

North Somerset Council
Local Development Framework

Core Strategy

Topic paper
Sustainable Construction and
Design Quality

Sustainable Construction and Design Quality

This is part of a series of topic papers summarising the evidence base for the North Somerset Core Strategy document.

Other topic papers available in this series:

- Settlement function and hierarchy
- Housing
- Economy
- Retail
- Leisure, tourism and culture
- Resources (including minerals, waste, recycling, energy consumption)
- Natural environment (including climate change, biodiversity, green infrastructure, countryside, natural environment and flooding)
- Transport and communications
- Demography, Deprivation and Social Exclusion
- Summing up / spatial portrait

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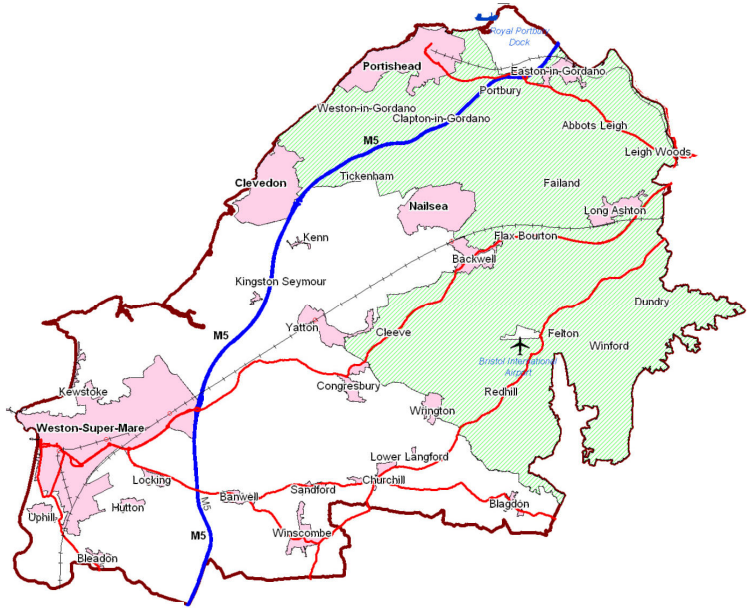
TOPIC PAPER: Sustainable Construction and Design Quality

1 STAGE ONE: EXISTING CHARACTERISTICS

1.1 Local Character and Distinctiveness

PPS 1 strongly advises that developments should, “respond to their local context and create or reinforce local distinctiveness” (paragraph 36, page 15).

1.2 North Somerset has a variety of settlements each having specific characteristics. Much of North Somerset is rural in nature, with built up areas of relatively low density¹ compared to some larger cities such as Bristol. In many cases the character is driven by the influence of the natural environment for example at Weston-super-Mare, a large area of the town is nestled within the bowl between Worlebury Hill and the Mendip Ridge. The Weston Seafront also to a large extent provides much of the physical and emotive character of the town. The low level North Somerset moors provides the backdrop for many of the rural villages throughout the district.



SOURCE: North Somerset Council. Towns and villages throughout district and greenbelt shown

1.3 The buildings and spaces of the towns and villages are a product of various influences, including as a response to the geographic features, building technologies, fashion, local vernacular skills, and economy. The urban areas reveal a rich history of evolving culture and society which is ingrained within the built fabric. At Weston-super-Mare there are a collection of architectural styles demonstrating vernacular principles with a strong connection to place, reference to classical design, Gothic, Moorish, functional, art deco, and modernism. It is

¹ The concept of density used in this paper refers to the number of dwellings per hectare or the ratio of buildings to open space.

important to protect this heritage and encourage further enhancements. The Core Strategy offers opportunities to set out the fundamentals of design policy including responding to the context, a need for a robust, high quality design process, and the need to achieve sustainable development objectives.

