

GENERAL INFORMATION

PETUS description of tool in use						
Name of the case		Angelina Street, Butetown Regeneration Scheme				
Name of the tool		<ul style="list-style-type: none"> • Cardiff Partnering Scheme • Contract evaluation • Cardiff County Council Sustainability Appraisal Matrix • UK Standard Assessment Procedure (SAP) • Joseph Rowntree Lifetime Homes • Embodied energy assessments • Secured by design • Housing Sight checklist – RNIB (post development) 				
Country		Cardiff, South Wales, UK				
City / region		Cardiff:		Butetown ward		
Total area (km2)		Popn: 305,353		Popn: 4,487		
Population , Density (people/km2)		Area: 13,900 hectares				
Tool user's profile		<ul style="list-style-type: none"> a. Housing Strategy and Development Section, Cardiff County Council (CCC). b. Local municipality. c. Colin King, Senior Development Officer, Housing Strategy Unit, Cardiff County Council (CCC) 029 20873656. cking@cardiff.gov.uk http://www.cardiff.gov.uk/SPNR/neigh_ren/housing%20strategy/HS_Home_Page.htm 				
Reviewer, date		AL/JP, visit date: 3 rd June 2004				
Short description of the case						
<p>Cardiff County Council (CCC) is embarking on a £25M city wide housing regeneration scheme involving numerous sites throughout the city. Sustainability is a major consideration of the scheme and it is hoped that the developments will illustrate to the private sector how sustainability can be incorporated into housing projects.</p> <p>Angelina Street, one of the sites, previously consisted of 8 blocks of 4 storey maisonette accommodation comprising 108 family units in very poor condition with high crime rates before development. These have been demolished and 48 new dwellings are being constructed with a variety of 2 and 3 storey units which have been designed to suit the needs of residents moved from the old maisonettes returning to the scheme, and the future housing need identified within the councils Housing Needs Survey. Design initiatives include green areas, traffic calming and integration with local facilities incorporated to enhance the lives of the residents.</p> <p>An approach has been established 'to enhance and encourage partnering between 9 organisations to work in an open and non-confrontational atmosphere to encourage lateral and radical thinking towards a common goal of providing quality sustainable housing across all tenures'. The Angelina Street development is one of the first of the partnering scheme. It is hoped that this development will set a "Cardiff Standard" for housing quality which is well above standards set by UK Building Regulations. A number of tools were used on this project to ensure that housing and the surrounding areas are as sustainable as possible taking into consideration needs of potential future populations.</p> <p>The case study relates to the key problem: Neighbourhood redevelopment: Revitalisation of a derelict urban district.</p>						
Sector	Waste	Energy	Water	Transport	Green/blue	Building & Land Use
						X planning
Scale of project	Component	Building	Neighbourhood	City	Region	
			X			

Status of project	Starting up	Ongoing	Finished	Start date	End date (expected)
		X		Nov 1999 (feasibility study)	December 2004
Key words <i>Regeneration scheme, neighbourhood, sustainable design, housing standard partnering; energy; housing; traffic calming, lifetime homes, cheaper heating, tool, matrix, checklist</i>					
Project a. Object (building, city park, wind farm, etc.) b. Type of activity (regeneration, renovation, new development, etc.) c. Type of product (plan, scheme, design project, etc.)	a. 48 homes in a variety of 2 and 3 storey units with associated neighbourhood area. b. Regeneration – existing dwellings have been demolished and replaced with new build. c. Scheme.				
Tool a. Character (according to WP3final0704.doc) b. Benchmarks (qualitative or quantitative) c. Availability (paid/ free)	A number of tools have been used in this project. <i>Cardiff Partnering Scheme</i> This is a management guidance concept to assist partners to work together to share information and a more open form of working practice. The concept has a number of qualitative aims rather than benchmarks. It is freely available with guidance being available from Constructing Excellence, a UK Government supported organisation. <i>Contract evaluation</i> The Contractor Selection Matrix is an assessment method created to help select, from tenders, the most appropriate contractor for a project. This assessment included considerations relating to sustainability, costs, agenda 21, tenure, training initiatives, lifetime homes, commitment to partnering and previous experiences. The benchmarks created for the tool are quantitative. This tool is available for others to use. <i>Cardiff County Council (CCC) Sustainability Appraisal Matrix</i> This matrix is a checklist type tool that was developed by CCC as a method of assessment of projects, plans and strategies for impacts, whether positive or negative, on sustainable development. 'Benchmarks' as such are not used, although the accompanying guidance contains examples of 'best case scenarios' for each of the elements in the matrix – which provide guidance. This tool is available for others to use and should be on the Councils website. <i>Standard Assessment Procedure (SAP)</i> SAP is a calculation tool for the energy rating of a dwelling (1=poor, 100=good) and is UK Government approved. The computer program or paper based guidance can be downloaded free from http://projects.bre.co.uk/sap2001/ <i>Joseph Rowntree Lifetime Homes</i> Lifetime Homes is a process in the form of a set of guidance and criteria. Sixteen criteria are available free to assess whether a property meets the needs of most households, and can be obtained from http://www.jrf.org.uk/housingandcare/lifetimehomes/ <i>Embodied energy assessment</i> This assessment tool is under development at present by staff at CCC. It is currently unavailable. <i>Secured by design</i> This scheme encourages effective crime prevention and security standards for construction products, suppliers and professionals.				

