Nuneaton and Bedworth Borough Council

Sustainable Design and Construction Supplementary Planning Document

2020

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1. Executive Summary

1.1 This Supplementary Planning Document (SPD) provides guidance on how to meet the requirements of the Nuneaton and Bedworth Borough Plan (2011-2031)[1] Policy BE3: Sustainable Design and Construction. The SPD does not create new policy but explains how sustainable design and construction will be addressed in the borough.

1.2 Good design is the cornerstone of Planning and there are numerous publications covering the subject. There are seven established principles for successful urban design:

1.3 **Character** - Good designs should respond to and reinforce locally distinctive patterns of development and landscape character.

1.4 **Continuity and Enclosure** – Developments should clearly define public and private space by creating clear frontages to streets and open spaces.

1.5 **Quality of the Public Realm –** Developments should create spaces that enhance the feeling of safety and which are visually attractive. Spaces should be accessible to all groups of society and offer opportunities for people to meet and socialise.

1.6 **Ease of Movement –** Developments should connect to each other, be easy to move through, put people before traffic and integrate with transport networks. Places that are open to pedestrians will help reduce congestion and air pollution.

1.7 **Legibility –** Developments should be easy to navigate using landmarks to help people find their way.

1.8 **Adaptability –** Developments should consider future adaptability to changing social, economic, and technological conditions. Developments should consider how buildings and spaces will remain relevant to users over a long period of time. The challenge of climate change means places need to be adaptable to changes in climate patterns.

1.9 **Diversity –** Development should provide choice and diversity through a mix of compatible developments and activities. A place should be designed to be used by as many people as possible regardless of background or physical ability.

[1] Borough Plan 2011 - 2031: Publication (2019)
https://www.nuneatonandbedworth.gov.uk/downloads/download/558/adopted_borough_plan

1.10 The importance of sustainability within the design process is increasingly recognised. The need to balance economic, environmental, and social issues has long been established. In the UK the influential Stern Review[2] was published in 2006 and moved sustainability from the periphery to a central concern of government and business. Sustainability has continued to influence government policies and is intrinsic to the National Planning Policy Framework.

1.11 Sustainability will inevitably be shaped by global, national and local political concerns. Nuneaton and Bedworth Borough Council will remain committed to the principles of sustainable design and construction and will continue to make use of developing knowledge in sustainability for the benefit of current and future residents, visitors and workers.

[2] Stern, N., 'The Economics of Climate Change: The Stern Review', HM Treasury, London. October 2006

2. Purpose of the Supplementary Planning Document

2.1. Every development site is different and presents unique challenges and opportunities. The Council will respond positively to applications which incorporate the design principles outlined in Policy BE3: Sustainable Design and Construction and expanded upon in this SPD.

2.2. The SPD comprises of four parts;

- **Part A: All Residential Development** - Relevant to all residential development proposals and considers design within the local context.
- **Part B: Major Residential Development** - Applicable to all major residential development proposals and provides details of what should be addressed in the planning statements required by the Borough Plan.
- **Part C: Major Commercial Development** - Applies to major non-domestic development and provides an explanation of the BREEAM requirement requested in the Borough Plan.
- **Part D: Sustainable Construction** – Relevant to all development and provides details on the requirements for the construction phase of development.

2.3. The term 'major development' follows the definition found in the National Planning Policy Framework, Annex 2 **"For housing, development where 10 or more homes will be provided, or the site has an area of 0.5 hectares or more. For non-residential development it means additional floorspace of 1,000m2 or more, or a site of 1 hectare or more, or as otherwise provided in the Town and Country Planning (Development Management Procedure) (England) Order 2015"**

2.4. A Sustainable Design and Construction checklist is included in Section 5. Developers are expected to provide a completed checklist showing how the requirements of Policy BE3 Sustainable Design and Construction and the contents of this SPD have been taken into account in their proposal. Completion of the checklist will ensure applications are compliant with the Borough Plan policy and can be dealt with efficiently.

3. Policy Context

National Planning Policy Framework

3.1 The National Planning Policy Framework (NPPF) (March 2012) provided the national framework within which the Borough Plan has been prepared. The NPPF was revised in 2018, and updated in 2019.

3.2 The NPPF (2019)[3] in section 12 sets out the government policy towards well designed places. Paragraph 127 lays out the principles of which developments should adhere:

"Planning policies and decisions should ensure that developments:

- will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development;
- are visually attractive as a result of good architecture, layout and appropriate and effective landscaping;
- are sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change (such as increased densities);
- establish or maintain a strong sense of place, using the arrangement of streets, spaces, building types and materials to create attractive, welcoming and distinctive places to live, work and visit;
- optimise the potential of the site to accommodate and sustain an appropriate amount and mix of development (including green and other public space) and support local facilities and transport networks; and
- create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users; and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion and resilience".

3.3 The NPPF recognises the importance of involving local communities in the design process stating in paragraph 127:

- "Applications that can demonstrate early, proactive and effective engagement with the community should be looked on more favourably than those that cannot".

[3] National Planning Policy Framework https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/810197/NPPF_Feb_2019_revised.pdf

Borough Plan

3.4 The Borough Plan Policy BE3 Sustainable Design and Construction sets out the local interpretation of the NPPF. The policy is reproduced below and should be read in context with the Borough Plan and related SPDs and any further updates to the NPPF or associated guidance.

Policy BE3 – Sustainable Design and Construction

Development proposals must be:

1. Designed to a high standard.
2. Able to accommodate the changing needs of occupants.
3. Adaptable to, and minimise the impact of climate change.

Urban character

All development proposals must contribute to local distinctiveness and character by reflecting the positive attributes of the neighbouring area, respecting the sensitivity to change of the generic character types within each urban character area. Key characteristics to review include:

1. Current use of buildings
2. Ownership/tenure
3. Street layout
4. Patterns of development
5. Residential amenity
6. Plot size and arrangement
7. Built form

Residential

Major development proposals must provide a statement with their application showing how their proposal will:

1. Meet all the questions set out in the Buildings for Life 12 standard. Where it is not possible to positively meet all 12 questions, a statement of justification must be provided to explain why it is not possible, and what mitigation measures will take place to offset this.
2. Meet the optional Building Regulations requirement M4(2) for 'accessible and adaptable dwellings' for 35 % of the development proposal.
3. Install rainwater harvesting systems in the curtilage of all new buildings.

4. Integrate the principles of passive solar design.
5. Contribute to reducing crime and fear of crime by meeting the principles of Secured By Design.
6. Minimise the potential for pollution of air, soil, noise and light, and in particular not contribute to unacceptable levels of air pollution.

Where a developer considers meeting any of the above requirements is unviable or can demonstrate that they are not suited to local circumstances, an independent viability assessment must be submitted with the application.

Commercial

Major non-domestic development proposals must meet the Building Research Establishment's Environmental Assessment Method (BREEAM) very good standard for new construction projects, using the most up-to-date new construction version of BREEAM, where technically and financially feasible. Where assessment methods are changed or superseded, the appropriate replacement standards will be used.

Sustainable construction

Development must minimise or re-use waste generated during the construction phase. This should be done by using materials and construction techniques that generate the least waste and minimise emissions. Waste should be treated as a resource to be re-used, recycled or recovered, and should only be disposed of when all other options have been explored.

On-site management of waste will be preferred, unless the activities would result in unacceptable harm through impacts on the environment, transport or on neighbouring uses, or that management elsewhere would have wider sustainability benefits.

Supplementary planning documents

Detailed information to help developers comply with this policy will be set out in the Sustainable Design and Construction supplementary planning document.

4. Feasibility Studies and Associated Supporting Information

4.1 Developers who are unable to meet the requirements of the policy are required to show full justification why the policy cannot be met. The justification should be completed to allow the council to understand the developer's decision making process; all of the potential options the developer has considered should be presented and why non-conformance with the policy could jeopardise the project.

4.2 Where a major development does not meet the residential requirements of the policy, an independent viability assessment must be submitted with the application.

5. Sustainable Design and Construction Checklist

5.1 All planning applications should complete a Sustainable Design and Construction Checklist confirming where in the application the policy requirement has been addressed. Where the information will be provided at a subsequent stage in the application process, it is acceptable to note this within the relevant column. The checklist is available below:

Priority	Key consideration	Applicable to development type	Where referenced/ considered/ justified in developers' planning application	Yes or No
Street Layout (Example)	Has the user hierarchy been followed in the design process?	Major	Para 4.1 of Design and Access Statement	Yes
Local Context	Has local context been addressed in the application?	All applications		
Current Use of Buildings	Is the development in sympathy with the uses and activities of the surrounding area?	All applications		
Ownership and Tenure	Is the proposed ownership/tenure supported by evidence?	Major residential applications		
Street Layout	Has the user hierarchy been followed in the design process?	Major applications		
Street Layout	Do the designs support sustainable transport options?	Major applications		

Street Layout	Has the visual interest of the street layout been considered in the application?	All residential applications		
Patterns of Development	Does the building arrangement consider the existing streetscape?	All applications		
Residential Amenity- Daylight	Have daylight, sunlight and privacy been considered in the application?	All applications		
Residential Amenity - Outdoor	Has outdoor amenity space been considered in the application?	All residential applications		
Residential Amenity - Transport	Has the storage of transport vehicles been considered in the application?	All residential applications		
Residential Amenity- Waste	Is there sufficient space for bin storage which protects visual amenity and prevents risk of hazards?	All residential applications		
Site and Arrangement - Internal Minimum Space Standards	Does the design conform to the Technical Housing Standards- Nationally Described Space Standard?	All residential applications		
Built Form	Does the design have regard for	All residential applications		

	characteristics of the area?			
Built Form	Where developments occur within a Landscape Character Area, have the guidelines in the latest Nuneaton and Bedworth Landscape Character Assessment guidelines, or the Nuneaton and Bedworth Land Use Designations Study, been adhered to?	All residential applications		
Built Form - Extensions and Alterations to Existing Houses	Are the proposed alterations in conformity with the recommendations in this SPD?	All household applications		
Residential - Building for Life	Does the development achieve green scores against all Building for Life 12 questions?	Major residential applications		
Optional Building Regulations - Accessible and Adaptable Dwellings	Do 35% of dwellings meet the M4 (2) standard?	Major residential applications		
Passive Solar Design	Is the overall design in accordance with the principles of	Major residential applications		

	Passive Solar Design?			
Secured by Design	Does the application incorporate the principles of Secured by Design (SbD) contained within the relevant SbD design guide?	Major residential applications		
Air Pollution	In non-strategic allocations, does the application include an air quality assessment?	Major residential applications		
Air Pollution	In areas with sensitive receptors, does the application include an air quality assessment?	Major residential applications		
Noise Quality	Where requested by the Council, does the application include a Noise Impact Assessment?	Major residential applications		
Light Pollution	Is the lighting at a level for which it is intended and does not cause disruption to other street users?	Major residential applications		
Light Pollution	Does the lighting infrastructure enhance the	Major residential applications		

	overall look of the street design?			
Soil	Does the Site Waste Management Plan identify soils and detail their protection during construction and subsequent re-use?	Major residential applications		
Commercial-BREEAM	Has a BREEAM design stage assessment, which achieves at least a 'Very Good' rating, been submitted prior to development?	All major commercial applications		
Commercial-BREEAM	Has provision been made to submit post construction certificates which achieve a minimum 'Very Good' rating?	All major commercial applications		
Sustainable Construction	If required, has a Demolition Method Statement been completed?	All major applications		
Sustainable Construction	Has a Construction Management Plan been completed?	All major applications		
Construction Waste	If demolition cannot be avoided has an audit been included in the	All major applications		

	Site Waste Management Plan which shows the percentage calculated of materials which can be reused or recycled?			
Construction Waste	Is the recovery rate in accordance with the Waste and Resources Action Programme (WRAP) guide Waste Recovery Quick Wins?	All major applications		

Part A: Residential Development

6. Local Context

6.1 Developments should take into account the local context and consider the layout of existing buildings, streets and landscape. The application should include a statement which addresses the context and how this has influenced the design.

Figure 1: Camp Hill development in Nuneaton provided an easily understood layout creating a feature out of the existing St Mary and St John Parish Church

6.2 The statement should identify key locations and services which may be impacted by the development or which may impact on what is proposed.

6.3 The contents of the statement will depend upon the size and scale of the proposal. In major developments the local context should be addressed in the design and access statement.

6.4 Possible areas to address in the context appraisal include:

- **Existing characteristics -** Existing routes through the site, landscape features, existing buildings, wildlife sites, boundary treatments.
- **Position of the development site -** Architectural form of surrounding buildings and the location of the site in relation to the wider area.
- **Movement -** Surrounding road hierarchy, location and frequency of public transport, location of local services and facilities, adjacent land uses, local landmarks.

- **Building layouts -** Road layouts, building arrangement, building and street ratio.
- **Streetscape -** Building materials, prevailing building design, distinctive building design**.**
- **Natural landscape -** Topography, views of/from the site, location of nearby open spaces, footpaths, green spaces, wildlife habitats, areas of geodiversity interest.
- **Building design –** Prevailing form, building materials, roof design, scale, door and window design.

7. Current Use of Buildings

7.1 Development proposals should show an understanding of the local impact of the new development on the immediate and surrounding properties.

7.2 Existing users should not be expected to have to adapt their activities as a result of new development, such as the change of operational hours for commercial uses.

7.3 Developments should not create buildings which visually overwhelm the character of the area in ways which impact negatively on the current use of buildings in the area.

Conversion of Non Residential Buildings for Residential

7.4 The conversion of non-residential buildings for residential purposes should meet the following criteria:

- The building must provide suitable living accommodation for the occupiers in terms of privacy, layout, design and impact from adjacent uses.
- There must be sufficient off-street parking for residents as specified in current car parking standards requirements.
- The development of suitably located industrial/commercial premises must demonstrate that it is not viable to retain industrial/commercial use.
- The development must have provision for drying clothes.

Sub Division of Dwellings to Self-Contained Units

7.5 The sub-division of a property into self-contained apartments must meet the following criteria:

- There should be adequate car parking within the curtilage of the building as specified in the current car parking standards requirements.
- There will be no negative impact on the amenity of adjacent properties.
- There is satisfactory external amenity area which is accessible without passing through private rooms.
- The development should not change the appearance of the building so that it is no longer in-keeping with the street scene.

Change of Use from a Dwelling House to a House in Multiple Occupation

7.6 The change of use from a dwelling house to a house in multiple occupation will not be permitted unless:

- No more than 4 units are proposed in the case of a terraced dwelling house of 3 bedrooms or less with no off-street parking.
- No more than 6 units are proposed in the case of a terraced dwelling house of 4 bedrooms or more with no off-street parking.
- Where more than six units are proposed, one off-street parking space per two bedrooms is provided so as not to adversely affect the amenities of the occupiers of neighbouring properties. No off-street parking will be required if the property is within or adjacent to a Town Centre.
- Adequate sound insulation can be provided.
- An area for outside drying or measures for drying clothes can be provided.

