

15. Health and wellbeing

15.1 Background information on the current situation in Leeds

15.2 Noise nuisance can have a large impact on people's quality of life and can affect people living, working or visiting in noisy areas. There are also potential health issues associated with disturbed sleep, stress, etc.



Table 15.1: Noise complaints received in Leeds

Noise complaints received	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Domestic	1708	1725	1958	3659 *	No data	4311	4860	5406
Of which out of hours							3162	3324
Commercial/industrial	976	822	820	1037	No data	2697	758	878
Of which out of hours							255	331
Total	2684	2547	2778	4696	No data	7008	5618	6284

15.3 External private open space can be important. They may include allotments and gardens, which can contribute to sustaining biodiversity, sustainable drainage, and provide opportunities for composting and creating healthier, more attractive places. Landscape features and greenspace associated

with development should be considered as an integral part of the design process. As well as providing a setting for the buildings, landscaped areas and greenspace can provide useful areas for amenity and wildlife, infiltration areas for surface water and an opportunity to retain existing features such as trees and hedgerows.

* 24 hour service was introduced April 2001, covering complaints occurring during the weekend and Thursday and Friday nights. It does not include commercial/ industrial related complaints.

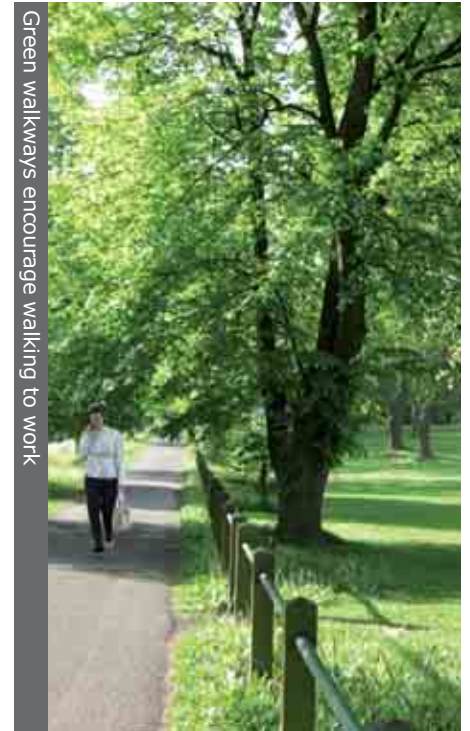


CASE STUDY: LILAC

LILAC is a pioneering project which aims to build a community of 20 homes and a common house to high ecological standards using co-housing design principles and aim to be permanently affordable through the formation of a Mutual Home Ownership Society (MHOS). The LILAC project, which stands for Low Impact Living Affordable Community, has designed the homes to be super-insulated, use natural and locally sourced materials, such as straw and timber, and makes use of heat from the sun to warm the houses and reduce energy bills.

One of the main benefits to this design, aside from the ecological advantages, is the increased sense of community provided by the mixture of private dwellings and shared facilities. The common house includes communal facilities such as a meeting space, kitchen, laundry, play area, guest bedroom and a workshop. These shared facilities also help reduce energy use and save money for residents. Included in the concept design is limited on-site parking, cycle storage and a car share scheme.

Proposed scheme designed by White Design for LILAC



Other Case Studies to refer to:
 – Greenhouse p16
 – Allerton Bywater p33
 – New Beverley School p102

15.4 One of the current key values outlined by Leeds City Council is 'Treating People Fairly' (see 3.13). With this in mind it is imperative that all new development consider the needs of all users (including those who have become disabled by the environment) to ensure that no one is discriminated against. It should be noted that failure to consider such issues at a design stage may result in costly developer adaptations at later stage.

15.5 Adhering to the latest best guidance on accessibility and inclusion, as stated document such as in British Standard BS8300, Part M of the Building Regulations, Sport England Guidance etc, is expected for planning approval. Furthermore, it is important

to recognise that standards are gradually increasing and therefore exceeding the current expectations will reduce the risk of future adaptations and is a key part of designing and constructing the most sustainable buildings.

15.6 The CSH includes four issues in this category whose aims are:

Day-lighting	To improve the quality of life in homes through good daylighting and to reduce the need for energy to light the home
Sound	To ensure the provision of improved sound insulation to reduce the likelihood of noise complaints from neighbours
Private space	To improve the occupiers' quality of life by providing an outdoor space for their use, which is at least partially private
Lifetime homes	To encourage the construction of homes that are accessible to everybody and where the layout can easily be adapted to meet the needs of future occupants.



CASE STUDY: Rutland Lodge Medical Centre

Rutland Lodge has been designed as a healthy building to house a new medical centre. It features solar panels for hot water, photovoltaic panels for electricity and large south

facing windows for solar gain. Recycled and filtered rainwater is used to flush the toilets.