	<p>Information on Secured by design specifications and standards are available free from www.securedbydesign.com/ All Welsh Assembly SHG funded social housing has to meet this standard, Angelina Street is not SHG funded but the team decided to meet this standard.</p> <p><i>Housing sight checklist</i> This checklist provides considerations that should be made to build an accessible home for people with serious sight loss – versions are available for new build and adaptation of existing properties from the RNIB at a low charge. This tool was discovered after the majority of works had taken place at Angelina St. This development does not meet all the requirements but the tool will be used for future schemes.</p>
<p>Decision-making process</p> <p>a. Stage of the tool implementation (preliminary, midterm, etc.)</p> <p>b. Level (political, technical, etc.)</p> <p>c. Public participation</p>	<p><i>Cardiff Partnering Scheme</i> Implemented at the initial stages and continually used throughout entire project. Utilised to encourage partnering between all parties involved. The public are not involved directly although the scheme encourages employment of local people. It also encourages the participation of local residents in the design stage of schemes, where appropriate. For example with Angelina St. local residents and schools had the opportunity to participate in the design of the public artwork used within the scheme.</p> <p><i>Contract evaluation</i> Implemented between design and construction to ensure construction tenders are sustainably assessed. This tool is used at the higher technical level i.e. the project manager and those involved in allocation of funds.</p> <p><i>Cardiff County Council Sustainability Appraisal Matrix</i> This tool was completed and submitted with the project funding bid – design inception stage. This would be completed by the higher technical level, the project manager, with assistance from other technical staff in a group. The public could be involved in the completion of this checklist although it is unlikely. The tool does enable the expected impact of the plan/proposal on local community to be assessed.</p> <p><i>Standard Assessment Procedure (SAP)</i> A SAP assessment can be carried out at the design stage when modifications can be made to improve the SAP rating or it can be used during or post construction when modifications for improvement are more difficult. This tool is used at a technical level and the public are not involved.</p> <p><i>Joseph Rowntree Lifetime Homes</i> This tool provides a set of requirements that should be considered at the design stage. Modifications could be made at a later stage but this would be costly and inconvenient. The public are generally not involved in the use of this tool.</p> <p><i>Embodied energy assessments</i> This tool was used at the design stage when calculating the embodied energy of wood to be used in the housing construction. It was used at a technical level and did not involve the public.</p> <p><i>Secure by design</i> Implemented at the design and construction stage to insure that crime prevention and security was maximised. Again this tool is utilised at a technical/project management level and does not include public participation.</p> <p><i>Housing sight checklist</i> This tool can be utilised at the design stage to ensure that where possible elements that assist those with serious sight problems could</p>

	<p>be incorporated into the design.</p> <p>All of the tools were implemented due to a decision at the technical (project management) level. The use of the Sustainability Matrix received political support from the Welsh Assembly Government.</p>
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DETAILED INFORMATION


A. Detailed description of project and tool	
<p>1. Description of context (existing strategies, laws, policy, action plans, etc.): EU, national, regional, municipal</p>	<ul style="list-style-type: none"> • Better Homes for people in Wales (July 2001) – vision ‘we want everyone in Wales to have the opportunity to live in good quality, affordable housing; to be able to choose where they live and decide whether to buy or to rent is best for them and their families’. The main theme is quality. • Welsh Housing Quality Standard (WHQS) common target standard for the physical condition of all housing in Wales. • Uniquely among EU Nations, the National Assembly for Wales has a binding legal duty to pursue sustainable development in all it does. This is built into its constitution through section 121 of the Government of Wales Act. • Local Housing Strategy 2004 – 2009 for Cardiff County Council.
<p>2. Description of project</p> <p>a. Background (What caused the initiation of the project?; What was the problem? Who initiated the project?);</p> <p>b. Objectives/aims (sustainability statement – what issues of sustainability were attacked);</p> <p>c. Time interval and stages of project realization;</p> <p>d. Financing – amount, sources, institutions involved, partnerships, levels.</p> <p>e. Other sectors involved in the particular project/problem (conflicts and/or links)</p>	<p>a. CCC is embarking on a £25M citywide housing regeneration scheme that will improve the housing stock in various areas of the city.</p> <p>Angelina Street is one of the identified regeneration areas which is located in the Butetown area of Cardiff. Butetown is historically an area with a varied and diverse ethnic background, and is ranked in the top 10 of the Index of Multiple Deprivation areas in Wales.</p> <p>Prior to redevelopment, the site consisted of 8 blocks of 4 storey maisonette accommodation comprising 108 family units, which were difficult to let and had high maintenance and running costs.</p> <div style="text-align: center;">  </div> <p><i>Figure 1 – Previous housing at site</i></p> <p>The scheme involves the construction of 48 new dwellings with a range of 2 and 3 storey units, with landmark properties providing key aesthetic points. A common theme is carried across the whole site with a range of brick types and renders, with no two terraces being the same design.</p> <p>The project was initiated by the Housing Strategy Division of CCC with a feasibility study being carried out in November 1999. Works are due to be completed in December 2004.</p>



Figure 2 – Housing development at Angelina Street

b. Sustainability is a major consideration of the scheme and it is hoped that the citywide regeneration developments carried out under the Cardiff Partnering Scheme will illustrate to the private sector how sustainability can be incorporated into housing projects. It is hoped that the Angelina Street development, which is one of the first in the scheme, will set a 'Cardiff Standard' for housing quality which is well above UK Building Regulations. This will be used as a baseline for future housing developments including private schemes and it is hoped that this will stimulate a market for innovative sustainable measures.