8. Ownership/Tenure

8.1 In accordance with Borough Plan Policy H1 - Range and Mix of Housing, justification for the proposed tenure mix should be provided based on the latest available Strategic Housing Market Assessment[4], and the characteristics of the local area.

8.2 Major housing developments should have a mix of housing units that will allow people to change the size of their accommodation as required and continue to live within the development.

8.3 In accordance with Policy H2 – Affordable Housing, a proportion of the required affordable housing on major developments should provide units for the rental sector. The tenure split and affordable housing mix sought is to be informed by the Strategic Housing Market Assessment (SHMA) and the Council's Housing Register.

[4] GL Hearn (2013), Coventry & Warwickshire Joint Strategic Housing Market Assessment, Final Report, November 2013: https://www.nuneatonandbedworth.gov.uk/downloads/download/106/strategic_housing_market_assessments

9. Street Layout

9.1 Warwickshire County Council is responsible for highways, and road and estate adoptions in the borough. Developers must consult with the County Highways department to ensure designs are compliant with current policy.

9.2 The guidance within this SPD refer to streets which perform an important function in the public realm, typically lined with buildings and public spaces. Trunk roads and strategic routes which are primarily concerned with traffic movement have been issued with national guidance.

9.3 Good street design is a collaborative process, it is important to involve all potential stakeholders early in the design process.

9.4 Early engagement with agencies will help to identify conflicting priorities, prevent the domination of certain street users over others and prevent late changes in the design which have less time to be thought through. Potential early consultees include:

- Disability and other user groups
- Emergency services
- Highway and traffic authorities
- Planning authorities
- Public transport providers
- Utility and drainage companies
- Waste collection authorities.

9.5 There is complex legislation, polices and guidance relating to the design of highways. While legal requirements should be adhered to, designers should not be constrained by established norms.

9.6 If the context of a site is more suitable for innovative designs which promote sustainable forms of transport, community interaction or road safety these are to be encouraged. Equally, design that serves no purpose to street functionality should be avoided.

Pedestrian Scaled Environments

9.7 Designs should consider the needs of pedestrians. Spaces should be of visual interest and of a height and scale which is not intimidating to the pedestrian. The requirements of users with limited vision and/or mobility should be addressed in the application.

9.8 The design process should follow the user hierarchy of; first pedestrians, then cyclists, public transport users, specialist service vehicles (e.g. emergency services, waste, etc.) and lastly other motor traffic. The hierarchy does not mean pedestrians should be prioritised over vehicles, rather they should be considered first in the design process.

9.9 The height of buildings in relation to the width of the space can impact upon the visual experience of the street. The Manual for Streets[5] recommends height to width ratios, which should be followed in the borough:

Table 1: Height to width ratios (Manual for Streets)

	Maximum	Minimum
Minor Streets, eg Mews	1:15	1:1
Typical Streets	1:3	1:15
Squares	1:6	1:4

9.10 Where building heights do not provide a sense of enclosure, such as on a wide vehicle road, street trees can provide a similar sense of definition and enclosure.

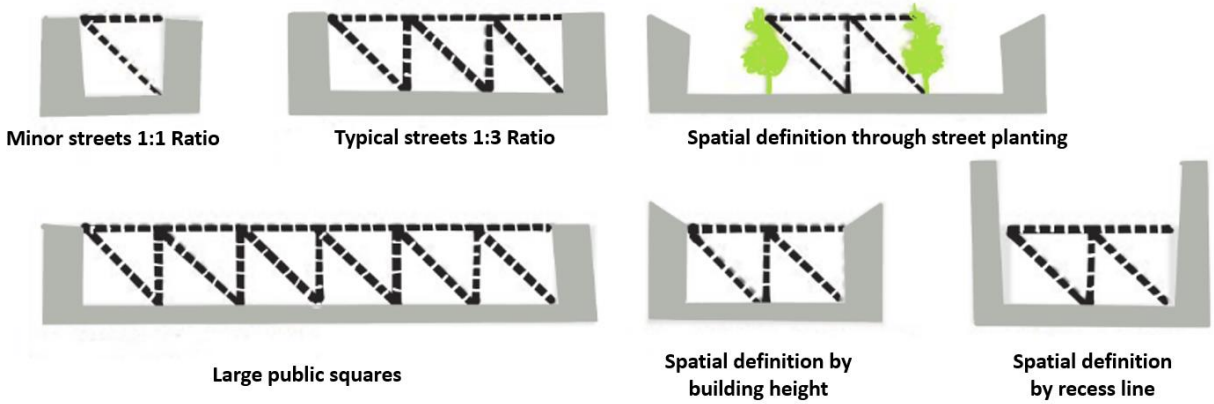


Figure 2: Street height to width ratio (Manual for Streets)

9.11 Long straight roads can promote the needs of pedestrians and cyclists who prefer direct routes and therefore enhance connectivity. However, longer roads can encourage higher traffic speeds, be daunting for pedestrians and

[5] Manual for Streets https://www.gov.uk/government/publications/manual-for-streets

lack sufficient variety to maintain visual interest. Techniques to break up the length of the street should be used. Long spaces can be treated as sub-spaces with variations within them. Techniques include changes to the building line, angling facades, or changes in minor details to buildings. Streets can be angled or the horizontal alignment changed to maintain anticipation and create interest for the pedestrian.

Incorrect: A long and unchanging street is visually uninteresting and can be daunting for the pedestrian.	Correct: Curved street design limits the visual length, creates a sense of anticipation and makes longer walks appear more manageable.

Figure 3: Example of poor and good street design

9.12 Residential streets should be designed to keep traffic to low speeds. However, unnecessary road clutter such as speed humps should be avoided. Changes in horizontal alignment provides for a more consistent traffic speed and therefore a safer pedestrian environment.

9.13 To encourage non-motorised modes of transport for short journeys, streets should be permeable and have connectivity to other streets, facilities and public transport systems. Preferential routes for bikes and pedestrians should be adopted where possible (see figure 4).

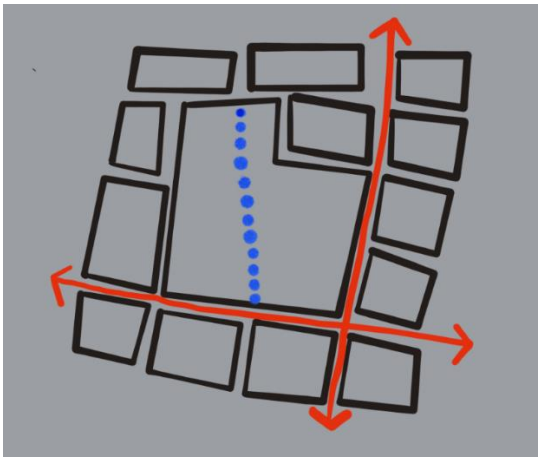


Figure 4: Permeable cycle and pedestrian routes with connectivity to adjoining places.

9.14 Visual permeability should be considered alongside physical permeability as part of the overall street design.

9.15 Physical barriers to protect pedestrians from traffic can be visually unattractive and a hazard to cyclists. They also reinforce the impression that roads are solely for motor traffic and should only be used where there is an overriding safety concern.

9.16 Provision for cyclists should be considered in relation to the volume and speed of traffic.

9.17 To encourage walking and cycling and to assist those with mobility problems, settlements should have sufficient areas to rest and shelters sited at regular intervals.

Visual Interest

9.18 Repetition of house designs should be avoided to prevent a monotonous visual experience. The converse - a visual cacophony of designs producing a bewildering street experience - should also be avoided. In general, the materials appropriate to Nuneaton and Bedworth are local red or orange brick and plain clay tile or slate, but the punctuation of colour can add to the visual scene. Figure 5 demonstrates how these principles have been achieved in Camp Hill, Nuneaton.

Figure 5: Redevelopment of Camp Hill, Nuneaton demonstrates traditional red brick designs with occasional pastel coloured buildings, with varying designs providing visual interest.

9.19 The context appraisal should inform the end design. Figure 6 demonstrates how the redevelopment of Camp Hill, Nuneaton has worked with the land gradient to provide views which provide a depth of vision.

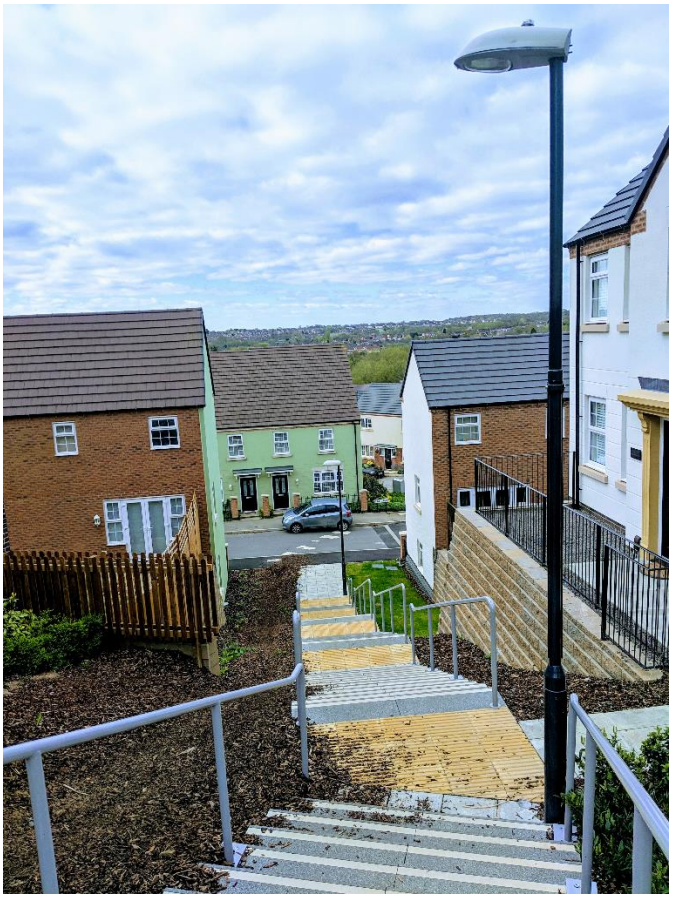


Figure 6: Camp Hill, Nuneaton

9.20 Development should be sympathetic to the edge conditions of the settlement area. The borough is predominantly surrounded by green belt countryside. Edge conditions should respond using recessive colours for roofs and brickwork to help reduce the prominence of the urban edge.

9.21 Developments must consider the rhythm of the existing buildings. Where height of chimneys, windows, eaves etc. conform to a uniform, deviations to uniformity will not be considered appropriate.

9.22 Windows on an elevation should be consistent in terms of size, shape and materials. To maintain balance they should usually have the same lintel and/or sill height as others on the same floor and line up vertically with those on floors above or below. Windows above ground floor should not be taller than those below. The use of shorter windows on upper floors can enhance the sense of vertical perspective to good effect. Similarly, dormer windows should be smaller in height and width than the window opening below and, as far as possible, align vertically with them.

9.23 To aid in navigation of places the positioning of buildings should be given careful consideration. Legibility can be helped by the positioning of distinctive buildings and street furniture at road junctions, curves in the road, cul-de-sac ends or connections to existing public rights of way. Building in these areas

must have a strong visual element such as a landmark house, site specific design or well-designed community facility.

Figure 7: Camp Hill development in Nuneaton provided a distinctive building on an important road junction to aid navigation

9.24 Public spaces should be faced by the front of buildings and not by the rear or sides of buildings. Dead spaces created by long high brick walls or fences should be avoided.

Incorrect: Side of the building facing the road creates a weak visual, no natural surveillance, not a safe community space. .	Correct: The house front creates visual interest, provides space for community interaction and surveillance, and clearly indicates the continuation of the road.

Figure 8: Example of poor and good designs on street bend

9.25 Developments should work with the contour of the road. A series of staggered “saw-tooth” plots or a subseries running off a private drive is an unacceptable way of accommodating a bend in the road

Figure 9: Development at Chapel End, Nuneaton has created homes following the contour of the road

9.26 The positioning of utilitarian buildings and features should be avoided in prominent places as well as on the front elevation of domestic buildings. The general rule should be public front, private rear.

Incorrect: Front facing garages obscuring the front of the building	Correct: The front of the house is prominent, the garage is set back from the street.

Figure 10: Position of utilitarian buildings

9.20 Flat over Parking (FoP) can be used to provide parking which would not be possible to achieve in other circumstances. To provide surveillance, additional units would be required to overlook the FoP. The FoP should avoid a functional appearance taking design cues from surrounding dwellings.

Figure 11: North Nuneaton, flat over parking

9.21 Front of plot parking can lead to a vehicle dominated street scene and should not be the only design solution for parking. Where front of plot parking is used, suitable landscaping should be deployed to enhance street enclosure.

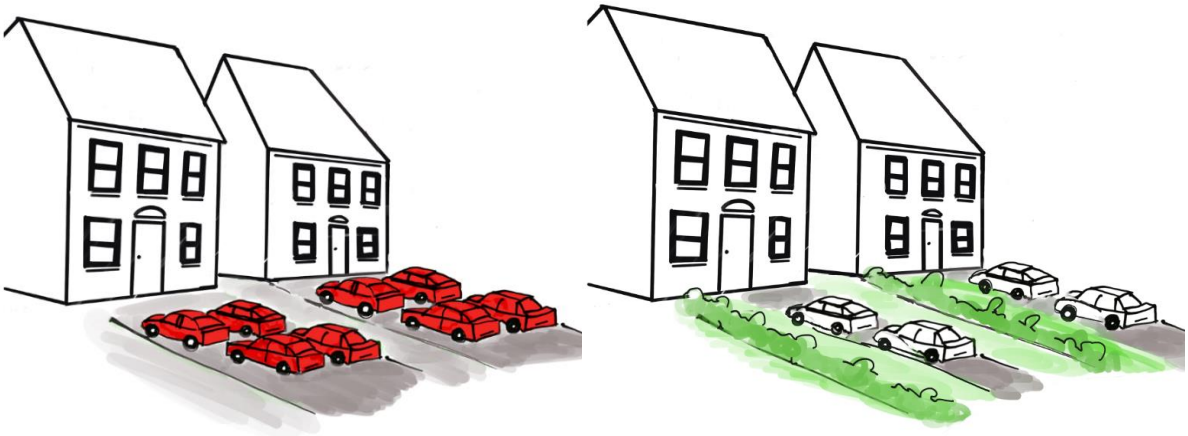


Figure 12: Parking dominated street scene should be avoided

9.22 On development sites where electricity pylons and overhead lines are present, careful consideration should be given to how the pylons are

integrated into the overall design. National Grid has provided guidelines for development near pylons and overhead lines called, 'Design Guidelines for Development Near Pylons and High Voltage Overhead Power Lines'[6]. The guidelines assist local authorities, developers and local communities to plan for development around National Grid infrastructure. The guidelines set out eight design principles to help promote environment quality and diminish the impact of overhead lines. On sites with overhead lines applications should follow the principles set out in the National Grid guidelines.