Rural villages

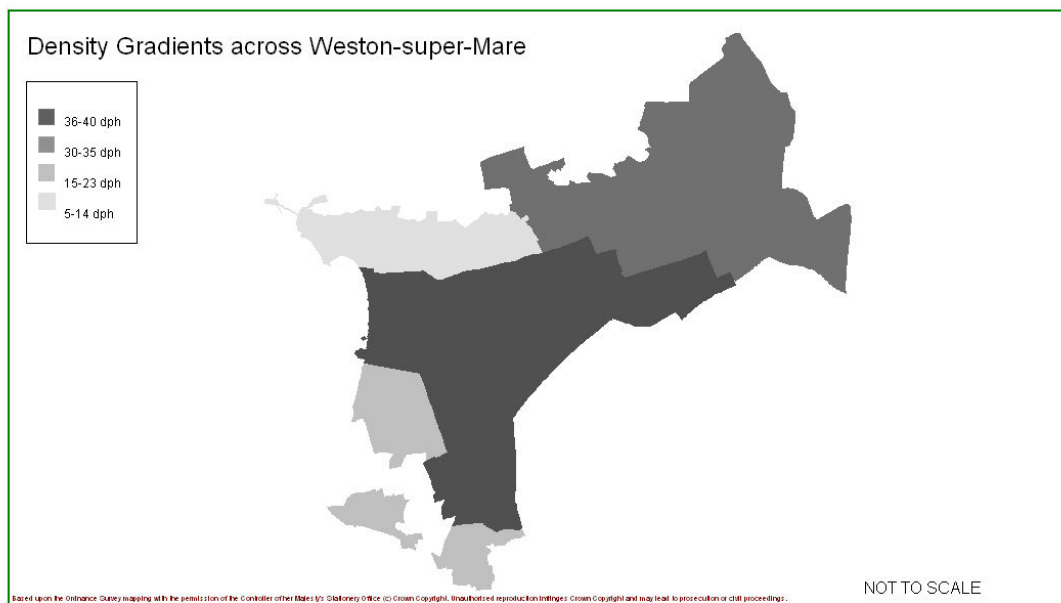
- 1.4 By way of example, Abbots Leigh demonstrates a low density with dwellings lining access routes structured around a collection of local and historic farmsteads. Many of these dwellings were originally workers dwellings serving specific houses or local farms. This is reflected in their vernacular construction which is typified by simple and robust construction methods. There is an eclectic mix of design and material usage, and varying scales of building, which contribute to the character of the village.
- 1.5 In Winford vernacular principles continue to provide much of the character with local pink and grey limestone and clay pantiled roofs. Many other rural villages demonstrate similar characteristics, including Felton and Kingston Seymour.
- 1.6 Specific responses are required throughout the different types of location in order to nurture the local distinctiveness. With the 'growth' scenario advocated at a regional level through the Regional Spatial Strategy, the large amounts of growth expected provide a key opportunity to instil high quality principles in design and sustainable construction.

Urban Form

- 1.6.1 The urban form is the physical shape of towns and settlements. It includes all of the elements that make up the area including the open space, and transport infrastructure. An integrated approach is required to plan for the major areas of change to ensure all of these elements work towards a common vision. This is pursued in the master plan approach for sites identified in the Weston regeneration area, for example, Locking Parklands.
- 1.6.2 North Somerset has some specific urban form characteristics including an often organic, low density structure within the rural settlements. The urban areas are comprised of notable components of residential growth each conforming to a particular style. This is still in the main, low density comprising Victorian and later estate development throughout the twentieth century. The historic cores throughout the towns and villages are mostly higher density with a mix of building types and plot layouts and are key features of towns throughout North Somerset. The villages are characterised by organic patterns of development, with many traditional rural buildings including historic farmsteads, and remnants of buildings which served the early economy. These features are common to many towns and villages throughout the country.

