



**SHETLAND ISLANDS COUNCIL**

# THE SHETLAND HOUSE

Guidance for Housing  
Development in Shetland



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**Produced by**

**Shetland Islands Council  
Development Plans  
Planning Service  
Grantfield  
Lerwick  
Shetland  
ZE1 0NT**

**Tel: 01595 744800**  
**[www.shetland.gov.uk](http://www.shetland.gov.uk)**

**You may contact the Development Plans Team at:**

**email: [development.plans@shetland.gov.uk](mailto:development.plans@shetland.gov.uk)**



# THE SHETLAND HOUSE

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- 1) Examples of Shetland houses
- 2) Scottish Executive Planning Guidance
- 3) Shetland house evolution
- 4) Useful addresses
- 5) Other Planning issues: Housing Zones & General Requirements
- 6) Road, access and parking standards
- 7) Septic tank guidance
- 8) Examples of house designs
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**This Guidance is just one of a suite of documents prepared by the  
Development Plans Team to help guide development:**

## **Guidance Notes**

### **The Shetland House**

*Guidance for Housing Development in Shetland*

### **Housing & Colour**

*Guidance on using Colour in Shetland*

### **Towards Sustainable Construction**

*Guidance on Sustainable Design and Construction for  
Dwellinghouses and other Buildings*

### **Towards Better Design**

*Guidance on Design*

### **Renewable Energy Technologies**

*Guidance on Domestic Renewable Energy*

### **Reducing Carbon Emissions in New Development**

*Guidance for developers*

### **Masterplan Development Handbook**

*A Best Practice Guide for Developers and Communities*

### **Design Statements**

*A good practice guide*

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## **Interim Planning Policy**

### **Towards Sustainable Construction and Better Design in Shetland**

*Location, design and amenity guidance and policy for housing and  
other development in Shetland*

# **INTRODUCTION**

1.1 The aim of this manual is to offer broad guidance covering every aspect of designing and developing a house in Shetland. We hope it'll answer many of the questions you may have about the procedures involved in building a new house or renovating and extending an older property. We also suggest how to choose a site and develop it to best advantage. The guidance should also offer suggestions about how to make your new house look good and work well.

## **YOUR HOUSING NEEDS**

1.3 Buying or building a house is generally the single most important investment that people make. As the Shetland housing market is quite small, the choice of what to buy is limited. Whether you want to build a new house or renovate/extend an older one, we hope you'll find this guidance useful.

## **WHERE TO LIVE?**

1.4 The decision about where to live, if you have a choice, will depend on whether to live within a settlement or in a rural situation. Another locational factor in deciding where to live will be proximity to services and amenities. In thinking about this, its important to consider how your needs may change over time. People with children, or the elderly, will generally have more need of public services like schools and healthcare.



rural.....or.....urban location?

## **FINANCING THE PROJECT**

1.5 Your principal funding will most likely come from a loan or mortgage. However, grants may sometimes be available, depending on the nature of your project. If an existing property is to be renovated, Housing Repair Grants may be available from the SIC Environmental Health Service. Older traditional properties may also be eligible for Conservation Grants from SIC Conservation Service and the Shetland Amenity Trust\*. If a new house is being built on crofting land to work the croft, then grants or loans are available from the Crofters' Commission\*. There is more about buying land and special procedures in connection with crofting land at paragraph 2.14.

\*addresses in Appendix 4

# **EARLY STAGES**

## **CHOOSING A SITE**

2.1 When choosing a site, you should first consult the Shetland Local Plan [2004] or visit the Council planning office (in the Infrastructure Services Department at Grantfield, Lerwick), to determine whether the desired location is zoned for possible housing, (for more about housing zones see section 2.11).

2.2 The new house should be carefully located. Thoughtful siting and orientation will minimise the building's visual & physical impact on the landscape, as well as maximising views, shelter & solar-gain. It should sit in, not on, the landscape.



Sitting on,



or sitting in, the landscape.

2.3 Proximity to social and welfare facilities will also be a pertinent factor in choosing a house site. Schools, shops, library, Post Office, bus routes, doctors, leisure facilities and care facilities such as home helps/meals on wheels may all be relevant considerations.

2.4 The next step is to determine whether physical factors may affect the development. These include: flood risk (see sections 2.21 + 4.48), stability of coastline (2.21), high-quality agricultural land (2.19), valuable open space (2.20), outstanding landscapes (3.10), archaeological remains (6.20), slope & topography (3.3), impact on existing development (3.4), SSSIs (Sites of Special Scientific Interest, 3.7), sunlight (2.7 + 4.44) and shelter (2.7).

2.5 Costs relating to site infrastructure and services must also be considered at the outset. You will need to find out about the location of electricity and water services and about sewers, if available. If the installation of a septic tank is required, it cannot be within 5m of a single house, 5m of a boundary or 10m of a road/ditch/watercourse. Not all sites are suitable for septic tank drainage. It is necessary to demonstrate, through a percolation test (or sea-outfall subject to consent), that the tank outflow can be properly dispersed. In terrain that is either very rocky or water-logged, conditions may not be satisfactory. See Appendix 7 for guidance on septic tanks.

2.6 If all these factors can be resolved, then the physical siting and orientation of the house must be addressed. The picture above shows how relatively unobtrusively *some* buildings can sit in the landscape. Hilltop or ridge locations should be avoided to stop skyline development dominating the landscape. Locating below the skyline and/or following the natural contours will lessen the visual impact, while also reducing wind exposure.

2.7 Additional tips for locating in the landscape are illustrated in the sketches below:

**A-** Avoid mounding or under-building, as this is costly and increases visual & physical exposure.

**B-** Where possible, cut into the landscape to reduce visual impact & improve shelter.

**C-** Step the development to suit the slope, adapting the building to fit the landscape.

**D-** Maximise passive solar gain via southerly glazed openings; use solar panels (heating water) or photo-voltaic tiles (generating electricity) to maximise solar heating gain; restrict the size of northerly openings to minimise heat loss.

**E-** Avoid frost hollows/boggy/badly drained areas.

**F-** Solar Gain, as D, with conservatories/wall glazing on the southerly aspect, which also improve a house's amenity; and a heavily insulated north wall. Porches, conservatories & lobbies also act as draught excluders.

**G-** New development should not spoil the southerly aspect of existing houses.

**H-** Ridge/hilltop locations are visually and physically too exposed.

**I-** Avoid orientation against the landscape with no regard to contours, weather or scarring of the landscape.

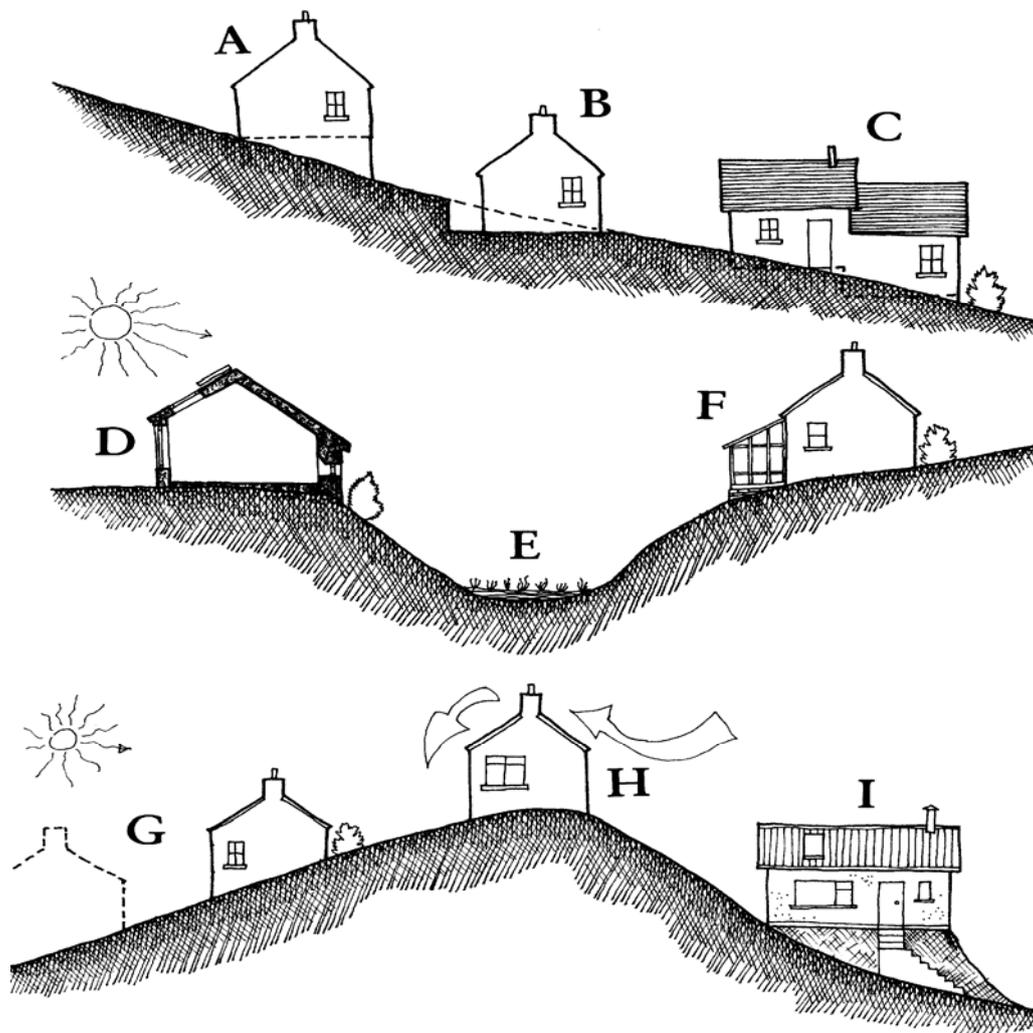


Figure 1: tips for locating in the landscape

2.8 Building within a Conservation Area, or adjacent to a listed building, will also involve special consideration of the design and materials, so that the building will be compatible with the existing buildings and will enhance the local environment. See sections 6.15-19 for more details and permission requirements.

## **PLANNING ISSUES : PLANNING PERMISSION : BUILDING WARRANT**

2.9 “The planning system guides the future development and use of land in cities, towns and rural areas in the long term public interest. The aim is to ensure that development and changes in land use occur in suitable locations and are sustainable” \*

2.10 All of Shetland is zoned according to its suitability for new housing development. These zones are shown on the Shetland Local Plan maps, but we would recommend calling into Infrastructure Services at Grantfield to see a larger map. You can then discuss your proposal with a planning officer, prior to applying for Planning Permission.

2.11 Four housing zones cover Shetland. Appendix 5 describes the zoning arrangement in detail. Zoning arrangements may change from time to time, and were under review at the time of writing, so please make sure you obtain the most up-to-date information.

- In Zone 1, (generally at the core of existing settlements) planning consent will normally be granted if the general requirements are met.
- In Zone 2, new houses will be favourably considered if they are sited to reflect the existing settlement pattern and not on the better quality agricultural land.
- In Zone 3, a new house must be part of an existing building group (2 or more buildings) and must not extend roadside development.
- In Zone 4, new housing development will be restricted unless it is required for crofting and will form part of a group of buildings.

2.12 **Planning Permission** is required for most building works and must be obtained prior to any work starting on site. We would strongly advise getting planning permission (at least in outline) prior to buying the site, just to make sure that the development will be acceptable in principle. Application forms are available from the Infrastructure Services Department.

