



noise

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Key

Different development sectors are colour coded below. To aid navigation through the case studies in this Guide, the colour codes denote the applicability of case study sustainability solutions to each of the various development sectors. The colour coding can be found in the bottom corners of each of the case studies.



Home owner



Residential



Commercial



Retail



Infrastructure



Education



Health



Leisure

Hertfordshire noise facts

Noise complaints in Hertfordshire are predominantly related to domestic noise - more than 70% fall under this category. Construction and commercial operations also generate a large number of noise complaints. (Quality of Life, 2009)

Hertfordshire has two international airports, Luton and Stansted, at its borders. In 2009, Hertfordshire residents raised 68% of aircraft noise complaints related to Luton and 48% related to Stansted. This was a reduction of 5% on the previous year. (Quality of Life, 2009)

The **Considerate Constructor Scheme** was created by the construction industry to improve its image and lessen construction site disturbance and disruption. A freephone line (0800 7831423) has been set up to report environmental disturbances (including noise) from construction sites.

Health and Safety Executive estimates that **over 1 million employees in the UK are exposed to levels of noise that are putting their hearing at risk.**

Within the **Chilterns Area of Outstanding Natural Beauty** a network of quiet lanes has been developed to minimise the adverse impact of noise, pollution, danger and disruption from vehicular movements.

Traffic often causes noise pollution issues for local residents. **Some traffic calming safety measures, such as speed bumps, increase traffic noise due to braking and re-acceleration of vehicles.**

Unwanted **background noise** can effect people's wellbeing. **The World Health Organisation states that noise levels greater than 30dB LA eq in rooms induced sleep disturbance.**

Noise can have a dramatic effect on wildlife routines, behaviour and breeding patterns.

The World Health Organisation states: **at night, sound pressure levels at the facades of living spaces should not exceed 45 dB LA eq** so that people can sleep with bedroom windows open. The National Noise Incidence Survey 2000 conducted by BRE showed that 67% of the UK population live in dwellings where this level is exceeded.

Between 1984/85 and 2004/05, **complaints about noise from domestic premises increased fivefold and complaints about noise from road works, construction and demolition works increased fourfold.** Complaints about traffic fell by 22% over the same period. (National Statistics, Social Trends, No.37, 2007 edition)

Basic principles

Principles of noise pollution

Noise is generally considered to be unwanted sound and sound can be considered unwanted due to reasons of volume, type of noise, the time of day, or any factor making sound unpleasant or annoying. As this is often subjective noise pollution can be controversial.

Noise pollution impacts on health and wellbeing by causing disturbances that create poor quality environments. Noise pollution in residential environments can cause physical and mental health deterioration. In the workplace and educational environments, these symptoms can accompany reduced productivity and quality of work.

The majority of noise complaints in Hertfordshire are associated with domestic noise, however other significant sources of noise include:

- entertainment noise
- industrial/commercial noise
- construction noise
- road traffic - Hertfordshire has many motorways and secondary distributor roads such as the M25, M1, A1, A414 and A10
- flight paths - Stansted and Luton airport flight paths pass over parts of Hertfordshire; both airports have significant plans for increased capacity

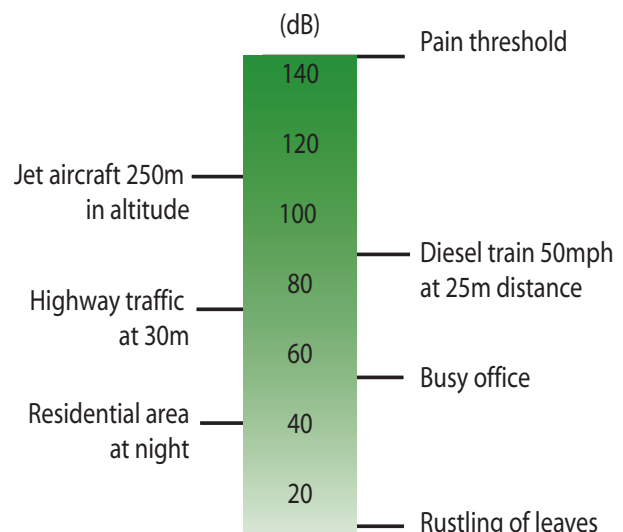
Household and employment growth is forecast for Hertfordshire. It is likely that noise considerations will become increasingly significant as the living and working populations increase.

