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Bramall Construction and Frank Haslam Milan are Keepmoat companies

WORKSHOP

MECHANICAL AND ELECTRICAL SERVICES EARLY DESIGN DEVELOPMENT AREAS TO FOCUS ON AND ANY ASSOCIATED COMPLIANCE CHANGES TO BE AWARE OF

FIRE SAFETY DESIGN IN EXTRA CARE

Supported by: DH Department of Health, Housing Learning and Improvement Network, Greenwoods

Event Managed by:

"Delivering Extra Care" funding, development, realisation

Wednesday 6th & Thursday 7th April 2011
Crowne Plaza, Nottingham

DEREK GRIFFITHS
MANAGING DIRECTOR/CHARTERED ENGINEER

BES Consulting Engineers Limited

- Mechanical and Electrical Building Services Consultants/Designers (based in County Durham and Slough)

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- Extensive experience of design/project delivery in relation to Elderly Extra Care Projects :

  Numerous project involvement over the past 12 years in Extra Care and previously Sheltered Housing

- Some of the Clients we have worked with to deliver Extra Care Developments :

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Hanover (Nationally)
Sanctuary (Nationally)
Anchor Trust (Nationally)
Abbeyfield (Yorkshire)
Joseph Rowntree (Yorkshire)
Tees Valley/Fabrick Group (North East)
Eden Housing Association (Cumbria)
Places for People (North East/Yorkshire)
Yorkshire Housing
South Yorkshire Housing
Home Group (North East)
Endeavour Housing (North East)
Milecastle Housing (North East)

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MINIMISE YOUR RISKS AT DESIGN AND BUILD TENDER STAGE

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A QUOTE FROM NUMEROUS CLIENTS/ CONSTRUCTION PROFESSIONALS AND CONTRACTORS

"THE M&E SERVICES ON EXTRA CARE PROJECTS ARE HIGHLY COMPLEX, STRATEGIES NEED TO BE DEVELOPED AT AN EARLY STAGE – IF THE M&E SERVICES DO NOT DELIVER THE SCHEME DOES NOT DELIVER."

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- More work in the initial planning stage usually pays dividends in delivering a quality end product.

PARTICULAR ISSUES REQUIRING EARLY CONSIDERATION IN THE DESIGN DEVELOPMENT PROCESS (PRE-PLANNING)

- BREEAM/Code for Sustainable Homes Compliance (requirement/ standard to be achieved usually prescribed by funding bodies/ Local Authorities as part of the planning conditions).

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BREEAM Multi-residential is intended for use on multi-occupancy residential buildings which are not suitable for assessment under the Code for Sustainable Homes (CSH).

Applicable to multi-residential buildings which contain a mix of residential accommodation with communal areas which make up more than 10% of the total Net Internal Floor area ie. generally Extra Care developments.


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Undertake very early preliminary assessment, which will assist and guide the initial design development process.

- Local Authority Planning requirements in respect of renewable energy contribution obligations :

  - Some LA's stipulate that a percentage of the predicted energy requirement of the development be produced by the installation of low/zero carbon technology.
  - Others stipulate that the predicted carbon dioxide production of the development be reduced by a percentage by the installation of low/zero carbon technology.

- Local Authority Planning requirements in respect of renewable energy contribution obligations :

  – Some Local Authorities are requiring 20% (particularly London, others ranging from 10 – 20%, reduction in CO_2) by use of renewables (you need to consider how you are going to achieve this at the pre-planning stage as this could have a major impact on scheme design/project costs).

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  Sustainable energy policies can vary from one local authority to the next.

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– BREEAM will require a percentage of reduction in CO_2 for the development as a whole by use of renewable energy technologies.


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Generally LA's are becoming more concerned with the reduction of carbon dioxide rather than production of energy. This was demonstrated when the London plan was amended from its original position of 10% production of predicted energy generation.

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This is normally the target set for all of the London boroughs. Outside of the London boroughs the targets vary around the country.

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- Ground source/air source heat pumps
- Solar photovoltaics
- Solar hot water
- Combined heat and power (CHP)
- Biomass boilers

other technologies considered

- Wind turbines
- Small scale hydro

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What you also need to investigate/consider, is the renewable technology proposed likely to be eligible for Government assistance in the form of Feed in Tariffs (FITs)or the new proposed Renewable Heat Incentive Tariff scheme.

It has recently come to our attention that projects receiving HCA funding may not be eligible participate in the Governments FITs programme.

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- Significant improvements in 'U' values are required to roofs, walls, floors and windows/doors to achieve compliance prior to introduction of renewable technologies, to meet the recognised methods of achieving compliance criteria for SBEM (Simplified Building Energy Model) and SAP (Standard Assessment Procedure) calculations.

– Significant improvements in minimum standards for internal lighting, requiring careful selection and design of lighting systems :

Type of Lighting	2006	2010	% Improvement
High occupancy areas : office, kitchens, corridors, etc	40 luminaires lumens per circuit Watt	55 luminaires lumens per circuit Watt	37.5%
Low occupancy areas : stores, plant rooms, etc.	40 lamp lumens per circuit Watt	55 lamp lumens per circuit Watt	37.5%
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Note : Luminaire lumens per circuit Watt takes into account how good the light fitting is at transmitting the light created by the lamp.

– Requirement for automatic meter reading, of at least 90% of the estimated annual energy consumption of each fuel to be assigned to the various end-use categories (heating, lighting, etc.) if :

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Generally this means sub-metering the following :

Gas – incoming meter, heating, hot water (if separate gas fired water heaters), kitchen, laundry, etc.

Electricity – Incoming meter, lighting and power separately by floor, external lighting, mechanical plant, laundry, kitchen, etc.

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  This will provide information with regard to the extent of any off/ on site infrastructure implications, which could be significant if for example an electricity sub-station requires upgrading, etc. with obvious serious potential cost implications.

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  - How can fire detection/suppression systems be incorporated consider plant locations and distribution of potentially large bore pipework, storage tanks, etc.

- Review requirements for inclusion of fire suppression systems ie. sprinklers/misting system

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  – Is this a requirement in respect of Building Regulations and/or specific buildings insurance requirements, etc.

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