Design initiatives incorporated into the development include:

- Defensible space - to provide on-plot parking, front boundary walls and gates to all family accommodation aiming to reduce the risk of crime.
- Traffic calming measures and the introduction of a raised paved area creating a visual link to recreation grounds.
- Introduction of a 'Home Zone' to provide a strong link between the recreation ground and the new development using informal planting, bollards and low walls.
- Mixed size and type of housing comprising predominantly 3 bedrooms but also, 4 and 5 bedroom houses depending of family requirements. Larger properties can house 3-generation families.

The mix of housing comes from a mixture of the identified needs of returning families from the old maisonettes, and the current and future needs in the area identified from the Councils Housing Needs survey.

Defensible space, home-zones and traffic calming come from the Secured by Design principles and the needs identified from our Traffic & Transportation department.

The project has been undertaken in phases with families being relocated in stages, whilst housing is demolished and rebuilt.

Other sustainability considerations include:

- Reuse of materials wherever possible, demolition rubble crushed on site and used as hardcore for the new development, insulation from recycled newspaper used in timber frame wall construction with 140mm studs.
- Welsh products have been used as much as possible to minimise transportation. For example, solar panels were supplied by a company from West Wales, bricks are from a company in Newport, and positive ventilation systems from Caerphilly.

- Environmental considerations include 'A' rated condensing boilers, 250mm flax insulation in the roof, positive ventilation systems, the use of grey water systems as a trial on 13 units, eco-joists and the position of all houses to maximise solar gain. All properties have solar water heating panels which will produce hot water all year.



Figure 3 –Solar water heating panels on the roof of housing

Appropriate welsh timber was not available. Timber was sourced from sustainably managed forests in Sweden and an embodied energy assessment was undertaken to assess impact.

An information pack has been provided for each household in a variety of languages to provide a support system for correct use of equipment in the house and information about the development of the site.

Where possible similar fixtures such as showers, kitchens and boilers are being used throughout the entire city development programme to enable ease of maintenance and purchase of replacement parts in the future. The specification of these items for Council Housing matched that used for the rest of the Council stock throughout the city for maintenance purposes. The other partners in the scheme such as Registered Social Landlords may have their own specification for these items that they will need to comply with for the same reasons.

A condition of planning permission was that public artwork should be included at the site. An artist was employed to visit local schools and interact with the public during an open day. Information gained has resulted in the integration of artwork within railings and the design of 60 plaques to be placed on boundary walls in the area, which has provided ownership of the development for the residents. It is hoped that this will be incorporated into future projects.



Figure 4 – Artwork designed in collaboration with local residents

c. A feasibility study was commissioned in November 1999, and draft proposals were agreed for financial viability of the scheme. The development of housing has been undertaken in phases with families relocated in stages, whilst housing is demolished and rebuilt. All housing will be completed by April 2005.

d. The funding for the Angelina Street redevelopment has been obtained from land receipts of sites sold within the Cardiff partnering Scheme. Sustainability was the driving factor for the scheme rather than cost minimisation. It is believed that incorporating sustainability measures into the homes has resulted in an extra capital cost of 4.1%.

The partnering scheme has encouraged working together to share information and a more open form of working practice. Those involved in partnering include CCC, Leadbitter Construction, Cadwyn Housing Association, Cardiff Community Housing Association, Glamorgan and Gwent Housing Association, Hafod Housing Association, United Welsh Housing Association, Strongs CQS Project Managers, KWL Architects and Nicholson Jones Structural Engineers, Wyn Thomas Gordon Lewis Architects.

3. Description of tool

- a. Character (according to WP3final0704.doc) - calculation tools, process tools, assessment methods, generic tools, simulation tools, guidelines, framework tools, schemes, indicators and monitoring, checklists, case-specific tools;
- b. Availability of the tool (web-based / paper, paid / free, etc.)
- c. Based on existing tool or newly elaborated;
- d. Adaptation of the tool to the local context (are there local experts involved in tool's development?)
- e. Other tools implemented to support the project development

Cardiff Partnering Scheme

- a. This is a guideline/management concept to assist partners to work together to share information in a more open form of working practice. The Partnering Scheme is a general concept supported by Constructing Excellence (a UK government supported organisation) that outlines the construction partnership as (i) commitment to the concept (ii) self-assessment of the project prior to the partnership (iii) selection of partners (iv) the mutual objective of all the partners (v) agreement on a project resolution mechanism (vi) agreement of key performance indicators (KPI) for assessment of continuous improvement (vii) contractual agreements for the partnership and procurement procedures (viii) an agreement of risks and rewards related to the projects development e.g. targets may relate to KPIs, cost, time etc. The principles of Agenda 21 and sustainability in construction have come to the fore through the scheme.
- b. This is not a web based tool, but a concept. Further information from <http://www.constructingexcellence.org.uk/>
- c. It is an existing process supported by Constructing Excellence, a government supported organisation working to achieve a step change in construction productivity through focus in innovation, best practice knowledge, productivity and enlargement.
- d. The concept applies to all development programme management and has been applied to many projects across the UK that can be seen

on the Constructing Excellence website.

