Sustainable Construction and Design

Planning Guidance Note

Introduction

East Dunbartonshire Council has a commitment to promoting sustainability through its actions and this extends to the statutory planning process. The aim is to provide attractive and sustainable places for people to live, work and relax in and this can be achieved through high quality design and construction.

There is a large amount of information already available on sustainable design and construction, therefore this Guidance Note has been kept short and aims both to raise awareness of sustainability issues of development and also to set standards to which developers will be expected to achieve in their proposals.

Format of Guidance

All planning guidance notes are material considerations in the assessment of planning applications and shall be afforded significant weight in the decision making process. Failure to comply with Guidance Notes may be a reason for refusal of consent.

Where appropriate, this Guidance Note should also be read in conjunction with the Guidance Notes on design, layout and developments.

Legislative Framework

Scottish Planning Policy (SPP) encourages sustainable development and states that the planning system has an important role to play in supporting the achievement of sustainable development goals.

Furthermore, the SPP states that the planning system should:

- contribute to the reduction of greenhouse gas emissions in line with the commitment to reduce emissions by 42% by 2020 and 80% by 2050, contribute to reducing energy consumption and to the development of renewable energy generation opportunities;
- support the achievement of Zero Waste objectives, including the provision of the required waste management installations;
- protect and enhance the cultural heritage;
- protect and enhance the natural environment, including biodiversity and the landscape;
- maintain, enhance and promote access to open space and recreation opportunities;
- take into account the implications of development for water, air and soil quality; and,

- support healthier living by improving the quality of the built environment, by increasing access to amenities, services and active travel opportunities, and by addressing environmental problems affecting communities.

These requirements will be developed into a checklist which will aid the assessment of development proposals.

Planning Framework

East Dunbartonshire Local Plan 2, Policy SPD 1 sets the strategic direction for the Local Plan as being 'sustainable growth'. All policies within the Local Plan aim to support the sustainability of developments in East Dunbartonshire.

Policy Guidance

The Planning Service understands that each site and development is different, and there can be no 'one size fits all' sustainable guidance. However, this Planning Guidance Note indicates how sustainable design principles can be applied to developments and sites throughout the development process and sets out a number of points which the Council will expect to be considered.

It will be most relevant to larger developments (10+ residential units and/or 500sqm+ floor area), but the basic principles will be expected to be applied at all levels, including householder developments.

For major developments, as defined in the Town and Country Planning (Hierarchy of Developments) (Scotland) Regulations 2009, these matters will be expected to be considered within a supporting statement.

Site Selection

A sequential approach should be used to site selection, with a preference given to brownfield urban sites and those with excellent public transport/ walking/ cycling access and existing infrastructure and services.

Consideration should be given to the compatibility of the proposed use with surrounding land uses in the process of selecting the development site.

Site Layout and Density

- Site characteristics should guide development layout and design.
- A preference should be had for reusing/converting any existing buildings on the site where possible, rather than wholesale demolition and new build.
- Residential density should be optimised based on accessibility, local context, amenity impact and site constraints.
- Links to/from and across the site for walking/cycling and public transport should be maintained and enhanced and considered in the earliest possible stages of design.

- Site layout should allow for future changes of use (layout should be adaptable).
- A preference for mixed use on the site rather than single use.
- Buildings should be oriented to maximise solar gain and natural light.

Building Design

Inclusive Access

- Consideration should be given in designing developments of the demographic to which the development relates, based on local and national demographic trends and should ensure that all developments cater for all people regardless of age, gender, ability, car ownership and/or household income in accordance with PAN78 and the Disability Discrimination Act 2005.
- Lifetimes Homes and Building for Life standards should be applied to all new developments as applicable.
- An access statement should be submitted for a major development proposal, setting out how the development achieves inclusiveness and where appropriate meets Lifetime Homes standards.
- Developments should be designed to ensure future users can access the development by a variety of modes of transport, with opportunities for pedestrian, cycle and public transport accessibility maximised.

Materials

- Choice of materials should wherever possible give preference to those which are sustainable, produced locally and recyclable.
- Efforts should be made to use recycled/reclaimed materials, particularly those reclaimed within the site if any demolition takes place.
- Materials should be non-toxic and bio-degradable wherever possible (including building materials, insulation and finishes, etc).
- Preference should be given to materials with a long life span and designs that allow easy maintenance, flexibility of use and end-of-life disassembly.
- The embodied energy of materials should be considered with a preference for those with low embodied energy levels.
- Buildings and their surroundings should be designed to withstand the extreme weather events that are expected to increase in frequency due to climate change.