2.13 A **Building Warrant** is also required for most building works, for which you or your agent will need to prepare a detailed set of drawings. See section 5.5 for more information on warrants/permissions.

## **BUYING THE LAND**

2.14 Acquiring the site can be problematic in Shetland, principally because of crofting tenure. Basically, unless the proposed house is for crofting purposes, the land should be de-crofted. You will almost certainly need advice on this from your solicitor. The de-crofting needs to be advertised in the local press and approved by the Crofters' Commission. It may not be possible to get a building loan/mortgage on a site/property if it is not de-crofted; likewise if you try to sell the property, the prospective buyer may not be able to get finance.

\*Section 4 page 2 of SPP1 (Scottish Planning Policy 1 : The Planning System).

## SERVICES

2.15 In most cases a new house will require an electricity supply, connection to a water main and to a wastewater disposal system (whether by connection to a public sewer wastewater treatment plant or a septic tank).

2.16 Connection to a wastewater drainage system, if the distance to the development curtilage is less than 100m, will be done mostly at the expense of Scottish Water. If the distance is greater than 100m then the developer will have to pay from 50% to 85% of the installation cost, which can be a significant amount.

If connection to a drainage system is not possible, then a septic tank may be considered. See Appendix 7 for guidance.

2.17 Connection to a water main will be carried out by Scottish Water, but with significant charges being paid by the developer. At distances over 1000m the amount paid by the developer increases considerably.

2.18 Electricity supplies and telephone connections, by Scottish Hydro-Electric and B.T., will carry installation and connection charges which will also increase significantly the further the development is from an existing connection point. Early consultation with the suppliers is advised.

## OTHER SITE ISSUES

2.19 Best quality agricultural land, which is in relatively short supply in Shetland, will in most circumstances be safeguarded from development unless there are over-riding reasons to develop on it.

2.20 Open space is valuable in new developments and, ideally, they should include some amenity space, whether it is a private house garden or a communal space in the middle of a larger development. Existing amenity open space within settlements should also be protected from development where possible.

2.21 Flood Risk: it is quite common in Shetland for house sites to be in close proximity to the shoreline; new development must take account of the risk of coastal erosion and flooding from tidal action and the real threat of predicted rises in sea level. As a general rule no new homes should be built below the 5 metre contour line. Often a coastline may be unstable; coastal protection works may add considerable cost to a project if not allowed for.

Flooding can also be caused by water run-off from hills; this can be worsened by development further up the hill (e.g. houses and roads), which will reduce the water absorption of the land. Careful consideration should be given to the management of surface water drainage at an early stage in the development; the responsibility for safeguarding land and property against flooding lies primarily with the owner. See sections 4.48-50 for more details.

For more detailed information on flooding and surface water drainage, refer to the following publications, which are available from the Planning Department:

- Planning Advice Note 3 – Disposal of Surface Water within your site
- Flooding in Shetland – A Real Issue

# GETTING THE BEST FROM THE SITE

## ORIENTATION

3.1 The exact siting of the house within the development plot must be carefully considered, as well as the position of the plot within the settlement. A well-positioned house will make the best use of available outlook, obtain any available shelter and solar energy, and reflect traditional site layouts.

3.2 The best clues to successful house siting can often be found in the surrounding area, particularly by looking at the way older houses were orientated. Traditional houses will often be positioned with a gable facing the prevailing wind and the frontage with a southerly aspect. The orientation should follow from the characteristics of the site; this will always produce a better solution than simply dropping a house onto a levelled site.

3.3 Siting the development within its plot requires very careful consideration. If positions A to D are the options then B would be considered the best as it optimises the landform, shelter and southerly aspect. A is not bad but will require more siteworks. C is on a ridge position, which is visually and physically exposed. D is on a steeper slope with minimal southerly aspect.

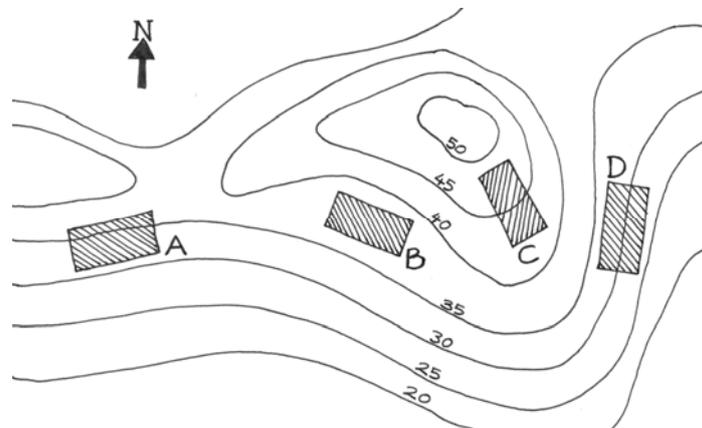


Figure 2: Orientation in the landscape

3.4 Positioning relative to adjacent houses is also important within scattered development patterns. The new plot shown below may be appropriate for the scattered pattern but the positioning of the house is vital. Whilst all three positions will comply with Planning Policy; No.3 is the favoured option as it best continues the settlement pattern and has least impact on the other houses. Landform will also influence the location.

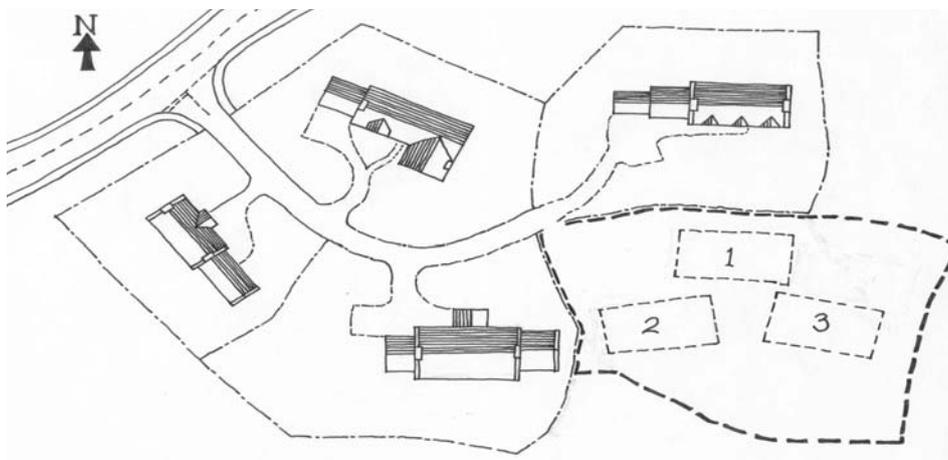


Figure 3: Positioning on the site.

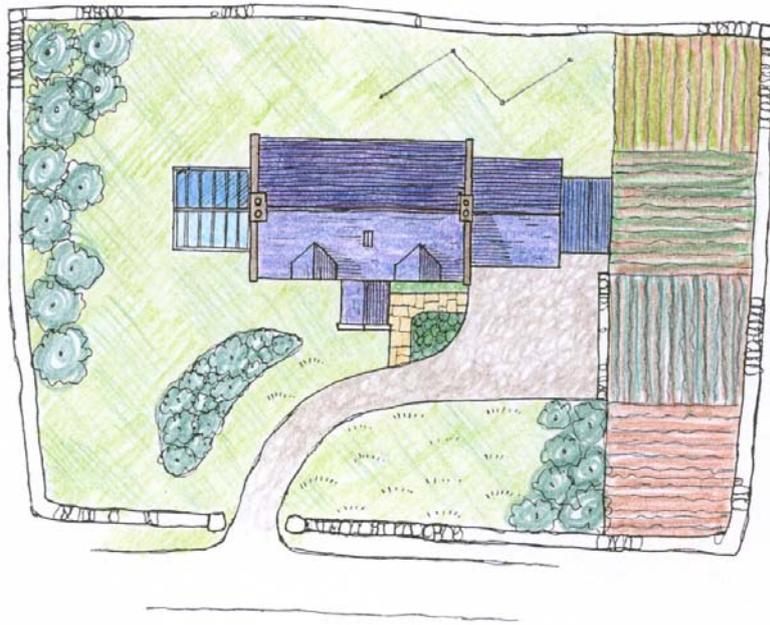
## SITE LAYOUT

3.5 Once a site is chosen, and the best orientation for the house decided, it is wise to plan the site layout to make sure everything will fit and you achieve the best from your plot. Access point and driveway, outbuildings, garage, parking, fencing/walling and amenity space/landscaping should not be last minute decisions but part of the initial concept. See figure 4 for two possible 'pre-development' site layouts.

3.6 Traditionally most houses have outbuildings, generally in line with the house, and new developments are likely to have at least a garage. As noted in chapter 4, the impact of large gables can be lessened by the addition of garages, conservatories, and smaller extensions, which benefit from being accessible from the house. If separate outbuildings are unavoidable, then they should at least be designed to be compatible with the house in form and materials and be positioned in direct relationship to it.



Outbuildings: continuing the form, smaller in scale, compatible variety of materials & colour.



- ▲ Site layout showing driveway, parking, landscaping, vegetable plot and drying-line.
- ▼ site layout showing hard landscaping, walls, path, jetty and boatshed.

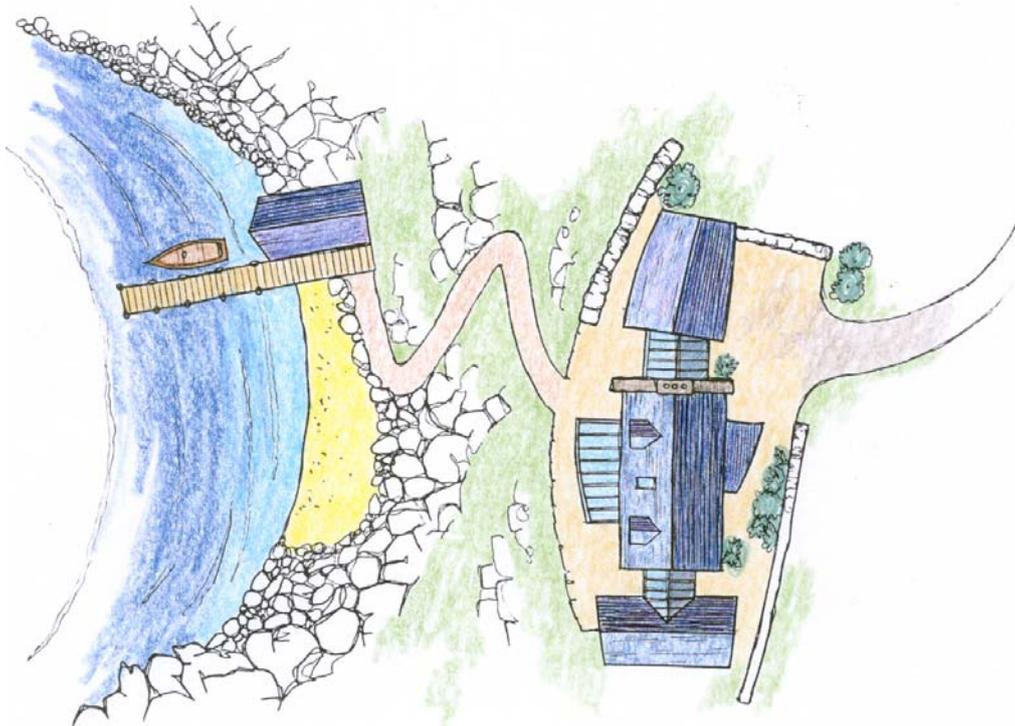


Figure 4: Possible 'pre-development' site layouts, the upper being for an enclosed traditional garden, the lower for a more open organic layout with boating facilities.

