

Sustainable Properties Strategy

**INITIATIVES WHICH ARE INTENDED TO
BE UNDERTAKEN BY THE PROPERTY
SERVICES DEPARTMENT**

21 June 2004

1 INTRODUCTION

The Property Services department has made a commitment to contribute to the Council's Environmental Strategy Action Plan, see Appendix 5, and Local Agenda 21 Strategy for Angus, see Appendix 6, by introducing and maintaining sustainable practices in the design, construction, maintenance and management of its non-housing estate. Similar practices will also be applied when undertaking works on behalf of the Housing department.

A recent presentation to the Environment and Quality of Life Member/Officer Group detailed the contributions the department is currently making and planning to make by developing, implementing and co-ordinating its strategies for: -

- Energy Management
- Sustainable Properties
- Water Management
- Asset Management

2 BEST PRACTICE

Review of guidance available from Rethinking Construction Construction Best Practice, Local Government Task Force, Design Quality Indicator, WellBuilt¹ and Building Research Establishment² has identified that adopting a sustainable approach to the design and maintenance of the Council's properties can be integrates into the standards and procedures adopted by the Property Services department by embracing the good practice detailed in Appendix 1.

The approach adopted accommodates the best practice checklists detailed in the publication 'Demonstrations of sustainability' published by Rethinking Construction and BRE. These checklists are detailed in Appendix 1 and Appendix 2 with the order reversed from the publication to focus primarily on the Environmental sustainability PIs [EPIs] rather than the Economic sustainability and Social sustainability PIs which are much less relevant.

It is worth noting that these latter refer to the Headline KPIs adopted by the department for Professional Services and Design Quality Indicator being promoted by the Construction Industry Council with sponsorship from the DTI, CABE and Rethinking Construction. Rethinking Construction is the organisation established to promote construction best practice following the Egan Report and which is progressing subsequent action through Accelerating Change.

3 IMPLEMENTATION

The department has adopted a two-stage approach with the first stage being completed and evaluated before moving to the second stage.

Its adoption will require adequate employee briefing, process monitoring to ensure that the practices are being employed and record keeping to demonstrate the level of achievement attained. This would enable the department to support the Council should it choose to aspire to ISO 14001 accreditation or alternative.

3.1 STAGE 1

Establish sustainability best practice standards and procedures supported by employee briefing sessions to ensure that all managers and employees recognise the need for, and benefits of, this initiative.

¹ Local Authority Sustainable Construction Network

² www.bre.co.uk

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Actions.

- Introduce the basic concepts detailed in Appendix 1 and where appropriate Appendix 2 using the publications detailed in Table 2 as the main source of working procedures and sources of information for the selection of A Rating materials.
- Accommodate the LA21 Sustainability Checklist within project management procedures ensuring that consideration is given the appropriate elements as detailed in Appendix 4.
- Introduce Whole Life Costing as a standard Option Appraisal support tool when undertaking evaluation of alternative option solutions for client requirements.
- Ensure that sustainability factors are given due weight when project design and costs are being finalised.
- Ensure complete and comprehensive compliance with internal design and maintenance standards. Design to higher standards than those detailed in the Building Regulations to ensure that designs are very energy efficient and very environmentally friendly.
- Undertake post-completion Performance Reviews to assess project successes and failures and allow evaluation of performance against specific departmental benchmarks e.g. energy consumption, CO2 emissions and water consumption.

Deminimus

It is proposed that deminimus be established to ensure the practices used are appropriate to the scale of project being undertaken, as detailed in Table 1.

3.2 STAGE 2

Introduce objective assessment methods for certain projects to demonstrate that sustainability best practice is being achieved and to permit broader internal and external benchmarking.

Actions

Simple

- Establish an EcoPoint evaluation process to support Option Appraisal exercises to achieve more sustainable designs which compensate for material choices. Reconsider the use of Envest2 software to undertake WLC and to provide detailed analysis of options and final design justifications.
- Introduce the Design Quality Indicator to complement to the use of Key Performance Indicators [cbpp].
- Consider the use of Respect for People toolkits to top-up IIP³ and ISO 9000³.
- Consider encouraging/requiring contractors to participate in the Considerate Constructors Scheme.⁴

Complex

- Introduce advanced benchmarking through BREEAM⁵ or SPeAR⁶.
- Evaluate performance against national benchmarks.