Contract evaluation

a. A Contractor Selection Matrix was used as an assessment method for potential contractors for the Cardiff Partnership Scheme designed by CCC. The matrix focuses on the following issues: Sustainability/Low Energy Housing; Costs; Mixed Tenure; Agenda 21; Training Initiatives; Lifetime Homes; A commitment to partnering; and an assessment of previous experience in public and private sector housing regeneration and development.

Angelina Street is the first development by CCC to be driven by a sustainability and social agenda rather than purely cost. Managers directly involved in the project were not involved in the selection process of the tenders in order to prevent prior knowledge influencing the decision. Assessors were unaware of the financial cost of the tender until a decision was made using the sustainability scoring system.

b. The tool is paper based.

c/d. The tool was created for use in the project, and therefore required no further adaption.

Cardiff County Council Sustainability Appraisal Matrix

a. The matrix has been developed by CCC as a method of assessment of projects, plans and strategies for their impacts, whether positive or negative, on sustainable development. The matrix is intended to help integrate sustainable decision making practice into the council, and is arranged around the three key themes of sustainable development:

- Effective protection of the environment and prudent use of natural resources,
- Social progress which recognises the needs of everyone,
- Maintenance of high and stable levels of economic growth.

CCC has adopted the matrix and it is now council policy that all funding bids must submit a complete matrix.

The matrix is a checklist of 24 main items with sub-items within them relating to the above key themes such as

- Reducing natural resource consumption – limit use of non-renewable resources (gas, minerals), identify opportunities to use recycled or reused materials, commit to using sustainable local timber sources
- Health of individuals – promote walking and cycling, encourage healthy eating, promote allotment use and provision of recreational facilities.
- Reducing unemployment – job creation, back to work training, utilise local workforce, provision of voluntary work, work placements.

Completion involves scoring each item relating to the expected effect of plan/proposal as definite negative, possible negative, neutral, possible positive, definite positive and there is also the opportunity to add comments.

The matrix is designed to help with:

- Report writing;
- Contract development and assessment;

- Project appraisal;
- Grant application assessment;
- Service statement preparation;
- Policy and programme development and review.

b. The tool is paper based and includes accompanying guidance notes.
c/d. The matrix is a relatively newly created tool, created specifically by and for CCC by the Sustainable Development Unit of Strategic Planning and Neighbourhood Renewal. Therefore the tool did not require adaption for local context.

Standard Assessment Procedure (SAP)

a. SAP is a calculations tool for producing an energy rating (SAP rating) and a carbon index (CI) for a dwelling, based on calculated energy required for space and water heating. The calculation assumes a standard occupancy pattern, derived from measured floor area of the dwelling, and a standard heating pattern. Both the energy rating and the CI are adjusted for floor area so that the size of the dwelling does not affect the results, which are expressed on a scale of SAP rating 1 to 120 and CI 0.0 to 10.00 – the higher the number, the better the standard. A full SAP rating requires data entry of over 108 items however a basic SAP rating can be calculated using much fewer data. Although accuracy is lost when summarising information, SAP values calculated are useful.

b. The SAP calculator is originally paper based. The method of calculating the rating is set out in the form of a worksheet, accompanied by a series of tables. A calculation may be carried out by completing, in sequence, the numbered boxes in the worksheet.

A computer program approved by Building Research Establishment (BRE) for SAP calculations is available. Other companies have developed software that has been approved by BRE and are authorised by the UK Government to issue energy cost ratings and CIs, which results in a SAP rating and CI certificate bearing the official SAP logo.

The paper based and computer based tool can be downloaded from <http://projects.bre.co.uk/sap2001/>.

c. The first published 'Standards Assessment Procedure' by the UK Department of the Environment and the Building Research Establishment was released in 1993. A number of updates have been released since. The current version was updated in December 2002. A new edition is currently under review and is due to be released in 2005.

d. Adaption to the local context is not necessary as the tool is designed to cover all housing in the UK.

Joseph Rowntree Lifetime Homes

The Lifetime Homes criteria are guidance consisting of sixteen design including:

- The living room should be at entrance level,
- Living room window glazing should begin at 800mm or lower and windows should be easy to open/ operate,
- Walls in bathrooms and toilets should be capable of taking adaptations such as handrails.

These features help to ensure a new house or flat will meet the needs of most households. This tool contains external and internal features of new housing and includes items such as sockets at a convenient height, parking space capable of widening to 3300mm and walls able to take adaptations.

The incorporation of the features listed ensures accessibility and design features that make the home flexible enough to meet whatever comes along in life are considered e.g. a teenager with a broken leg, a family member with a serious illness. The Joseph Rowntree Foundation suggest that "If all homes over the next 30 years were built to these standards, the quantifiable benefits to the country would average around £250 per dwelling, and there would also be significant additional non-quantifiable benefits" this would be achieved through reduced expenditure on adaptations and reduced need for the moving of people to residential homes.

b. The tool consists of a paper based guide available from <http://www.jrf.org.uk/housingandcare/lifetimehomes/> .

c. The tool is an existing tool, developed in 1991 by a group of housing experts who formed the Joseph Rowntree Foundation Lifetime Homes Group. 16 criteria were created as a result of concern over the quality of British housing and inaccessibility for all people.

d. The tool was used as a check to ensure that modifications were made at a design/construction stage. The tool was not adapted to the local context.