[6] Design guidelines for development near pylons and high voltage overhead power lines

10. Patterns of Development

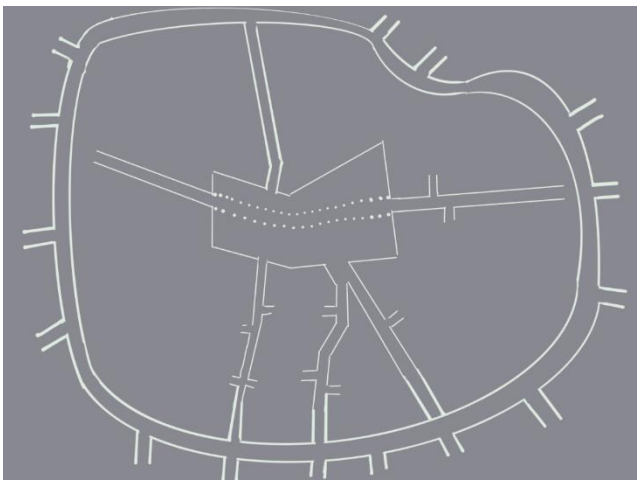
10.1 The pattern of development is an important consideration in the design process. Patterns influence how residents will travel, how much time they may commute, if they decide to walk or cycle, how healthy communities are, how they affect the climate and how much pollution they generate.

10.2 Traditional forms of development tend to consist of the grid format, over time technology has produced a variety of patterns ranging from traditional grid formations to loops and circles.

10.3 The context appraisal will help to identify the existing patterns of development and how a place relates to another place. The context appraisal can then inform how buildings and streets are to be arranged. The application should demonstrate how the proposed pattern of development works within the surrounding context.

10.4 Cul-de-sacs are not considered sustainable due to the requirement for turning heads which is wasteful of land and can lead to unnecessary vehicle emissions. Street networks should generally be permeable to improve navigation, allow for ease of movement and encourage walking and cycling[7]. Cul-de-sacs may be required due to topographical constraints. It must be demonstrated that alternative design solutions are not viable before a cul-de-sac layout is considered acceptable.

10.5 Existing road links to the development site should form the basis of development. Where there are several links which could connect the site, those with the most connections should be prioritised (Bentley et al, 1986)[8].



[7] Manual for Streets https://www.gov.uk/government/publications/manual-for-streets

[8] Bentley I, Alcock A, Murrain P, McGlynn S, Smith G,(1985) Responsive Environments

Figure 13: Make use of existing links to determine pattern of development

10.6 Where there are no links to connect the development site, the pattern of development should consider the end use of the area, for example concentric grids can lead to a local centre or transport hub. Irregular layouts can provide an interesting, meandering experience whilst conventional rectilinear grids will provide efficient movement of vehicles[9].

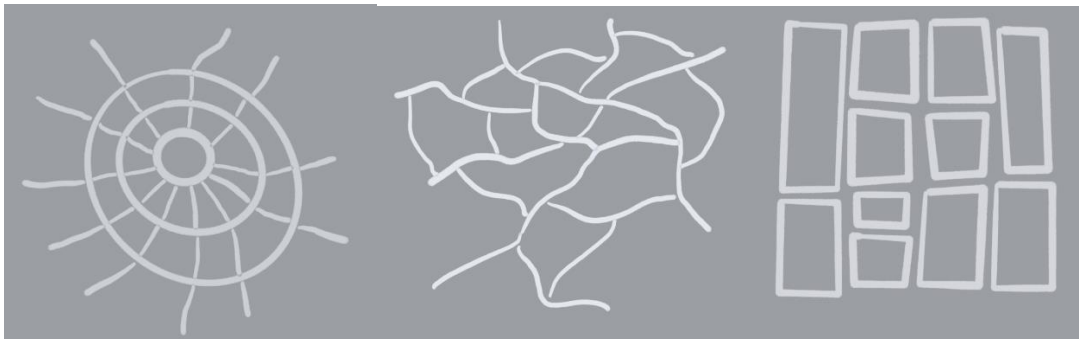


Figure 14: Different forms of grid to determine patterns of development

10.7 The design of developments must take into consideration the surrounding area and local pattern of development. Where there is existing development, the design should respond to the local distinctiveness of the area.

Density

10.8 Residential developments must be built to a density which is appropriate to the locality. Developers must demonstrate that established densities within the area have been considered in applications. In some locations it will be appropriate to build to higher densities, for example to improve the vitality of an area. In other areas low density developments may be more appropriate to the exiting street scene.

10.9 Developments which infill or are a continuation of an existing street should follow the existing pattern of development line defined by the immediate adjoining property. Where proposals deviate from the existing line of development applicants should demonstrate how the design enhances the overall street scene.

10.10 Determining appropriate density can be achieved though the context analysis outlined in Section 6.

[9] Manual for Streets https://www.gov.uk/government/publications/manual-for-streets

10.11 The following principles should be used where higher density developments are proposed:

- Town centres, or public transport corridors where there is access to good facilities and services, can normally cater for higher density developments.
- Good quality insulation between dwellings will be required for higher density developments.
- Higher density developments will require appropriate and usable private outside space.
- Surrounding building heights and styles need to be responded to sensitively.
- Higher density developments must ensure that adequate parking provision is made without dominating the street scene.

10.12 It is important to make effective use of land within the settlement boundary. Housing can be an effective way of bringing neglected spaces back to use for the benefit of the community. Dwellings positioned behind the public highway in a “front-to-back” relationship (i.e. “backland development”) will need to integrate successfully with surrounding developments. Designs must be appropriate to an area and only a design of outstanding quality is acceptable where not in harmony with local character.

11. Residential Amenity

Daylight, Sunlight and Privacy

11.1 Developers must demonstrate that daylight and sunlight impacts have been considered, having regard to surveyed heights, position of windows and ground levels.

11.2 The way buildings relate to each other – their orientation and separation distance – must provide and protect acceptable levels of amenity for both existing and future residents. The following standards of amenity can be used flexibly, depending on house layout and on site circumstances such as orientation, window, ceiling and roof height, levels, garden size and shape. The standards are appropriate to both extensions and new residential development. With regard to the latter, care should be taken to provide scope for later extensions and alterations that will not erode these standards.

11.3 Front, rear and side facing windows to habitable rooms will be protected from significant overlooking and overshadowing where such windows are the primary source of light and are the original openings in the house. Habitable rooms are rooms where occupants spend significant amounts of time, such as the lounge, kitchen, study, dining room and bedroom. It does not include bathroom, WC, utility rooms, hall, landing or garages. Where a room has (or originally had) two windows or more, the primary source of light will usually be the window(s) (if of reasonable size) that overlooks amenity areas.

11.4 In the interests of protecting privacy, a minimum 20 metres separation distance is required between the existing ground and first floor habitable room windows and proposed ground and first floor habitable room windows. Where a three storey development is proposed a distance of 30 metres will normally be required where such an elevation containing windows faces another elevation with windows. This is in the interests of preventing an oppressive sense of enclosure.

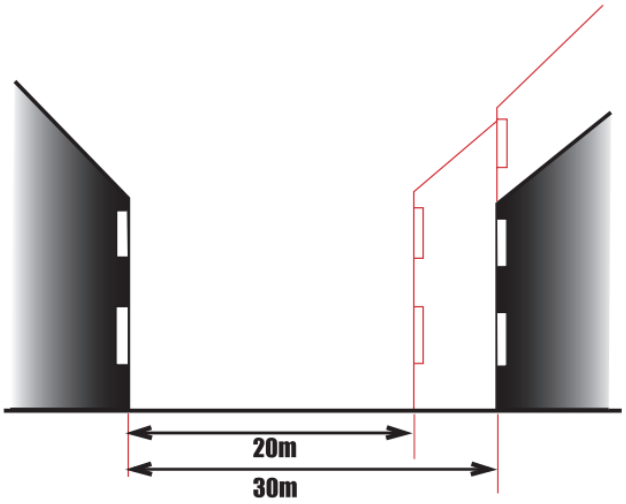


Figure 15: Protecting privacy and preventing an oppressive sense of enclosure.

11.5 The distances above may be reduced if they are across public viewed areas e.g. across a front garden, open space or public highway. It is acceptable for windows to non-habitable rooms closer than these distances to be obscure glazed and, if privacy is at particular risk, also be non-opening or with a high level opening. The use of obscure glazing in habitable rooms to achieve lower distances is not acceptable unless they are secondary windows.

11.6 Habitable room windows above ground floor which overlook neighbouring private amenity space shall be at least 7 metres from the boundary. Likewise, private amenity space should be of usable size, shape, screened from public areas and neighbouring properties.

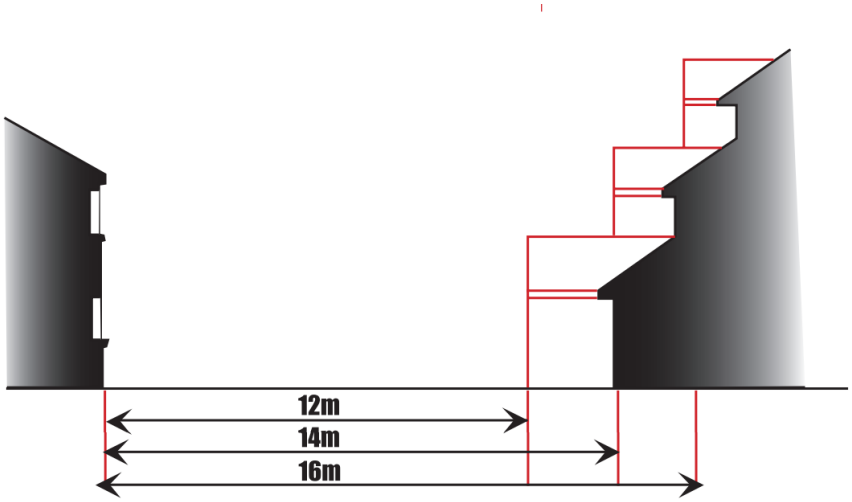


Figure 16: Protecting aspect and light

11.7 In the interests of protecting aspect and light, the blank wall of an extension directly facing the window of a habitable room of the same height shall be a minimum 12 metres apart.

11.8 The minimum distance increases to 14 metres where the extension is a storey higher and 16 metres where the difference is two storeys. These distances may be relaxed if the window is not significantly enclosed by the extension.

11.9 An extension shall not infringe a line drawn at 60 degrees from the centre point of the window of an adjacent habitable room of the same floor level. This is usually relevant to a proposed ground floor rear extension. A proposed extension a storey higher than the window of an adjacent habitable room shall not infringe a 45 degree line. In any event, near the boundary of an adjoining usable rear private amenity space a proposed single storey extension shall be less than 4 metres long. In the same circumstances, a two-storey extension or higher shall be less than 3 metres long. Shaving off the corner of an extension or stepping-in so as to follow the required angle (either 60 or 45 degrees) is not normally acceptable because such measures do not usually significantly reduce the impact of the extension on adjoining habitable rooms or gardens.

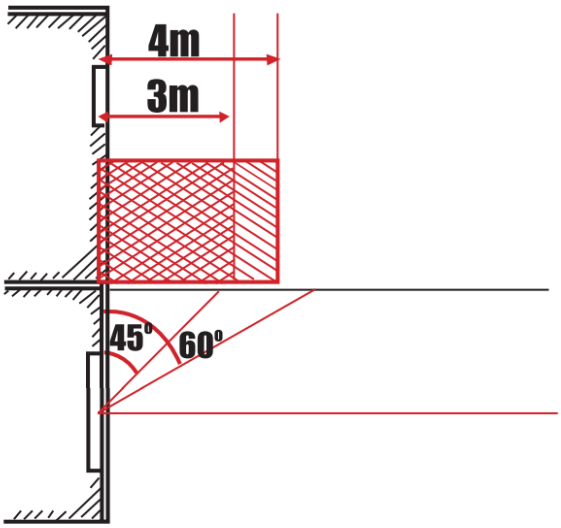


Figure 17: Extensions

Sub-division of Dwellings

11.10 Care must be taken with the sub-division of dwellings to form self-contained units. Adequate sound insulation should be provided to ensure the amenity of occupiers and surrounding residents is not unduly impacted. There should be adequate natural light within the property, with windows situated to allow occupants to views of the outside environment.

Outdoor Amenity Space – Gardens/Open Space

11.11 Gardens should be of a useable rectangle garden shape, to ensure that space is used most effectively and enhance user amenity.

11.12 New housing development should provide sufficient amenity space to meet the recreation and domestic requirements of occupants. Amenity space should be provided for passive recreation activities such as reading, active recreational uses such as gardening and domestic uses such as drying clothes.

11.13 Outdoor amenity space should be accessible to everyone including disabled and elderly users.

11.14 Public and private spaces should be differentiated by clear boundaries. Walls, hedges and fences should be of an appropriate scale and suitable for the houses they surround.

11.15 In general, the more northerly direction the garden is located, the longer a garden will need to be to receive good sunlight.

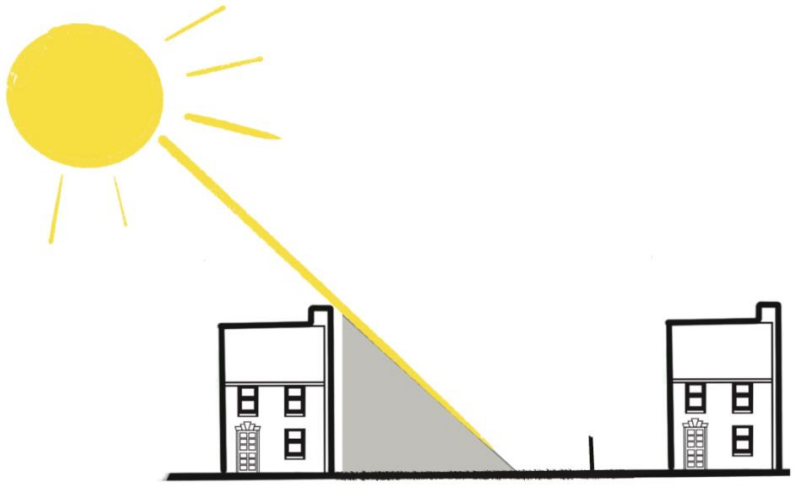


Figure 18: Direction of the sun, a northerly aspect may require a longer garden

11.16 Where there is doubt regarding sunlight, recommendations in the BRE report “Site Layout Planning for Daylight and Sunlight"(2011)[10] should be followed. This stages that no more than two fifths, and preferably no more than a quarter, of the garden should be prevented by obstacles from receiving sunshine on 21 March.