Designed by OSA Architects (now Stack Architects)

15.7 Day lighting

15.8 Measures that can be taken to improve the quality of life in buildings through good daylighting and to reduce the need for energy to light buildings include:

- ✓ A room will have a day-lit appearance if the area of glazing is at least 1/25th of the total room area;
- ✓ Areas of rooms without a direct view of the sky are likely to have a low level of daylight;
- ✓ Where windows are not possible, consider roof lights or light tubes (also known as light pipes, sun pipes, solar pipes, solar light pipes, or daylight pipes) to let in natural daylight;
- ✓ Making maximum use of natural lighting and ventilation. A plan depth of up to 13m allows for natural daylighting and ventilation from windows on both sides;
- ✓ To allow natural ventilation, windows should be able to be opened securely at high and low levels of the building;
- ✓ The use of atria and glazed courtyards in larger buildings will increase natural lighting levels and can be used to induce a stack ventilation effect, but these spaces should not be fully heated;
- ✓ Large single storey buildings can be designed with rooflights to introduce natural daylight;
- ✓ Wind towers, associated with a central atrium, can be used to provide natural ventilation for larger buildings, such as offices and shopping centres.



- In commercial buildings excessive solar gain can add to the heat generated by lighting and equipment and lead to over heating. Avoid the need for air conditioning by incorporating shading features such as louvres, external blinds and large roof overhangs;

CASE STUDY: St Mary's Close Live/Work Studios, New Wortley, Leeds

This terrace of five family houses incorporate live/work studios and have been designed to enable flexible living and working under one roof. On completion in 2005 they achieved an Eco-Homes 'Excellent' rating and are also built to Lifetime Homes criteria.

Being highly fuel efficient, with provision made for zoned heating, they aim to cost just £3 a week to run in energy costs. They were also designed to allow for future conversion to solar energy.

Designed by Brewster Bye Architects for Yorkshire Housing





CASE STUDY: Wellington Place, Leeds

'Green in the City' is a temporary works project undertaken by MEPC to allow a vacant building site to be utilised by the community. The football pitches are used every night and the allotments have proven very successful. The tree-lined boulevard is currently being completed ahead of any development.

Developer: MEPC

CASE STUDY: Gipton Housing, Leeds

This new affordable housing scheme in Gipton, Leeds, features PV panels and a carefully designed layout with an emphasis on solar orientation to maximise sunlight. Where space is limited, Juliette balconies offer a way of engaging with the outdoor environment.

Designed by EDAW and Knapton & Knapton, for Bellway and Leeds City Council



15.9 Sound insulation

15.10 Measures that can be taken to provide improved sound insulation to reduce the likelihood of noise complaints from neighbours include:

- ✓ Ensure adequate levels of sound insulation in floors and walls;
- ✓ Design noisy areas (eg stairs, lifts, circulation areas) away from sensitive areas (eg bedrooms);
- ✓ Insulate noisy plant rooms;
- ✓ Use at least double glazing to help reduce noise and reduce heat loss;
- ✓ Consider how ventilation systems will operate in noisy areas. Alternatives to opening windows may have to be considered;
- ✓ Make use of noise bunds and landscaped earthmounds to protect development from noise sources;
- ✓ Incorporate low noise road surfacing.

15.11 Private space

15.12 Measures that can be taken to improve the occupiers' quality of life by providing an outdoor space for their use, which is at least partially private include:

- ✓ Private space should be easily accessible for disabled people and wheelchair users in particular;
- ✓ The site layout should seek to provide a hierarchy of spaces from public to private;
- ✓ Structural landscape works or features should be used to modify microclimate and to reduce noise from roads;
- ✓ Rear gardens should be designed to have maximum privacy and, where possible, to provide space for food growing and kitchen waste recycling;

- ✓ Landscape design should seek to minimise opportunities for crime;
- ✓ Consideration should be given to the contribution of site landscaping to nature conservation;
- ✓ Significant areas of tree planting can act as air filters and also absorb CO₂. Planting is therefore particularly important adjacent to main roads;
- ✓ Species appropriate to the location should be selected for planting. Considerations include value for wildlife, the mature height and spread of trees and the distance to existing and proposed buildings, structures and services;
- ✓ Developers will be expected to make provision for the long term maintenance of site landscaping;



- Landscape areas should be designed, where possible, to enable infiltration of surface water from the development and to detain floodwaters;
- Avoid plant species that require large amounts of water;
- Hard-wearing surface treatments will be needed where outdoor spaces are likely to be used more in warmer temperatures. However surfaces should be permeable (eg gravel or paved) to avoid increased water runoff and should also be chosen to avoid creating dust and soil erosion;
- Help to reduce the urban heat island effect e.g. by planning green space and using appropriate shade when locating your development. Provision of shady areas will be particularly important as people spend more time outside thereby increasing their risk of exposure to solar radiation which can cause skin cancer;
- As people spend more time outside, it will be important to design outdoor space so that the risk of noise nuisance is minimised;
- In higher density developments where gardens cannot be provided, balconies, roof gardens and green links to nearby green spaces should be included;
- Root barriers can help to deal with risks of subsidence from existing mature trees.