Secured by design – This is a UK police initiative to encourage the building industry to adopt crime prevention measures in design of developments to assist in reducing the opportunity for crime and the fear of crime, creating a safer and more secure environment. It is intended to achieve a better quality of life by addressing crime prevention at the earliest opportunity in the design, layout and construction of homes and commercial premises.

The scheme functions on two levels (i) An award to developers who build developments to Secured by Design standards and (ii) A licensing scheme for products which meet police preferred specifications. In order to achieve the award the following safety issues must be considered: Roads and footpaths, landscaping, street lighting, communal areas, dwelling identification, dwelling boundaries, utilities, car parking, front door, side and back door, French windows, garages, communal entrance doors, flat entrance doors served off a shared corridor or stairway, security lighting and conservatories.

b Information is freely available on the internet <http://www.securedbydesign.com/>

c The information is currently identified by ACPO CPI for Secured by Design "Police Preferred Specification" licences. Further standards will be added as considered appropriate by ACPO CPI.

d The tool has been developed using UK standards and covers the entire country.

Housing sight checklist - This checklist provides a set of standards to help build an accessible home for people with serious sight loss. It is aimed at all involved in house design, development and management.

	<p>The guide sets the standards of good practice that are capable of being copied across the housing sector. The Royal National Institute for the Blind funded the development of the tool in collaboration with JMU Access Partnership and Wales and West Housing Association.</p> <p>b. The tool costs £19.95 (plus £2.50 handling charge) and is available in print, braille, tape and disk. From http://onlineshop.rnib.org.uk</p> <p>c. The guide is based on the principles of lifetime homes and has been informed by those with sight loss and professionals in the field.</p> <p>d. The principles of the tool have been followed as provided.</p> <p><i>Embodied energy assessments</i> An embodied energy assessment tool has been used to investigate the impact of transporting timber from Sweden. The tool is under development. No further information is available at present.</p> <p><i>Home Zones</i> Started in the Netherlands in the 1970's, the Home Zone concept or Woonerf, attempts to balance vehicles with the other users of the street - pedestrians, cyclists, business people and residents. Streets and roads are physically altered for as part of Home Zones for this purpose. In the case of Angelina Street, informal planting, bollards and low walls were used. Information about the concept can be obtained from the Internal Home Zones website www.homezones.org. The concept is highly contextually based and is modified to suit the situation.</p>
B. Tool implementation	
<p>1. Argumentation for choosing the tool</p> <p>a. What were the reasons for the implementation of the tool? (voluntary or requested by what local, national, etc regulation)</p> <p>b. Who took the initiative for choosing /elaboration the tool?</p> <p>c. What were the criteria for choosing the tool?</p> <p>d. Was there knowledge of other tools and were they considered?</p>	<p>a/b/c. The project manager has been the main driver in implementing and elaborating many of the tools in this project. A 'Cardiff Standard' for housing over and above current UK Building Regulations is required. The tools have been selected in order to set a higher standard of development relating to sustainability and develop housing that is of good quality and sustainable.</p> <p>Most of the tools mentioned above are all known to the Housing Development team, social house builders and house builders in general. It is a requirement that some of these tools are met, for example secured by design and meeting the basic SAP ratings set out by Building Regulations. Most of the officers time was spent developing the Cardiff Partnering Scheme tool as the vehicle to develop various sites throughout Cardiff, and provide the Council with an opportunity to develop new Council Housing.</p> <p><i>Cardiff County Council Sustainability Appraisal Matrix</i> developed by the Sustainable Development Unit, Strategic Planning and Neighbourhood Renewal at CC, is a necessity to accompany all funding bids submitted to the Council. The tool was completed at the very initial stages of the project to indicate positive and negative sustainability implications of the project that could be modified if necessary and possible. It was therefore necessary for this tool to be completed under CCC policy.</p> <p><i>Standard Assessment Procedure (SAP)</i> was used to fulfil requirements to provide an energy rating in new dwellings. It is recommended by UK Building Regulations that a Carbon Index is calculated for all new build properties and that this should be at least 8 out of 10. SAP ratings are commonly used in the UK as a measure of energy rating, are well understood as a method of comparison and are likely to be included in Building Regulations in the future. As part of the 'Cardiff Standard' it was hoped that a SAP rating of over 100 would be achieved. SAP</p>

ratings of between 108 and 118 are being achieved.

Cardiff Partnering Scheme

The benefits brought about by partnering are that there is a sharing of information and more open form of working practice, closer links between partners, a stable design and consultant team with economies of scale being realised.

It is based on the principles of 'rethinking construction' (two reports written by Sir John Egan and Richard Latham), which intended to reduce the levels of conflict and arbitration in the construction industry.

After a study undertaken by the officers involved in setting up the Cardiff Partnering Scheme, proposals were presented to the Council Cabinet and the option of setting up a Partnership to develop redundant housing owned sites throughout Cardiff for mixed tenure housing (including 100 new council houses), was given cabinet approval.

Contract Evaluation Scheme

The use of this tool was to enable those selected to work on the scheme at the tendering stage to be assessed in relation to the commitment to sustainability rather than the more typical method of cost only.

The matrix is used quite often to allow a fair and auditable method of scoring various tenders for schemes. It allows officers/managers who have not necessarily been involved in the tendering process, up to that point, to be able to consistently mark tenders.

One of the remits of the Cardiff partnering Scheme is that developments undertaken within the scheme should be more focused on sustainability and that the chosen contractor should show a real commitment to these issues. Therefore the Council had already agreed to this method when agreeing to use the scheme.