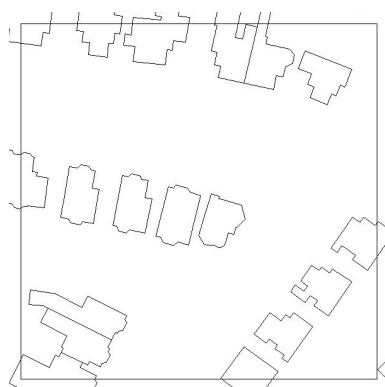
1.6.3 Additional work needs to focus on the existing individual communities across North Somerset and an in-depth analysis made of the existing urban form.

1.6.4 Density is an important consideration in relation to design and sustainability. Densities across North Somerset are not high in comparison with other locations within England and abroad, mainly because development has not been so intense and different approaches to building design have been followed. Weston-super-Mare is the largest built-up area but maintains a relatively low density. Some of the higher residential densities are found at the town centre with the post-war estate housing.

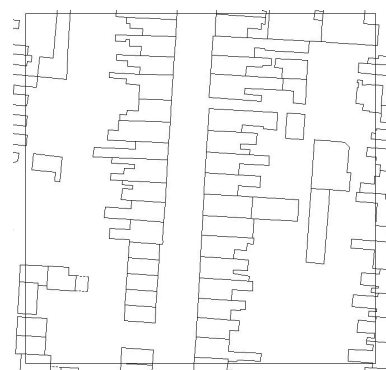


SOURCE: North Somerset Council. Density exercise across Weston-super-Mare

Weston-super-Mare selected residential densities

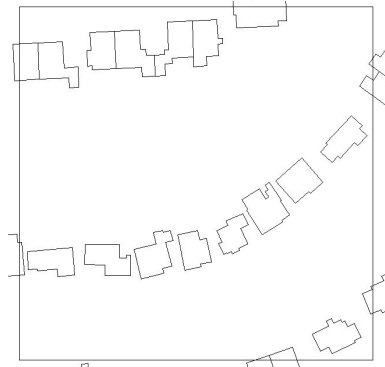


13 dph

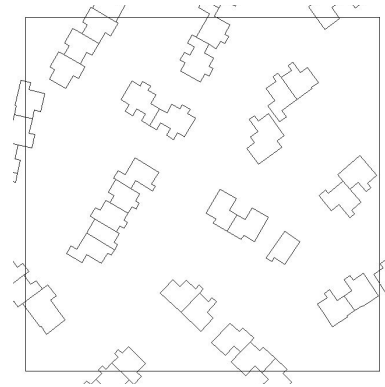


36 dph

Clevedon selected residential densities

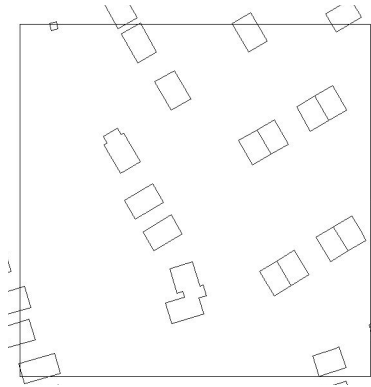


16 dph

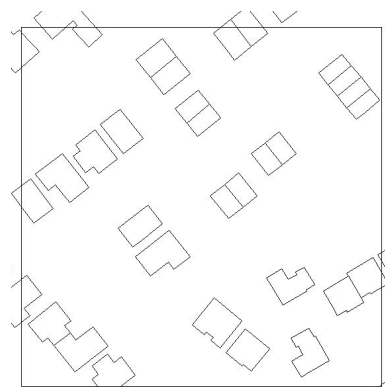


29 dph

Nailsea and Portishead selected residential densities



16 dph



28 dph

SOURCE: North Somerset Council. Selection of residential densities across four main towns

- 1.6.5 In terms of future development general guidance focuses on a graded density strategy that focuses higher densities around built up areas and nodal points², and as you move away from these centres, densities reduce. The benefits from high densities come from mixing uses rather than just having a high density collection of houses that encourage use of the private car. These issues will be central to the effective planning of the two major housing growth areas in North Somerset. Planning Policy Statement 3: Housing, gives local authorities the authority to devise a range of densities to suit the area. Further work is needed to explore this though much has emerged from the *Strategic Housing Land Availability Assessment*, which has looked at different densities across North Somerset and assigned specific densities for particular sites.