The main emphasis of current noise standards and regulations is to minimise annoyance. Although defining noise pollution is often subjective, complaints are

taken seriously as noise pollution intrudes on individuals' health. This is supported by this World Health Organisation definition:

“Good health and well being require a clean and harmonious environment in which physical, physiological, social and aesthetic factors are all given their due importance. The environment should be regarded as a resource for improving living conditions and increasing well being.” (WHO 1990)

Examples of typical noise levels



Did you know?

Sound is a wave motion that carries energy from one point to another through an elastic solid, liquid or gas (air). The waves are produced by a vibrating object producing pressure fluctuations. As those reach the ear, the eardrum vibrates in direct response, and these pressure fluctuations are heard as sound. For the sound to be audible, the wave frequencies must be in the range of 20 to 20,000 Hz (pulses per second). Sound pressure level is measured in decibels (dB).

Principles of noise pollution

In addition to potentially causing deafness, noise can also contribute to other health risks. For example, the World Health Organisation states that working in environments with high levels of industrial noise creates a greater risk of cardiovascular disease.

Noise in the built environment has the following primary sources:

- the construction and demolition process
- subsequent building operations
- domestic activities in adjoining properties such as adjacent flats
- activities in adjoining commercial premises such as bars, etc.

Consequently noise should be considered as early as is practicable at the planning/outline design stage of any development.

construction noise

Construction sites can act as significant sources of noise pollution and require careful management. Construction site operational noise can still have negative health and productivity impacts on both site workers and occupants of neighbouring buildings.

Construction noise is regulated by legislation such as the Control of Noise at Work Regulations and the Control of Pollution Act 1974. Guidance on controlling noise and vibration on construction sites and the legislation covering their control can be found in Parts 1 and 2 of BS 5228. The lower exposure action level is 80dBA for an equivalent 8hr working day.

Frequent causes of construction site noise are:

- heavy machinery and tools used on site
- traffic associated with transport of materials and surfacing works
- consequential traffic congestion
- construction worker raised voices, mobile phones, radios, etc

The following table lists typical sources of construction site noise:

Plant or machine	Likely noise level dB(A)**
Asphalt pavers	<80
Concrete drills	>80
Concrete grinders / cutters	~100
Concrete scabblers	100
Pile drivers (traditional methods)	>100
Pneumatic hammers and breakers	>100
Soundblasting plant	>80
Shot-firing gun (cartridge tools)	>120*
Dumpers	>80
Excavators (JCBs etc)	<80
Rollers	>80
Concrete vibrators	>80
Normal conversation	~60

* Short, very loud impact noises do most harm

** The first action level under the Control of Noise at Work legislation is 80 dBA

Principles of noise pollution

sound transmission in buildings and the benefits of good acoustic design

Noise transmission into dwellings from external sources is to a large extent controlled by the planning process (e.g. PPG24).

Sound transmission between dwellings is controlled by implementation of Building Regulations. Approved Document E Building Bulletin 92 (BB93) contains the minimum requirements for acoustic conditions in schools. Good planning and design can significantly enhance the acoustic environment in buildings. Time spent in the early stages of a project is often a good investment as remedial treatments in finished buildings to improve sound insulation or the acoustic environment in can be costly.

There is no single solution for controlling sound transmission in buildings. Both heavy masonry and lightweight timber or steel stud building systems can have good sound insulation, Guidance can be found in Approved Document E and Robust Details Part E.