Action Plan

A programme for introducing new arrangements will be established in due course.

³ Respect for People – Reaching the Standard

⁴ www.ccscheme.org.uk

⁵ www.bre.co.uk/breeam

⁶ www.arup.com/environmental/HTML/WhatWeDo//SpeAR.html

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Deminimus

It is proposed that deminimus be established to ensure the practices used are appropriate to the scale of project being undertaken, as detailed in Table 1.

Table 1 Proposed deminimus

Stage	Professional Services	Maintenance
Foundation	All projects.	All projects over £20,000.
Advanced – Simple Approach	All projects over £200,000.	All projects over £200,000.
Advanced – Complex Approach	All projects over £500,000.	Not Applicable.

Table 2 Reference documents

Document	Publisher	Comments
The Green Guide to Specification	BRE ISBN: 0-632-05961-3	Latest reference source from BRE.
Green Building Handbook Volume 1 Volume 2	Spon Press ISBN: 0-419-22690-7 ISBN: 0-419-25380-7	----
Green Guide to the Architects Handbook	RIBA	----

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Appendix 1 Environmental sustainability⁷

Environmental Performance Indicator	Details
<p>Planning</p> <ul style="list-style-type: none"> • Reuse land. Treat contaminated land on-site. Reuse buildings. • Plan the footprint of the building with ecological features in mind. • Consider how building users will travel to and access the site, and facilities and amenities nearby. 	<ul style="list-style-type: none"> • Central and Local Planning Guidance. Reuse brownfield sites. See Re-use existing built assets, page 13. • Identify opportunities for promoting biodiversity by maintaining and protecting existing features e.g. better views, existing trees and hedges.⁸ See Preserve and enhance biodiversity, page 15. • Generation of new traffic and altering of existing traffic patterns. Access for vehicles and pedestrians and integration with the surrounding area. Access to amenities.
<p>Design</p> <ul style="list-style-type: none"> • Design for minimum waste of materials. Provide facilities for the minimisation and management of waste. • Protect and enhance biodiversity using the biodiversity EPI. Ensure natural features can be easily managed and maintained. • Specify local and low environmental impact materials (e.g. use A-rated specifications from the Green Guide or equivalent and timber from certified well-managed forests). Use the embodied energy EPI. • Optimise passive energy use (e.g. solar gain). Minimise energy use⁹ (e.g. lighting, heating/cooling, ventilation, insulation). 	<ul style="list-style-type: none"> • Consider Lean Construction techniques of standardisation, off-site construction, and using modular components to minimise waste of materials. Consider operational site management waste management needs in the design including space and facilities to reduce, reuse and recycle waste. • Encourage bird and bat populations, 'green' roofs which provide excellent habitats for insects. Landscape features incorporating ponds, hedgerows, grassland and heathland promote biodiversity. Minimise visual impact. • Selection of materials using the 'The Green Guide to Specification' and other reference sources. Sustainable timber procurement through the Forest Stewardship Council scheme and the use of European softwoods. • Consider solar water heating, wind turbines, water turbines, biomass¹⁰ and photovoltaics. Install systems that minimise electricity consumption. Select the most appropriate fuels for heating.¹¹ Design to achieve the best DETR

⁷ Demonstrations of Sustainability – Rethinking Construction

⁸ Consider the UK Biodiversity Action Plan and local plans where relevant.

⁹ Consult the Maintenance and Energy Programmes manager.

¹⁰ Including woodchip burning boilers.