## DEVELOPMENT AND THE ENVIRONMENT

3.7 The landscape, environmental and ecological impact of the development should be considered right from the start.

Positive action for nature can include:

- Protecting parts of the site and its surroundings that are important for wildlife from damage during the construction process.
- Planting tree and plant species that occur naturally in the area.
- Leaving some areas of grass uncut so as to maintain natural habitats.
- Minimising the use of herbicides, using more biodegradable chemicals.
- Using environmentally friendly ways of controlling pests and bugs.
- Protecting and enhancing existing ecological features such as water courses or trees.
- Involving local environmental groups (e.g. SNH, RSPB) in the development design.

## LANDSCAPE IMPACT

3.8 The nature of Shetland landscapes is generally either undeveloped open scenery or sparsely populated countryside. Within this landscape any development will have an impact but isolated development can appear particularly exposed and intrusive, since the very openness of the landscape ~ and the contrast between developed and undeveloped areas ~ are among the things that give Shetland's landscape its particular identity. The Council's housing zoning system is designed to encourage development within areas of existing settlement. See Appendix 5 for more information on housing zones.

3.9 All development will have an impact on the landscape, varying in scale with the size and type of the proposal. Where a proposed development is likely to have a significant effect, a Landscape Impact Assessment may be helpful.

## PROPOSALS WITHIN NATIONAL SCENIC AREAS

3.10 The National Scenic Area (shown in Fig.5) covers many (but not all) of the outstanding landscapes in Shetland. The Council is committed to conserving and, if possible, enhancing these landscapes. Accordingly, developments which fall within the Shetland National Scenic Area will be subject to higher design assessment. The reason for this is to protect the finest parts of the Shetland landscape from insensitive development. New development should be to a high standard and reflect the traditions of the area. Many people would like to live in areas of high landscape value, but they will quickly lose that value if filled with poorly designed houses. The open landscapes of Shetland offer no concealment for inappropriate new development. The impact of new development can be lessened by careful positioning and sympathetic design.

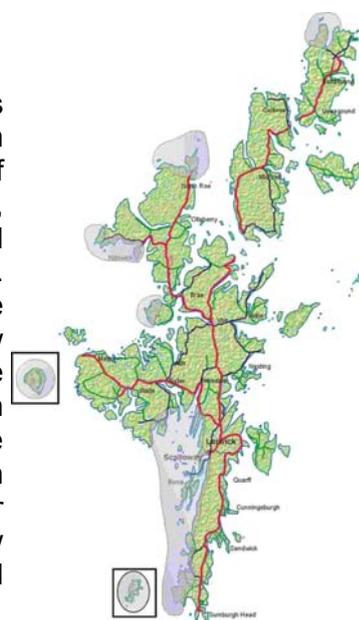


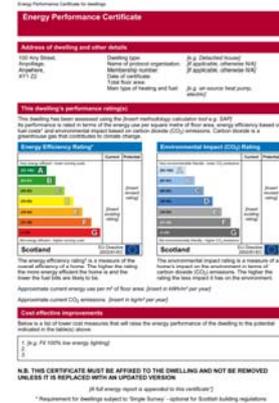
Figure 5: Plan of Shetland's National Scenic Areas

# DESIGNING THE HOUSE

## SUSTAINABLE DEVELOPMENT

4.1 At the heart of this guidance is the concept that all new development should be sustainable; the development must make the minimum environmental impact (e.g. through siting, orientation and materials), incorporate the best practices of energy efficiency and have the longest possible life.

4.2 All new houses are required to be labelled with their energy rating. The Standard Assessment Procedure for Energy Rating of Dwellings (SAP 2005) is based on space and water heating costs, on a scale of 1 to 100 [the higher the number the lower the running costs per unit floor area]. It is now a requirement that all buildings whether built, sold or rented out will require an Energy Performance Certificate (EPC). The EPC provides an A to G rating for the building with A being the most energy efficient and G being the least. The certificate requires to be affixed to the dwelling and may not be removed unless it is replaced with an updated version.



4.3 The most obvious ways to improve energy efficiency are to maximise levels of insulation (including under-floor; open areas should be ventilated) and install double or triple glazing. Entrance porches and lobbies are also highly practical traditional solutions to combat heat loss and reduce draughts. Traditional houses were positioned to gain protection from the prevailing wind. Houses can also benefit from the elements, through solar gain for example, transferred directly as heat through south-facing windows/conservatories or transformed into power via solar panels or photovoltaic tiles. Grants are available for solar/p.v. tiles (see Appendix 4).

4.4 Any use of alternative natural energy sources will be encouraged by the Council, including solar, wind, heat pumps or other methods. Reusing existing buildings & building materials also conforms to the concept of sustainability and will be encouraged. Second-hand roof slates and stone save extensive production resources and may have a pleasant weathered finish (although stone should be local and appropriate for the area). Nothing completes a development quite so well as a drystone dyke.

4.5 The aim should be to build to last, and that development lifespan should be seriously considered at the design stage. Better quality materials, detailing and heating systems may cost more at the outset but will last longer and prove to be more cost effective in the longer term. Timber kit houses are the norm now in Shetland but there is no reason why they cannot be modified slightly to incorporate some local traditions or features to make them more compatible with their built and natural environment. Modern house design is inevitable, good modern architecture will be encouraged, but lessons can always be learned from the way traditional houses were located, orientated and built.  
*See pages 20-21 for energy efficient design.*

A good example of a sustainable house, incorporating: wind power, natural materials (slate roof, timber cladding, stone walling), passive solar gain via conservatory and integral 'sun-room', high level of insulation, careful orientation.



## WHAT TYPE OF DESIGN:

### a) RURAL CONTEXTS

4.6 The aim of this section is to try to highlight those elements of traditional Shetland architecture that could be incorporated within a modern house design so that it will sit comfortably in the Shetland landscape. This needs to be done by encouraging new design that alleviates the blandness of pattern-book construction with no local identity.



Traditional croft house .....



.....to modern dwelling

4.7 The Shetland landscape is very open with extensive vistas and little tree growth for screening. This exposure must be an important factor in the design and siting of any new development. **Colour, scale, proportion and detailing** are the four basic design principles by which a proposed development can be assessed.

4.8 **Colour** may be the most striking feature of a building. In the Shetland landscape a house can be visible from a long distance so choice of colour is very important. A dark roof will generally ground a building into the landscape and usually looks better if darker in tone/colour than the walls. If we are to respect Shetland's historical traditions and not dilute the islands' identity, terracotta shades should be avoided. They are strongly characteristic of the east of Scotland, particularly Fife and the Lothians, where historically 'pantiles' were imported from the Low Countries as ballast. The lack of them in Shetland's older buildings is perhaps surprising, but is one of the things that makes Shetland distinctive. Walls should either be a natural colour, or match the local tradition which is often white or a light/pastel shade. A common mis-use of colour is where the base-course of a building is a different colour from the walls; this creates a bad impression, separating the building from the landscape.



4.9 Strong colours, traditionally and in contemporary designs, can work very well within the Shetland landscape, and indeed often look much better than drab greys or buff coloured render. Timber houses, in particular, lend themselves to a variety of colours. We would recommend using 'strong' colours for large areas and 'brighter' colours for detailing.

4.10 **Scale** of development is a key element in the design considerations for a new house, relative to the building plot size and neighbouring buildings. House D would be inappropriate beside house A (overly dominant, blocking daylight & outlook), but would be compatible with C.

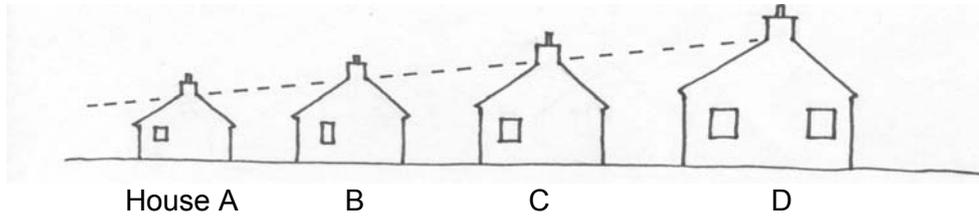


Figure 6: diagram of increasing house scale.

4.11 The house on plot 4 could possibly squeeze onto plot 3 but would be inappropriate on 1 or 2. Conversely, house 1 would be fine on any size plot.

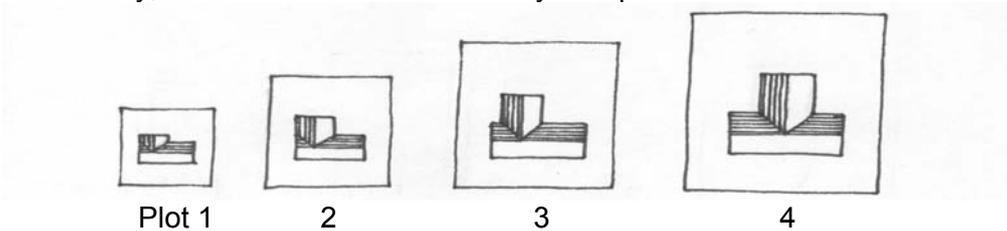


Figure 7: scale of house:plot.

4.12 **Proportions** are vital to a new house, both in the general form and composition of its elements.

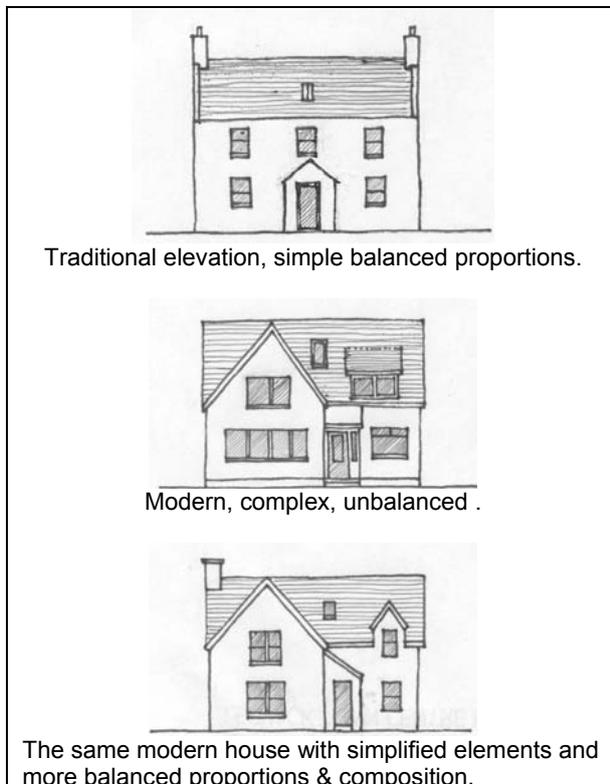


Figure 8: balanced proportions on a large house.