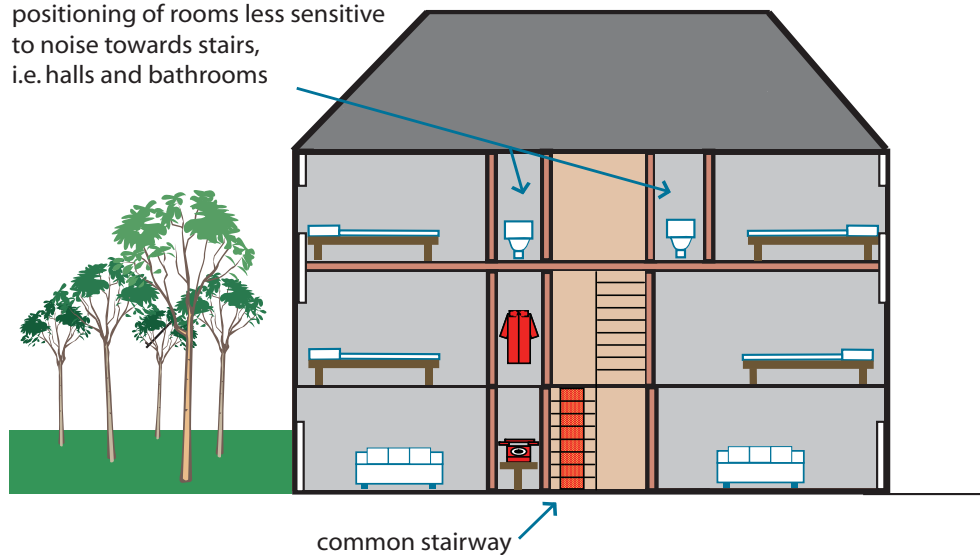
Benefits of noise management

Actively managing and designing out noise delivers the following benefits!

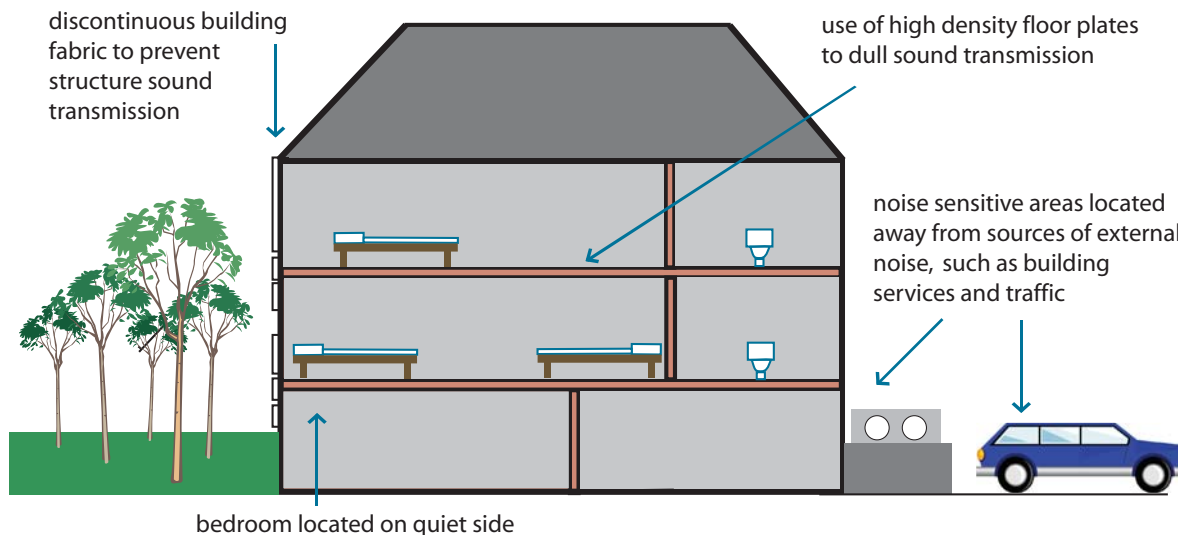
- fewer noise complaints
- improved health and well being benefits for building occupants including undisturbed sleep and mental wellbeing
- increased productivity in places of work and education
- less need for expensive retrofitting of acoustic insulation
- better quality of life
- reduced need for costly remedial acoustic works and legal action/business disruption

Positioning of rooms

positioning of rooms less sensitive to noise towards stairs, i.e. halls and bathrooms



Noise insulation



Solutions

The following solutions set out construction and operational phase opportunities and best practice. Most solutions are easiest to implement and most effective when incorporated at the design stage.