¹¹ Departmental Guidance Notes

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Environmental Performance Indicator	Details
<ul style="list-style-type: none"> • Consider CHP and renewable energy sources. Use the operational energy EPI. Fit sub-metering and intelligent building monitoring systems. • Specify flexible information and communication services. • Ensure high indoor air quality through effective ventilation, and specifying materials, finishes and cleaning products with minimal harmful effects. • Specify zero ozone depletion and low NO_x systems and materials. • Ensure fittings are low water volume. Consider rainwater and grey water recycling. Consider permeable design for hard landscaping. Use the water EPI. Fit sub-metering. • Discourage single-occupant car use, through public transport and cycling provision, making the development safe and secure, providing showers and changing rooms. • Consider ease of operation and maintenance through commissioning time and documentation. • Consider daylighting, ventilation, humidification, personal control, and space for well-being and comfort. The DQIs consider a range of environmental criteria. • Design for flexibility or deconstruction with minimum waste. 	<p>Benchmarking standard. Consider heat recovery. See Minimise use of energy, page 14.</p> <ul style="list-style-type: none"> • --- • Allows users to adapt their working and leisure patterns to suit themselves rather than the constraints of the building. • Avoid or limit poor Indoor Air Quality which can have a significant adverse effect on health e.g. sick building syndrome, asthma. Consider the sources of pollutants, external and internal. Noise levels. See Do not pollute, page 15. • Consider a passive approach to heating and cooling buildings. Select environmentally friendly refrigerants and insulation materials. Promote efficient fuel combustion and alternatives to fossil fuels. • Minimise water consumption, use grey water systems. Consider the use of sustainable urban drainage systems (SUDS). See Conserve water resources, page 9 • Provide facilities to encourage walking to the building. • Effective commissioning promotes efficient operation, efficiency, improved operation and maintenance and avoids poor internal environment. • Good design improves user performance. • Enable buildings to be adapted during their lifetime and then be deconstructed with a minimum of waste. Off-site construction is a key method that allows for flexibility in layout, location and deconstruction.
<p>Construction process</p> <ul style="list-style-type: none"> • Manage for minimum waste, using the waste EPI. Reuse waste on-site. • Protect and enhance existing ecological features (trees, hedges, 	<ul style="list-style-type: none"> • Encourage suppliers with an enlightened approach to waste management and recycling. Design out waste. • ---

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Environmental Performance Indicator	Details
<p>ponds etc.) using the biodiversity EPI.</p> <ul style="list-style-type: none"> • Minimise air pollution (dust and fumes) and noise pollution. • Minimise water use during construction, and guard against pollution. • Consider transport to and from site using the transport EPI. Consider energy use through plant and site services. 	<ul style="list-style-type: none"> • Controlling air pollution, Vina Kukadia et al 2003. CRC. Provides best practice in the control of air pollution and the benefits of doing so. • CIRIA have published a 'Pollution Prevention in Construction' training pack and code of practice and 'Control of water pollution from construction sites: guidance for consultants and contractors'. • Consider these factors when specifying construction materials to reduce the extent of travelling by staff, materials and waste.
<p>Finished product</p> <ul style="list-style-type: none"> • Manage building systems, ecological features and waste for maximum efficiency considering the design. • Use post occupancy evaluation and feedback. • Follow the design criteria for maintenance, repairs and refurbishment. 	<ul style="list-style-type: none"> • Water and energy consumption can be reduced by up to 80% through careful management. Good waste management through reducing, re-using, recycling and as a last resort disposing of waste can reduce operational waste disposal costs by anything up to 90% • This is vital to efficient building management. Occupants need information on how to use a new or refurbished building. • The environmental impact of a building will continue throughout its life cycle. Its operation and management, repair and maintenance, and its demolition all have different impacts.

Appendix 2 Economic and Social sustainability¹²

Economic sustainability	Details
<p>Planning</p> <ul style="list-style-type: none"> For large-scale housing, mixed use and civils projects, report on relevant factors in regional or local economic strategy, and how development will promote viability. 	
<p>Design</p> <ul style="list-style-type: none"> Use the DQIs, to develop appropriate levels of functionality and flexibility. Appraise options using whole life costing. Design for accessibility. 	<ul style="list-style-type: none"> --- To be introduced. Currently operational. Adaptations programme.
<p>Construction process</p> <ul style="list-style-type: none"> Use the KPIs Maximise opportunities for local businesses, labour and training. 	<ul style="list-style-type: none"> Some currently in use.
<p>Finished product</p> <ul style="list-style-type: none"> See environment. Consider maintenance, operational (energy, water etc.) and staff costs. Use feedback measure and tools (e.g. Post Occupancy Evaluation.). 	<ul style="list-style-type: none"> Currently being encouraged.