Joseph Rowntree Lifetime Homes, Secured by design and Housing sight checklist

These tools were selected in order to improve safety, security and accessibility for a wider group of potential future residents.

Housing sight was not used as at the time of designing the scheme as it was not known about. Compliance to Lifetime homes will most probably be a requirement of building social housing shortly so the decision was made to comply where possible to these standards - good practice. Welsh Assembly SHG funded social housing must comply with Secure by Design, although Angelina Street is not SHG funded we made a decision to comply with this standard. Therefore, it can be said that the Council made this decision as good practice.

The use of the tools in this case study was to incorporate sustainable design wherever possible even if there was a slight cost increase.

d. Eco-Homes, a UK government tool that balances environmental performance with the need for a high quality of life and a safe and healthy internal environment was considered when investigating possible tools. The project manager felt that the standards included in this tool were not high enough for the levels required for the 'Cardiff

	Standard'.
2. Barriers for the tool implementation What were the main problems in the tool implementation? (Regulation, information available, public awareness, lack of clear SD definitions and benchmarks, communication etc.)	Problems encountered in tool implementation were: Targets included within tools available were not setting high enough standards. The initial barrier for tool implementation in this project was Council support of the high sustainability objectives that the tool would achieve. The main barrier for tool implementation was only cost with regards to including innovations in the scheme (to meet the sustainability tools). However, this can be overcome with value engineering exercises and securing Government funding where possible.

C. Influence of the tool on the decision-making process

1. Description of the decision-making process/ procedures a. Stages b. Levels (political, technical, etc.) c. Sources of information used during the dmp; d. Who are the decision-makers? e. Who made the final decision for the project implementation? Was it political or technical decision?	<p>The Housing Strategy Division at CCC commissioned architects to undertake a feasibility study on the development. Draft proposals were presented at a public meeting a few weeks later which were positively received.</p> <p>The main step in the decision making process was the decision to use the partnering scheme to encourage information sharing between all 9 partners. The terms of reference between the team can be seen in the following diagram.</p> <div style="text-align: center;"> <pre> graph TD CG["Core group First level of dispute resolution Overview of information on direction of partnering scheme"] MP["Master planning Identify and overview of development programme"] TR["Training Identify and formulate training opportunities that can be delivered"] BQ["Benchmarking and quality Identify and formulate possibility of standardising quality delivery across the scheme with deliverable outcomes"] PI["Procurement and Innovation Investigate and identify availability and deliverability of new procurement initiatives. Actively investigate additional sources of funding to compliment SHG and Capital funding"] CG --- MP CG --- TR CG --- BQ CG --- PI </pre> </div> <p><i>Figure 5 – Cardiff Partnering Scheme organisation framework</i></p> <p>It was a decision made by the Housing Management section of the council to redevelop the maisonettes. This was on the back of various studies undertaken into the options available, including refurbishment works. It was agreed that it was more cost effective to redevelop rather than refurbish. Tenant consultation was also undertaken in this decision making process.</p> <p>Once the preferred option was identified by Housing Management, Cardiff Council Cabinet approval was achieved.</p> <p>Council Cabinet Minutes are available which illustrate permission to proceed being granted for the scheme and under what context.</p> <p>There is a structure in place where all issues are dealt with on a site level first, if this cannot take place then the decision making process</p>
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	<p>moves to the next level of managers and then up to Director level. Under the partnering structure we try to ensure that issues are resolved at the first tier.</p>
<p>2. Tool in decision-making process</p> <p>a. At what stage was the tool implemented? By whom? (experts, politicians, etc.)</p> <p>b. How did the tool output influence the process (added or skipped levels/stages in the existing decision-making process, etc.)?</p> <p>c. Quantitative goals or benchmarks defined? (If YES, which – and what were they compared to?)</p> <p>d. Was the tool used to support argumentations?</p>	<p><i>Cardiff Partnering Scheme</i></p> <p>a. The concept of partnering has been used for the entire £25 million city wide housing regeneration scheme that includes various sites throughout Cardiff. This scheme has been implemented since the initial stages of the project.</p> <p>b. Using the partnership approach ensured that there was a level of agreement concerning the approach to sustainability that the development was to take. Having been in place from the start of the project, the tool has helped shape the process of the project. This has particularly assisted with solving problems as they arose and providing a stable and clear working process.</p> <p>c. The Cardiff Partnering Scheme is a vehicle by which various redundant areas of Council Housing owned land can be redeveloped for a complete mixed tenure of housing - private, social, council & low-cost home ownership. By using the partnership approach we are able to achieve best value and encourage a larger focus on sustainable development even in the private market. It is hoped that the development within the scheme will be of a higher standard than 'one-off' developments and that the partners work toward creating a Cardiff Standard of Housing.</p> <p><i>Contract evaluation</i></p> <p>a. The Contractor Selection Matrix was used to appoint the contractor to the whole project, this was used prior to the construction phase.</p> <p>b. Selecting a contractor who agreed with the sustainability aims of CCC, this helped to ensure that a shared goal was maintained and worked towards.</p> <p>c. Each scheme has been/will be worked up independently with the aim of meeting the criteria/standards set under the Partnering Scheme (such as the tools described earlier). We are aiming for continual improvement with each scheme, and continual assessment through benchmarking.</p> <p><i>Cardiff County Council Sustainability Appraisal Matrix</i></p> <p>a. The Sustainability Matrix was used at the beginning of the project – the completed matrix was submitted with the bid for funding for the project to Cardiff County Council.</p> <p>b. This matrix formed the basis by which each contractor tendered for the scheme, as well as providing a competitive price a contractor must comply with the requirements of the matrix. Therefore we can ensure that these elements are met.</p> <p>c. A number of best case scenarios are provided with the matrix that recommend a benchmark against which to assess the project.</p> <p><i>Standard Assessment Procedure (SAP)</i></p> <p>a. SAP ratings were calculated once the design of the building has been completed.</p> <p>b. The use of the tool has not affected the decision making process but has confirmed that the project has reached its achievement of a new 'Cardiff standard'.</p> <p>c. The current recommendation within UK Building Regulation for SAP ratings is 80 or above or a CI rating of at least 8.</p> <p>d. SAP ratings have helped prove that houses far exceed the requirements set by the building regulations, therefore proving that our</p>