Environmental Health Officers within the district/borough councils of Hertfordshire are responsible for environmental health matters. Contact details can be found in the further information section.

construction phase

Construction noise is regulated by legislation; as noise from construction site operations can have negative health and productivity impacts for both site workers and occupants of neighbouring buildings.

considerate constructors scheme

In addition to adhering to legislative requirements, contractors can sign up to the best practice Considerate Constructors Scheme (CCS) code of good practice. Many construction companies and clients automatically all their sites with the CCS.

The Scheme covers all aspects of site management, of which noise is one. Registered sites are randomly audited by CCS monitors. In addition, all registered sites display posters that set out the Code to which the constructors are committed.

If passers-by wish to comment, the name and telephone number of the Site Manager is clearly displayed, together with the free

phone telephone number of the Scheme administration office.

Complaints received by the CCS are recorded. Information requested covers the name and contact details of the complainant and the nature of the complaint together with the site concerned.

The site manager is informed by a CCS representative of the nature of the complaint and is expected to deal with the concerns of the complainant within two days. In the event of the complaint not being adequately dealt with, CCS pushes the complaint higher up the contractor hierarchy, and ultimately raises it at company director level, to ensure it is appropriately dealt with.

In the case of the company failing to deal with the problem in an effective manner or for any other reason breaching the Code of Considerate Practice, the CCS General Manager will provide a report of the incident(s) to the Chairman of the Steering Group, for his decision to determine whether or not the site should be removed from the Considerate Constructor Scheme.



For more information on the Considerate Constructor Scheme, see www.considerateconstructorsscheme.org.uk

site practices

Best practice noise management techniques which facilitate a reduction or avoidance of noise, or lessen its cumulative effects include:

- avoid site drilling wherever possible. For example specification of cast-in anchors instead of the drill-and-fix type
- keep site grinding, cutting and similar activities to a minimum, using alternatives where possible
- detail mesh enforcement to suit bay sizes rather than cut to suit on site
- specify non-standard concrete blocks, so they are cut off site under controlled conditions
- avoid vibro-compaction of ground as much as possible
- specify the position of construction joints so to limit the size of concrete pours to what can be achieved in two hours
- design for and specify the quieter methods of driving piles.

use of off-site manufactured components

In addition to working to legislative requirement, and best practice site management principles, another significant way noise can be reduced on site is to use off-site manufactured components.

Off-site manufacturing of elements such as walls and floors is rapidly gaining favour for a number of reasons, including:

- reduced site generated waste
- reduced on site labour requirement
- reduced construction programme

Reducing on site labour and the construction programme has the added benefit of displacing construction generated noise to more controlled and specifically designed premises, i.e. manufacturing facilities/factories.

Did you know?

More information on the management of site noise can be found in the Construction Industry Council guidance document:
www.safetyindesign.org/design-guides/57-h-20002-noise

building design/ layout

Planning Policy Guidance (PPG24) Planning and Noise, outlines how the planning system guides development to the most appropriate locations. Wherever practicable, noise-sensitive developments are distanced from major sources of noise (such as road, rail and air transport and industrial development).