¹² Demonstrations of Sustainability – Rethinking Construction

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Social sustainability	Details
<p>Planning</p> <ul style="list-style-type: none"> • Respond to regeneration impacts required in regional or local economic strategies. • Use data from public consultations and participation. • For high density, mixed-use developments plan for high quality public space and safe public transport accessibility. • Larger schemes require affordable housing, and a mix of housing types and tenures. 	
<p>Design</p> <ul style="list-style-type: none"> • Use the DQIs, to engage everyone in the design process. 	<ul style="list-style-type: none"> • To be considered in Phase 2.
<p>Construction process</p> <ul style="list-style-type: none"> • Use the Respect for People toolkits. • Register sites with the Considerate Constructors Scheme and use Construction Skills Certification Scheme. 	<ul style="list-style-type: none"> • To be considered in Phase 2.
<p>Finished Product</p> <ul style="list-style-type: none"> • See environment. Consider staff costs, e.g. maximising satisfaction and productivity through a healthy environment. encourage community use of buildings, through the DQIs or as policy. 	

Appendix 3 Local Government Association Guidance¹³

Procurement on the basis of value for money

Procurement relates to all built assets under the local authority control, including buildings, highways and other infrastructure. Government procurement policy requires all public procurement to be on the basis of value for money. Value for money is the optimum combination of whole life costs and quality (or fitness for purpose) to meet the users' requirements. Therefore, time spent on feasibility studies is never wasted.

Although the overarching aim of procurement must always be the achievement of value for money and not the delivery of policies such as environmental sustainability, there is much that can be done on sustainability issues within the value for money approach. This is achieved by building relevant factors relating to sustainable development and the environment as early as possible into contract specifications and output measures of a service. For example specifications may reflect environmental matters in keeping with council green procurement strategies and by awarding decisions on the basis of whole life costs¹⁷. The approach also allows for contractors who have broken the law, committed grave misconduct on matters such as Health and Safety or not complied with the Considerate Constructors Scheme, to be excluded from tendering. The joint Treasury/DETR note¹⁴ explains how the public sector can specify their requirement in-line with their environmental strategies. It is within this framework that environmental issues should be taken forward in public procurement.

When considering design and the procurement of it, the publications of the Commission for Architecture and the Built Environment (CABE) are useful, such as 'Celebrating Innovation', 'The Value of Urban Design', 'Better Public Buildings' and 'Design Quality in PFI Projects'¹⁵.

Management excellence

It is essential for local authorities to prepare an Asset Management Plan as a basis for capital bids. This document can also deliver sustainable construction benefits and commitments through its five year duration and investment programme. There is a requirement for sustainability performance indicators in the Plans. Capital allowances will be influenced by performance measured by the indicators in the future.

Increasingly local authorities and business are setting up environmental management systems (EMS), and requiring their partners and contractors to take a similar approach. EMAS (Eco Management and Auditing Scheme) is the well-recognised European system that many local authorities have either achieved certification with or are moving towards accreditation. The management of the built asset can be a critical part in the EMS process; particularly when considering reducing emissions such as carbon dioxide and other green house gases. By incorporating good management and maintenance regimes, the amount of resources used can be minimised, thus achieving cost savings, and reducing impacts on the environment. An EMS and the Best Value process can be usefully run in synergy. The state of asset management across various departments can often differ widely, and co-ordinating approaches can realise many savings.

Where sustainable construction fits in local authority roles.

From the preceding discussion of the drivers, it is apparent there are three key areas where sustainable construction fits into the remit of local authorities.

1. Planning involves two roles:

- Through the advisory role, using SPG, design briefs, Local Plans, etc local authorities can require and advise on sustainable forms of development. Authorities can also ensure what they do is more sustainable and promote wider public awareness through LA21.

¹³ WellBuilt Sustainable Construction Action Plan for local authorities

¹⁴ Environment Issues in Purchasing – Note by the Treasury and DETR - 1999

¹⁵ All available through www.cabe.org.uk except 'Design Quality in PFI Projects' available from OGC

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- Through the building and development control processes, local authorities exercise a regulatory role, seeking to ensure energy efficient development conforms to recognised standards.
2. Procurement of highways, infrastructure and their own buildings, through the requirement for good environmental performance, and consideration of the local community needs.
 3. Managing existing buildings and infrastructure within their portfolio.