[10] Littlefair P., Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice (BR 209)

Outdoor Amenity Space - Transport

11.17 Car parking standards will be included in the SPD 'Transport Demand Management Matters'. The following requirements consider sustainable transport considerations for domestic dwellings.

11.18 Storage areas for bicycles should be safe and secure and located to allow for easy access to the transport network.

11.19 Cycle storage needs to be incorporated in a manner which is consistent with the design and character of the proposed development and which reflects the architecture of the wider scheme.

11.20 Developments with garage or parking bays should support recharging of electric vehicles. For residential developments there should be a standard charge point which is sufficient to provide a full charge overnight. The council's 'Air Quality' SPD contains detailed requirements regarding plug in vehicle re-charging. More detail will be also be available in the council's 'Transport Demand Matters' SPD.

11.21 Future use of car parking facilities should be considered at the design stage. Future users may wish to convert garages, driveways and parking bays into garden and public spaces. Current designs should not prevent conversion of car parking provision into other uses.

Waste

11.22 Designs should consider arrangements for bin collections. Developments without collection areas can result in wheelie bins strewn across public areas until they are reclaimed by residents. The bins can represent a safety risk to pedestrians and vehicles and can be visually unappealing.

11.23 Designs must have consideration for waste bin storage, there should be sufficient space to accommodate all the different types of bins used for waste collection. Bin stores should be located no more than 25m from the highway (where the bin collection lorry can park) for normal 2 wheeled household bins and 10m for a larger 4 wheeled bin.

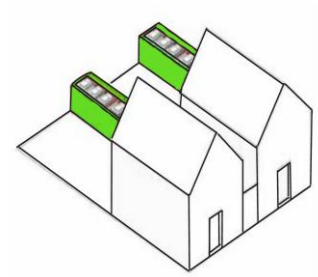
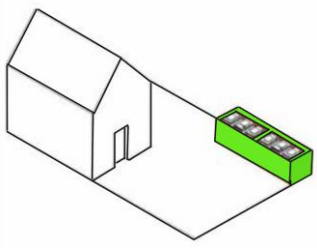
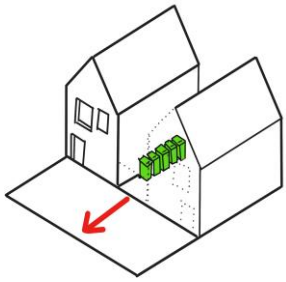
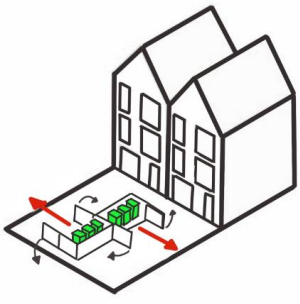
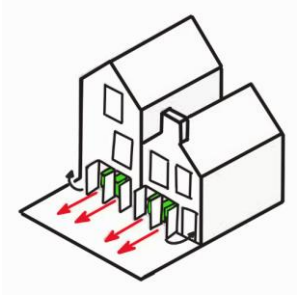
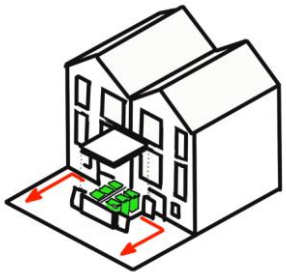
11.24 Bin storage should not harm the visual amenity of the area, must be managed so that it does not create risk to water, air, soil, plants or animals, should not cause nuisance through odours, and not affect the countryside and or places of special interest.

11.25 Waste bin storage areas should be well ventilated and situated away from direct sunlight. Consideration should be given to the adaptability of design to respond to changes in Council collection strategies.

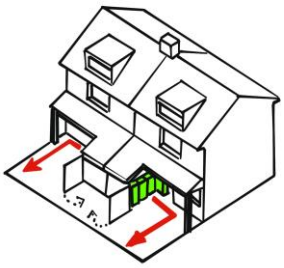
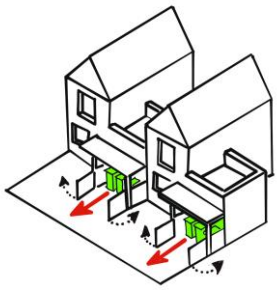
11.26 Communal waste/recycle facilities must be accessible to all residents regardless of bodily ability.

11.27 Developments must not provide for wheeled bins to be stored at the front of the property unless a design solution is proposed which significantly limits the impact of the storage of bins on the street scene.

11.28 NHBC Foundation has produced guidance for waste bin storage for different types of housing entitled “Avoiding Rubbish Design” (2016)[11]. The guidelines by NHBC, which are set out below, can be used when designing spaces for waste bin storage.

Semi-Detached Properties		
		
Purpose built stores in rear of property. Bins kept where not visible from the house.	**Purpose built stores to front of property along property boundary**. Bins kept secure and screened from street.	**Bin stored in space between detached houses.** Space provided to allow the passing of bicycles and garden equipment. Gate provided at front of store.
Linked Houses		
		

[11] NHBC (2015) Avoiding Rubbish Design https://www.nhbcfoundation.org/wp-content/uploads/2016/05/NF60-Avoiding-rubbish-design.pdf

Storage in front of houses. Bins are kept in purpose-built stores in front of houses along the property boundary. The dedicated storage area, which can be combined for pairs of houses as shown, keeps bins secure and discrete.	**Storage behind garage-type doors.** Particularly suited to mews-type buildings where there is little space at the front, this solution places the bins behind doors to the front of the houses. Care should be taken to ensure that the design of the facade is not overly dominated by too many doors.	**Storage adjacent to front doors**. Bins are kept in purpose-built stores adjacent to the front doors of the houses which can be constructed as pairs, as shown.
Linked Houses		
		
Storage within storm porches. Storage adjacent to front doors integrates into a wider porch	**Storage in front of courtyard houses**. Like terraced houses, courtyard houses have restricted access from garden to street so there are few options for storage. In this example, bin stores fit under porches, with doors that open away from the house entrances.	**Communal storage sited separately within shared grounds.** Again, this solution provides open storage for a number of bins but it is located away from the houses. Due to the scale of the storage, consideration should be given to providing landscaping and/or screening to block residents' views of the bins. If possible the storage should be located close to the street boundary so that bins do not have to be

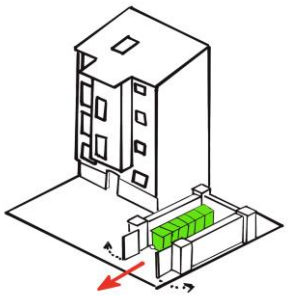
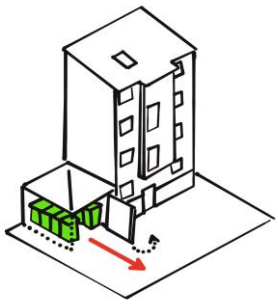
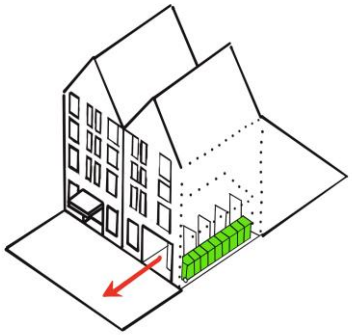
		wheeled out by residents on bin collection days.
Apartment Buildings		
		
Communal storage within shared grounds adjacent to apartment buildings. This solution provides open storage for a number of bins. The preferred location is close to the street boundary so that bins do not have to be wheeled out by residents on collection days.	**Communal storage to the side of apartment buildings.** This solution provides a dedicated store to the side of the building in a logical position in relation to the entrance. The store should ideally use the same facing material as the building.	**Communal storage within apartment buildings**. Best suited to smaller apartment buildings, storage space for bins is provided within the envelope of the building. Ideally the storage space is discretely located but close to the building's access.

Figure 19: Bin Storage for Various Buildings (Source: NHBC Foundation).

12. Size and Arrangement

Internal Minimum Space Standards

12.1 In March 2015 the government set out a review of the housing standards resulting in a nationally described space standard. The minimum residential space standards to follow are found in the current version of the Technical Housing Standards- Nationally Described Space Standard[12].

12.2 An overview of the space standards is provided in Table 2. The total floor space is measured between the internal faces of perimeter walls that enclose a dwelling. It includes cupboards, partitions, flights of stairs, voids above stairs and structural elements.

Table 2: Minimum gross internal floor areas and storage (m^2) (DCLG, 2015)

Number of Bedrooms	Number of bed spaces (persons)	1 storey dwellings	2 storey dwellings	3 storey dwellings	Built-in storage
1b	1p	39 (37)*			1
	2p	50	58		1.5
2b	3p	61	70		2.0
	4p	70	79		
3b	4p	74	84	90	2.5
	5p	86	93	99	
	6p	95	102	108	
4b	5p	90	97	103	3.0
	6p	99	106	112	
	7p	108	115	121	
	8p	117	124	130	

[12] Technical Housing Standards- Nationally Described Space Standard - https://www.gov.uk/government/publications

5b	6p	103	110	116	3.5
	7p	112	119	125	
	8p	121	128	134	
6b	7p	116	123	129	4.0
	8p	125	132	138	

Notes: 1. *Where a one person dwelling has a shower room instead of a bathroom, the floor area may be reduced from 39m^2 to 37m^2 , as shown bracketed.

12.3 Developers should provide floor areas for development schemes which meet or exceed the space standards.

Internal Layout

12.4 The internal layout of dwellings should enable flexibility of use by the occupant.

12.5 To create habitable rooms with adequate daylight, ceiling heights measured from the floor should be a minimum of 2.5m.

12.6 Single aspect flats should demonstrate that all habitable rooms and kitchen areas provide adequate daylight, privacy and ventilation.

13. Built Form

13.1 The borough has developed over several distinctive phases. The broad phases of development are represented in figure 20. The Grey areas signify development that occurred from 1889-1927, the Red areas from 1928-1959, Yellow from 1960-1989, and Blue from 1990-2009.

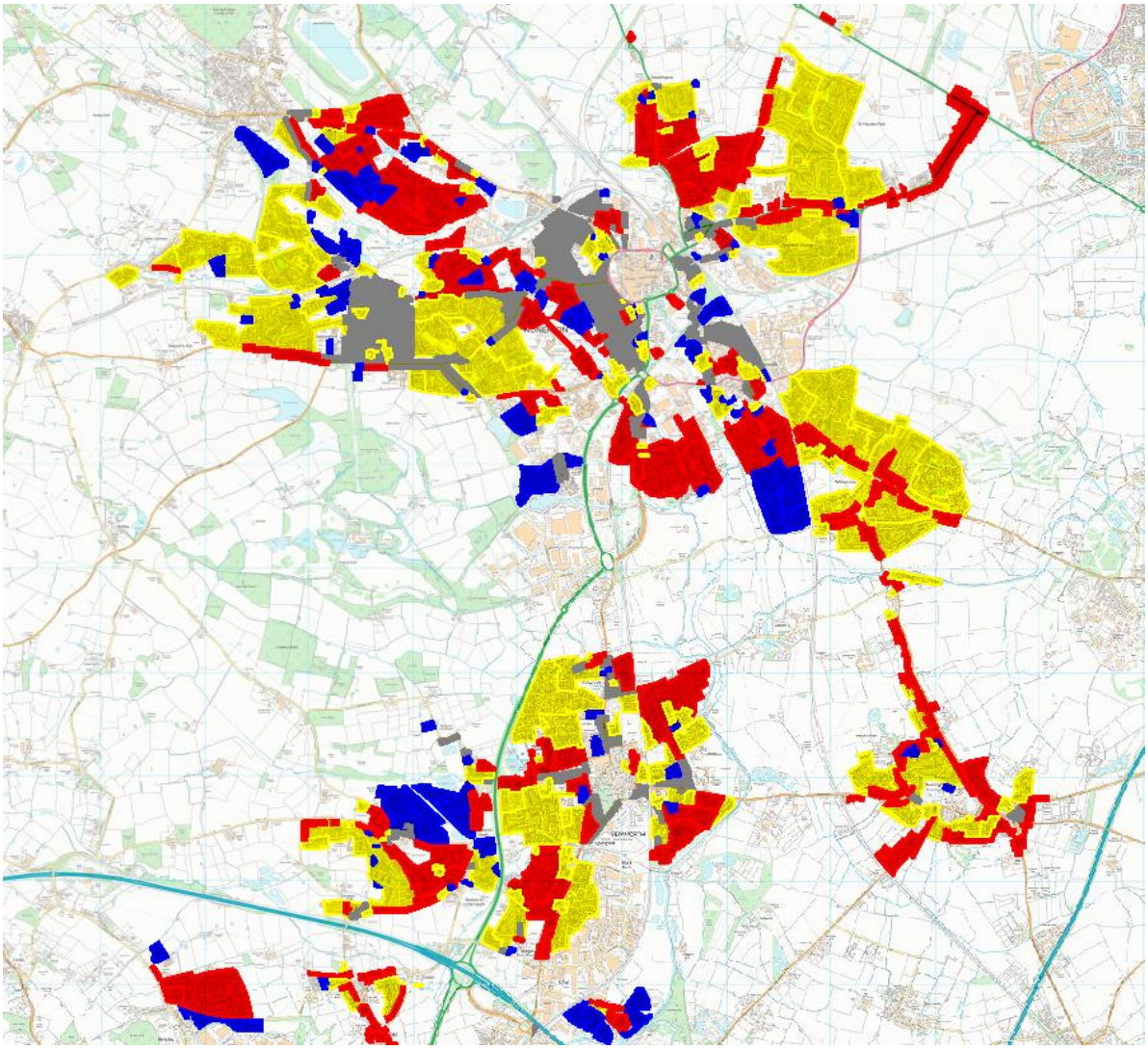


Figure 20: Development stages in Nuneaton and Bedworth Borough

Designs should have regard to the urban characteristics of the locality, adding to the distinctiveness and should be in sympathy with the locality. Where possible character, materials and detailing inspiration should be drawn from the local context.

Nuneaton and Bedworth's Residential Character

13.2 A Nuneaton and Bedworth Residential Character Study identified specific characteristics of dwellings in the borough based on their Predominant Generic Character Type.