² Commission for Architecture and the Built Environment, (2005) *Better Neighbourhoods- Making Higher Densities Work*.

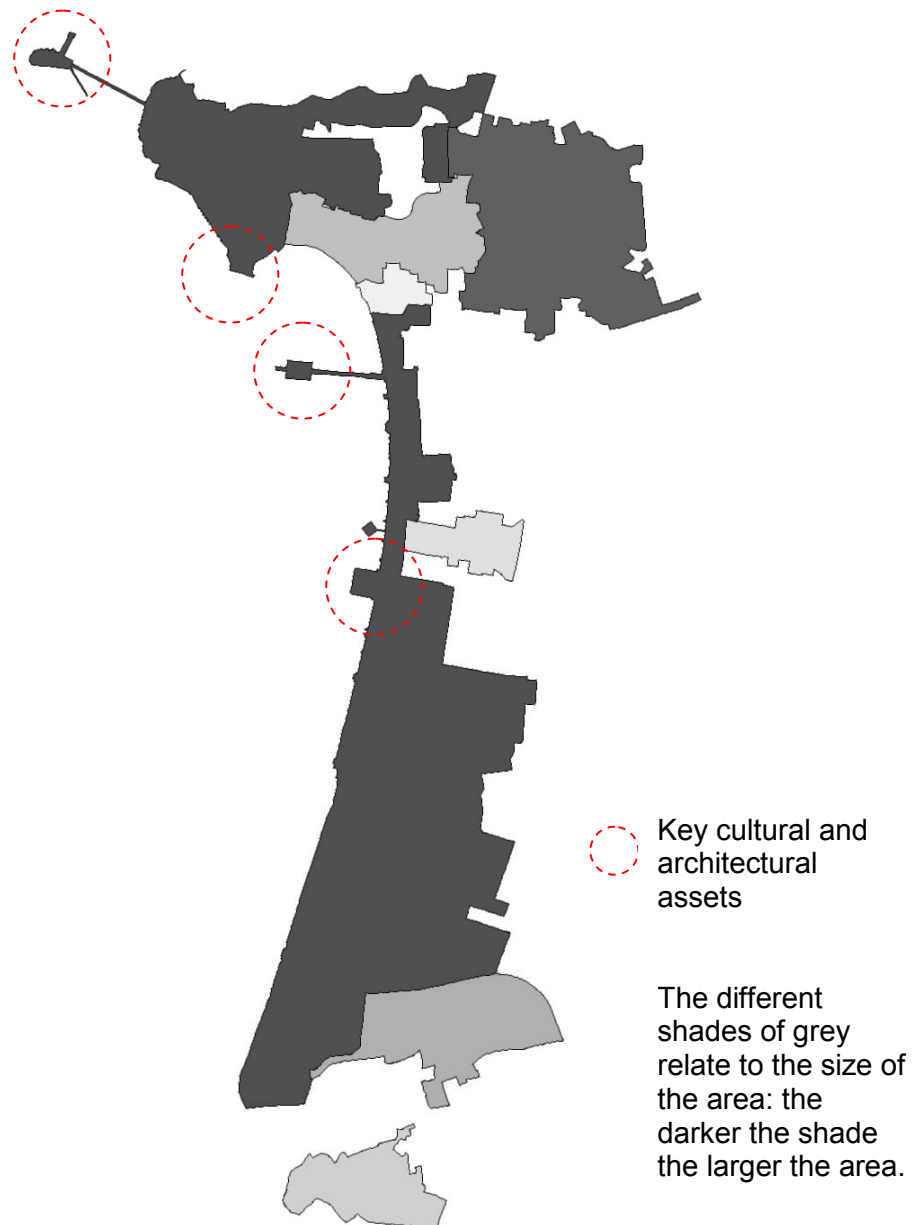
- 1.6.6 At present the highest densities (measured here in dwellings per hectare) are to be found around the main centres in the four main urban areas though to a lesser degree in Nailsea. Based on analysis of a sample of densities, residential densities range from 13dph at Weston hillside, to 36dph at Weston-super-Mare town centre. Whilst these are not generic for the entire town, they are indicative of some of the levels of housing historically achieved per hectare. Hectare figures will range up to around 45-50dph. Recent development proposals in Portishead as part of the Dockside regeneration project have pursued higher densities averaging around 63 dwellings per hectare.

