area. Leisure and community uses for which a particular need has been identified in central Reading include a swimming pool, ice rink and primary healthcare. In terms of retail, the RCAAP refers to the need for an offer complementing, rather than competing with, the rest of the centre.

9.4 The location, layout and design of new residential developments will be constrained by the need to mitigate flood impacts on sites to the north of the railway. This may require raised ground floors, or may restrict residential uses to upper storeys only in certain circumstances. There will also be a need to provide dry access. Please refer to the Sustainability chapter and the section on Flood Risk (10.10 onwards) for further guidance.

9.5 A critical mass of residential is needed on the area between Vastern Road and the railway in order to create a quality living environment. As a general indicator, at least one third of the floorspace in this area should be residential.



Figure 9.2 Main development plots

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## Active Frontages

9.6 The one area in which this Framework provides more detail in terms of land use is on the location of active frontages. It is essential that certain key areas of public realm and corridors of movement are enlivened by active, public uses at the ground floor, which bring activity and vitality. Without these uses, a successful public realm (which is the main concern of this Framework) is unlikely to be created.

9.7 The RCAAP Proposals Map (linked to policy RC10) showed the key routes where active frontages would be a requirement, including Station Road, Friar Street and four new routes emanating from the station. Figure 9.3 shows how these active frontages will be applied to individual development plots within the Station Area. The key message is that the key routes and areas of public realm must be fronted by active uses.

9.8 Active uses are defined in the RCAAP, and comprise use classes A1-5, C1, D1, D2 or related sui generis uses. For the purposes of this framework, that will also cover station entrance and passenger facilities. New developments will have a display window or glazed ground floor frontage.

## Total developable area

9.9 Analysis indicates that there are around twelve hectares of land which may become available for redevelopment, either immediately or over the longer term. This sum assumes comprehensive redevelopment over time and includes parking areas.

9.10 The Framework diagrams define a series of development plots (excluding streets and spaces) amounting to some 7.5 hectares.

9.11 No development is proposed over the station concourse, tracks or platforms (air-rights development). This has been discounted by Network Rail on the grounds of both viability and practicability.

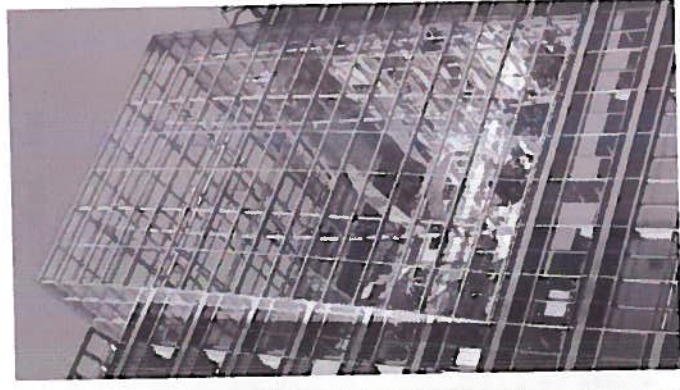
9.12 Urban design studies undertaken as part of the Framework planning process, together with the preparation of illustrative schemes have served to indicate the level of development that is achievable on the site. The Framework planning exercise indicates that the Station Area could physically accommodate up to 450,000 sq m of floorspace in total (c.5 million sq ft).

## Public space

9.13 The Framework identifies approximately 4 hectares which should be laid out as streets and squares, open space and new footpaths in order to create a setting for development; to facilitate pedestrian movement; to better connect the area together; to connect to the core of the town and to connect through to the Thames and surrounding residential districts.

9.14 The Council expects these to be taken into account in development proposals and will seek contributions from developers to assist in implementing new spaces, major improvements to existing open spaces and/or better links to them.

Figure 9.3 Active frontages





sustainability

# 10

Chapter

## sustainability

### Policy

10.1 The Station Area developments should address issues of sustainability and respond to current and emerging guidance. The Council's policies on sustainable design and construction (CS1, CS2 and the most up-to-date Sustainable Design and Construction SPD) should be the starting point for the development of any proposal.

10.2 The aim should be for developments to meet the highest standards of sustainable design and construction. The design of buildings and site layouts should use energy, water, minerals, materials and other natural resources appropriately, efficiently and with care and take account of the effects of climate change. Development should meet relevant BREEM and Code for Sustainable Homes standards.