Table 3: Predominant generic character types

Late 19th/Early 20th c Artisan Urban Terrace Housing (Predominantly located in the highlighted grey areas of the map).
Industrial character - red brick and tile terraces and/or short rows of 4 to 6 houses
Located close to urban centres and former major factory, quarry, and mine sites – marking rapid turn-of-the-20th c urban expansion due to coal mining, brick and tile making, and railways.
Form dictated by building by-laws to safeguard health and hygiene
Straight road alignments often in grid pattern
Two storeys buildings with consistent eaves and ridge heights. Consistent building lines either to back edge of footpath or behind small enclosed forecourts
Locally produced brick and tile often used
Short and narrow rear gardens/yards
Little greenery – hard urban feel
Frontages often subject to adverse alteration - stone cladding, unsympathetic replacement materials, windows and doors etc
On street car-parking
Sensitivity to Change – High Despite adverse past change, the highly consistent nature of terraces and their high density means that redevelopment would be disruptive to coherence and unity of the historic character and local distinctiveness of the area

Inter-war Speculative Residential Ribbon & Estate Development (Predominantly located in the highlighted red areas of the map).
Linear development along major roads, or estates with crescents, cul-de-sacs and/or rectangular block road layouts.
Characteristic house types predominantly semi-detached pairs of houses with compact rectangular forms and mostly with hipped clay tile main roofs.
Better quality houses have two-storey bays (rectangular or semi-circular) beneath a projecting gabled roofs to front. The latter often have applied mock-timber framing.
Grass verges and trees often separate footpath from road.
Side access used for car parking /car port/ garaging.
Houses of the same or very similar form with minor variations of detail.
Sensitivity to Change – Medium Consistent and highly characteristic nature of building types means that redevelopment of individual buildings could be disruptive to coherence and unity of the character and appearance of the area as a whole.

Post-war Private Residential Estate (Predominantly located in the highlighted yellow areas of the map).
Private speculative lower-middle-class housing of the late 1950s to late 80s
Low-medium density semi-detached and close and linked-detached.
Anglo-Scandinavian style (a style adopted nationally) common 1960-70s - shallow pitched roofs in concrete tile, large horizontally proportioned ‘picture’ windows, non-local brick often pale in colour, tile hanging and horizontal timber board cladding in panels on front elevations. Neo vernacular style in 1980s.
Little variety of house types within streets and estate as a whole.
Cul-de-sac layouts common.
Small front gardens either with dwarf walls or without enclosure to pavements
Integral garages and forecourt parking

Sensitivity to Change – Medium Repetitive nature of building types with little variation within streets means that redevelopment of individual buildings may weaken the coherence and unity of the character and appearance of the area as a whole. However individual designs and the materials used are usually undistinguished, and some redevelopment over a wider area could introduce some welcome variety.

13.3 Where developments concern buildings with a Predominant Generic Character Type, the corresponding development advice contained in table 3 should be followed.

13.4 Where there are diverse architectural styles there should be early discussion between applicants, the local planning authority and local community about the design. Applicants should provide evidence of pro-active engagement with the community regarding development of the overall design. Evidence should demonstrate effective input from the community and how the views of the community have been incorporated into the final design.

13.5 The Council will view proposals which have clear community involvement more favourably than those with no community involvement.

13.6 In all cases the scale, texture and colour of building materials and method of building should work individually and for the area as a whole.

13.7 Development proposals which are located in defined Landscape Character Areas should follow Policy NE5 Landscape Character[13]. Proposals should conserve and where appropriate enhance the landscape.

Table 4: Nuneaton and Bedworth Landscape Character Areas

LCA1: Hartshill Ridge;	LCA7: Keresley Urban Fringe;
LCA2: Anker Valley Estate Farmlands;	LCA8: Keresley Newlands Ancient Arden;
LCA3: Nuneaton Estate Farmlands;	LCA9: Bedworth Woodlands Rural Fringe;
LCA4: Bulkington Rolling Farmland;	LCA10: Arbury Parklands;
LCA5: Bulkington Village Farmlands;	LCA11: Galley Common Hills and Robinson's End Valley;
LCA6: Nuneaton and Bedworth Urban Fringes;	LCA12: Galley Common Hills and Valleys;
LCA13: Whittleford Park and Bar Pool River Valley	

[13] TEP (2012) Nuneaton and Bedworth Landscape Character Assessment https://www.nuneatonandbedworth.gov.uk/downloads/21027/landscape

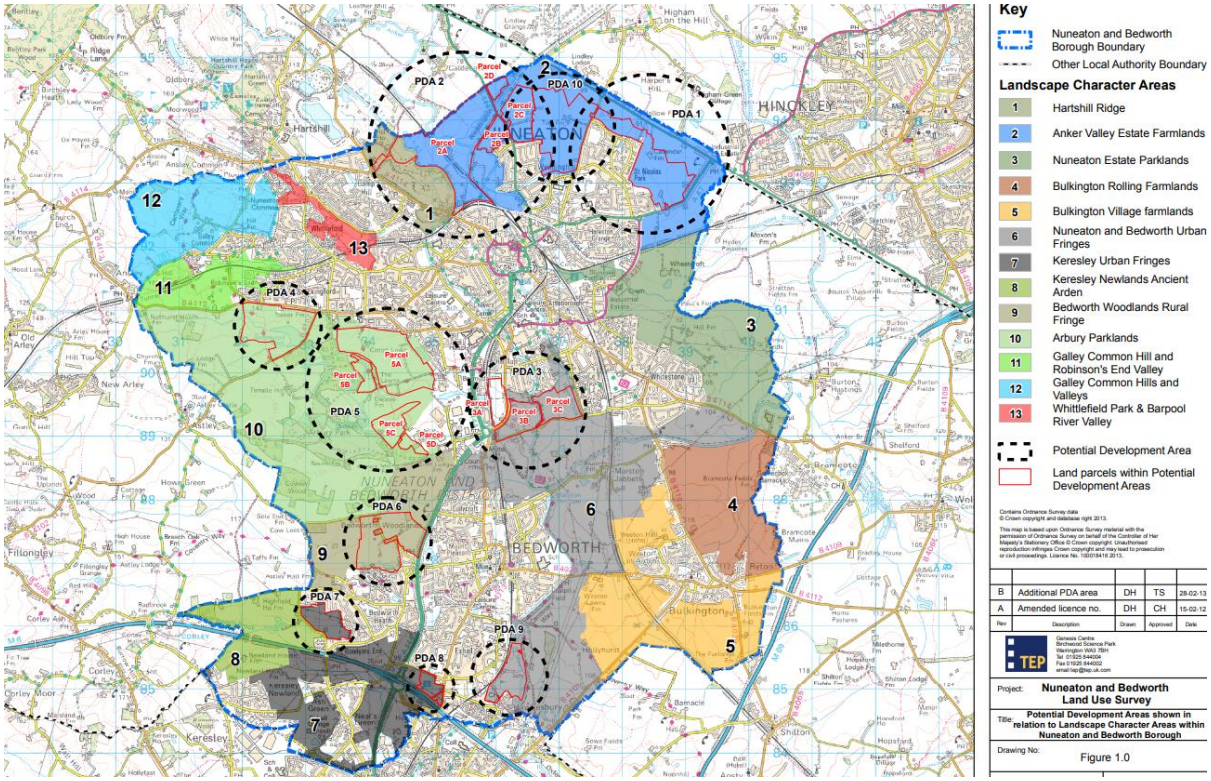


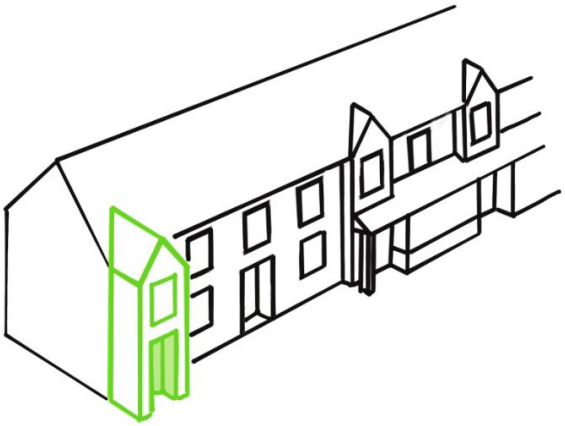
Figure 21: Map of Nuneaton and Bedworth Landscape Character Areas

Extensions and Alterations to Existing Houses

13.8 Extensions and alterations should respect the form and size of the original building

Figure 22: Extensions which are in keeping with the design and scale of the existing house and the group in which it is sited

13.9 It should be in harmony with the design, character and layout of the property and surrounding area.



13.10 Extensions and alterations should not:

- Dominate the existing house by projecting above the ridge line
- Appear intrusive, prominent or incongruous in the street scene or from public areas.

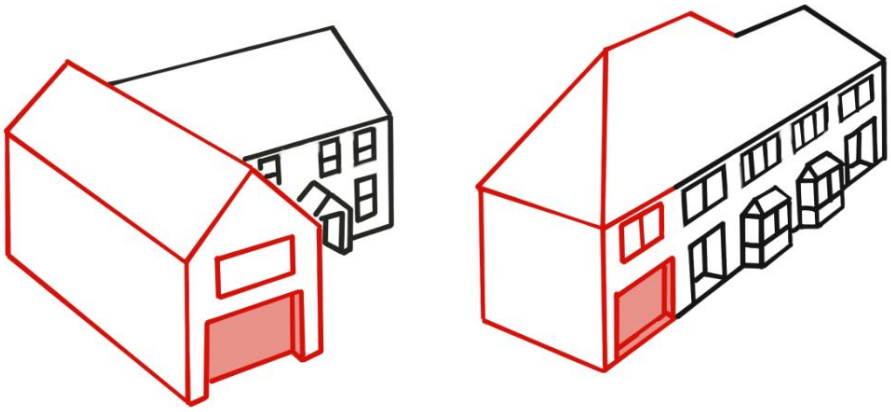


Figure 23: Extensions which are in keeping with the design and scale of the existing house and the group in which it is sited.

Figure 24: An intrusion in the street scene.

- Result in large blank elevations visible in the street scene

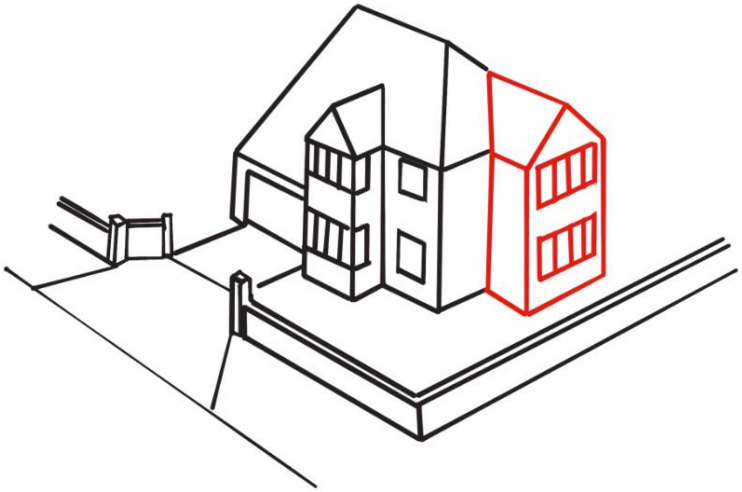


Figure 25: Extension designed with a double frontage effect

Introduce a roof or dormer window that fails to match or reflect the original property in design, angle of pitch and materials. A possible exception to this is the transformation of a bungalow into a two-storey house in an area characterised by similar houses.

Figure 26: Extensions unsympathetic to the original roof form of the house

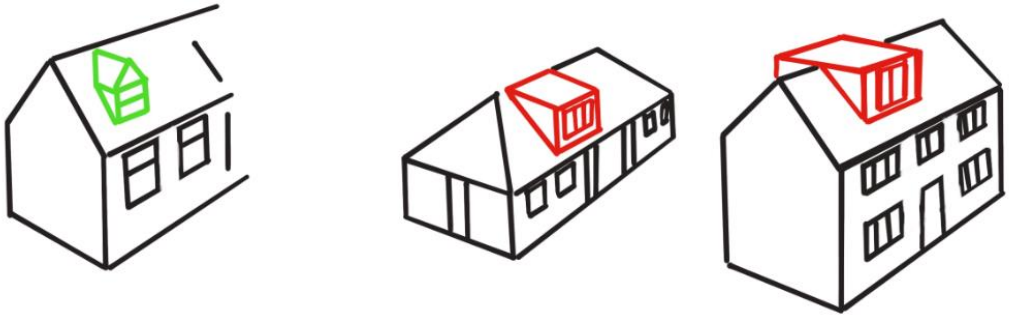


Figure 27: Good dormer design on left. Unsatisfactory dormer designers not fitting into roof form on right.

External finishes used on extensions should match originals. Where it is unlikely a good match of materials can be achieved, consideration should be given to setting back the extension behind the front elevation (e.g. a minimum 0.5m back). Felt, plastic or asbestos sheeting should not be used on pitched roofs.

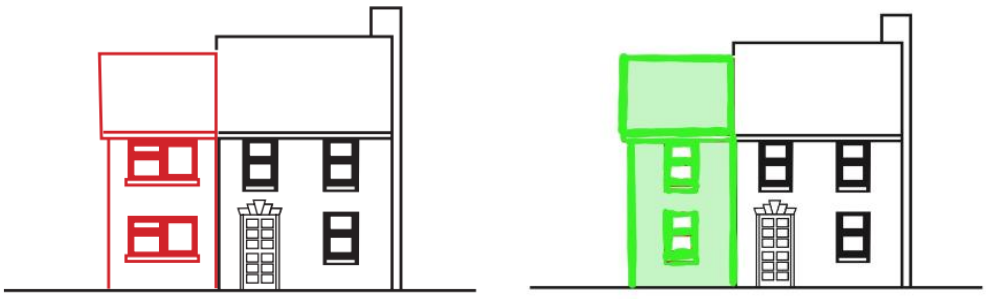


Figure 28: Character retained by using windows in keeping with original on left; existing character spoilt by unsympathetic windows in extension.

13.11 New extensions and alterations should avoid the removal of well-established trees.

13.12 New extensions should not reduce the car parking provision of the existing house to the extent where significant on street parking may result.

Part B: Major Residential Development

14. Building for Life

14.1 Building for life (BFL) 12 standard[14] is a useful reference tool for designing the public realm, it is endorsed by the government and is based on the National Planning Policy Framework. BFL is composed of 12 questions to help facilitate discussions between developers, communities, the local planning authority and other stakeholders.