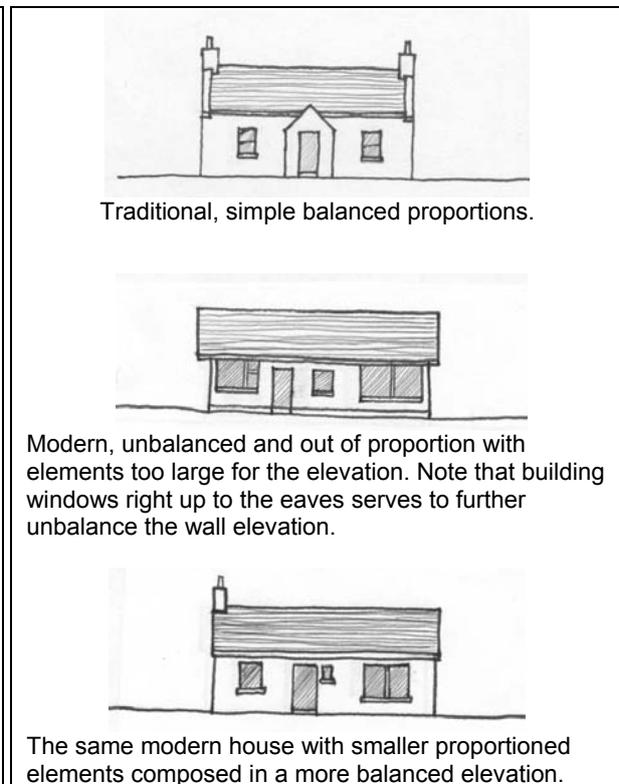


Figure 9: balanced proportions on a small house.



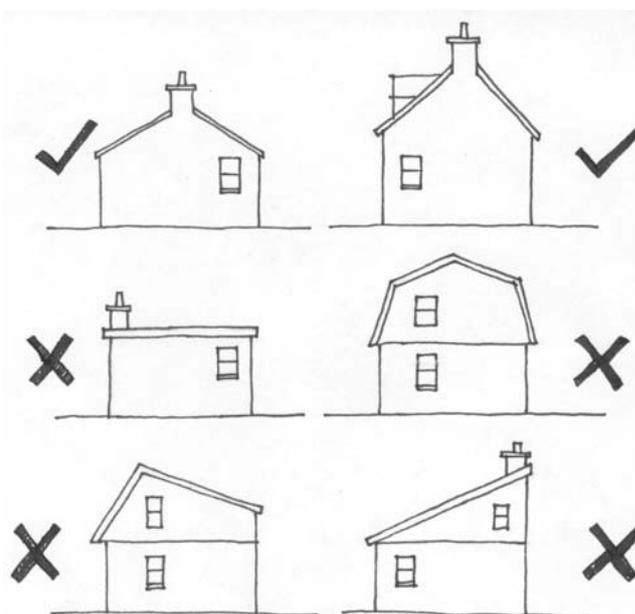
4.13 This is an example of a well proportioned and balanced house, recently built but adapting a traditional style of house for modern living. Note that the main house follows the traditional pattern, but the symmetrical side-extensions are obviously modern in form and function, with a modern porch.

4.14 **Detailing** of houses is obviously vital to their appearance; the basic elements of windows, doors and chimneys can give a house its character and style. (*materials are discussed in section 4.25*)



4.15 New houses can often seem to have large roofs, due to the increased plan/gable size of modern houses. Very large areas of roof can be unattractive, and it is best to avoid shallow pitches, complicated unusual arrangements and of course flat roofs in the wet & windy Shetland climate.

Figure 10: diagram of roof types.



4.16 Dormer windows and chimneys can reduce the scale and monotony of a large roof, giving it form and interest. Dormers themselves should be small in scale compared to the main roof, with pitched or hipped roofs themselves.

4.17 Chimneys, whether on one or both gables, give the house a vertical element that roots a building into the ground. The long horizontal plane of a roof without chimneys can look featureless and unattached to the landscape without the vertical element of a chimney or flue.



Balanced simple dormers ▲



Interesting colourful porch ▲

4.18 Porches and conservatories, while also being practical (to cancel draughts and facilitate passive solar gain), can also be an interesting feature on an otherwise plain house.



Conservatories for enhanced living-spaces and passive solar gain.

4.19 Integral or external conservatories, while adding interest and raising the quality of the living environment, can also contribute considerably to passive solar heat gain.

4.20 Window and door styles can complete or disrupt the look of a house. Below are some examples of styles we might recommend or advise against, those with a tick will bear some relation to local traditions while those with a cross would be more at home in Surrey! Urban or rural locations would also be a factor.

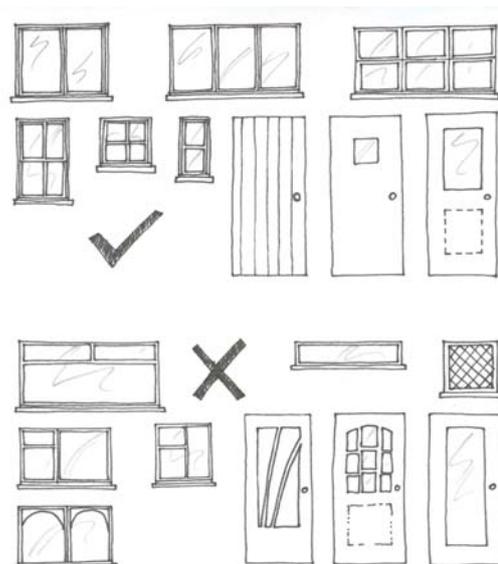


Figure 11: diagram of window & door types.

## WHAT TYPE OF DESIGN : b) URBAN CONTEXT

4.21 Designing a house in a town or village will in many ways be easier as there is a built context to relate to. Ideally a new house will echo those around it, whether in materials, colour, scale or form. Many of the principles discussed in the rural section will also be relevant for urban areas, such as colour, scale, proportions and detailing.

4.22 The 'Bad Neighbour' shown below is completely out of scale, being much taller than the existing houses. The form is also alien to its environment, a three storey house with large gable facing the street, the upper part of which is timber-boarded with a projecting balcony. The window and dormer styles also bear no relation to those existing. The 'Good Neighbour' below continues the roof ridge and eaves lines from the house to the left, echoing also its roof material and dormer features. From the house to the right it reflects the gabled extension, the window type and the chimney style and possibly the wall finish. The 'Good Modern Neighbour' does likewise but with more contemporary forms and detailing.

4.23 While this is an oversimplified example, it shows the way a new house can pick up references from the existing houses around it to help it fit into the streetscape. More modern designs than the one illustrated can fit equally well using the same general principles.



Figure 12: good and bad infill developments

4.24 Building within a Conservation Area or next to a Listed Building will require more careful thought than in other situations. See page 30 for more details.

## MATERIALS + MAINTENANCE



4.25 There is a wide range of building materials currently used for houses in Shetland, from the traditional - like stone and slate - to modern applications of 'sheet-tile' roofing and profiled cladding. Timber frames and kits are more common now than concrete block and brick construction, with speed of construction and cheapness of materials being prime factors.



Iroko timber cladding in Orkney.

4.26 The maintenance (and sustainability) aspect of materials should also be considered in the early stages of designing the house. A prime example is painting external walls, which in the Shetland climate will probably need repainting every two or three years. Woodstain on timber cladding may last slightly longer, the SW elevation however will require the most attention due to the prevailing weather. Exposed masonry is the ultimate maintenance-free finish (with occasional re-pointing) and looks better than anything else. Lime or coloured-cement renders are another option for masonry walls and will require much less attention than painting. Iroko or cedar are two types of timber which can be used for (relatively) maintenance free cladding, as a natural silver-grey protective patina forms on the wood's surface. The method of fixing/mix of render/type of paint or stain must all take account of the extremes of the Shetland climate, particularly the wind and the accompanying salt spray. High quality materials may cost much more at the outset but their longevity and lack of required maintenance will make them a sound investment. A classic natural material is turf for roof-covering, which is common in Scandinavia; it also has high insulation values.



New and old turf roofs, Lofoten, Norway.

## ENERGY SAVING DESIGN

4.27 Measures to improve the energy efficiency of a house taken at the design stage will maximise long-term cost effectiveness, minimise maintenance and extend the building lifecycle.

### Design and layout

4.28 Compact housing plans, which minimise wall and roof areas, will reduce heat losses e.g. the heat loss from a bungalow will be greater than from a two-storey house of the same total floor area. Exposed areas can be further reduced by earth sheltering part of the house or with the inclusion of a conservatory or garage. However, conservatories should not be open to the inside of the house as this can cause overheating in summer and high heat losses during the rest of the year. The main wall adjoining a conservatory (or garage) should be insulated to the same level as external walls.

4.29 Houses should not be designed solely in favour of solar gain where this increases exposed areas (and so heat losses). However, thought should be given to the layout of the interior to make best use of the sun e.g. rooms which are used most should be south facing along with the majority of windows.

### Building fabric

4.30 A thermal or cold bridge is an area with a break in the insulation, or where the external construction meets the internal, and resulting fabric heat loss can also cause condensation and mould. There are several different areas to watch out for, examples being ceiling/wall junctions where insulation doesn't meet and openings in external walls. Most areas can easily be tackled at the design stage at little or no extra cost.

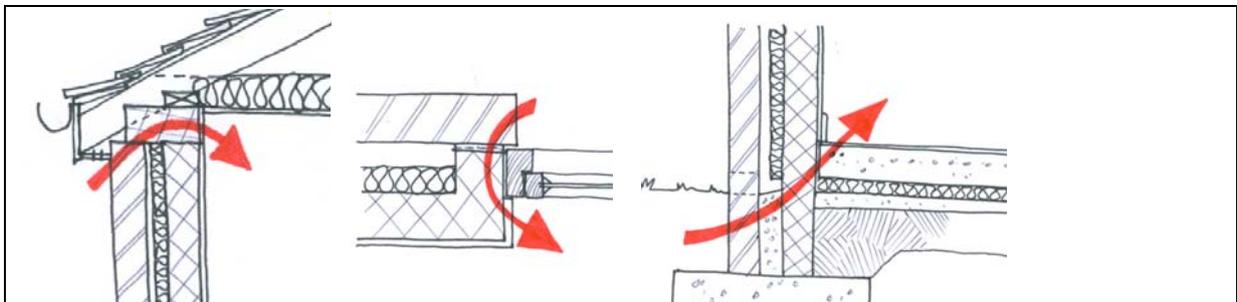


Figure 13: Indicative diagrams of cold bridges, the red arrows show gaps in the insulation where cold can travel directly from outside to inner surfaces, causing condensation.

4.31 Air leakage or draughts are a major cause of heat loss and can also cause discomfort to occupants. Again, there are many areas to watch out for, e.g. doors, windows and service entries, but these can be minimised through good workmanship and careful draught-proofing.

4.32 Use of controlled ventilation (more efficient if air leakage is minimised) in a well-sealed house is important in improving air quality by removing odours and reducing moisture. An air supply is also essential for the safe operation of combustion appliances. There is a range of ventilation methods, from trickle vents and extracts to whole house mechanical ventilation.

## Heating

4.33 There are various types of proven renewable energy technologies used in Shetland, namely domestic size wind turbines and solar panels. The incineration of Shetland's waste also fuels the Lerwick district heating system. Heat pumps can be used to recycle heat from the ground or the loft space, and then there are the more widely used technologies such as oil boilers, solid fuel, and storage heating.



solar panel & wind turbine

4.34 The type of heating system (warm air, radiators, under floor etc) may depend on the construction of the house and the occupancy patterns e.g. a lightweight timber framed house only occupied during the morning and night would ideally be suited to a heating system that can respond quickly to the occupants' needs and also solar gains. This can of course be achieved by room/radiator thermostats, heating zones (sleeping and living) and timing devices to programme hours of operation.