### Decentralised energy

10.3 A decentralised system provides a more sustainable energy solution than the centralised system that currently dominates electricity production. A decentralised system helps to combat climate change and provides future generations with more security over energy provision than a centralised energy system.

10.4 Decentralised energy is a term that covers a variety of technologies, including various renewable technologies, and more efficient energy generation such as Combined Heat and Power (CHP). These technologies can locally serve an individual building, development or wider community and include heating and cooling energy.

10.5 Given the mixed nature plus scale and density of the development likely to come forward in the Station Area, decentralised energy should be considered for all developments in this area as part of the requirements of meeting policy CS1. Where there is an existing decentralised energy network, further developments should consider linking into these existing networks.

### Green roofs

10.6 A green roof is a roof of a building that is partially or completely covered with vegetation and soil, or a growing medium, planted over a waterproofing membrane.

10.7 Green roofs can serve several purposes for a building, such as absorbing rainwater, and contributing to reducing run-off, providing insulation, creating a habitat for wildlife and rare plant types, and helping to lower urban air temperatures and combat the heat island effect.

10.8 Green roofs should be considered for all developments with flat roofs in the Station Area. They may offer particular biodiversity benefits close to the river. The structural and drainage implications should be considered at an early building design stage.



### Brown roofs

10.9 "Brown roofs" are designed to partly mitigate the loss of habitat from the redevelopment of brownfield sites by covering the flat roofs of new developments with a layer of locally sourced material, often a mix of brick rubble and some concrete rubble which is then seeded or sometimes left to self colonise. They can offer valuable ecosystems, supporting rare species of plants, animals and invertebrates. The roofs are colonised by spiders and insects (many of which are becoming extremely rare in the UK as such sites are developed) and provide a feeding site for insectivorous birds, particularly the nationally rare black redstart, which is known to forage in the Station Area.

10.10 Brown roofs should be considered for developments adjoining the River Thames and for sites where an ecological appraisal indicates the presence of foraging birds, particularly black redstarts. Other potentially appropriate biodiversity enhancements as part of a development include swift boxes.

### Living Walls

10.11 Living walls are those covered in some form of vegetation. They offer environmental benefits by enhancing biodiversity, improving the thermal insulation and cooling properties of the building, helping to improve air quality, improving noise attenuation properties and improving visual amenity. High quality designs for 'green walls' incorporating vegetation over a majority of a building's vertical surfaces should be considered, particularly where living roofs are difficult to achieve.

10.12 Opportunities for living walls in the Station Area include:

- Retaining walls to the railway embankments.
- Car parking structures and ramps.
- Ground floor walls where flood risk excludes occupation and active frontages are not required.

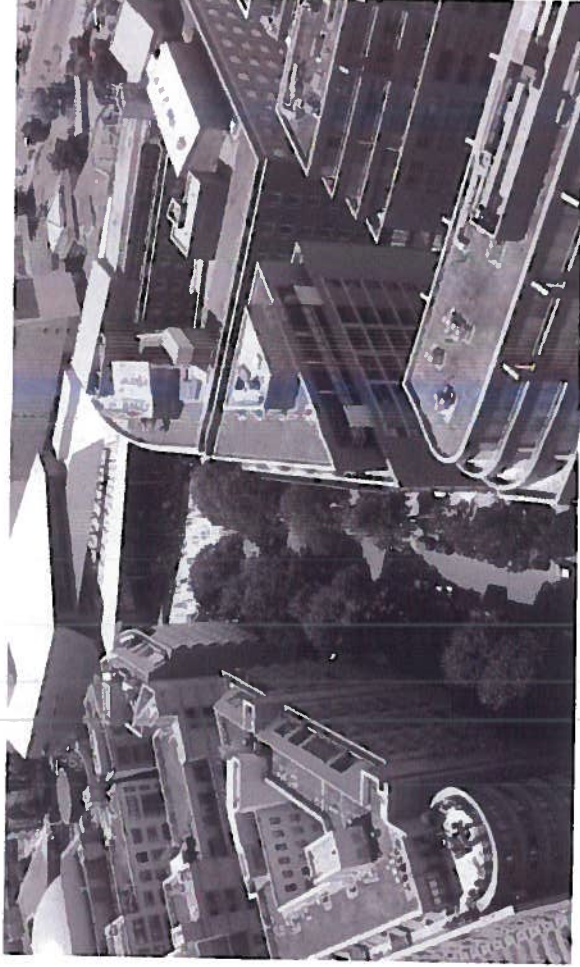
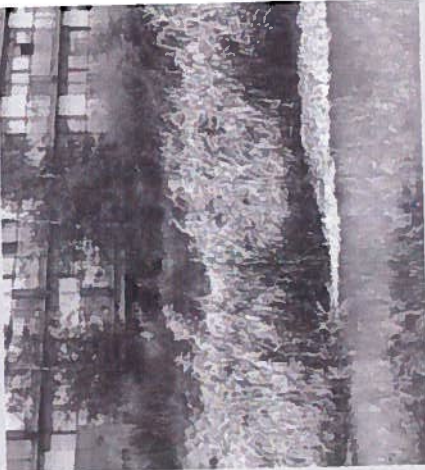