	<p>properties are more energy efficient, benefiting the tenant and the wider environment.</p> <p><i>Joseph Rowntree Lifetime Homes, Secured by design and Housing sight checklist</i></p> <p>a. These tools were implemented in the design stage of the project. b. The use of the tools has affected the design of the project in a positive way. Adaptability of housing has been maximised for owners who may require change or when new owners move in. Lifetime homes has ensured all properties have a ground floor shower rooms, level access entry and conveniently located sockets and switches. This ensures that properties can be inhabited by able bodied tenants and those using a wheelchair without the need for major adaptations. Therefore properties are flexible and designed for future needs.</p> <p><i>Secured by design</i> has increased levels of lighting, safe and secure doors and windows and overlooked car park provision for all properties. c. The goal was to implement as many items for each of the tools where possible this has been achieved. The tools were used to prove houses are being constructed to meet these standards.</p>
<p>3. Transparency of decision-making process</p> <p>a. How was the information of the dmp disseminated? - directly (decision makers – public) or indirectly (decision makers - NGO, PR company, etc. - public); sources of dissemination used (mass media, internet, brochure, etc.)</p> <p>b. How was the public involved?</p> <p>c. Was there a public discussion over the project and at what stage of the project development?</p>	<p>A public meeting was held in November 1999 with residents of Angelina Street to outline the principles of the project.</p> <p>The information concerning the project was disseminated directly to the public, no other parties were involved. The project has been widely publicised in local newspapers and on the television. Information is available on the Constructing Excellence website and CCC website.</p> <p>Each resident was provided with an information pack that included press releases relating to the site development and photographs of the development in progress.</p> <p>An artist was employed to visit local schools and interact with the public during an open day. Information gained has resulted in the design of 60 plaques to be placed on walls and fences in the area, which has provided ownership of the development for the residents. It is hoped that this will be incorporated into future projects.</p> <p>Once CCC had undertaken research into various options of redevelopment, and an option was chosen, full consultation was then undertaken with the residents involved. This included homeowners who had bought council properties in the past. Not every resident agreed with the scheme initially but did agree that something had to be done. With the use of continual consultation the scheme proceeded and all owners sold their properties back to the council, some of whom chose to become council tenants once more taking a new property within the development.</p> <p>The residents were not directly invited to be part of the decision making process, although the scheme could not progress without the support of the residents and especially the owners.</p> <p>The opportunity was given to the surrounding residents to attend public meetings and view the plans.</p>
<p>D. Expert assessment/analysis/comment of the tool effectiveness</p>	

<p>1. Assessment by tool users</p> <p>a. Were there measurable improvements as a result of the tool implementation? If YES, what? If no: why not?</p> <p>b. Were there any spin-off's or unintended consequences?</p> <p>c. General view on the tool? Lessons learned?</p> <p>d. Potentials for further use of the tool?</p> <p>e. Will the actors recommend it or use it in other cases - why / why not?</p>	<p>a. As part of the <i>Cardiff Partnering Scheme</i> and the employment of the contractors Leadbitters through the <i>Contract Evaluation Scheme</i>, employment of local employees was encouraged. Reporting that takes place as part of the Partnering Scheme is required to include information regarding the number of staff who live within 10 miles of the site. 5 trainees are employed on site under the 'Young Builders Trust', this provides structured training where people of all backgrounds can learn construction industry skills and gain nationally recognised qualifications.</p> <p>The <i>Cardiff County Council Sustainability Appraisal Matrix</i> was believed to be successful in encouraging all involved in the project to consider sustainability.</p> <p>The final calculations for <i>SAP</i> range from 108 to 118 which is very good. It is intended that this will become the standard for future council schemes. The incorporation of geothermal and zero carbon heating that is planned may improve these scores further.</p> <p>b. Using the tools has encouraged the decision makers to identify alternatives to be used in construction and the use of new technologies in a bid to continually improve future developments.</p> <p>c. Lessons learnt included</p> <ul style="list-style-type: none"> • the importance of consulting with residents. • trying to ensure that when designing schemes the needs of all people were taking into consideration to ensure inclusion. <p>The project manager feels that the main way to improve sustainability of a project is through a robust sustainability matrix. The one used in this scheme is in its infancy but could be used as a base document. It was felt that additional work on economic factors should be carried out if time allows.</p> <p>e. The project manager is supportive of all the tools used in the project and would recommend their use for other projects. CCC Housing Strategy and Development Division have considered the incorporation of public art into the scheme a success and intend to use it in future schemes.</p>
<p>2. Reviewer's assessment of the tool (usefulness, sustainability relevance, who are the actors excluded? etc.) Suggestions and needs for further development of the tool</p>	<p>The partnership approach, in this case the <i>Cardiff Partnering Scheme</i>, has been used successfully in three UK PETUS case studies and is strongly supported by Constructing Excellence as an example of good practice. When first used, it does require all partners to be flexible which could prove a challenge, however the results have been shown to make this worthwhile.</p> <p>The <i>Contract Evaluation Scheme</i> has a number of positive and negative characteristics. The positive include:</p> <ul style="list-style-type: none"> • it is a straightforward and simple tool, • it covers a wide number of issues, • this tool provides an assessment for a stage not usually considered. <p>Negative characteristics:</p> <ul style="list-style-type: none"> • no guidance is given for scoring i.e. a total score that can be allocated is given, but no guidance on what is required for a min. or max. score is given, • scores are allocated for the expectations of Cardiff and would therefore have to be rethought for any other project, • cost is substantially lower in weighting than social and environmental issues. CCC had the opportunity to spend more on being sustainable than other projects where cost has to be minimised. <p>With regard to <i>Cardiff County Council Sustainability Appraisal Matrix</i>,</p>