At the back of this document are model action plans for these three key areas; giving actions and example targets. These can be used as they stand or be adapted for a local authority's particular requirements.

Themes for action

To move and to measure progress in a sustainable direction, a framework and a set of goals, are needed. 'Building a Better Quality of Life' includes 10 themes for action as a starting point. The framework used here is based upon these 10 themes¹⁶, while also incorporating the themes behind the headline indicators within the UK strategy for sustainable development, and other key issues which need to be considered in the life cycle of the built environment. The section on how to implement sustainable construction covers the need to set targets using local indicators.

Re-use existing built assets

Consider the need for new build: reorganisation, refurbishment or re-use may be more efficient. Think brownfield wherever possible for new construction.

When looking at the authority's own assets, evaluate how space is used. More efficient use could negate the need for new buildings. Refurbishment of existing buildings could render them more useful. New build should be the last resort.

When reviewing the Local Plan, consider the use of existing buildings and previously developed land, and how best these can be reused, taking into account such issues as the community amenity the assets currently provide and the view of the local community. The most locally sustainable outcome could be assessed, based on a careful and objective technical appraisal, for example through a whole life cost^{17 18} analysis, to evaluate the long-term potential of an existing asset against a new building.

When refurbishing or demolishing a building, reuse the materials on site or arrange for them to be recycled elsewhere. It is also possible to specify reused materials from other sources or materials with a high recycled content.

Key personnel: Strategic Planning, Local Planner, Development Control, Architect.

Waste minimisation and management

Design out waste during construction, the life and afterlife of the building or structure. Think whole life costs. Involve the supply chain. Specify performance requirements with care to encourage more efficient use of resources.

¹⁶ edited for this document.

¹⁷ Construction Procurement Guidance Note No7 – Whole Life Costs. 2000 Office of Government Commerce

¹⁸ Introduction to Whole Life Costing – A Client's Guide – Construction Client's Forum, May 2000, (CCF 1 Warwick Row, London, SW1E 5ER)

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A key element of sustainable construction is a more strategic approach to material waste. In order to facilitate a cultural change, it is necessary to integrate the various interests of the construction, demolition, haulage and waste management sectors. This requires a strategic alliance where the costs and rewards are shared and where continual improvement is addressed. Local authorities play a crucial role in this alliance, as they are one of the largest clients to the construction industry. With little information and guidance on how to bring about change, there is an urgent need to develop a common auditing and performance measurement system that all LAs can use. Currently the Movement for Innovation (M4I) is funding the development of a draft note which local authorities can use to encourage the sustainable approach to materials waste. SMARTStart¹⁹ and SMARTWaste¹⁹ are tools to help material waste management on construction sites.

Waste does not imply just unwanted physical material. It includes unnecessary consumption of land, time, lower than planned economic return and unrealised potential from built assets during their lives. Minimising waste through design means avoiding over-specification of materials and services in favour of simplicity (buildability), bearing in mind operation and maintenance (maintainability), and considering flexibility and future re-use (adaptability), so as to minimise construction costs. Measures described above are often termed 'leaning' construction. Prefabrication can also less material wastage, less time spent on site and less waste through correcting defects.

During the operation of the building, much can be done to reduce wastage, from reducing the need for paper, to ensuring printers print double sided, to recycling paper waste. Paper is not the only waste product which should be considered, others include cardboard, aluminium cans and plastics, especially if there are catering facilities on site. If this is the case, composting of waste also needs to be considered.

Key personnel: Development Control, Architect, Structural Engineer, Construction Manager, Facilities Manager

Minimise use of energy

This should include energy used in the construction process, and during the operating of the building. Energy used in transporting people to and from buildings is included in the later section on transport. Be aware of the energy consumed in the production and transport of construction products. Consider more energy efficient solutions in design including passive systems using natural light, air movement and thermal mass, as well as solutions involving energy produced from renewable sources.

Provision of energy needs to be considered at the conception stage by the developer or client, but can also be tackled at the planning stage. Local and Structure Plans can include policies requiring provision for renewable energy supplies, while SPG can encourage energy efficient location, orientation and design, and alternatives to traditional solutions for energy requirements.