4.35 A solidly constructed house (especially when continuously occupied) may benefit from underfloor heating, storing the warmth in the building fabric for slow continual release. Background heating is recommended, especially during colder months where extremes of temperature can again give rise to condensation.

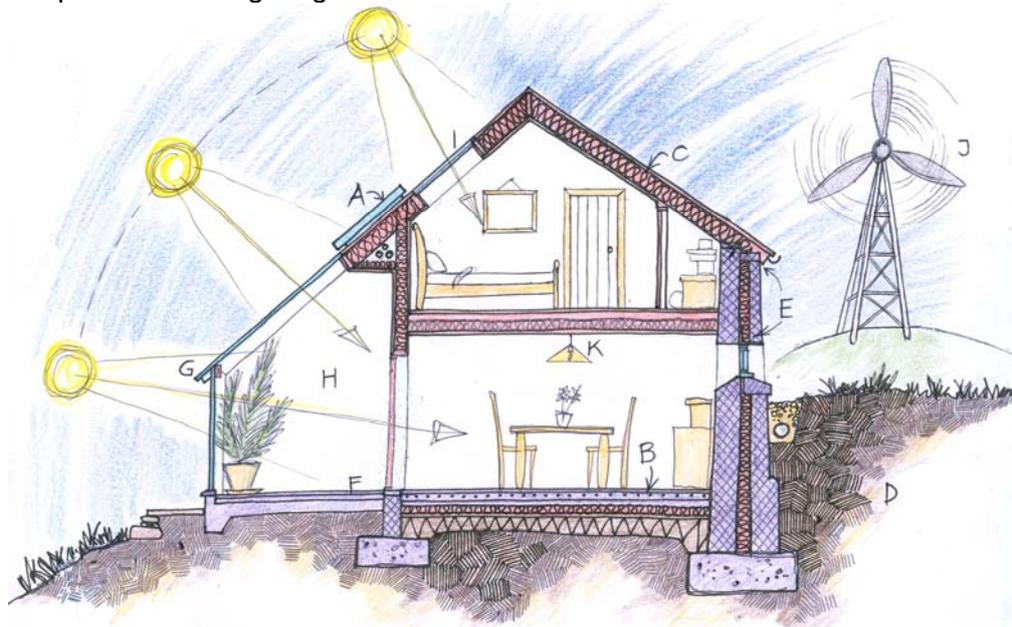


Figure 14: Energy saving house-building.

- A. SOLAR PANELS OR PHOTO-VOLTAIC ROOF-TILES.
- B. UNDERFLOOR HEATING, IN SOLID FLOOR CONSTRUCTION,
- C. INSULATION: THE WHOLE BUILDING ENVELOPE SHOULD BE WELL INSULATED, WITH NO GAPS (OR COLD BRIDGES).
- D. EARTH SHELTER
- E. LIKELY COLD BRIDGE POINTS ARE AT FLOOR/WALL/ROOF JUNCTIONS AND AROUND WALL OPENINGS. SMALL OPENINGS ON NORTH ELEVATION.
- F. THERMAL MASS TO RETAIN HEAT.
- G. AIR LEAKAGE/DRAUGHTS FROM SOURCES SUCH AS BADLY FITTED DOORS/WINDOWS OR UP CHIMNEYS, MINIMISED BY DESIGN.
- H. A CONSERVATORY WILL ADD AN ATTRACTIVE LIVING-SPACE TO A HOUSE AND ACT AS A SOLAR-GAIN COLLECTOR.
- I. ROOF-LIGHTS (low energy glass).
- J. J. DOMESTIC-SIZE WIND GENERATORS      K. LOW ENERGY LIGHTING

4.36 The Council's Energy Unit can give detailed advice on ways of saving energy and how to apply for grants and funding for the installation of domestic renewables.

## LANDSCAPING



variety of paving ▲



abundant planting ▲



Community gardens

4.37 Whilst landscaping in Shetland will always be a case of survival of the fittest, planting will soften the development's impact on the landscape. If hard landscaping is required, natural materials such as gravel, setts or stone slabs will look and last better. Larger plants and trees will require a degree of luck and shelter to become established but when they do they provide a valuable shelter-screen to a building and integrate a development into the landscape. There are plenty of lower growing shrubs and plants which can thrive in the Shetland environment, depending on shelter, soil type and drainage.

*For more detailed information refer to the S.I.C. leaflet 'Landscaping in Shetland'.*



A rare example of tree shelter in Shetland.



A good dry stone dyke.

4.38 The boundary treatment of a development can help to integrate a new site into its surroundings, or it can totally alienate it. A dry stone dyke is the ideal and most traditional option but the cost may be excessive; stone should also be local and appropriate for the area. Post & wire fencing is probably the best alternative, and certainly the least intrusive in the landscape. Timber 'ranch-style' fencing or blockwork walling will sit less happily in the Shetland landscape.

## OTHER ISSUES

### a) UNDERBUILDING and EXCAVATION

4.39 The topography of Shetland dictates that a building site will rarely be flat and as such will either require to be excavated or filled-out. Either of these options can prove expensive and have a seriously detrimental impact on the environment if carried out unsympathetically. Underbuilding, when seen from below or from a distance, can greatly increase the visual impact of a house, and both options can scar the landscape. Careful positioning of a development on its site can reduce the need for extensive groundworks or building, while also improving the appearance of the development.

### b) ROADSIDE DEVELOPMENT

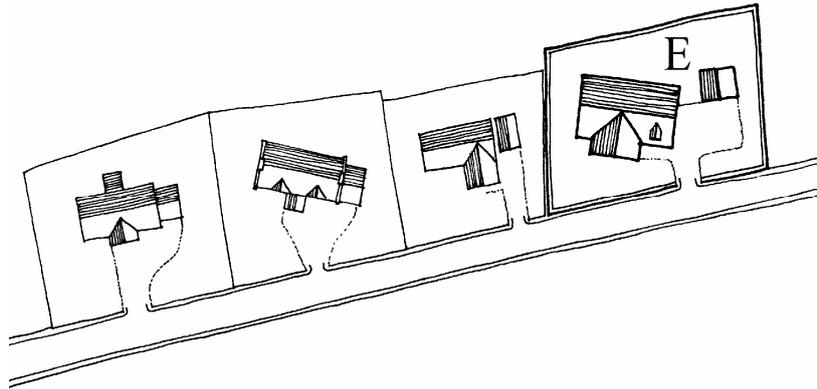


Figure 15: roadside (or ribbon) development.

4.40 The house on plot E is an example of roadside (or ribbon) development, where a settlement or cluster will be stretched out along the roadside instead of consolidating within the building group. There are good reasons to avoid this sort of development whenever possible. It can sterilise land to the rear for further development, as well as creating significant safety concerns with many road accesses. More private accesses means more turning movements on the main road, increasing accident potential and exposing children to more traffic as they have to use the main road to go anywhere (not the case in cul-de-sac arrangements, for example). Finally, this sort of development can create the impression of creeping suburbia, which is out of character with Shetland's traditional settlement pattern.

### c) OVERLOOKING

4.43 No main window of a habitable room (not bathrooms or hallways) must overlook the same in a neighbouring house, in order to safeguard privacy. To achieve this a distance of 25 metres must be maintained from main window to main window (18 metres in urban areas).

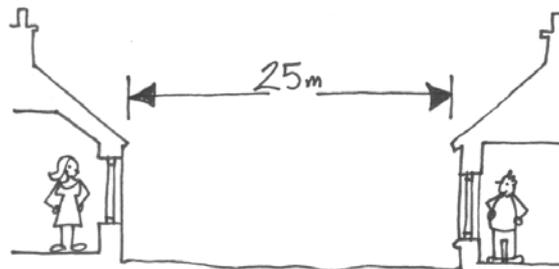


Figure 16: overlooking and privacy.

#### d) INFILL DEVELOPMENT

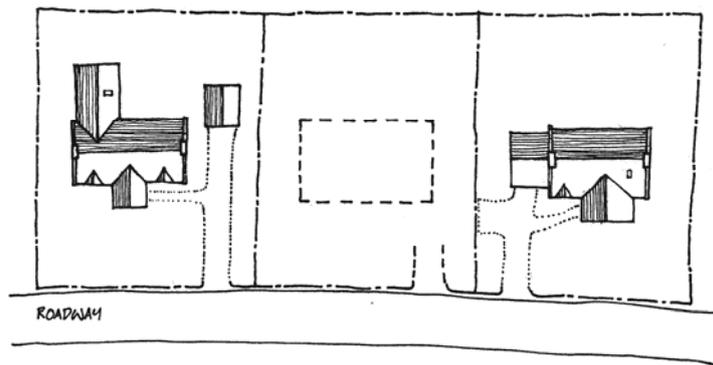


Figure 17: an infill site.

4.41 Infill development, between existing houses, must respect and be compatible with its neighbours. The density, scale and overall design of the development must be appropriate for its context and cause no loss of amenity for its neighbours.

4.42 The dotted line in Figure 17 represents a suitable building footprint for the infill site, reflecting the building line and ratio of plot size to building footprint. Following these simple rules, and reflecting the adjacent materials and forms, there is still plenty of scope for innovative and individual designs.

#### e) DAYLIGHT AND SUNLIGHT BLOCKING

4.44 A proposed new development must respect the right of its neighbours to have a reasonable amount of daylight into all of its windows and direct sunlight into its main rooms. A new development must be designed and positioned so that it does not conflict with this basic amenity of adjacent existing buildings.

4.45 The following illustration shows an exaggerated example of how a new house, much taller than its existing neighbour (and underbuilt) will block daylight and direct sunlight from reaching the existing house.

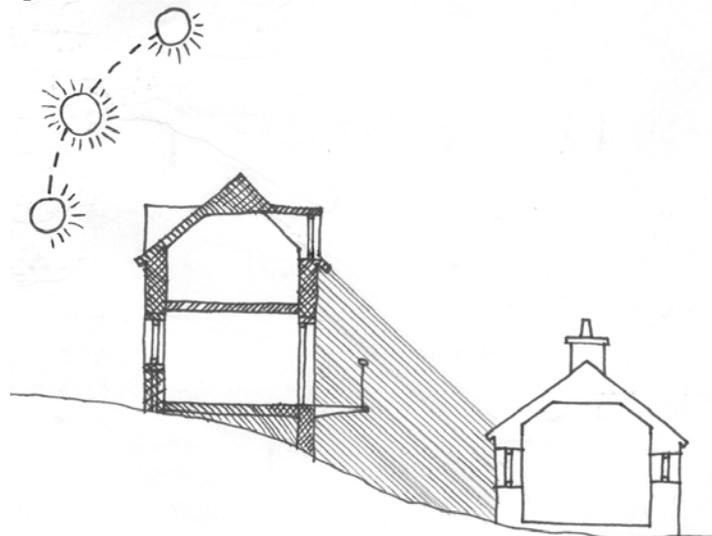


Figure 18: The cottage on the right is losing sunlight to the new house on the left.