Built Heritage

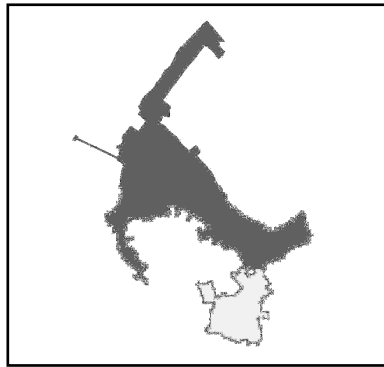
- 1.6.7 North Somerset currently has 34 Conservation Areas designated, and approximately 1,076 Listed Buildings. The broad geographic location of Listed Buildings is a useful piece of information which allows an understanding of where most of the heritage assets lie within North Somerset. This information could inform economic aspects particularly with relevance to tourism. In all four towns Listed Buildings are almost exclusively confined to the town centres where much of the early development originated. Conservation Areas are distributed throughout the district with the highest concentrations at Weston-super-Mare, Clevedon, and Long Ashton. Many villages are given comprehensive Conservation Area status including Leigh Woods, Christon, and Loxton. In all 696 hectares of North Somerset's 37,478 hectares are Conservation Area equating to approximately 1.9 per cent.
- 1.6.8 A significant design principle in relation to heritage is the notion of contextualism and that developments regardless of size should relate to the areas where they are being built. Whilst this is mostly applicable to historically and architecturally significant locations it is a principle that seeks to create uniformity throughout the built environment. However there will be cases where it is not appropriate or necessary to adhere to the context, for example it may be of poor quality. In this case a new well designed building can help reinvigorate an area, and set new standards of design quality. In light of recent reforms to the planning system, it is recognised³ that land use planning has not been wholly effective at protecting against impacts to environmental quality through regulating the process of development. There are often other planning considerations that need reconciling as well as protection of the character and appearance of Conservation Areas.
- 1.6.9 The drawings below show the three highest concentrations of conservation areas. The large drawing shows areas in Weston-super-Mare; the smaller to the left shows areas at Clevedon including Clevedon Hill Road and the Clevedon Triangle, and the other, areas at Long Ashton. It can be seen in the top drawing that the entire Weston Seafront is given conservation status highlighting its significance to the town and includes

³ CABE *Making Design Policy Work*

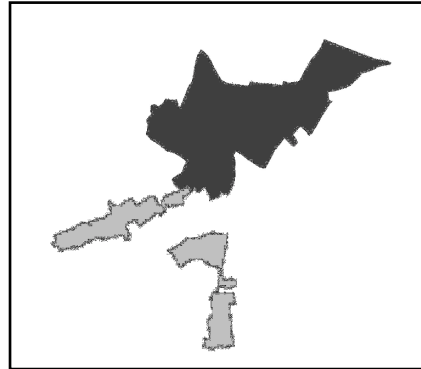
some key buildings along it, notably the Tropicana, Grand Pier, Birnbeck Pier, and Knightstone Island as well as other buildings that contribute to the character of the old town. Clearly designing in these areas should be driven by the existing character and achieve the statutory duty to preserve or enhance the area.