Buildings consume large quantities of energy during their life-spans. The production of the energy used in the heating, cooling, ventilation and lighting of buildings account for about half the UK's emissions of carbon dioxide, an important greenhouse gas. Passive environmental systems - drawing on natural light, air movement, thermal mass, temperature gradients and other phenomena - can deliver cheaper designs and satisfactory performance while using much less energy than their mechanical equivalents.

Another significant proportion of all UK energy consumption is used in the production and transport of construction products and materials. Selecting where practicable materials whose production and distribution are less energy intensive will be of benefit. Specification tools are available for selecting materials with low environmental impact, such as the Green Guide to Specification. Both in new-build, and in the refurbishment of existing buildings, much can be done applying existing knowledge. Guidance on better energy efficiency, through buildings and transport is available through best practice programmes²⁰

¹⁹ www.bre.co.uk

²⁰ Energy Efficiency Best Practice programme: www.energy-efficiency.gov.uk

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Key personnel: Client Development Manager, Strategic Planner, Local Planner, Architect, Building Services Design Engineer, Facilities Manager, LA21 Officer, Energy Officer

Do not pollute

Understand your environmental impacts and have policies and systems to manage them positively. Use environmental management systems such as ISO 14001 or EMAS. Specify adoption of the Considerate Constructors Scheme²¹ or similar.

The four major potential sources of pollution from the construction process are waste materials, emissions from vehicles, noise and releases to water, ground and atmosphere. Strategies for prevention, control and mitigation are well known, and better performance is a matter of better management to ensure that risks are identified and the appropriate techniques and technologies applied. EMS can play an important role in achieving continuous improvement. Schemes such as the Considerate Constructors Scheme encourage the use of good construction site practices.

During the building's operation similar major potential sources of pollution are present, including: -

- waste, from office based activities, laboratory or light industrial activities;
- effects of transport, through noise, pollution and emissions;
- emissions through the use of the building/infrastructure, which could result in releases to ground, water and the atmosphere;
- light pollution, particularly on a large development with street lighting;
- pollution within the building, due to volatile organic compounds and other chemicals in finishes, soft furnishings and furniture.

Materials specifications and strategies can be put in place to prevent, control or mitigate any potential pollution sources.

Key personnel: Client Development Manager, Health and Safety Manager, LA21 Officer, Environmental Manager, Environmental Health Officer, Construction Manager

Preserve and enhance biodiversity

Look for opportunities throughout the construction process to provide, protect and enhance habitats: from the extraction of raw materials, through the construction phase, to the landscaping of buildings and estates.

Preserving and enhancing biodiversity should be considered in preparing Structure and Local Plans, where a holistic view can be taken, and steps put in place to ensure the viability of wildlife corridors and the protection of existing facilities. Systems should be put in place to monitor the success of actions introduced in the local and structure plans. Cambridgeshire County Council led the production of a biodiversity checklist for planners, completed last year²⁰.

Construction has direct and obvious impacts on the biological environment, and has the opportunity to achieve a great deal: not only to mitigate negative impacts, but also to protect and enhance biodiversity; securing a sustainable environment. These opportunities and the value derived from them will be enhanced if attention is paid to biodiversity at the design stage of development rather than treating it as an 'end of pipe' issue. To ensure that biodiversity is maintained during the life of the built environment, action must be taken to manage and monitor those areas given over to wildlife.

Another way to protect and improve biodiversity through construction is to use natural products that have been responsibly managed and harvested, such as sustainable timber. To ensure quality, it is best to use specifications such as timber with the FSC mark²¹. Other natural products include linoleum and cork.

²¹ Considerate Contractors Scheme, www.ccscheme.org.uk

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Key personnel: Client Development Manager, Strategic Planning, Local Planner, Development Control, LA21 Officer, Landscape Architect, Ecologist

Conserve water resources

Design for increased water efficiency in building services and water conservation within the built environment.