Energy

The demand for energy during the life of a development should be minimised (energy efficiency) via means such as super-insulation, air tightness, low-energy systems & appliances (including provision of drying areas in residential developments) and active & passive capture of renewable energy.

A percentage of energy supplied for new developments needs to come from renewable sources and preferably be generated on/near the development site:

- **Solar water heating** – install panels on the roof to capture and store the sun's heat via a water storage system, which can be used to heat water for use within the building. This is illustrated by the systems below.
- **Photovoltaics** (PV) – there are a number of different technologies in photovoltaics (polycrystalline, monocrystalline and thin-film), all of which involve silicon cells being arranged in panels on a building's (preferably south facing) roof and/or walls. Building-Integrated Photovoltaics (BIPV) systems were created in order for PV cells to be integrated into the building structures. These PV cells play the role of both building materials, such as roof tiles, as well as energy generators. These systems may help to integrate renewable energy generation into more visually sensitive locations, such as conservation areas.
- **Biomass heating** – this involves the installation of boilers that burn biodegradable fuel (i.e. plant matter) to create heat and energy for a development. Biomass can be anything from agricultural waste to plant matter grown specifically for the purpose and specially produced pellets. Biomass is generally considered to be carbon neutral because the carbon produced during the energy generation is balanced by that absorbed by the plants during their growth. However, consideration will also need to be given to potential impact on local air quality and also how the biomass to feed the boiler would be delivered to the development on an ongoing basis.
- **Ground Source Heat Pumps** – these need to be considered at the very early stages of a development's design, as a typical system consists of a series of long pipes driven deep into the ground or a trench system at shallower depths. Water passes through this system absorbing heat from the ground and this heat is then relayed into the building via a heat pump. A heat pump is a device that can take low grade heat and raise it to a usable higher temperature (it works like a refrigerator with a compressor). Under floor heating is the most efficient way to distribute the heat and has little/no maintenance costs.
- **Wind** – wind turbines vary greatly in size from small domestic turbines to large offshore wind farms. The success and usefulness of wind as a source of renewable energy is determined largely by wind velocities and access to consistent wind flows. Before considering wind power for a development, it is suggested that a feasibility study be undertaken taking into account wind speed, turbulence, site constraints (whether topographical or other) and visual impact. In urban residential areas it is becoming apparent that wind turbines are not necessarily the most effective way of generating energy from a renewable source.

Water and Flooding

- Surface water runoff and flood risk should be minimised.
- Reduce the demand for water in the development (water efficiency).
- Where possible on-site grey water and rainwater recycling should be incorporated.
- Sustainable Drainage Systems should be incorporated which 'mimic natural drainage patterns as closely as possible'.
- A drainage assessment should be undertaken where necessary.

Waste management

Provision should be made for the onsite storage of recyclables to enable collection. The Council requires the provision of underground recycling facilities in developments of flats and space for internal storage of recycling bins can also be considered as a means of encouraging higher levels of recycling.

Adequate provision for on-site composting of kitchen and garden waste should be considered, particularly for flatted residential developments.

Pollution Control

All developments should recognise and take steps to limit water, air, noise and light pollution, both during the development process and during the operation of the development itself.

Built Heritage

New development should respect its historic context and ensure that new design elements protect and enhance an area's built heritage and sense of place.

Landscaping and Biodiversity

- Applicants should enter into pre-application discussions at an early stage, and aim to establish a positive working relationship between the Council and site developers
- At the earliest stage of building/site design, consideration should be given to protecting and enhancing biodiversity on-site, as well as creating links to the green networks (see Green Networks Guidance Note).
- Biodiversity surveys should be undertaken where it is deemed possible that the site may contain species/habitats warranting protection. Applicants should refer to the Natural Diversity GN for full guidance on species surveys.
- Consideration should be given to the inclusion of green and/or brown roofs in new developments and extensions to existing developments.
- Native planting should be used wherever possible in site landscaping, with particular preference given to site/locally indigenous species and

- Consideration should be given to incorporating opportunities for food cultivation into new developments.

Construction

- Considerate Constructors Schemes should be implemented for sites.
- Site Waste Management Plans should be devised and adhered to throughout the entire construction process.
- An appropriate level of SuDS treatment should be applied at the construction phase of a project.
- Consideration should be given to disposal of construction waste with preference being given to its reuse and recycling over disposal to landfill.
- Where possible efforts should be made to utilise local businesses and contractors in the construction of a development.

Further advice and guidance on implementing sustainable construction and design can be sought from the Planning Service.