Weston-super-Mare



Clevedon



Long Ashton

SOURCE: North Somerset Council. Conservation Area boundaries

Public Realm, Open Spaces and Public Art

- 1.7 The public realm includes the spaces between and around buildings that are accessible to the public. Open spaces are those interspersed throughout the public realm and have an important role providing valuable amenity space. Attractive public spaces have been created in North Somerset including a series of interventions through the Civic Pride Initiative at Weston-super-Mare, which have revitalised the town with street furniture, public art, and innovative lighting solutions, and also enhancements at Portishead. However many spaces do not fulfil their potential such as Dolphin Square, and would benefit from revitalisation.



SOURCE: North Somerset Council. View towards Big Lamp Corner and Silica Structure

- 1.8 The Silica at Big Lamp Corner and other public art installations enrich the public realm and contribute to the culture of the area. They are a celebration of the area and reinforce its identity, providing 'nodal points' throughout the town contributing to the overall legibility⁴. At Weston the issue of poor legibility in the

⁴ Legibility is an urban design term referring to the ability to use landmarks and specific urban features (including buildings and public spaces) to get around an area. Poor legibility is characterised by areas with weak urban design where all areas look similar.

town was highlighted as an overarching issue in a report on the early stages of the town's development⁵. Future interventions are planned through the Civic Pride Initiative including public art and public realm enhancements.

- 1.9 The expected expansion at Weston and south west Bristol should be carried out sensitively to ensure a 'sense of place' is created and in certain cases that existing identities are enhanced. Those involved in all development throughout the district should be committed to sound design principles which include contributing to the design of places as distinct from buildings alone. The Core Strategy provides an opportunity to signal the importance of open space as a means of creating sustainable communities.

Architecture

- 1.10 North Somerset has a wealth of buildings of architectural merit including many recent projects including the Campus building and the current Knightstone Baths project on the Seafront near Marine Lake. The Campus building has been well received within the architectural and surveying community, achieving awards including the international RICS award, and an RIBA award in 2005. The Knightstone Baths site is currently in redevelopment to provide mainly residential accommodation, and demonstrates a sensitive approach towards achieving conservation objectives. These projects serve as benchmarks for design quality and demonstrate a commitment to contextual, sustainable and innovative design. These two projects, like other buildings, demonstrate how high quality architecture can enrich the urban environment. Their quality can be measured objectively and the designs express the function of the buildings through structure, form, orientation, and materials.
- 1.11 Other key buildings which contribute to the local character at Weston-super-Mare include (list not exhaustive):
- The Mercury Office, the Boulevard
 - The Town Hall (original building designed by Hans Price, 1847)
 - Walliscote School, Walliscote Road
 - The Odeon Cinema, The Centre
 - The Magistrates Court, Walliscote Road
 - All ecclesiastical buildings built in the 19th Century.
 - The Campus, Highlands Lane, Locking Castle
 - Hans Price Arts and Science building, Lower Church Road
 - Weston Central Library, the Boulevard
 - Stone built houses on the hillside built in the late 19th century
 - Winter Gardens, Seafront
- 1.12 With regard to policy ECH/1 of the Replacement Local Plan, with reference to gateways into towns, more emphasis can be placed on stimulating the growth of, and only permitting, high quality buildings at these locations. These buildings

⁵ Ove Arup and Partners Ltd for North Somerset Council (2006) Vision and Options Report, Weston Area Action Plan

should provide a sense of arrival into the main towns of North Somerset which could be used as a strategy to express the strategic significance/ hierarchy of the different settlements. Policy E1/b of the Adopted Replacement Local Plan recognises the significance of good design in gateway areas (in this case relating to Weston-super-Mare) '*...that will enhance the visual image, and emphasis the importance of the gateway approach to the Town Centre*'.