Pressure on water resources is likely to increase in the future. Though there may be too much water in some parts of the country, the economic and environmental costs of treating and distributing it are increasing. There is considerable potential for improved water efficiency in the building stock. The main gains for more sustainable construction will come from incorporation of more water-efficient building services. This can be as simple as specifying low flow showers, sprinkler taps and dual flush WCs, or include more comprehensive solutions such as grey water recovery, rainwater recovery, and drainage control.

Water audits of existing buildings will show where savings in water use can be made when refurbishing existing buildings. Innovative technologies and research on water conservation can be found on the DETR (now DTLR)/Environment Agency Water Conservation Research Database ²².

The drainage of green and hard areas can be improved with sustainable urban drainage systems (SUDS). These decrease water pollution and can mitigate localised flooding.

Key personnel: Client Development Manager, Strategic Planning, Architect, Facilities Manager, Environmental Manager, Energy Officer

Respect for community

Be responsive to contractors, building users and the community in planning and undertaking construction.

Respect for people is at the heart of sustainable construction. A culture that emphasises the involvement of building users will improve the quality of the finished buildings, impacting on recruitment and retention, access for all, health, safety, welfare and neighbourliness.

Respect for the community goes beyond the building users, out to the community as a whole, including local residents and businesses.

Through the work of the local authority community involvement and leadership can be enhanced. At the planning stage effective public participation should be encouraged, ensuring that the local community are involved. New statutory requirements for community strategies underscore these opportunities. How new developments fit with the local community need to be thought through at design and efforts made to integrate the existing community with the new. Methods such as those in community planning and masterplanning adopted by the New Economics, Neighbourhood Initiatives and Architecture Foundations provide valuable models. Schools are increasingly providing community facilities, and this will be a vital and growing role for other building types. Post project evaluations, utilising performance indicators, which are fed back into new briefs, are essential in constantly improving value and quality. Such processes need new specification documents for consultants and contractors that are inclusive, open and output driven. Procurement practices need to incorporate these challenges through integration and collaboration.

During construction, the community's views and feelings must be considered. Developers or constructors working in a community are visitors to that community, and should act in an appropriate manner: such behaviour can be specified through the Considerate Constructors Scheme.

Respect for People within construction is of vital importance for recruitment and to improve health and safety. Indicators to measure and monitor respect for people in terms of construction are being developed by the M4I, and the Considerate Constructors Scheme also covers safety.

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Key personnel: Area Director, Client Development Manager, Strategic Planning, Local Planner, Development Control, Building Control, Architect, LA21 Officer, Community Development Officer.

Transport

Adopt travel policies. Design for mobility and accessibility. Look for ways of reducing congestion, and providing effective alternatives to single occupancy cars. Reduce the number of deliveries to and waste collections from construction sites.

Planning can play a role in optimising transport needs and encouraging alternatives to the car. A good local travel plan ²³ is essential, and the use of Section 106 ²⁴ in planning permissions can ensure the inclusion of local public transport options. By encouraging the appropriate location of facilities, the need for travel can be reduced: PPG 3 and PPG 13 place much emphasis on this.

Locating and designing buildings to improve the ability of people to reach the building are beneficial. For instance, designing the infrastructure around a building so that it is safe and straightforward for pedestrians and other non-car users to access, can be key to success of a building or development.

Car parking needs to be given serious consideration, reducing the requirement for this by introducing green travel plans can be effective, as can having public transport routes available from the initial opening of a development. During construction, many measures can minimise and mitigate the amount of construction traffic. Planning to reduce over-ordering and wastage, reusing waste on-site and ensuring the best use of vehicles can all have significant impacts.

Key personnel: Client Development Manager; Strategic Planning, Local Planner, Development Control, Highways Engineer, Environmental Manager, LA21 Officer, transport planners and public transport organisations, construction management.

Appendix 4 Draft Sustainability checklist - Commentary

The introduction of a Sustainability Checklist is to be welcomed and is supported by this department.

The Property Services department could easily introduce this checklist within processes associated with: -

- Committee reports
- CPA Process
- Proposals for new buildings and redevelopment plans,

recognising that its use would generally apply at two stages:-

- early concept consideration and
- detailed planning and execution.

Client departments will need to advise the level of commitment to the Council's sustainability objectives which they expect their property related projects to achieve and the degree to which adjustment of designs, and costs, will be permitted.