Figure 10.1 Image of green and brown roofs

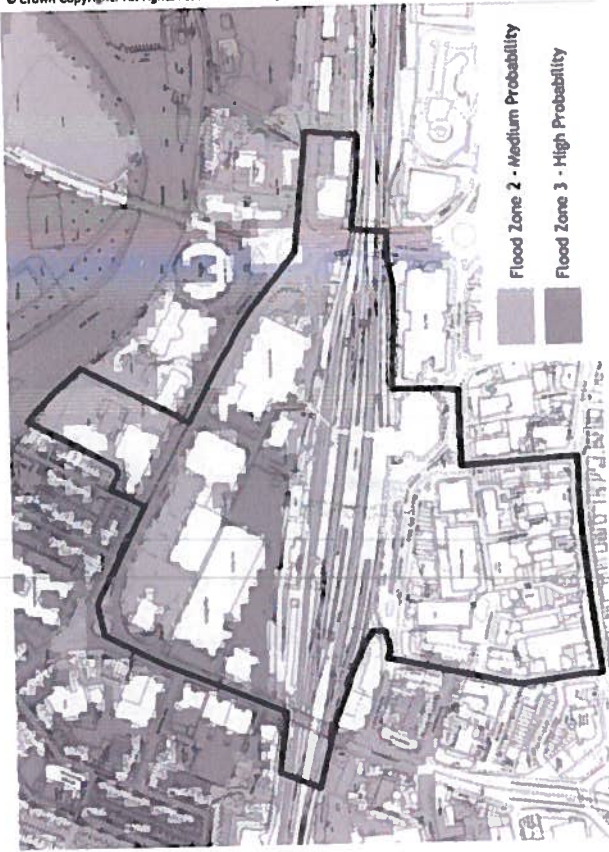




**Core Strategy Policy CS35: FLOODING**

Planning permission will not be permitted for development in an area identified as being at high risk of flooding, where development would reduce the capacity of the flood plain to store floodwater, impede the flow of floodwater or in any way increase the risks to life and property arising from flooding.

Figure 10.2 Risk of flooding from rivers (Source: Environment Agency, November 2010 - please contact EA for information on latest flood zone maps)



**Flood Risk**

10.13 The degree of river and sea flood risk according to the Environment Agency flood zones, which were updated in November 2010 to take into account detailed analysis of the area, is shown in figure 10.2. Sites south of the railway are in Flood Zone 1 (low probability), whilst parts of the North Side sites fall within Flood Zones 2 (medium probability) and 3 (high probability).

10.14 The following sites are affected:

- North of Station (RC1e) - parts of sorting office and station car park in Zones 2 and 3, with much of the Station Retail Park in Zone 2;
- Riverside (RC1g) - partly in Zone 2
- Napier Road (RC1h) - partly in Zone 2.

**Policy on Flood Risk**

10.15 Policy CS35 states that planning permission will not be given for development in an area identified as being at high risk of flooding, where development would reduce the capacity of the flood plain to store floodwater, impede the flow of floodwater or in any way increase the risks to life and property arising from flooding.

10.16 Policy RC1 of the RCAAP sets out further site-specific requirements. The North of the Station site (RC1e) and Napier Road (RC1h) should include an acceptable dry access scheme from across the site as part of any development (although it is now more helpful to talk in terms of 'safe access'). Paragraph 6.8 of the RCAAP also states that detailed proposals will need to consider the distribution of uses in the context of PPS25.