	<p>positive features are:</p> <ul style="list-style-type: none"> • accompanying guidance notes are helpful for completing the tool; • authors intend the matrix to add value by raising awareness; stimulation dialogue and debate; generating new ideas; and encouraging 'joined-up' thinking; • it is quick and easy to use and it's format encourages working together as it is recommended to be completed in a group, • use of matrix allows comparisons between projects to be made. <p>Some negative features include:</p> <ul style="list-style-type: none"> • the matrix is open to interpretation by every user, with previous experience influencing scoring, • the tool could be considered 'too simple', although it creates discussion, it does not provide solutions if problems are identified. <p><i>Standard Assessment Procedure (SAP)</i></p> <p>Positive features include:</p> <ul style="list-style-type: none"> • Clear worksheets for the calculations. • Due to the fact that BRE is a nationally/internationally recognised organisation their results will be treated with respect. • The scheme is a national and so allows national comparisons. <p>Negative features include:</p> <ul style="list-style-type: none"> • calculation is concerned with the assessment of the dwelling itself, as used by standard or typical occupants, and is not affected by the way current occupants might use it, for example the living room fraction is based not on which rooms the current occupants heat the most, but on the original design concept. <p><i>Joseph Rowntree Lifetime Homes, Secured by design and Housing sight checklist</i></p> <p><i>These tools provide</i> straightforward guidance for the external and internal layout of a home, safety and security measures and sight modifications.</p> <p><i>Home zones</i></p> <p>There are many examples of successful Home Zones in Europe, and if introduced correctly with the support of the local community, they can produce areas that are attractive, welcoming and safe for local residents. However the success of a scheme can depend on the involvement of the local community. Conflicts need to be considered for example if road humps are introduced how will this influence emergency service access.</p> <p>Homes built using these standards can help to reduce further costs either for adaptations or for residential care.</p>
E. Additional information on the case study available	
Websites	<p>Cardiff County Council http://www.cardiff.gov.uk/SPNR/neigh_ren/housing%20strategy/HS_Home_Page.htm</p> <p>BRE http://www.bre.co.uk</p> <p>The Joseph Rowntree Foundation http://www.jrf.org.uk/housingandcare/lifetimehomes/ http://www.jrf.org.uk/knowledge/findings/foundations/2.asp</p> <p>The Association of Chief Police Officers for England Wales and</p>

	<p>Northern Ireland (ACPO) <i>Secured by Design</i> http://www.securedbydesign.com/</p> <p>The Royal National Institute for the Blind http://onlineshop.rnib.org.uk</p> <p>Home zones www.homezones.org</p>
References concerning the case but also the key words or problem (papers, articles, reports, laws, etc.)	<p>Building Research Establishment (BRE), Department for the Environment, Farming and Rural Affairs (DEFRA), Department of Transport, Local Government and the Regions (DTLR) (2001) <i>The Government's Standard Assessment Procedure (SAP) for Energy Rating of Dwellings</i>, Watford, Published on behalf of DEFRA by BRECSU.</p> <p>Cardiff County Council (2002) <i>Cardiff County Council Sustainability Appraisal Matrix</i>, Cardiff County Council.</p> <p>Carroll, C et al (ed) (1999) <i>Meeting Part M and designing Lifetime Homes</i>, York, Joseph Rowntree Foundation</p> <p>Joseph Rowntree Foundation (1993), <i>Lifetime Homes</i>, York, Joseph Rowntree Foundation.</p> <p>Joseph Rowntree Foundation (Feb 1997) <i>Building Lifetime Homes</i> http://www.jrf.org.uk/knowledge/findings/foundations/2.asp</p> <p>Rees L and Lewis C (2003) <i>Housing Sight A Guide to Building Accessible homes for people with sight problems</i>, JMU Access Partnership, RNIB Cymru and Wales and West Housing Association.</p>
Other sources (Interviews, conferences, discussions, etc.)	<p>Site visit to Angelina Street involving Colin King and Dave Jaques of Cardiff County Council Housing Strategy Division and Joanne Patterson and Anna Lermom of WSA on June 3rd 2004.</p>