## f) DESIGNING FOR DISABILITY

4.46 All new dwelling houses should be designed with disability issues in mind, particularly access requirements.

The Building Standards (Scotland) Regulations (as amended) include provisions for:

- access to buildings
- accessible entrances
- access within dwellings
- sanitary facilities

Further information is contained within BS 8300:2001 *Design of buildings and their approaches to meet the needs of disabled people - Code of practice*. This standard provides guidance on good practice in the design of domestic and non-domestic buildings and their approaches so that they are convenient for use by disabled people. Advice on all of this is available from the SIC Building Control Service.

4.47 The **Lifetimes Homes** concept, as promoted by The Joseph Rowntree Foundation, has a list of 16 basic criteria that will make most homes fully useable by anyone with a disability (or injury, or the elderly, or families with prams ~ the list is not exclusive).

### **Outside:**

- 1) Where car-parking is adjacent to a home, it should be capable of attaining 3.6m width.
- 2) The distance from car-parking to the home should be minimal and as level as possible.
- 3) The gradient of the house access should be as minimal as possible, and within Building Regulation guidelines.
- 4) Any lifts should be wheelchair-accessible (minimum 800mm clear opening).
- 5) Entrances should be covered, illuminated and have level thresholds.

### **Downstairs:**

- 6) Width of doorways to at least match minimum standards, entrance doorways should have at least 830mm clear opening.
- 7) There should be space for wheelchair turning circles (width of 1.5m) in all rooms.
- 8) Toilet to be wheelchair accessible, with drainage and service provision for a shower to be fitted at any time.
- 9) The sitting-room should be at entrance level.
- 10) Walls in bathrooms and toilets should be capable of taking adaptations such as handrails.
- 11) In a 2-storey house, there should be a bedspace on the ground level.

### **Upstairs:**

- 12) The bath/bedroom ceiling should be strong enough to support a hoist.
- 13) The design should incorporate provision for a future stairlift.
- 14) The bathroom should be designed for ease of access, probably from a side approach, to the bath and toilet.

### **Features and fittings:**

- 15) Window cills should be no higher than 750mm (except in kitchens) and should be easy to open/operate.
- 16) Switches, sockets, controls etc. should be at a height useable by all (generally between 600 and 1200mm above floor level).

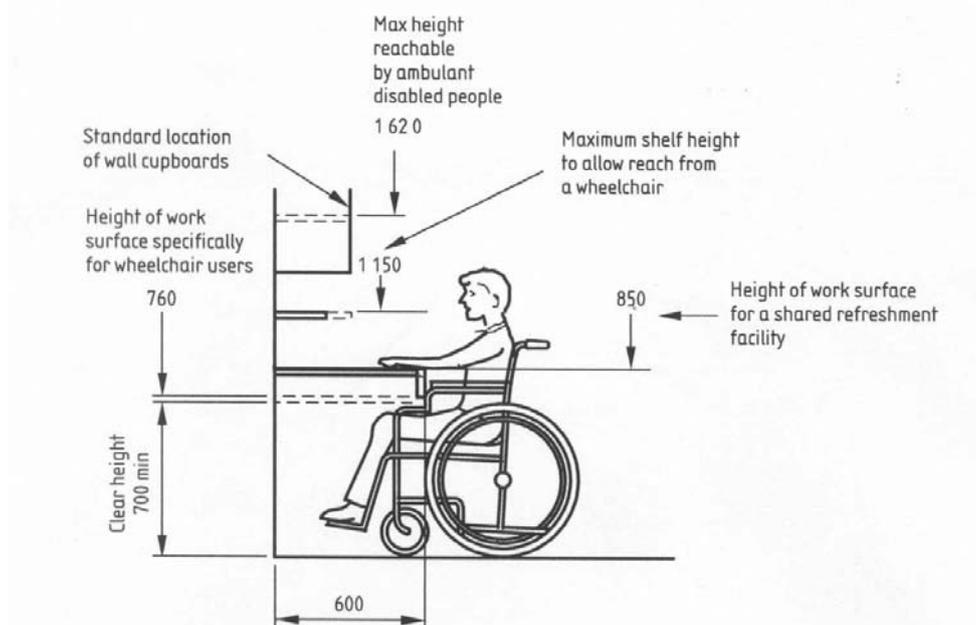
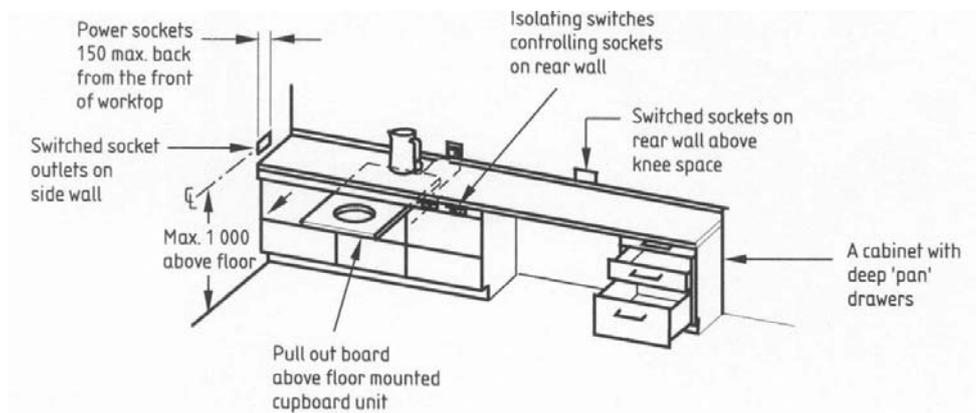
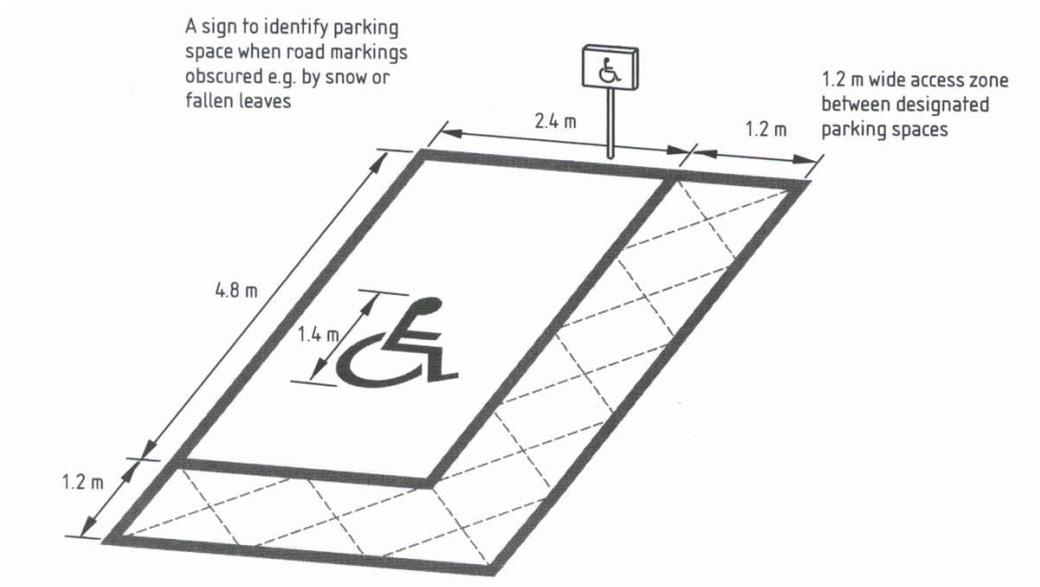


Figure 19a: design for disability, illustrations from BS 8300:2001.

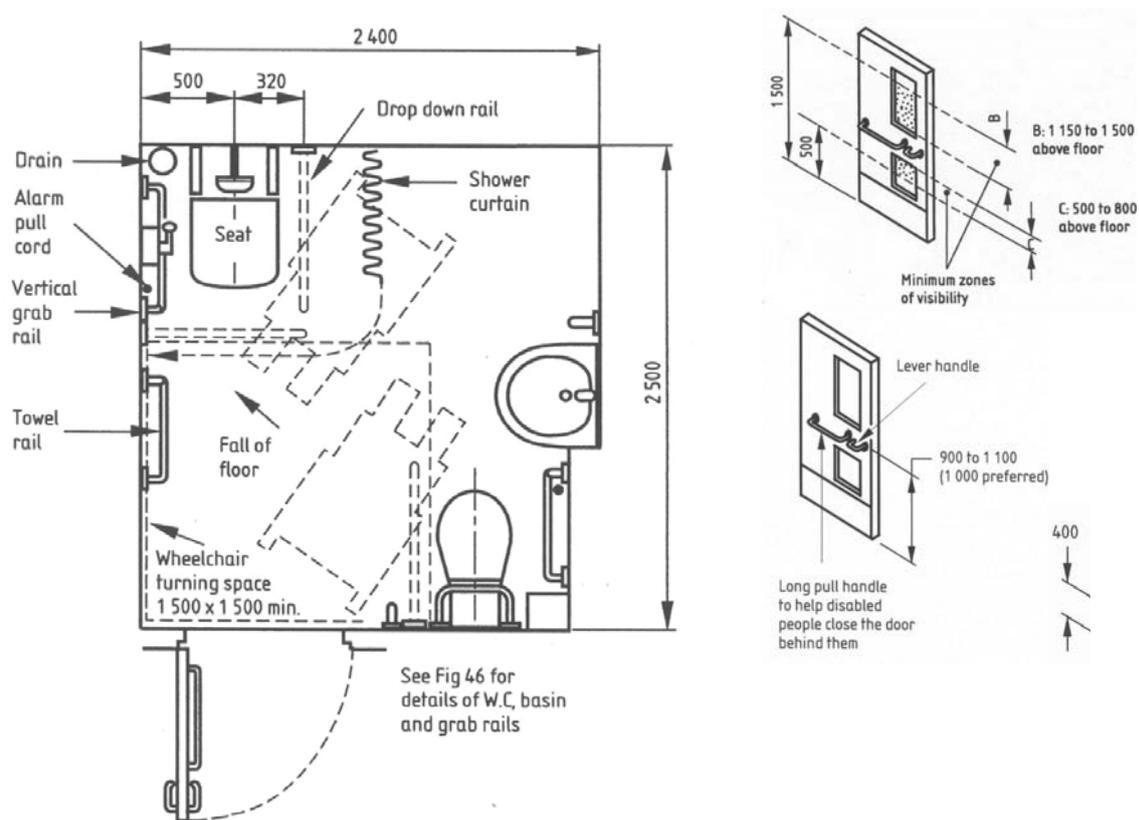


Figure 19b: design for disability, illustrations from BS 8300:2001.

#### g) SITE DRAINAGE.

4.48 Any development will alter the water absorption and run-off for that particular site, not to mention the diversion of any existing watercourses or ditches. The draining of surface water, without causing flooding or pollution and without sterilising other development land, can best be solved by implementing Sustainable Urban Drainage Systems (SUDS). SUDS should be considered at an early stage of the design process, not added on as an 'engineered solution' at the end, which may disrupt the site layout. The concept should be applied to all development locations, not just urban.

4.49 SUDS are made up of one or more structures built to manage surface water run-off in a sustainable manner; there are 4 general methods of control:

- 1) filter strips and swales,
- 2) filter drains and permeable surfaces,
- 3) infiltration devices,
- 4) basins and ponds.

These controls provide varying degrees of treatment for surface water, using the natural processes of sedimentation, filtration, absorption and biological degradation. The main purpose of SUDS is to provide attenuation for the run-off, which means slowing down the rate of flow to prevent flooding and erosion, but overall increases the resultant rate of flow. The conventional drainage techniques of pipes and culverts often resulted in a system with limited capacity, which could cause localised flooding.