Designing in effective noise attenuation requires a thorough understanding and active management of incoming and outgoing noises. The first steps are to:

- identify the main sources and receptors of noise
- identify the nearest noise sensitive premises

Design and layout proposals should take into account:

- separation of noise sources from quiet areas by the greatest distance possible
- positioning buildings or rooms with relatively low sensitivity to noise as buffers between noise sources and noise sensitive spaces.
- consideration of the noise insulation properties of all building components. Sound resistant flooring and walling systems are readily available, while thicker doors and double glazed windows provide greater noise insulation
- use of high density materials rather than lightweight materials. Typically heavy masonry and heavy plasterboard give better sound insulation

- positioning of building services – i.e. away from sensitive properties or opening windows
- isolation of structural materials that could transmit noise between the source and sensitive receiver. (eg by using discontinuous construction)

Residential buildings (including hotel rooms and halls of residence) and schools are particularly sensitive to noise. The details of the acoustic requirements for such developments are clearly set out in Building Regulations Part E.

Did you know?

Building Regulations Part E documentation can be found at: www.planningportal.gov.uk/buildingregulations/approveddocuments

building design/ layout

The Part E Robust Details scheme provides an alternative to complying with Building Regulations Part E Requirement E1. The scheme avoids the requirement for pre-completion sound testing in new build attached houses and flats.

Robust Details Ltd (RDL) publish a handbook - *Robust Details Part E Resistance to the Passage of Sound*, which describes the separating walls and floors which may be adopted. All plots using Part E Robust Details must be registered with the RDL to obtain unique reference numbers and construction must follow the exact specifications of the relevant parts of the Robust Details Part E Handbook.

Further information on the scheme and the separating wall and floor constructions currently available can be found at:
www.robustdetails.com

Did you know?

University halls, hotels and hostels all have to comply with the Building Regulations Part E requirement, but are not eligible to use the Robust Details Scheme.

robustdetails

building services

Building services represent a significant source of noise and also provide pathways for sound transmission. Noise should be a core consideration when locating and specifying services.

Noise considerations when designing and fitting building services should include:

- design ventilation ducts such that air velocities are below the thresholds that would cause regenerative noise in internal areas
- select fans for optimum efficiency. When fan noise levels are above the room design noise level, attenuators should be added to the inlets and diffusers.
- select variable speed drives for larger fans. Speeds can be reduced at commissioning stage if over sized.
- size fans and ducts for a low overall system pressure drop
- include silencers or acoustic louvers as necessary to reduce noise emissions on external exhausts
- use antivibration mounts on larger plant to avoid vibration transfer through the structure
- be aware of noise transfer from plant to other building areas via the structure or direct airborne radiation. Ensure that the structure will not transmit noise in this manner or isolate and attenuate the source
- be aware of pipework installations which can transfer pumping noises

- easy access to plant and equipment to allow required maintenance should be included in outline designs

Regular maintenance of plant and equipment can reduce vibration and noise and optimise energy efficiency.

An effective way to manage noise from building services is to locate the services outside the building. The Lloyds Building in London is an example of this; building services are located outside, enhancing available interior space as well as addressing internal noise issues.

However, as external building plant (e.g chillers, ventilation etc) can be a major source of complaint, its location should ensure it does not adversely impact on surrounding buildings.

Acoustic attenuation of railway noise in residential setting

introduction

The social housing project consists of 87 units in a mixture of small terraces and semi-detached houses. The project incorporated several sustainability measures including sustainable drainage, combined heat and power plant and noise control.

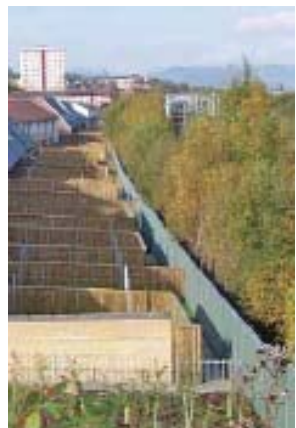
description

The site layout was designed to allow the houses along the boundary of the railway line to act as a sound barrier to the rest of the site. To protect these houses from surrounding noise an acoustic barrier was installed along the edge of the railway line boundary. Sound tests of the trains were carried out and an acoustic specialist calculated what additional noise control would be needed.

The upper floor windows of the houses backing onto the railway had to have an increased glazing specification, however the windows that were in the cut-away roofs acted to deflect sound and did not require additional control.