### Assessment of Flood Risk

10.17 Level 2 Strategic Flood Risk Assessments were carried out for the three sites affected by Flood Zones 2 and 3 (prior to the recent changes to the flood maps, which mainly downgraded the flood risk). In all cases, the Assessments demonstrated that the sites can be developed safely to mitigate the potential risks posed by flooding from the River Thames. In general, the assessments showed the following:

- Flood depth - the maximum depth in a 1:100 flood event would be 1,100 mm (taking account of climate change), on the Napier Road site. On the North of the Station site, the maximum depth would be 850 mm.

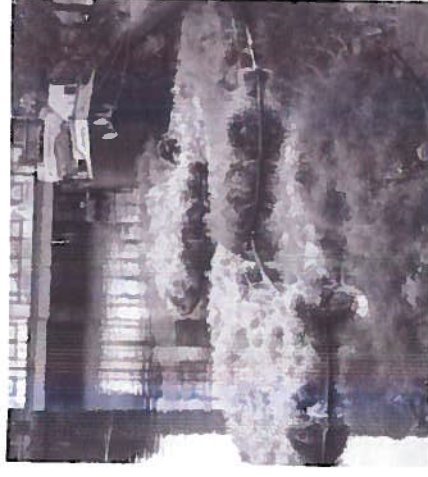
- Speed of flooding - on most sites, the speed of floodwaters would be slow. The exception would be the Riverside site, due to its proximity to the Thames.

- Period of inundation - this would generally be long, potentially up to one week.

10.18 The assessment provides design recommendations in relation to particular sites. It is essential that these recommendations are entrenched into the design process from the conceptual stage.

10.19 A Flood Risk Assessment will need to be prepared in support of any application for development in areas at risk of flooding, to be carried out in accordance with Section 6.6.1 of the Level 1 SFRA and the requirements of PPS25.

10.20 Where there is an opportunity to undertake more detailed up to date hydraulic modelling, this should be carried out at the outset in order to inform the baseline of any flood risk assessment to determine existing flood depths and flow routes. However it will not be acceptable to undertake modelling to justify no flood mitigation.



10.21 The Level 2 SFRAs generally recommended a number of design measures, which should be addressed in proposals on affected sites. The following general measures, which include those from the SFRAs, should be reflected in any proposals:

- Residential uses should not be situated at ground level within Zone 3a.
- Ground floor levels for residential developments should be set at a minimum of 300mm above the 1:100 annual probability (1%) flood level including allowance for climate change.
- All buildings within the site should adopt resilient design techniques to minimise the damage and disruption sustained by businesses and/or residents following a flooding event. Further guidance can be found in Flood Performance of New Buildings (Flood Resilient Construction), CLG (2007).
- It is essential that tenants within the site are made aware of the potential risks of flooding, and are actively encouraged to sign up to the Environment Agency's flood warning service. A safe evacuation route should be established, in accordance with guidance provided within the Level 1 SFRA and the requirements of PPS25.
- Sustainable drainage systems (SUDS) must be incorporated into the site design to ensure that runoff from the site does not exceed, and, where possible, improves on, existing runoff rates. It is important to ensure that SUDS are designed with due consideration to soil and groundwater conditions. Infiltration techniques should be sought wherever possible, however are likely to be unsuitable in areas of shallow groundwater and/or impermeable soils. Care should also be taken in areas overlying Thames Gravels within close proximity of the River Thames as groundwater flooding may ensue during high river levels. SUDS can also help to achieve other sustainability aims, e.g. biodiversity, contributing to the public realm and improving the river corridor. Any proposed drainage scheme should apply the SUDS 'Management Train' approach by using a range of sustainable techniques to ensure the maximum benefits of using these methods can be achieved.
- Buildings, landscaping and infrastructure should be oriented within the site to avoid blocking overland flow routes. Where this cannot be achieved, appropriate management of these flow routes should be provided to ensure there will be no increase in flood risk to the surrounding area and aim where possible to improve flood risk.
- Any raised areas within the floodplain should provide appropriate flood storage compensation and not be located across existing flood flow routes, to ensure no increase in flood risk to the surrounding area.
- Basements must not be used for habitable purposes within Zone 3a. It is essential to ensure that all basement areas within flood affected areas of the site are watertight, and the entrance point is situated above the 1% (1 in 100) design flood level, including climate change.
- Undercroft parking should generally be avoided in areas within Zone 3a.

- Where flood storage compensation is needed, opportunities should be sought at an early design stage to secure areas which could incorporate any open green spaces. Voids and stilts are not an appropriate mitigation measure to provide flood storage compensation. Any proposed compensation must be in place before development commences.