4.50 For more details on SUDS, please refer to 'Advice Note 3 – Disposal of Surface Water within your site', which is available from the Planning Department.

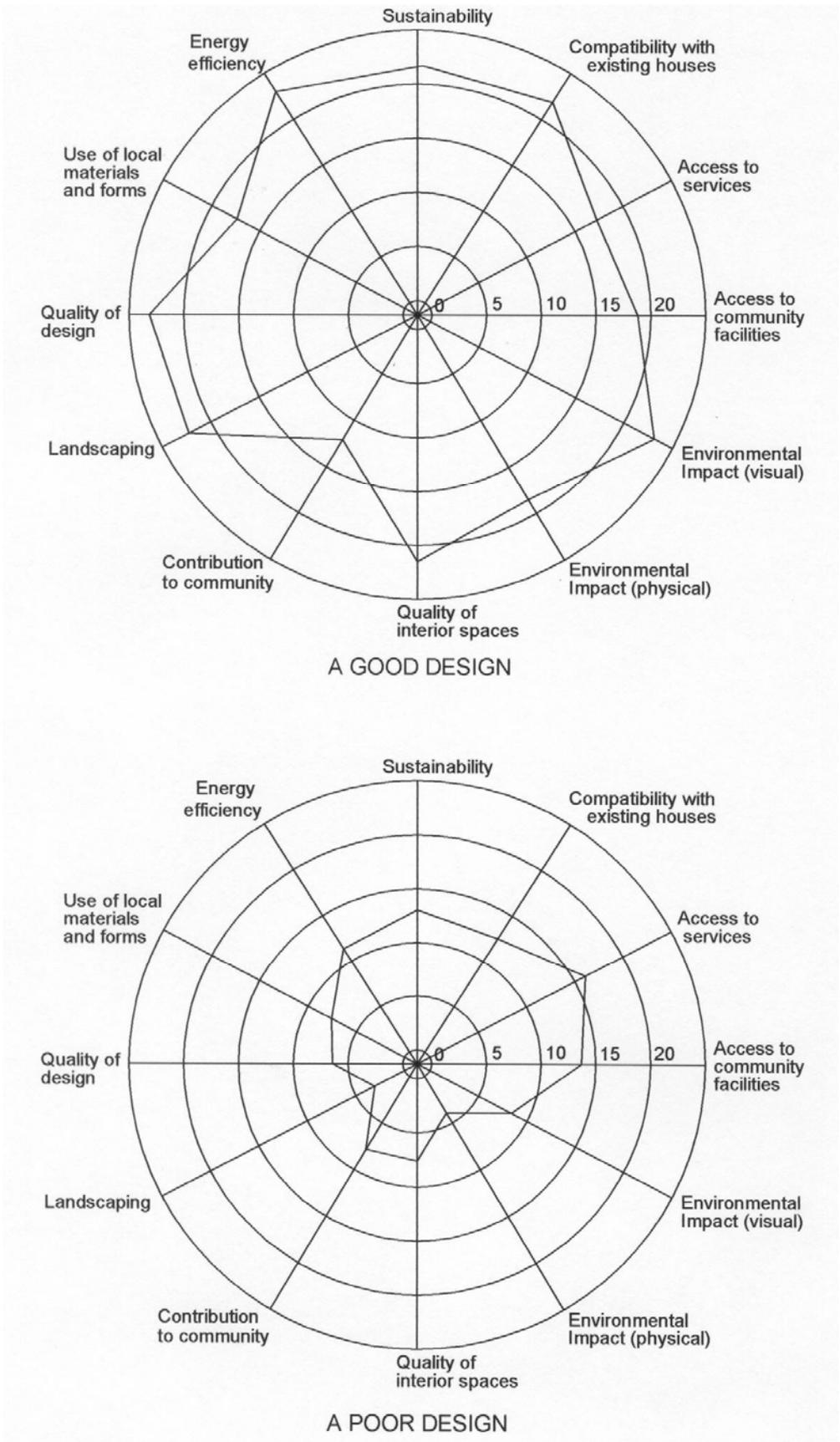


Figure 20: Assessing house design.

4.51 **ASSESSING THE QUALITY** of a design: It is obviously difficult to judge the overall quality of a house design, but the 'pies' above give a 12 point appraisal system, the higher the score the better the design.

## **5.0 GETTING IT BUILT**

### **USING AN ARCHITECT?**

5.1 We would strongly recommend using an architect as an agent for your development works. Even the most standard kit-house needs to be carefully sited, related to its outbuildings, detailed and finished. A standard kit-house can be modified to give it a bit more character and individuality or to relate it to its surroundings. An architect can also advise on all the following topics in this section and can ensure that you get the best out of your project: they are also useful to have on board to sort out any problems which crop up.

### **CHOOSING CONTRACTORS**

5.2 Contractors in Shetland always seem to be busy, but it definitely pays to shop around for competitive quotes. Word of mouth is often the best basis for choosing a particular firm, so ask people who've had work done recently. It is also good to get someone fairly local if possible. Try to get 2 or 3 quotes for all jobs as there may be a large variance in the estimates. Always check that the contractor is a member of a relevant professional body, particularly when installing electrics or heating.

### **PLANNING PERMISSION AND BUILDING WARRANT**

5.3 Further to section 2.12 on page 7, there is more detailed information in this section on the requirement for Planning Permission and a Building Warrant. However, we'd strongly advise that you make an appointment to talk over your proposals with the Planning Control Service. A pre-application discussion will cost nothing. Plans, designs and proposals will be assessed free of charge, on an informal basis. This can iron out any problems at an early stage and lead to your application being processed much quicker.

5.4 **Planning Permission.** The development of a new house will require planning permission, as will some extensions; most alterations have deemed consent, the exception being re-roofing if it would materially affect the external appearance. Alterations to listed buildings and properties within Conservation Areas do not have deemed consent please see section 6.16. It is important to check with the Council's Planning Control Service prior to undertaking any works just in case permission is required. A planning application will usually be processed within 8 weeks.

To apply for full planning permission you are required to provide 4 sets of each of the following: a location plan at a scale of 1:1250 (1:5000 in rural areas); a site plan at a scale of 1:500; and detailed drawings showing elevations, materials and floor plans. Copies of sections through the site are required for new dwellings on sloping sites.

If you are just trying to establish if development on the site is possible, or are not in a position to apply for full planning permission, you can apply for Outline Permission. You are then only required to provide location plans and site plans. At a later date, you can submit a Reserved Matters application, in which you provide detailed drawings, elevations etc. Again, it is recommended that you contact the Planning Control Service prior to submitting any forms to check that you are applying for the most appropriate consent. Outline permission last for 3 years. Full permission allows you up to 5 years in which to start work on the site.

When you apply for planning permission you are required to notify the neighbouring properties and landowners. A fee must also be paid for the processing of your application. *See also Listed Building and Conservation Area Consent on page 34. Application forms are available from the Planning Service.*

**5.5 Building Warrant.** If you propose to erect a new building, alter or extend an existing building, change the use of a building, or demolish a building you will normally require a building warrant. This is true irrespective of whether planning permission is required; the two procedures are quite separate. There are particular types of work that may be exempt and you should contact the Building Control Service for further details.

The application should include two copies of:

- Location plan
- Detailed plans of the proposals including floor plans, elevations, sections and specification.
- A site plan and existing layouts may also be required.
- A fee is required which is based on the estimated cost of the work.
- New dwellings require a SAP (Standard Assessment Procedure) energy rating.

5.6 Some minor work may not appear to require a building warrant but could lead to a contravention of the Building Regulations or could have implications for adjacent property. A warrant is valid for three years but an extension to a warrant may be applied for before it expires. Works cannot commence until the Building Warrant has been issued and it is advisable to apply for the warrant at least two months before works are to begin.

5.7 Work can commence immediately the building warrant has been granted but you are required to inform the Building Control Service when you are starting. They may inspect while work is in progress to ensure the warrant is being complied with. You should check at what additional stages the Building Control Service require notifying.

5.8 However, the local authority is not responsible for checking the quality of work done or supervising the builders employed. Supervision of the building work is your responsibility, through your architect or other person appointed by you for that purpose.

5.9 When the work is finished you should complete and return an application for certificate of completion together with certificate of compliance for the electrical installation where appropriate. You cannot occupy or use a new building without having obtained a certificate of completion or a temporary certificate of completion.

## **CONTRACTS AND PROJECT MANAGEMENT**

5.10 These issues may not be appropriate for minor works, or even building a house where you have continual supervision, but for larger developments or where you do not have site supervision they are advisable.

5.11 A contract can help to control the costs of the job and may impose time penalties for late completion.

5.12 If you do not have construction experience yourself, or cannot regularly visit the site, then appointing a project manager will keep the job on track, monitor cost changes and supervise quality of work. An architect or surveyor can do this for you, as can members of other professional bodies. Under the CDM regulations a 'Planning Supervisor' should be appointed for most construction projects.

## **INSPECTION AND ACCEPTANCE**

5.13 Before the contractors leave the site and you settle the final bills, it's essential to carry out a very detailed 'snagging' inspection to make sure you are happy with every detail. A project manager/architect will compile 'snagging lists' throughout the job but especially at the end, which is another good reason to employ such an adviser if you are not knowledgeable about the construction process.

5.11 A few tips:

- Check window and door installations are draught-proof.
- Ensure that all radiators are equally hot when the system is fully on.
- Check for paint spills, drips or runs onto woodwork, quality of painting in corners/ behind doors.
- Nail and screw fixings should be countersunk, filled and sanded.
- Ensure that all mechanical and electrical fittings are operating successfully and are covered by an appropriate warranty (make sure you have all the relevant documents).
- Check taps and pipework for drips and leaks.
- Any spots of dampness around wall openings or at roof/wall junctions could be the result of a cold-bridge, which is a fault in the construction (see diagram on page 20).
- Ensure a Completion Certificate is obtained from Building Control.

## **6.0 RENOVATING, CONVERTING OR EXTENDING**

6.1 The best way to make a new development fit into the landscape is to take an existing building and sympathetically extend, convert or renovate it, taking advantage of possible grant aid in the process. If the building is 'listed' for its architectural or historical importance, the category of listing will determine the extent of change that can take place, but grant awards could also be higher. The re-use or conversion of an existing building will also contribute to the sustainable regeneration of the neighbourhood.

### **CHOOSING A PROPERTY**

6.2 Choosing a property to alter or renovate will require a degree of luck and some serious investigation as likely properties become more and more rare.

6.3 Generally, the further you go from Lerwick the more likely you are to find a property that hasn't been restored, particularly on one of the outer islands.

6.4 If you find a property that is for sale, you can check whether or not it is listed by contacting the SIC Conservation Service, who also offer grants for refurbishment of Listed Buildings, property within Conservation Areas and occasionally other older property that is of local architectural interest.

### **SURVEYS AND FINANCE**

6.5 Having found a property it is essential to have a full structural survey carried out before you commit to buying. Old properties may have many problems and the secret of successful renovation is to solve these whilst still retaining the character of the building.

6.6 In particular, roof and floor structures can be inadequate for modern loadings, and damp proof courses are often notable by their absence. If a roof has had a felt or tar roof covering, its rafters may be too small and at too wide centres to support a slate or concrete tile roof.