14.2 BFL uses the 'red, amber and green' scoring formula. Applicants should aim to achieve a green score against all 12 questions. There may be circumstances where local context means it is not possible to achieve the maximum score. In these cases developers should endeavour to achieve the highest possible outcome. A statement of justification will be required explaining why the criteria cannot be met, what has been done to mitigate the problem in the present and demonstrating ways that developments may meet the criteria in the future.

14.3 A summary of the Building for Life questions is presented in Table 5. More detail can be found in 'Building for Life 12: The Sign of a Good Place to Live' (2015).

Table 5: Summary of Building for Life Questions. (CABE, 2019)

Theme 1: Integrating into the neighbourhood
1 Connections
Does the scheme integrate into its surroundings by reinforcing existing connections and creating new ones, while also respecting existing buildings and land uses around the development site? **1a** Where should vehicles come in and out of the development? **1b** Should there be pedestrian and cycle only routes into and through the development? If so where should they go? **1c** Where should new streets be placed and could they be used to cross the development site and help create linkages across the scheme and into the existing neighbourhood? **1d** How should the new development relate to existing development? What should happen at the edges of the development site?
2 Facilities and services

[14] Design Council (2015) Building for Life 12
https://www.designcouncil.org.uk/resources/guide/building-life-12-third-edition

Does the development provide (or is it close to) community facilities, such as shops, schools, workplaces, parks, play areas, pubs or cafes?

2a Are there enough facilities and services in the local area to support the development? If not, what is needed?

Where new facilities are proposed:

2b Are these facilities what the area needs?

2c Are these new facilities located in the right place? If not, where should they go?

3 Public transport

Does the scheme have good access to public transport to help reduce car dependency?

3a What can the development do to encourage more people (both existing and new residents) to use public transport more often?

3b Where should new public transport stops be located?

4 Meeting local housing requirements

Does the development have a mix of housing types and tenures that suit local requirements?

4a What types of homes, tenure and price range are needed in the area (for example, starter homes, family homes or homes for those downsizing)?

4b Is there a need for different types of home ownership (such as part buy and part rent) or rented properties to help people on lower incomes?

Theme 2: Creating a place

5 Character

Does the scheme create a place with a locally inspired or otherwise distinctive character?

5a How can the development be designed to have a local or distinctive identity?

5b Are there any distinctive characteristics within the area, such as building shapes, styles, colours and materials or the character of streets and spaces that the development should draw inspiration from?

6 Working with the site and its context

Does the scheme take advantage of existing topography, landscape features (including water courses), wildlife habitats, existing buildings, site orientation and microclimates?

6a Are there any views into or from the site that need to be carefully considered?

6b Are there any existing trees, hedgerows or other features, such as streams that need to be carefully designed into the development?

6c Should the development keep any existing building(s) on the site? If so, how could they be used?

7 Creating well defined streets and spaces

Are buildings designed and positioned with landscaping to define and enhance streets and spaces and are buildings designed to turn street corners well?

7a Good streets and spaces are created by enclosing them with buildings and a strong landscaping scheme. Are buildings used to create enclosed streets and spaces?

7b Good buildings 'turn' corners. Do buildings turn corners well?

7c Do all fronts of buildings, including front doors, face the street?

8 Easy to find your way around

Is the scheme designed to make it easy to find your way around?

8a Will the development be easy to find your way around? If not, what could be done to make it easier to find your way around?

Theme 3: Street & home

9 Streets for all

Are streets designed in a way that encourage low vehicle speeds and allow them to function as social spaces?

9a Are streets pedestrian friendly and are they designed to encourage cars to drive slower and more carefully?

9b Are streets designed in a way that they can be used as social spaces, such as places for children to play safely?

10 Car parking

Is resident and visitor parking sufficient and well integrated so that it does not dominate the street?

10a Is there enough parking for residents and visitors?

10b Is parking positioned close to people's homes?

10c Are any parking courtyards small in size (generally no more than five properties should use a parking courtyard) and are they well overlooked by neighbouring properties?

10d Are garages well positioned so that they do not dominate the street scene?

11 Public and private spaces

Will public and private spaces be clearly defined and designed to be attractive, well managed and safe?

11a What types of open space should be provided within this development?

11b Is there a need for play facilities for children and teenagers? If so, is this the right place or should the developer contribute towards an existing facility in the area that could be made better?
12 External storage and amenity space
Is there adequate external storage space for bins and recycling? **12a** Is there enough storage space for bins and recycling, as well as vehicles and cycles?

15. Optional Building Regulations - Accessible and Adaptable Dwellings

15.1 The Government has introduced new higher optional standards for access in the Building Regulations: - M4(2) Accessible and adaptable dwellings.

15.2 M4 (2) of Building Regulations 2010[15] requires that reasonable provision is made for people to gain access to and use a building and its facilities. The provision should cater for older or disabled people and allow the dwelling to be adaptable to the changing needs of the occupants.

15.3 LPAs can identify a proportion of dwellings in planning policy to meet these optional standards as long as they can demonstrate a need for setting higher standards and show that it is viable. Where an LPA adopts a policy to provide enhanced accessibility, it should only do so by making reference to M4(2) and state in the local plan what proportion of dwellings it applies to. The policy should also take account of site specific factors such as vulnerability to flooding.

15.4 Planning Policy Guidance[16] provides a number of data sources on a range of official statistics to be used for this to identify need. The list includes:

- Census – people with long term limiting illnesses;
- Department of Work and Pensions – numbers of people receiving Disability Living Allowance / Attendance Allowance.

15.5 35.4 % of households in Nuneaton and Bedworth have at least one resident with a long-term limiting illness or disability compared with 29.8 % for Warwickshire, 35.3 % for the West Midlands, and 32.7 % for England[17] .

15.6 According to Department for Work and Pensions[18] statistics, in November 2018 there were 4335 people claiming Disability Living Allowance in the borough. In surrounding local authority areas there were 1768 claimants in North Warwickshire; 2168 claimants in Rugby; 2143 claimants in Stratford-On-Avon; and 10143 claimants in Coventry.

15.7 A planning condition will require 35% of dwellings which meet M4(2) standard.

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[15] HM Government (2010) The Building Regulations 2010 Approved Document M: Access to and Use of Buildings - https://www.gov.uk/government/publications/access-to-and-use-of-buildings-approved-document-m

[16] Planning Policy Guidance - Para 007 https://www.gov.uk/guidance/housing-optional-technical-standards

[17] Office for National Statistics (2011). 2011 Census

[18] Department for work and Pensions https://stat-xplore.dwp.gov.uk/webapi/jsf/login.xhtml (Accessed July 2019)

15.8 The 35% should incorporate a mix of dwelling sizes, not just larger properties of the development.

15.9 Development which cannot meet the full 35% requirement must provide evidence why it is not viable.

16. Passive Solar Design

16.1 Passive Solar Design (PSD) responds to local climate and site conditions to maximise amenity for occupants and minimise energy use. PSD works by allowing heat into buildings during winter months and blocks out the sun during summer months. Techniques include; shading mechanisms, implementing large south-facing windows and using building materials that absorb and slowly release the sun's heat.

Passive Solar Design- Building Orientation

16.2 The orientation of the building affects the amount of solar gain experienced. Houses do not all need to face direct to south to gain the benefits of solar gain, but should be orientated within 30^0 south direction where possible. A south easterly orientation is better as it will make effective use of the early morning gains and reducing the likelihood of overheating in the afternoon.

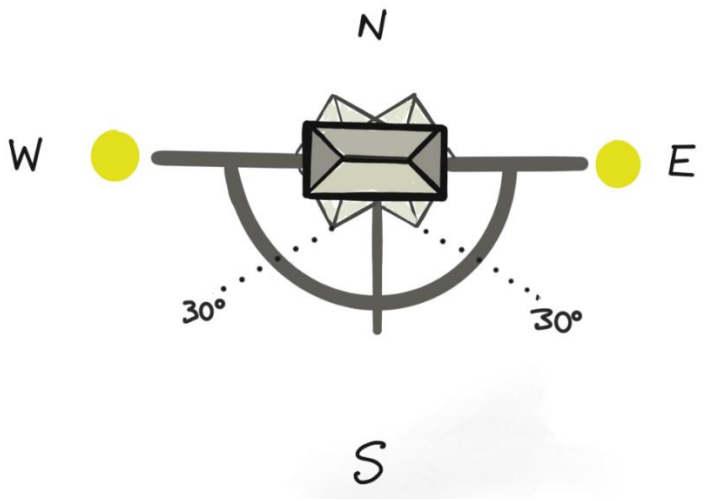

Figure 29: Building orientation should face 30º south

16.3 Road layout is an important factor in PSD as it determines building orientation. Roads which run on an east-west axis will provide more opportunity to position homes to take advantage of solar gain. There are design solutions for roads which by necessity run north-south; diagonal roads, plots can be skewed to face the road, or skewing the houses within the plots. The needs of building orientation should be balanced by the needs to create an acceptable pattern of development.

16.4 Consideration should be given to the proximity of other buildings and to limit the possibility of overshadowing. Lower buildings such as bungalows should

be located to the south, taller buildings to the north. Non-habitable areas such as garages should be positioned to the north.

Figure 30: Building size location in relation to sun

16.5 Trees can be planted to help protect settlements from prevailing winds. The tallest trees should be deciduous to allow the winter sun. Trees can be used to protect settlements from winter northeast winds, these trees should be evergreen. Decorative trees that will eventually grow above the shadow line should be deciduous.

16.6 Warwickshire County Council are responsible for the roads and highways in the borough that are maintained at public expense and must be consulted with regards to any proposals that may affect existing trees within the adopted highway, or any proposed tree planting within streets intended to be offered for adoption.

Figure 31 Tree function in Passive Solar Design

Passive Solar Design- Room Layout

16.7 The most frequently used rooms, such as living room and main bedrooms, should be positioned on the south side of the dwelling. Rooms that benefit little from sunlight, such as hallways, utility rooms, bathrooms and storage areas, should be placed on the north side of the dwelling. To minimise overheating in the kitchen, south facing glazing should be avoided.

Passive Solar Design – Glazing

16.8 A passive solar house normally has more glazing on the south elevation to capture the heat and smaller windows on the north to prevent heat escaping. The southern elevation should incorporate a greater percentage of glazing than other elevations. Northern elevation should have smaller glazing to minimise heat loss.

16.9 PSD considerations must not negatively impact on the natural surveillance and daylight within the dwelling.

Passive Solar Design - Thermal Mass

16.10 Thermal mass refers to the capacity to absorb, store and release heat. Heat radiated onto a surface is absorbed, then conducted from the warm surface to the cooler interior of the mass. When the surface becomes warmer than the surrounding air, the heat is radiated back into space, warming the air and the surface becomes cooler.

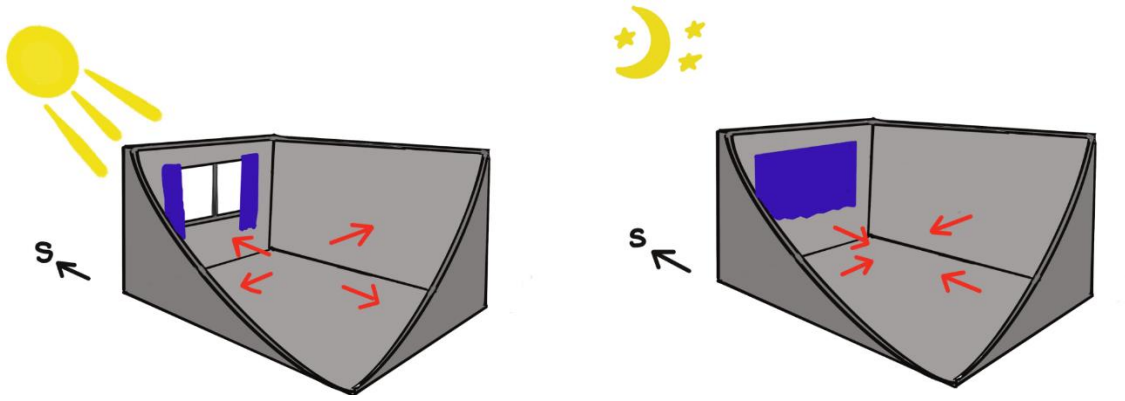

Figure 32: Thermal mass, absorbing and releasing heat

16.11 An effective thermal mass material must have high heat capacity, moderate conductance and density and high emissivity and absorptivity. Building materials which may appear to be similar can have different levels of absorption, for example, a building material with a reflective surface will absorb less heat than a similar material with a dull surface. Effective thermal mass is reliant on three factors; specific heat capacity, density and thermal conductivity.

Specific heat capacity	The amount of heat energy absorbed per 1kg of material.
Density	The amount of kg of material per volume. High density means more energy can be absorbed.
Thermal conductivity	The rate energy flows in and out of material.

Table 6: Thermal Mass Components

16.12 Normally, only the first 100mm depth of dense material will absorb heat from the air. If the dense material is not in direct contact with the air (coupling) the effect is reduced. For example, the use of plasterboard instead of wet plaster produces an air space which limits the ability of brickwork to absorb heat. Table 7 shows admittance values for different building constructions. The table is for illustrative purposes but shows designers relative differences between construction materials. The 'admittance' of a material gives an indication of how efficiently a building element can absorb thermal gains and is expressed in W/m^{2}K (watts per square metre kelvin)[19].