Application to the Departmental Service Plan is less practical given that the department's main services are to other departments. It has few strategies and policies of its own which directly impinge on the sustainability objectives with the exception of: -

1. corporate office accommodation strategy;
2. design and maintenance best practice;
3. energy and green house gases production management;
4. water management;
5. asset management.

Of these only Asset Management, which does incorporate item 2 above, is to be incorporated with Departmental Service Plans through a "Property Implications" section. It is also intended that a Property Implications paragraph be introduced in Committee reports.

4 THEMES

The Property Services department can contribute to the 13 themes as detailed below and also covered in the "Supporting Sustainability" document issued at the last Environmental Strategy Group meeting.

Theme	Impact
1. Resources are used efficiently and waste is minimised by closing cycles.	Accommodated within current best practice and future standards.
2. Pollution is limited to levels, which natural systems can cope with and without damage.	Accommodated within current best practice and future standards.
3. The diversity of nature is valued and protected.	Generally N/A except where soft landscaping decisions may allow innovation..

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Theme	Impact
4. Where possible, local needs are met locally.	Directly influenced through the Access for Disabled, ACCESS office and corporate office accommodation strategies. Indirectly through options exercises for client departments.
5. Everyone has access to good food, water, shelter, and fuel at reasonable cost.	Generally N/A.
6. Everyone has the opportunity to undertake satisfying work in a diverse economy. The value of unpaid work is recognised, whilst payments for work are fair and fairly distributed.	Generally N/A.
7. People's good health is protected by creating safe, clean, pleasant environments and health services, which emphasise prevention of illness as well as proper care of the sick.	Directly influenced by the department's design and maintenance standards.
8. Access to facilities, services and goods and other people is not achieved at the expense of the environment or limited to those with cars.	Directly influenced through the Access for Disabled, ACCESS office and corporate office accommodation strategies. Indirectly through options exercises for client departments.
9. People live without fear of personal violence from crime or persecution because of their personal beliefs, race, gender or sexuality.	Directly influenced through the new Open Spaces CCTV maintenance arrangements, participation in the "Safe Angus" initiative and design and maintenance standards.
10. Everyone has access to skills, knowledge and information needed to enable them to play a full part in society.	Directly influenced through the Access for Disabled strategy. Indirectly through options exercises for client departments.
11. All sections of the community are empowered to participate in decision making.	Generally N/A.
12. Opportunities for culture, leisure and recreation are readily available to all.	Directly influenced through the Access for Disabled and Asset Management strategies. Indirectly through options exercises for client departments.
13. Places, spaces, and objects combine meaning and beauty with utility	Directly influenced through design and maintenance standards.

Appendix 5 Environmental Strategy Action Plan

Key Action Areas

1. Education and Awareness Raising
2. Natural Environment
3. Transport
4. Built Environment
5. Energy
6. Pollution
7. Waste
8. Purchasing
9. Working in Partnership
10. Public Participation

Appendix 6 Local Agenda 21 Strategy for Angus

The Thirteen Themes of Sustainability:

1. Resources are used efficiently and waste is minimised by closing cycles.
2. Pollution is limited to levels which natural systems can cope with and without damage.
3. The diversity of nature is valued and protected.
4. Where possible, local needs are met locally.
5. Everyone has access to good food, water, shelter, and fuel at reasonable cost.
6. Everyone has the opportunity to undertake satisfying work in a diverse economy. The value of unpaid work is recognised, whilst payments for work are fair and fairly distributed.
7. People's good health is protected by creating safe, clean, pleasant environments and health services, which emphasise prevention of illness as well as proper care for the sick.
8. Access to facilities, services, goods and other people is not achieved at the expense of the environment or limited to those with cars.
9. People live without fear of personal violence from crime or persecution because of their personal beliefs, race, gender, or sexuality.
10. Everyone has access to the skills, knowledge and information needed to enable them to play a full part in society.
11. All sections of the community are empowered to participate in decision-making.
12. Opportunities for culture, leisure, and recreation are readily available to all.
13. Places, spaces, and objects combine meaning and beauty with utility. Settlements are 'human' in scale and form. Diversity and local distinctiveness are valued and protected.