- 1.13 Perhaps most significant in relation to this topic is what aspirations best suit the development of North Somerset and what needs to be achieved. With the development of the WAAP work and start of the new LDF system, there is an opportunity to set out a clear vision in terms of sustainable objectives and design aspirations. The Local Development Framework provides an opportunity to support the delivery of high quality architecture that improves the built environment, demonstrates a sensitive response to context, and functions best for the people who will use and experience it.

1.13.1 **Quality design to support business and retail growth**

Raising design quality of employment premises (e.g. offices) can have a direct impact on the overall success of a business, as well as contribute to the wider quality of places. At Weston-super-Mare where future housing growth is reliant on employment development first, the quality of the employment buildings are important for setting a precedent for future development. High quality office premises can also attract the necessary investment and high quality businesses.

- 1.13.2 Another necessary feature is to create flexible buildings that can easily adapt to technological or cultural changes, and can therefore continue to evolve with changing markets ensuring they maintain a continual role within the market.

- 1.13.3 In relation to the retail sector high quality premises should attract high quality shops and investors, promoting a net increase in the overall quality of retail on offer. PPS 6 makes this explicit.

Sustainable Construction

- 1.13.4 Currently policy GDP/3 of the North Somerset Replacement Local Plan sets out the requirements for sustainable construction, in particular part ix. This includes encouraging both design principles which reduce energy demand as well as encouraging the use of renewable energy technologies to cater for a proportion of the expected energy requirements of the development. Paragraph 4.45 provides that all commercial, industrial, retail, institutional, and community developments over 1000 square metres and all new dwellings should generate a minimum of 15 % predicted energy demands through on-site renewable energy generating systems.

- 1.13.5 It should be recognised that in many cases it is cheaper and easier to 'design-out' energy demand through passive design principles, that is, design that carefully considers natural lighting and ventilation, and efficient insulation systems. In doing so some of the major energy demands

including lighting and space heating, can be reduced without the need for substantial on site generation.

Energy Efficiency and Microgeneration

1.13.6 With regard to housing a large proportion of the existing building stock is older and in many cases underperforms by modern energy efficiency standards. It is now important to increase the energy efficiency of these buildings through measures such as retrofitting and strategies for their improved functioning. Planning issues in relation to energy efficiency are largely being developed at a national level: it will be for Local Development Documents to implement these broader strategies.

1.13.7 The geographic location of North Somerset means that it has the potential to benefit and excel in the use of renewable energy sources. Briefly these could include;

- The production of bio fuels from natural produce within the rural areas. Fuels could be locally produced for local consumption. (Much research is going on in this field, though it is a consideration for the future).
- Hydroelectricity.
- Wind turbines and wind farms
- Combined Heat and Power (CHP) schemes. Mainly gas fuelled; can be fuelled efficiently by biomass.
- Photovoltaic cells. (There is research into the most efficient ways of integrating PV technology into buildings for example creating building elements that have PV cells built into them. The pressure for more sustainable performance is likely to increase the competitiveness and hence production of innovative solutions). Long payback period.
- Biomass as a fuel source
- Fuel cells.
- Ground source heat pumps.

1.13.8 Work is currently being carried out to assess the viability of achieving carbon zero developments⁶. This relates specifically to Development Policy G of the Draft Regional Spatial Strategy- sustainable construction. In the context of the Governments aspiration that all new homes will be carbon neutral by 2016, the housing to be provided in North Somerset will have to be underpinned by sustainable principles. Policy GDP/3 of the Replacement Local Plan requires 15 per cent on-site energy contribution on all buildings over 1000 square metres plus all new dwellings.

1.13.9 New buildings should be designed to appropriate standards aiming for carbon zero design (see the Building Research Establishment for more information). There is a Code for Sustainable Homes which potentially all new homes will need to meet, and will surpass the requirements set out in the Building Regulations. The code seeks to ensure that our future stock

⁶ Faber Maunsell (2006) *Supporting and Delivering Carbon Neutrality in the South West*.

of housing is better adapted to cope with the impacts of climate change⁷. Again the initial stages of achieving environmental design standards focus on the physical design of buildings including insulation levels, siting, materials, and fenestration.