Photos from project brochure: www.johngilbert.co.uk



project team

Cloch Housing Association Ltd
 Kelvin Homes
 John Gilbert Architects
 J & R Queenan
 Elliot and Co.
 Enconsult

further information

www.johngilbert.co.uk
www.clochhousing.org.uk

Environmental benefits

high acoustic performance in new housing

Application

refer to key

Cost

scheme value £6.2m

Other considerations

not applicable



Acoustic attenuation of factory noise in residential setting

introduction

Ercol is a privately owned furniture manufacturer employing about 350 people. Its new manufacturing facility in High Wycombe includes manufacturing and office space as well as a customer showroom. The site sits in a non-industrial estate location and has residential properties on three sides. Construction was completed in 2002.

description

As furniture manufacturing is a notoriously noisy process, a noise model of the building was developed. A reduction in noise was achieved following the advice of acoustic consultants:

- the entire roof and walls were constructed as noise absorbent panels
- the normally conspicuous, noisy, dust extraction plant is enclosed within the building fabric
- acoustic louvres were fixed over the space containing filter units
- a 160mm mineral wool insulation layer was used for external walls

Noise emissions from the factory were reduced to only 2.5% of a typical factory building.

project team

Ercol Holdings Ltd
 Horden Cherry Lee Architects
 High Wycombe District Council



further information

CABE case study: www.cabe.org.uk
 SEEDA Sustainable Building Awards for the South East 2003

Environmental benefits

factory noise emissions reduced to 2.5% of typical factory

Cost

scheme value £11.5m

Application

refer to key

Other considerations

not applicable





Acoustic attenuation of recycling operation noise in residential setting

introduction

The Hornsey Street Waste and Recycling Centre in North London is part of the regeneration package funded by the new £357 million Arsenal stadium. The £60 million waste and recycling centre was built on a site which has been derelict for 20 years and will provide a facility for North London Waste Authority's transfer station and Islington Council's civic amenity site, both of which had to be relocated to make way for the new stadium.



www.solar-shading.co.uk/new/case_studies/hornsey_street.htm

description

The building required a high environmental specification, specifically on the issue of noise reduction. To solve the problem of noise resulting from recycling operations, acoustic louvers were fixed on the external walls. These not only allow fresh air intake but also generate no additional noise. This provides a more comfortable working environment within the building and protects the neighbouring residents living on the fringe of the development from additional noise nuisance.

The forty 305mm deep external acoustic R-Type louvres run along both sides of the building and were manufactured to fit the building's openings. Seventeen plenums (4.6m wide by 3m tall) of 100mm thick steel acoustic panel work and splitters were positioned behind the louvres.

project team

North London Waste Authority
 Sir Robert McAlpine
 Robinson Architects
 Levolux Louvres

further information

www.solar-shading.co.uk

Environmental benefits

increased fresh air intake
 noise attenuation

Cost

not available

Application

refer to key

Other considerations

not applicable

High performance acoustic design

introduction

Colman House is a student accommodation block at the University of East Anglia. It opened in September 2004 as a part of the expansion of the Norwich campus. With buildings of this nature, the aim is to provide an optimum level of accommodation without compromising residents' quality of life, or the function of the building. Insulation against noise is an important factor.

description

University halls, hotels and hostels all have to comply with the Building Regulations acoustic Part E requirements of 2003, and are not eligible to use the Robust Detail Scheme (see Solutions section), instead requiring pre-completion testing (PCT) to be undertaken.

The building was constructed using the tunnel form construction method, creating a monolithic structure. This system is replicable, therefore may be used in future projects.