Table 7: Admittance Values for Building Constructions (Energy Savings Trust)

	Construction	Admittance (Y) W/m^{2}K
External Walls	Dense block,13mm wet plaster	5.89
	Aircrete block,13mm wet plaster	2.86
	Dense block,13mm plasterboard on dabs	2.6
	13mm plasterboard + 13mm wet plaster on timber frame wall	1.9
	Aircrete block,13mm plasterboard on dabs	1.85
	Two layers 13mm plasterboard on timber frame wall	1.45
	Single layer 13mm plasterboard on timber frame wall	0.85
Party Walls	Dense block,13mm wet plaster	5.66

[19] BRE (2016) BR 497 2nd edition, Conventions for Calculating Lilinear Thermal Transmittance and Temperature Factors) - https://bregroup.com/

	Dense block,13mm plasterboard on dabs	2.61
	Aircrete block,13mm wet plaster	2.58
	Aircrete block, 13mm plasterboard no dabs.	2.11
	13mm plasterboard plus 13mm wet plaster on timber frame wall	2.08
	Aircrete block,13mm plasterboard on dabs	1.73
Internal Partition	Two layers 13mm plasterboard on timber frame wall	1.62
	Dense block,13mm wet plaster	5.06
	Dense block,13mm plasterboard on dabs	2.67
	Aircrete block,13mm wet plaster	2.53
	Aircrete block,13mm plasterboard no dabs	2.05
	13mm plasterboard plus 13mm wet plaster timber frame wall	2.01
	Aircrete block,13mm plasterboard on dabs	1.81
	Two layers 13mm plasterboard on timber frame wall	1.55
Ground Floor	Fair-faced aircrete block	1.54
	Single layer 13mm plasterboard on timber frame wall	0.86
	Insulation, concrete slab, wood blocks	3.37
	Concrete slab, insulation, chipboard, wood blocks	2.68
	Beam and medium density block floor, insulation chipboard, wood blocks	2.67
	Beam and aircrete block floor, insulation, chipboard, wood blocks	2.67
	Insulation, concrete slab, screed, wood blocks	2.63
	Insulation, concrete slab, underlay and carpet	1.81

	Beam and aircrete block floor, insulation, chipboard, underlay, laminate flooring	1.65
Ground Floor Ceiling	Concrete slab, insulation, chipboard, underlay and carpet	1.59
	Beam and medium-density block floor, insulation, chipboard, underlay and carpet	1.59
First Floor (floor)	Beam and aircrete block floor, insulation, chipboard, underlay and carpet	1.58
	20cm timber-joist internal ceiling;22mm wood blocks	0.8
	20cm timber-joist internal ceiling; laminate flooring and underlay	0.81
	20cm timber-joist internal ceiling, carpet and underlay	0.81
	20cm timber-joist internal ceiling;22mm wood blocks	0.9
	20cm timber-joist internal ceiling; laminate flooring and underlay	0.88
	20cm timber-joist internal ceiling, carpet and underlay	0.88

16.13 Modern Methods of Construction (MMC) utilise non-traditional methods of construction in the development of modular homes. The downside is the materials used can have less efficient thermal mass in relation to traditional building methods. MMC applications should indicate in the planning statement the efforts made to increase the thermal mass of the development, for example using a dry lining boarding with a much higher density than normal plasterboard. As the industry develops performance of building materials may increase due to the need to provide energy efficiency and applicants should utilise proven new techniques to increase thermal mass.

16.14 Full or reserved matters application statements should provide justification for the choice of building materials used and how the chosen materials are beneficial to thermal mass. In the case of outline applications, a planning condition will require the statement be provided at the reserved matters stage.

Passive Solar Design - Passive Ventilation

16.15 The fabric of a building has limited capacity to hold heat, in periods of high temperatures cooling techniques may be necessary to reset capacity. Passive ventilation should be considered with passive solar design[20].

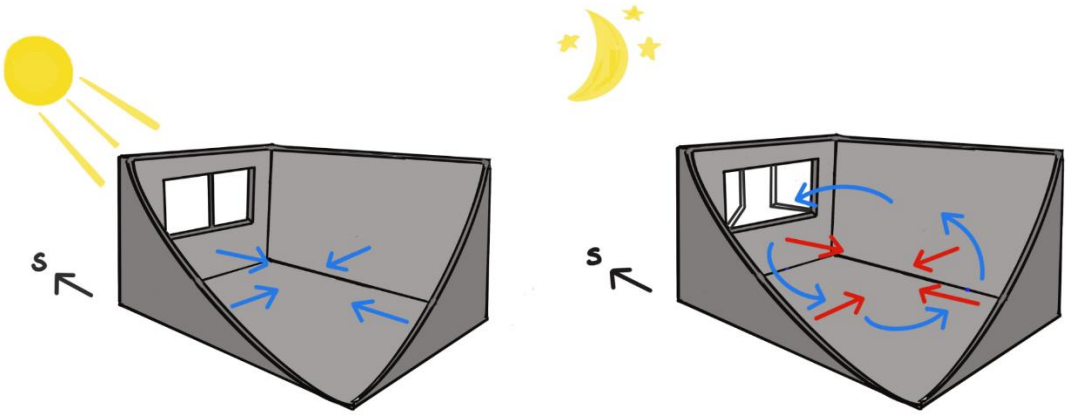

Figure 33: Thermal mass and ventilation

16.16 There is no internationally recognised definition of overheating, mainly as the impacts are determined by localised climatic conditions. According to the World Health Organisation (WHO) temperate climates above 24°C cause discomfort.

16.17 Temperatures exceeding 25°C may give rise to significant health problems including increased incidence of strokes and mortality. The groups most vulnerable include the elderly, those with chronic physical illness such as diabetes, heart conditions, obesity, and taking certain medications. The risk increases with lack of mobility.

16.18 The need for energy efficient buildings and highly insulated air-tight dwellings can result in the unintended effect of internal overheating. Energy efficient dwellings limit the heat loss through the fabric and insulation, retaining more of the internal and solar heat gains within the dwelling[21].

16.19 Ventilation strategies should be utilised which consider the effects of climate change and mitigate against extreme thermal temperatures and anticipated hotter summers.

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[20] BRE (2016) Overheating in Dwellings http://www.bre.co.uk

[21] NHBC Foundation (2012) Understanding Overheating Where to Start, and NHBC Foundation Overheating in New Homes https://www.nhbcfoundation.org/

16.20 It is important to consider the site context in relation to ventilation strategies. The close proximity of noisy roads, or industrial activities may discourage occupants from opening windows. Provision of secure ventilation is important in areas where it is not practical or desirable for occupants to open windows.

16.21 Single aspect houses provide limited possibility for ventilation and should be avoided. Proposals for single aspect flats should demonstrate that all habitable rooms and kitchens provide adequate ventilation.

16.22 Full or reserved matters application statements should include justification of the ventilation strategy to be adopted in the proposed design. In the case of outline applications, a planning condition will require the statement be provided at the reserved matters stage.

Passive Solar Design – Statement

16.23 Where the Council have doubts regarding the robustness of the Passive Solar Design statement, the Council will require the statement to be resubmitted by an independently accredited Sustainability professional.

17. Secured by Design

17.1 The creation of secure spaces is one of the most important aspects in designing places where people wish to live, work and visit. Secured by Design (SBD) supports the principles of 'designing out crime' through incorporating the use of effective crime prevention and security standards into designs.

17.2 SBD has been produced by the Association of Chief Police Officers (ACPO) and is supported by the Home Office.

17.3 The SBD Homes (2019)[22] guide addresses the community safety and security requirements for all types of dwellings including individual houses, housing estates, low and high rise apartment blocks (including assisted living and student accommodation).

17.4 The design, layout and physical security sections of SBD Homes can be applied to both new and refurbished homes.

17.5 All major developments must reduce the opportunity for crime, and the fear of crime by following the relevant Secured by Design, Design Guide.

17.6 The application should include a statement demonstrating where the principles of SBD have been incorporated into the design.

[22] Secured By Design Homes (2019)
https://www.securedbydesign.com/images/downloads/HOMES_BROCHURE_2019_update_May.pdf

18. Air, Soil, Noise and Light Pollution

Air Pollution

18.1 Air Pollution has harmful effects on health and the environment. The major source of air pollutants are from combustion, space heating, power generation or from motor vehicles. Elevated levels or long term exposure to air pollution can lead to conditions which are harmful to human health.

18.2 There are currently two Air Quality Management Areas in the Borough, due to the exceedances of the annual mean nitrogen dioxide (NO2), predominantly due to emissions from road traffic. These are located at Midland Road and Leicester Road Gyratory system. According to the Nuneaton and Bedworth Borough Council 2017 Air Quality Annual Status Report[23] concentrations of NO2 have reduced since 2008, although concentrations have stabilised in the last couple of years.

18.3 Developers should consult the Nuneaton and Bedworth Borough Council's Supplementary Planning Document on Air Quality for guidance.

Noise Quality

18.4 There are statutory provisions for noise including the Control of Pollution Act 1974 which concerns construction site noise and legislation for statutory nuisance such as the Environmental Protection Act 1990. Planning practice guidance for noise states; **"…noise is a planning consideration when new developments may contribute towards noise, when new developments may be sensitive to noise, and/or when new developments make it possible to improve the acoustic environment…"**

18.5 Table 8 reproduced from Planning Practice Guidance, Noise, Paragraph 005[24], provides a useful guide for developers to consider if proposals are likely to be a noise concern. There are a number of factors which will impact upon how noise is experienced, for example; the time of day at which the noise occurs; the frequency and pattern of noise; and the sound pitch of noise.

[23] Air Quality Assessment: Development Associated with the Borough Plan, Nuneaton and Bedworth March 2018 https://www.nuneatonandbedworth.gov.uk/downloads

[24] Planning Practice Guidance, Noise, Paragraph: 005 https://www.gov.uk/guidance/noise--2

Table 8: Noise levels (PPG)

Perception	Examples of outcomes	Increasing effect level	Action
Not noticeable	No Effect	No Observed Effect	No specific measures required
Noticeable and not intrusive	Noise can be heard, but does not cause any change in behaviour or attitude. Can slightly affect the acoustic character of the area but not such that there is a perceived change in the quality of life.	No Observed Adverse Effect	No specific measures required
Lowest Observed Adverse Effect Level			
Noticeable and intrusive	Noise can be heard and causes small changes in behaviour and/or attitude, eg turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a perceived change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
Significant Observed Adverse Effect Level			
Noticeable and disruptive	The noise causes a material change in behaviour and/or attitude, eg avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished	Significant Observed Adverse Effect	Avoid

	due to change in acoustic character of the area.		
Noticeable and very disruptive	Extensive and regular changes in behaviour and/or an inability to mitigate effect of noise leading to psychological stress or physiological effects, eg regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, eg auditory and non-auditory	Unacceptable Adverse Effect	Prevent

Noise Criteria

18.6 The Noise Policy Statement for England (NPSE) 2010[25] uses the following terms regarding the effects of noise:

Table 9: Effects of noise (NPSE, 2010)

No Observed Effect Level. The level below which no effect can be detected. In simple terms, no effect on health and quality of life detectable due to noise.
Lowest Observed Adverse Effect Level (LOAEL). The level above which adverse effects on health and quality of life can be detected.
Significant Observed Adverse Effect Level (SOAEL) - the level above which significant adverse effects on health and quality of life occur.

18.7 Where proposed developments which are categorised in the 'noticeable and intrusive' category or higher, applicants must contact the council's Environmental Protection department for pre-application advice.

18.8 Planning permission will normally be refused where noise meets or exceeds the level of SOAEL. However, other mitigating factors will be taken into consideration.

18.9 Noise which is less than SOAEL but greater than LOAEL will normally result in planning conditions to mitigate the noise.

[25] Noise Policy Statement for England (2010) https://www.gov.uk/government/publications/noise-policy-statement-for-england

18.10 Where the planning authority consider noise to be a concern under the criteria set out in table 9, the developer must undertake a Noise Impact Assessment. The assessment shall be undertaken by a qualified acoustic consultant and normally follow the assessment methodology and evaluation guidance in BS 7445 1-3: 2003 (Description and measurement of environmental noise)[26], or BS 4142: 2014, 'Method for Rating and Assessing Industrial and Commercial Sound'[27] as appropriate.

Noise and Vibration Assessments

18.11 The complexity of noise and the various assessment techniques means early contact with the Boroughs Environmental Protection team is required to ensure the correct form of noise assessment is undertaken.

18.12 Applicants must undertake an Environmental Noise Impact Assessment in any area where noise is likely to cause harmful or unwarranted effects. Areas considered to be sensitive to noise include residential developments, offices, hospitals, care homes and schools.

18.13 Applicants must complete Noise Assessments where developments are proposed in areas which are already a noisy environment or add noise to a quiet area.

18.14 If a noise survey is considered essential to a planning application and one has not been submitted, or has not been completed in accordance with the stipulations of Council officers, planning permission may be refused, or not validated.

18.15 Planning conditions may be used to ensure the submission of noise assessments and mitigation measures or, planning conditions may be used when there is a need to limit hours of activities and other measures to ensure noise levels are acceptable.

Light Pollution

18.16 Artificial light can have positive impacts such as enhancing the feelings of safety or illuminating spaces in the public realm and can be beneficial to night time commerce. Poorly designed lighting can affect amenity, spoil the character of places, cause harm to wildlife and ecology and waste energy.

[26] BSI (2003)BS 7445 1-3: 2003 Description and Measurement of Environmental Noise https://shop.bsigroup.com/ProductDetail/?pid=000000000030098820

[27] BSI (2014) BS 4142: 2014, Method for Rating and Assessing Industrial and Commercial Sound https://shop.bsigroup.com/ProductDetail/?pid=000000000030268408

Design should limit the impact of light pollution from artificial light on local amenity, dark landscapes and nature conservation. Light pollution comprises of:

- Glare – Intense visual sensation caused by excessive brightness when seen against a dark backdrop.
- Light trespass – Light moving beyond the boundaries of the property where it is located.
- Sky glow – Characterised by the orange glow seen surround urban areas.

18.17 There are British Standards with regards to Road Lighting (BS 5489). Lighting from a planning perspective should be sensitive to the surrounding area and the intended use.

- Low Pressure Sodium (LPS) - Considered to be very energy efficient but only emits a narrow spectrum of light. LPS is a good design choice in environmentally sensitive areas.
- High Pressure Sodium (HPS) - Are quite energy efficient, emanating an orange coloured light and are commonly used for outdoor lighting such as roadways, car parks, industrial areas.
- Light Emitting Diodes (LEDs) - Metal halide are commonly used where it is desirable to use white light. They can also be turned off and on, quickly returning to full brightness.

18.18 LED and metal halide contain large amounts of blue light in their spectrum. Blue light brightens the night sky to a greater degree than other colours of light. However, the high colouring rendering index of LED and HPS mean they provided enhanced visibility for the general public and can offer longer lifetimes, lower energy consumption and reduced maintenance costs.

18.19 Lighting should:

- Only be on when needed and used at appropriate times.
- Only light the area that needs it and should be sited in the most appropriate locations.
- Be no brighter than necessary and be at an appropriate level to serve the task for which it intended.
- Be fully shielded (pointing downward), whenever possible. In order to minimise the sky glow effect lighting should not shine above the horizontal.
- Minimize blue light emissions

18.20 Consideration should be given to the look of lighting equipment and the appearance in the daytime.

18.21 The need to provide lighting for security should not be compromised by the need to save energy or to avoid light pollution.

Soil

18.22 The National Planning Policy Framework states that the role of the planning system is to protect and enhance soils and prevent the adverse effects of pollution.

18.23 Topsoil and subsoil should be identified as part of the Site Waste Management Plan (SWMP) and/or the Construction Management Statement (CMS). In conjunction with ecological and environmental surveys it should be possible to identify the top-soils and subsoils prior to excavation and subsequent appropriate reuse on or off site.

18.24 Incorrectly stored topsoil can lead to permanent damage and result in infertile soils being used in garden space. Topsoil should be stored for reuse in a manner appropriate to the soil type and the time of year. Construction plans should account for soil and weather differences and demonstrate that plans are in place to store soil in accordance with conditions.