Possible Design Strategies

- 1.14 It will be necessary in the Local Development Framework to set out a clear direction for design quality including how the design of places and buildings can contribute to efforts on protecting the environment and combating climate change, as well as to set out directions for innovation and quality aesthetic design. In order to best tailor design policy to the creation of places, a potential way forward is to develop a series of design strategies that relate to particular areas. Therefore rather than a blanket requirement for quality design, policy would be much more proactive at creating distinctiveness through building on particular existing characters or indeed strategies could be developed to create a particular character/ place.
- 1.15 Particular strategies might include an **innovation-led strategy** for areas where it is the intention to attract investment or improve the quality of a place. Another might be a **conservation-led strategy** which sets out design principles to be pursued which build on the existing character and appearance of an area. Another might be an **economic regeneration-led strategy** in an attempt to use design quality to enhance the economic potential of an area.
- 1.16 Each strategy ultimately relates intrinsically to a place. Additional characterisation work needs to be carried out as a prerequisite to this type of approach. This will allow the Core Strategy to develop a set of Core policies based on the design priorities identified.

Future Growth at Weston-super-Mare and South West Bristol

- 1.17 The urban extension at Weston and the town centre strategy are critical projects where design and sustainability principles will be central to its successful implementation. The Weston Area Development Framework initiated much of the work including, *amongst others*, the two key proposals; 'sustainable Weston' and 'better by design'. Work is continuing on these two areas through the Core Strategy and Area Action Plans.
- 1.18 Two Area Action Plans will be developed for Weston, with the extent analysed by Arups' being divided by the railway line. It is evident that these two zones have different characteristics and different requirements for future growth.
- 1.19 Much work has been carried out on the future growth at Weston-super-Mare with the polycentric growth model⁸ already commencing with activity at the Town Centre, RAF Locking, and Weston Airfield. However at South West Bristol there are still critical choices that need to be made at a strategic level. One is the

⁷ CLG, (2006) *Code for Sustainable Homes*, page 8.

⁸ Ove Arup and Partners Ltd for North Somerset Council (2006) Vision and Options Report, Weston Area Action Plan

physical form of development: broadly there are two options, one large settlement or number of smaller areas linked with effective public transport. Further analytical work is needed on this and will be carried out as we progress towards a preferred option. What will be the impact of large scale development of these two areas? How will the dynamics of the area change in terms of transport movement, environmental quality, and relationships to surrounding areas etc? Different proposals will need to be tested in order to identify the most appropriate way forward.

2 STAGE TWO: What are the Issues?

- 2.1 *How can all future development maximise its ability to contribute to sustainability in an attempt to counter climate change and use resources more efficiently?*
- 2.2 *In terms of physical place-making what form should the future new neighbourhoods take in order to best support future communities?*
- 2.3 *How can the local identity of each settlement be enhanced through development in order to support the successful creation of places and improve the existing sense of place?*
- 2.4 *Tailoring design policy so it sets a robust, clear design framework for different locations across North Somerset. To filter through to AAP work and provide certainty to developers and clarity in decision-making. Should we introduce a series of design strategies approach to planning for design quality (see section 1.14)?*
- 2.5 *Need to improve the environmental quality of Weston-super-Mare, including:*
 - *Town centre legibility including gateway area*
 - *Set piece architecture*
 - *Movement systems*
 - *Image*
- 2.6 *How to encourage innovation in design whilst advocating sensitivity to the existing built and natural context*
- 2.7 *Ensuring quality of design throughout North Somerset and not just in those areas of significant change of where more detailed work has been prepared (masterplan, design brief etc)*

Gaps in Knowledge

Density analysis report and strategy

Design and sustainable principles- our strategy

Gateway and threshold study.

Study of historic cores

Develop a set of indicators which measure design quality.

Characterisation studies of places across North Somerset.

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