Acoustic testing took place in August 2004, assessing two carpeted 250mm concrete separating floors, without ceiling finishes, and two 180mm concrete separating walls. Both floors exceeded the regulations and also met the levels which would be required by Robust Details. Further potential acoustic control could have been achieved had a floating floor and suspended ceiling been in place. The walls had 2mm plaster skim finishes but no other wall linings, and also



met the PCT requirements. Performance could also have been stronger had further wall linings been in place.

project team

University of East Anglia
LSI Architects
White Young Green
RG Carter/John Youngs

further information

www.lsiarchitects.co.uk/

Environmental benefits

acoustic performance exceeded New Part E Regulations

Cost

not available

Application

refer to key

Other considerations

not applicable



High performance city centre housing acoustic design

introduction

The Brewery Wharf apartment development in Leeds is a 9,600m² site containing 326 apartments in five buildings on the banks of the River Aire. Amongst the challenges faced by the designers was a planning consent requirement for acoustic performance to exceed the new Part E regulations.

description

Concrete specifications were such that high ceiling heights could be achieved, avoiding the presence of bulkheads and beams in internal spaces. Concrete also has excellent acoustic properties. Project requirements were set at a maximum of 34-35dB for external walls and windows and a 53dB airborne level difference for internal/party walls. Blockwork walls and a floor acoustic screed helped achieve these targets, while the flat slab and concrete frame construction provided an effective sound barrier.

The result is a modern inner city residential development insulated against exterior and interior sources of noise, ensuring a high quality of life for inhabitants who enjoy the benefits of living in the heart of a city, without accompanying noise intrusion.



project team

Barratt Leeds
Totty Construction Group
Robinson Architects
Robinson Consulting
Turner & Townsend
David Ashley

further information

www.concretecentre.com/main.asp?page=1109

Environmental benefits

acoustic performance exceeded New Part E Regulations

Cost

not available

Application

refer to key

Other considerations

not applicable



Construction noise best practice

introduction

This 33 storey tower on Canary Wharf, London provides 1 million square feet of office accommodation, with accompanying underground car parks and landscaping.

description

The project involved 70,000 construction workers and took place amongst existing office buildings, so required comprehensive noise management.

Two daily quiet periods were scheduled, and businesses were notified of any particularly noisy periods in advance. Businesses were also able to book quiet periods when this was essential for their operations. The project team was awarded a Considerate Constructors Scheme silver award for its efforts in considering the needs of existing neighbours.

The project also incorporated segregation and recycling of materials, use of water transport to avoid traffic congestion and has incorporated one of the city's highest green roofs, recreating an ecological habitat 34 floors above street level.

project team

HOK International Ltd
Canary Wharf Contractors Ltd

further information



www.considerateconstructorsscheme.org.uk/html-awardsearch/search.asp?ID=9033
www.cwcontractors.com/index.asp

Environmental benefits

Considerate Constructors Scheme silver award for considering the needs of existing neighbours
use of water transport to avoid traffic congestion

Cost

not available

Application

refer to key

Other considerations

not applicable



High performance city centre acoustic design

introduction

Broadgate Arena is a mixed-use development built on a former car park and railway station; comprising offices, shops and restaurants. The development was completed in 1988.

description

The scheme included a planted cylindrical screen, with the shops and restaurants designed to be part of the screen.

The screen protects the central square from the noise from the adjacent busy streets and also provides better acoustics for activities taking place in the arena, such as concerts.

Vehicular circulation below ground leaves the streets and square free from traffic noise.

The screen also provides a much needed city centre wildlife habitat.

project team

Rosehaugh Stanhope Developments Plc
Arup Associates
Arup Acoustics

further information

www.broadgatestates.co.uk/



Environmental benefits

central square protected from street noise
screen provides ecological habitat

Cost

not available

Application

refer to key

Other considerations

not applicable

Acoustic attenuation of aircraft noise in education

introduction

The Royal Docks School is situated near London City airport and experiences high noise levels from planes and nearby roads.

The school is inclusive and had to be designed to meet the needs of hearing impaired students who require a low ambient noise level.

description

Financial and environmental (energy and noise comfort) considerations meant that natural ventilation was preferred to acoustically sealing the building. This challenge meant that a purpose-designed system was needed to screen external noise and maintain the required internal environment conditions.