Allotments provide exercise as well as fresh food

“Where do we sit outdoors in the garden on a hot day? Usually, under the shade of a tree. Why? Because the air is cooler – estimates suggest a mature tree can reduce the local air temperature on a hot summer day by 10°C (18°F). Asthma rates for children fall by a quarter where tree populations are high. Trees are 24/7, living, air-conditioning systems, absorbing carbon dioxide, dust, pollen and other particulates and releasing oxygen from photosynthesis.

In much of the USA, large deciduous trees are commonly planted around houses. Their shade is valued for reducing air-conditioning costs in summer, while by dropping their leaves in winter they allow sunlight in, enabling the opposite, a warming effect”

Tony Kirkham,
Head of the Arboretum,
Royal Botanic Gardens, Kew

15.13 Lifetime homes

15.14 All homes can include measures that may be used to ensure they are accessible to everybody and where the layout can easily be adapted to meet the needs of future occupants and allow people to stay in their homes should individual circumstances change. Lifetime home considerations cover:

- Car parking;
- Distance between car parking and home;
- Approach to entrances;
- Entrance design;
- Stairs;
- Doorways and hallways;
- Circulation space;
- Living room location;
- Provision for entrance level bed-space;
- Entrance level WC and provision for drainage;
- Ability to incorporate hand-rails;
- Provision for stair lift or lift;
- Provision for hoist between bedroom and bathroom;
- Bathroom design;
- Living room window design;
- Switches and controls.



Collingham



CASE STUDY: 'ENVAC' Mobile Vacuum System at Hammarby Sjostad, Stockholm

Movac is a particularly cost-effective, user-friendly and environmentally-friendly waste handling system for urban environments and suburban areas compared with other mobile collection systems. This system is ideal for recycling as the inlets can be placed closer to the user, making sorting at source easier and more comfortable.

The waste inlets are positioned centrally. Users throw their waste bags into readily accessible waste inlets located indoors or outdoors. The waste is then stored in closed underground screw tanks which are linked together with docking points by means of a network of underground pipes. Docking points are positioned on the periphery. These docking points are positioned in such a way as to ensure that the vacuum truck picking up the waste does not have to drive into gardens or narrow

streets. The underground tanks are emptied regularly depending on the amount of waste discarded and the storage capacity of the screw tanks. The vacuum truck which empties the tanks via the docking points creates a vacuum in the pipe system. Once this vacuum has reached a required level, the screws in the tanks are activated automatically. The waste is screwed and sucked seamlessly out of the screw tanks, through the pipe system and into the vacuum truck, where it is compressed.



Other measures that will assist with keeping occupants safe include:

- Ensure that there are safe access routes above likely flood levels and that routes are clearly marked;
- Negotiate with utilities and others over the climate resilience of services and infrastructure to the development.

15.15 Further information

- The council's noise service investigate a wide range of noise complaints from a variety of sources. Common examples include loud music, barking dogs, and burglar alarms. See www.leeds.gov.uk
- 'Wheelchair Housing Design Guide' (2nd edition) National Wheelchair Housing Association group. 2006. Available from www.brebookshop.com
- Design of buildings and their approaches to meet the needs of disabled people. BS 8300. British Standards Institute 2009. Available from www.bsigroup.com
- DD 266:2007 Design of accessible housing. Lifetime home. Code of practice. Available from www.bsigroup.com
- Access Audit Handbook. Alison Grant Centre for Accessible Environments. 2005. Available from www.ribabookshops.com
- Building for Life Standards. CABE. 2003. www.buildingforlife.org
- Lifetime Homes standards. www.lifetimehomes.org.uk
- The Disability Discrimination Act 1995. www.direct.gov.uk
- The Building Regulations 2000 – Approved Document M – Access to and use of Buildings 2004 Edition www.planningportal.gov.uk
- Access for Disabled People – Design Guidance Note – Sport England www.sportengland.org
- Sign Design Guide – JMU and the Sign Design Society www.signdesignsociety.co.uk
- For guidance on successfully integrating trees into development see www.leeds.gov.uk