18.25 Construction plans should take action to avoid soil compaction. Soil compaction can cause irreparable damage to trees in three ways; reducing water movements through the soils, meaning less water is available for trees; reducing the amount of oxygen in the soil eventually leading to root death; soil compaction can prevent roots from penetrating deeper into the ground, resulting in shallow roots and damage to infrastructure. Critical root zones of trees should be calculated and appropriate steps taken to ensure existing trees are protected.

18.26 Trees help to bind soils and prevent soil erosion. Wherever possible existing trees should be protected. Where loss is unavoidable replacement trees should be planted which will benefit soil quality.

18.27 Landscaping designs should consider the suitability of plants for the location. Including, the habitat size and tolerance to soil conditions, root spread and ease of management. Where developments include the importation of soil, soil materials should be of a standard to support vegetation. In all cases the site developer must ensure that the soil cover placed on the site is suitable for plant growth.

18.28 Organisations such as the Royal Horticultural Society[28] provide information on soil types and identifying suitable plants.

[28] Royal Horticultural Society Website - https://www.rhs.org.uk/

18.29 Planning conditions may be used to ensure correct soil management practices are in place.

Part C: Major Commercial Development

19. BREEAM

19.1 Nuneaton and Bedworth Borough Council supports the use of the Building and Research Establishment Environment Assessment Method (BREEAM)[29]. BREEAM is a sustainability assessment to measure projects, infrastructure and buildings. The assessment is conducted by a third party assessor and examines the environmental, social and economic performance of assets. The assessment criteria takes place over the life cycle from concept design to constructed building.

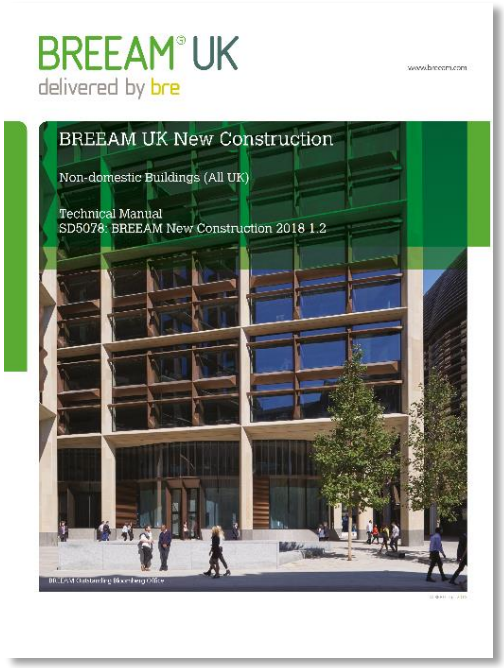

Figure 34: UK New Construction 2018 Technical Standards. (Source: BREEAM)

How BREEAM Works

19.2 The current 2018 BREEAM categories are:

- Management – Project management from the initial brief and design, construction and aftercare.
- Health and wellbeing – The overall experience of building occupiers.
- Energy – The energy efficiency of the building and Carbon Dioxide produced.

[29] BREEAM UK New Construction, Non Domestic Buildings (All UK), Technical Manual, SD5078, BREEAM New Construction 2018 1.2 https://www.breeam.com/discover/technical-standards/newconstruction/

- Transport –Sustainable transport options and traffic management.
- Water – Water management and efficiency.
- Materials – The use of sustainable materials and sustainable procurement.
- Waste – Generation of waste and building adaptability.
- Land use and ecology – (subject to consultation).
- Pollution – Air, noise, water.
- Innovation (optional).

19.3 The categories are weighted depending on the environmental section and the finished stage of the building (e.g. fully fitted out etc.).

19.4 Some category credits are mandatory to achieve a certain rating, whilst other category credits can be interchanged. Therefore where compliance is not achieved in a non-mandatory category it can be offset by another category.

19.5 Credits can be earned by following the relevant polices set out in the Nuneaton and Bedworth Borough Plan. It is important to register with BREEAM early in the process and to keep evidence of compliance to achieve the desired credit.

19.6 The benchmarks for BREEAM are detailed in Table 10

Table 10: BREEAM benchmarks (BREEAM, 2018)

Outstanding	Achieves a rating of 85%	This rating requires innovative design. Accordingly, less than 1% of UK new non-domestic buildings meet this level.
Excellent	Achieves a rating of 70%	This rating meets best practice standards. This level places non-domestic buildings in the top 10% best designed in the UK.
Very Good	Achieves a rating of 55%	This rating is considered advanced best practice and places non-domestic buildings in the top 25% best designed in the UK.
Good	Achieves a rating of 45%	This rating places non-domestic buildings in the top 50% best designed in the UK.
Pass	Achieves a rating of 30%	Achieving this rating places non-domestic buildings in the top 75% best designed in the UK.

19.7 BRE regularly updates the standards and guidance for BREEAM New Construction. Developers must refer to the technical manuals on the BREEAM website for the latest requirements.

19.8 Studies have found that the percentage estimated capital cost uplift to achieve the following ratings are:

Table 11: Over capital cost to achieve BREEAM benchmarks (BREEAM, 2016)

Scheme Type	Very Good	Excellent	Outstanding
Mixed Use	0.14%	1.58%	4.96%
Offices	0.17%	0.77%	9.83%
Schools	0.2%	0.7%	5.8%
Supermarkets	0.24%	1.76%	10.1%
Warehouses	0.4%	0.4%	4.8%

19.9 Table 11 highlights that there is little added cost over the base case costs to achieve a BREEAM Very Good rating[30].

Required Standard for New Developments

19.10 Policy BE3 requires Major non-domestic construction projects to achieve at least a Very Good rating. In some cases the capital cost to achieve a BREEAM Excellent standard is similar to the Very Good standard, in such cases developers are encouraged to achieve the higher standard.

19.11 Extensions to existing units which are classified as major developments are expected to adhere to BREEAM standards. A proposal which is part new construction and part refurb has two options:

Option 1: Separate BREEAM New Construction and BREEAM Refurbishment and Fit-out assessments

Option 2: Bespoke BREEAM combined New Construction and Refurbishment and Fit-out assessment

[30] BREEAM (2016) 'The Value of BREEAM https://www.breeam.com/filelibrary/Briefing%20Papers/BREEAM-Briefing-Paper----The-Value-of-BREEAM--November-2016----123864.pdf

19.12 Applicants should contact BREEAM at the earliest opportunity for guidance on the most suitable BREEAM version or scheme for maximising environmental performance.

19.13 Achieving the Very Good rating can be more challenging depending on the end use of the building. Where developers consider it is not technically or financially possible to meet the Very Good standard a full explanation why must be provided and what alternatives have been considered.

19.14 The Council may use planning conditions to ensure a BREEAM design stage assessment is submitted prior to commencement of the development.

19.15 The Council may condition any approval to ensure that the targeted BREEAM ratings are met and that certificates are submitted to the council once the development has been completed at post construction.

Part D: Sustainable Construction

20. Sustainable Materials and Management

Construction

20.1 The impacts of construction should be considered throughout their lifecycle, from acquisition of raw materials, demolition and to end use and eventual disposal.

20.2 Developers should use the BRE Green Guide[31] to inform the specifications of the materials used in construction. The Green Guide considers typical UK construction specifications and compares their environmental impact on a scale of A* (lowest environmental impact) to E (greatest environmental impact).

20.3 Developments should use resources which are procured from responsible sourcing schemes, such as the BRE BES 6001:2008 Responsible Sourcing Standard[32].

20.4 Timber should be sourced from schemes which ensure timber production and harvesting do not harm the long term ecology of source forests. Timber should be sourced from contractors accredited by certification schemes such as the Forest Stewardship Council (FSC) or the Programme for Endorsement of Forest Certification[33].

20.5 Developers should undertake a review to identify opportunities for use of local suppliers to provide products that have originated within 50 miles of the site. Full or reserved matters application statements should include justification of the building elements strategy to be adopted in the proposed design. In the case of outline applications, a planning condition will require the statement be provided at the reserved matters stage. This should cover the following building elements:

- Structure
- Masonry
- Flooring
- Windows
- Cladding

[31] BRE Green Guide Website - https://www.bre.co.uk/greenguide/podpage.jsp?id=2126

[32] BRE BES 6001:2008 Responsible Sourcing Standard http://www.greenbooklive.com/filelibrary/BES_6001_Issue_1_0_NEW_VERSION_09-10-2008.pdf

[33] Forrest Stewardship Council Website - http://www.fsc-uk.org/en-uk

20.6 Where products are procured outside of the locality they should have a demonstrable through-life benefit for sustainability.

Demolition Method Statement and Construction Management Plan

20.7 An appropriate Demolition Method Statement and Construction Management Plan should be prepared and submitted with the planning application. A planning condition may be imposed if these are not submitted. The plan should include:

- An Overview of the Project – Including description of temporary and permanent work to be undertaken and site plan
- A Preliminary Programme of Work- including phasing and methodology
- Communication Strategy for neighbour relations and community consultation
- Site Establishment – Including details of personnel to be used and their experience, details of site rules and details of PPE to be provided to personnel
- Access to the site – including HGV routing plans and measures to protect pedestrians, cyclists, assets and infrastructure that may be impacted upon
- Traffic Management – Including construction traffic and temporary signage
- Working Hours
- Delivery hours
- Site layout – including loading/unloading areas, vehicle turning areas and staff parking
- Fire and Emergency Procedures
- Lighting - details of temporary lighting that may be required
- Security and Fencing
- Health and Safety – including major H&S risks on site and H&S controls
- Scaffolding
- Main Plant
- Good Housekeeping
- Waste and Material Management - including measures to minimise deliveries and waste removal, waste storage, waste disposal

- Measures to prevent dust and debris being deposited on the highway, the monitoring for dust and debris on the highway, and measures to be employed should cleansing be required
- Water - measures to prevent water run-off and silt pollution, to prevent water pollution and to protect water resources
- Air Quality and Dust Management – mitigation measures, measures to minimise energy use and carbon emissions
- Noise and Vibration – Site statement to minimise noise and nuisance, best practice measures and mitigation measures

20.8 Construction activities should be planned so as to minimise the noise level and the duration of noise.

20.9 Plant and machinery should be operated at a level below 5dB(A) below the background level measured from 1 m outside the window of neighbouring residential or noise sensitive property. There should be no perceptible noise or vibration submitted through the structure to adjoining premises.

20.10 Consultation with the Council's Environmental Health Officers is required at an early stage of development to advise on noise and air quality.

Construction Waste

20.11 Developers should aim to refurbish, repair or convert existing buildings before demolition. Existing resource should be made use of on site, ensuring that materials which can be reused or recycled are utilised as part of the development. Waste streams should be carefully monitored to ensure waste is disposed of correctly.

20.12 The European Waste Framework Directive (Directive 200/98/EC)[34] sets out the waste hierarchy:

[34] European Waste Framework Directive (Directive 200/98/EC)
http://ec.europa.eu/environment/waste/framework/

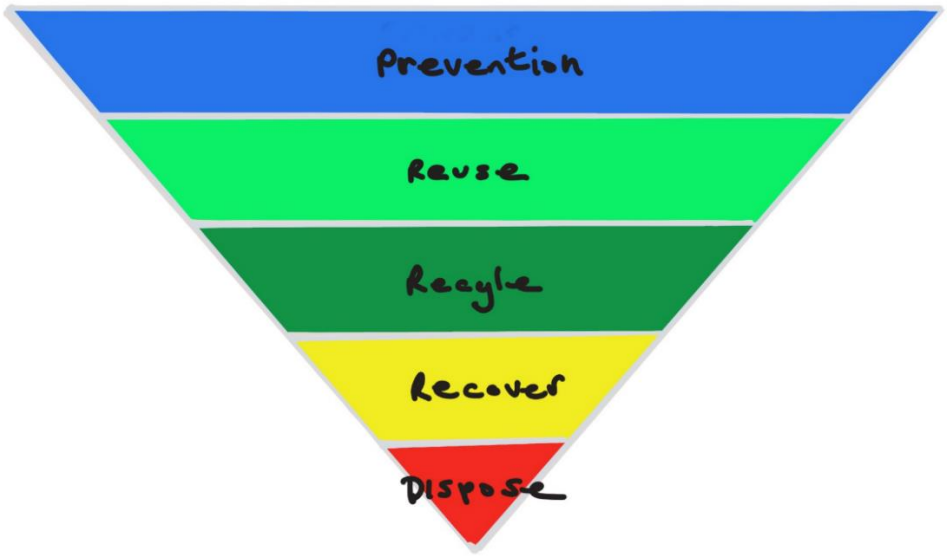

Figure 35: The Waste Hierarchy

20.13 Where demolition of buildings cannot be avoided, an audit of materials should be undertaken on site and the percentage calculated of materials which can be reused or recycled. The Waste and Resources Action Programme (WRAP) guide Waste Recovery Quick Wins (improving recovery rates without increasing costs)[35] should be consulted. Developers should aim to achieve the 'Best Practice' recovery rates by material advocated by WRAP.

Table 12: Recovery rates of waste materials. (WRAP, 2016)

Material	Standard Practice Recovery (%)	Good Practice Quick Win (%)	Best Practice Recovery (%)
Timber	57	90	95
Metals	95	100	100
Plasterboard*	30	90	95
Packaging	60	85	95
Ceramics/masonry	75	85	100
Concrete	75	95	100
Inert	75	95	100
Plastics	60	80	95
Miscellaneous	12	50	75
Electrical equipment	Limited information	70**	95
Furniture	0-15	25	50
Insulation	12	50	75

[35] Waste and Resources Action Programme (WRAP) guide Waste Recovery Quick Wins - http://www.wrapni.org.uk/sites/files/wrap/Waste%20Recovery%20Quick%20Wins%20FINAL.pdf

Cement	Limited information	75	95
Liquid and oils	100	100	100
Hazardous	50	Limited information***	Limited information***

*Excludes demolition **This is a required recovery target for the type of WEEE likely to be produced from construction sites, e.g lighting (WEEE Regulations, January 2007). ***This cannot be 100% as much hazardous waste must be landfilled

20.14 Where aggregate is needed on site and resources cannot be salvaged, the material should be crushed for onsite use. Measures should be taken to limit dust and noise.

20.15 Developments should produce a Site Waste Management Plan which will have a significant impact in reducing waste. The plan should describe how materials will be managed efficiently and disposed of legally and how the recycling and reuse of materials will be achieved to the greatest effect.

20.16 The Council may issue planning conditions to ensure a viable Site Waste Management plan has been submitted and approved prior to the commencement of construction.

20.17 The council may condition any approval to ensure that the targeted recovery rates are met and reports are submitted to the council once the development has been completed at post construction.