Acoustically insulated inlet vents allow fresh air into classrooms. Air exits via passive stacks high at the rear of the room into a central duct and up to the roof outlet.

An aerofoil over the outlet increases the stack effect when wind blows over it, giving good all weather performance.

The classrooms are also designed to reduce mid-frequency reverberation and reinforce direct speech.

project team

London Borough of Newham
Education Department
Newham Council Property & Design
Consultancy
The English Cogger Partnership

Environmental benefits

excellent internal acoustic performance
natural passive ventilation uses less energy than a fully sealed building

Cost

not available



further information

www.london.gov.uk/mayor/strategies/noise/docs/urbandes/15royaldocksschool.pdf
www.propertyanddesign.com
www.tecp.co.uk

Application

refer to key

Other considerations

not applicable



Futher information and references

- 1 The Association of Noise Consultants:
6 Trap Road
Guilden Morden
Royston SG8 0JE
Telephone:01763 852958 www.association-of-noise-consultants.co.uk/

- 2 Noise Mapping England
DEFRA website
identifies local noise levels in detail www.noisemapping.org/maps/default.asp

- 3 Construction Industry Council
26 Store Street
London WC1E 7BT
Telephone: 020 7399 7400 www.cic.org.uk/home/index.shtml

- 4 CDM Guidance for Designers: Designing to make
management of noise in construction easier www.safetyindesign.org/designguides.html

- 5 Considerate Constructor Scheme
PO Box 75
Ware SG12 9UY
Telephone: 01920 485959 www.ccscheme.org.uk

- 6 National Society for Clean Air & Environmental
Protection
NSCA
44 Grand Parade
Brighton BN2 9QA
Telephone: 01273 878770 www.nasca.org.uk

- 7 Noise Abatement Society
44 Grand Parade
Brighton BN2 9QA
Telephone: 01273 878770 www.noiseabatementociety.com

- 8 British Standards Institute www.bsi-global.com
Sound Insulation and Noise Reduction for
Buildings Code of Practice BS 8233 1999
Method for Rating Industrial Noise Affecting Mixed
Residential and Industrial Areas BS 4142 1997
Telephone: 020 8996 9000

- 9 Guidelines for Community Noise www.who.int/docstore/peh/noise/guidelines2.html
The World Health Organisation

Further information and references

- 10 Building Research Establishment
BRE
Garston
Watford WD25 9XX
Telephone: 01923 66400
www.bre.co.uk/acoustics
- 11 Planning Policy Guidance Note 24: Planning & Noise
Department for Communities & Local Government
Eland House
Bressenden Place
London SW1E 5DU
Telephone: 020 7944 4400
www.communities.gov.uk
- 12 Part E Building Regulations: Resistance to the Passage of Sound
Department for Communities & Local Government
Eland House
Bressenden Place
London SW1E 5DU
Telephone: 020 7944 4400
www.communities.gov.uk
- 13 Robust Details Limited
Davy Avenue
Knowlhill
Milton Keynes MK5 8NB
Telephone: 0870 240 8210 (Business)
0870 240 8209 (Technical support)
www.robustdetails.com/
- 14 Environmental Health Officers within the District/Borough Councils in Hertfordshire are responsible for environmental health matters. Contact information for each local council can be found here:
- | | |
|-----------------------------------|--|
| Broxbourne Borough Council | www.broxbourne.gov.uk/internet |
| Dacorum Borough Council | www.dacorum.gov.uk/dbcweb/ |
| East Herts District Council | www.eastherts.gov.uk/ |
| Hertsmere Borough Council | www.hertsmere.gov.uk/ |
| North Herts District Council | www.north-herts.gov.uk/ |
| St Albans City & District Council | www.stalbans.gov.uk/ |
| Stevenage Borough Council | www.stevenage.gov.uk/ |
| Three Rivers District Council | www.threerivers.gov.uk/ |
| Watford Borough Council | www.watford.gov.uk/ccm/portal/ |
| Welwyn Hatfield Council | www.welhat.gov.uk/ |