6.7 Bear in mind that even modern houses can also conceal nasty problems. Many houses in Shetland were constructed with a type of concrete block which is prone to degrading. Dry-dash harling has been a problem and there have been many failures of sealed double-glazing units, which have not been designed for Shetland's exposure rating.

### **DESIGN PRINCIPLES**

6.8 An extension to a building should be consistent with the original in form, scale and style. The photographs below illustrate houses that have been sensitively restored and extended sympathetically, using traditional materials and continuing the existing building forms.



Traditional..... and modern extensions.

6.9 In planning an extension to a house, whether old or modern, the four design considerations are **form, scale, siting and detailing**.

6.10 **Form:** The form and shape of the existing building should be maintained in any new extension, matching gutter & ridgelines and reflecting the existing building lines and roof pitches.

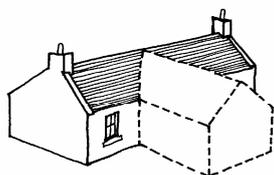
6.11 **Scale:** The extension should be equal to or smaller than the original, in most cases. In particular, it should be no higher.

6.12 **Siting:** Whether the extension is a continuation of the original or abutting it, positioning with regard to the site, landscape and the weather must all be carefully considered.

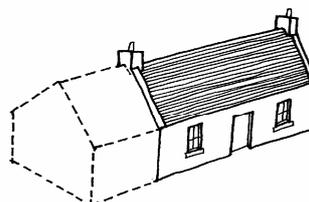
6.13 **Detailing:** The detailing and materials of an extension will be vital. The photographs below show a traditional extension in stone & slate extending the existing form and matching the windows. The modern extension (below right) introduces modern forms and materials, but repeats the lines and balance of the original and so the overall impression is of compatibility.



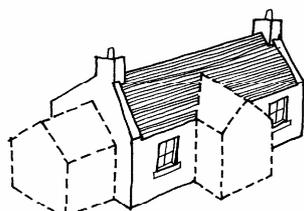
Renovated croft house with modern extensions.



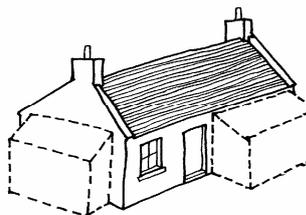
Roof pitch & gable width should generally match the existing.



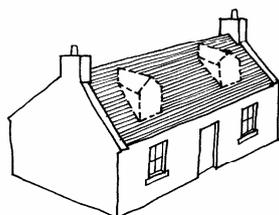
An extension should not be larger than the original house.



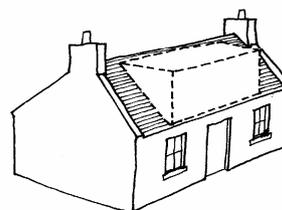
Extensions set back from the building line avoid difficult bonding & jointing and ensure the extension is subservient.



A monopitch lean-to extension should be small in scale.



Traditional dormers should be carefully proportioned relative to the roof & ground level windows.



Box & flat-roofed dormers will be totally out of character on a traditional property.

Figure 21: Examples of house extension principles.

## LISTED BUILDINGS & CONSERVATION AREAS

6.15 As the aim of 'listing' buildings is to conserve the character and fabric of significant buildings, it follows that proposals to alter a listed building in a way that would damage its character are unlikely to be acceptable. It is however still possible to extend or alter a listed building, provided that it is done with care; a good example is Busta House, half of which is relatively modern but built to match the original. Generally any works must be respectful and sympathetic. A Listed Building is deemed to include everything within its curtilage (and that was in place before 1<sup>st</sup> July 1948) and also any neighbouring buildings that are attached to it. The setting of a Listed Building, whether urban or rural, is also protected. There are 3 categories of listing. Category A buildings are of national or international importance (such as Fort Charlotte or Gardie House). Category B are of regional importance and those in category C(s) are mainly of local importance.



Scalloway Haa, a Category A listed building, before and after careful restoration.

6.16 Listed Building Consent must be sought for the demolition of a listed property and for all works, inside and out, to listed properties that would affect their character or appearance. Conservation Area consent is needed for all demolition works to non-listed buildings within the Conservation Area. Within Conservation Areas, permitted development rights are generally restricted under an Article 4 direction, so works such as replacing windows, which would not normally require Planning Permission, may do so. Generally, all works should be compatible with the existing building in detailing, materials and construction techniques. Typically, roofs should be slate and walls should be pointed masonry or wet-dash rendered. Rainwater goods should be cast iron, but aluminium is an acceptable replacement; windows are likely to be timber sash & case with gloss paint finish, unless that was not the original style.

6.17 New development within a Conservation Area will have to be carefully considered to enhance and preserve its character, and be of high quality in order to fit in with the existing built and natural environments. Materials, form and scale will be the basic elements to pick up from neighbouring properties. Windows, in particular, should reflect the style of those adjacent, and be painted not stained. But this does not mean that new development must always be of a traditional design. For example, the TSB bank building and the nearby pumping station on Lerwick's Esplanade are wholly modern in style but they echo surrounding buildings in materials (stone in particular) and in some of their architectural details.

6.18 **Conservation Grant Scheme:** assistance is available towards the renovation and repair of Listed Buildings; traditional and older buildings within the Conservation Areas; and older buildings elsewhere that are of architectural or historic interest. The scheme is designed to assist with the additional costs of carrying out works using traditional methods and traditionally styled materials. The level of grant available depends on whether the building is Listed or in a Conservation Area and on the type of work that is being undertaken.

6.19 Lerwick Lanes Town Scheme Grant: this provides grant assistance for the repair and restoration of buildings and other works aimed at conserving or enhancing the Lerwick Lanes Outstanding Conservation Area. The rate of grant offered can be up to 50% of the cost of eligible works. The scheme is jointly funded by the Council and Historic Scotland. If you receive a Town Scheme Grant you will not be eligible for a Conservation Grant.

6.20 Detailed advice and grant forms are available from the Conservation Service at the Council's Infrastructure Services Department. You should not start any grant-aided works until the grant has been authorised and works will be inspected on completion to ensure compliance. Conservation Grant aided work will have to be to very high standards, using materials and methods suitable for the buildings or areas. Two quotations for the works will be required; the job should be completed and a claim for payment made within 12 months of the grant being offered. We strongly recommend that you discuss your proposals with the Conservation Service prior to submitting any grant application.

6.21 **Archaeological Sites** must not be disturbed or compromised by any new development. Any works that affect a **Scheduled Ancient Monument** require Scheduled Monument Consent, which is administered by Historic Scotland on behalf of the Scottish Ministers. For general advice on archaeological sites, please contact the Shetland Archaeologist, who is based at the Shetland Amenity Trust and maintains the Sites and Monuments Record.

6.22 Reference can also be made to the Historic Gardens and Designed Landscapes Inventory.



## **LIST OF APPENDICES**

Appendix 1 : Examples of Shetland house designs

Appendix 2 : National planning guidance

Appendix 3 : The evolution of Shetland housing

Appendix 4 : Useful addresses & contacts

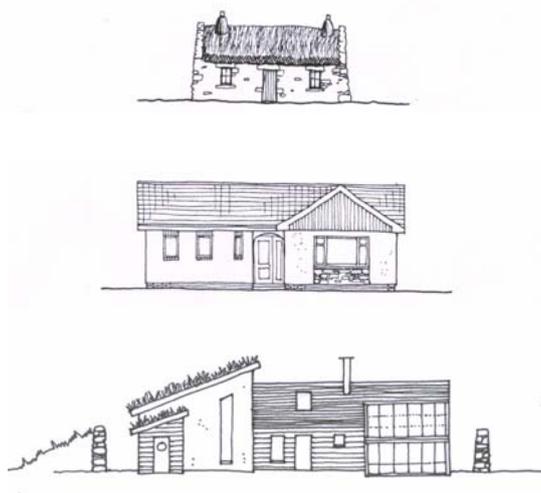
Appendix 5 : Planning issues

Appendix 6 : Road & access standards

Appendix 7 : Septic tank guidance

Appendix 8 : Examples of house designs

Appendix 9 : Exterior Lighting



# APPENDIX 1

## **Examples of Shetland House Designs**

<https://www.shetland.gov.uk/downloads/file/1859/examples-of-shetland-house-design>

## APPENDIX 2

This advice is based on the following Scottish Executive planning advice: All of these are available on the Scottish Executive website [www.scotland.gov.uk/planning](http://www.scotland.gov.uk/planning) or from Victoria Quay tel: 0131 244 7551.

**SPP 1 : The Planning System** (Scottish Planning Policy No.1, issued November 2002); SPP1 identifies the key priorities for the planning system in Scotland, setting out the key principles to guide policy formulation and decision making. SPP1 has sustainable development at the heart of its guidance, promoting: regeneration, protecting & enhancing natural heritage, encouraging energy efficiency through the layout & design of development, considering the development lifecycle from the outset and encouraging the prudent use of natural resources. Design is covered in sections 17-19, stressing its importance and benefits to the urban and rural environments.

**PAN 36 : Siting and Design of New Housing in the Countryside** (Planning Advice Note 36, February 1991); This sets out to encourage a more sympathetic approach to siting and adoption of design which pays regard to regional variation. Roadside & skyline development should be avoided and the characteristics of indigenous building design incorporated into new. Guidance alone cannot result in better buildings but it can ensure that they are more sympathetic to/compatible with traditional buildings in their context. Form, proportion, scale, elements, details & materials must all combine to make a successful design.

**PAN 44 : Fitting New Housing Development into the Landscape** (March 1994) This covers the development of groups of houses in the landscape. The loss of traditional character, site analysis, layout design and landscaping are all topics covered in detail within this document.

**PAN 67 : Housing Quality** (February 2003); This sets out the long term benefits of good quality housing design, for the community and the resident, while defining the problems of poor design; it also sets out the roles to be played by the planning process.

**INVESTING IN QUALITY : Improving the Design of New Housing in the Scottish Countryside** : A Consultation Paper (April 1998 Scottish Office) A discussion paper, following on from The Scottish Office 'Towards a Development Strategy for Rural Scotland' (October 1997), focussing on the role of good design in the sustainable development of rural communities.

**DESIGNING PLACES : A Policy Statement for Scotland** (November 2001 Scottish Executive) This sits alongside the Policy on Architecture [see below] and focuses on the role of the planning system to deliver a high quality built environment. This sets out the policy context for: planning policy, design guidance, professional practice, education and training. The main aim is the retention of character and a sense of place, via good quality modern design and the working together of all parties involved in the development process. Of particular relevance to Shetland are the sections on 'Urban and rural traditions', 'Sustainability', 'Design in the landscape', the planning 'Framework' and the 'Value of good design'. One of the final sections covers the need for localised design advice ' ~ which is where 'The Shetland House' fits in.

**A POLICY ON ARCHITECTURE FOR SCOTLAND** (2001 Scottish Executive) A landmark policy which addresses the issue of good architectural design as being of national importance.

# APPENDIX 3

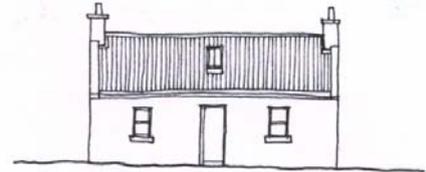
## THE EVOLUTION OF SHETLAND HOUSES

Rural domestic buildings have evolved substantially in character over the past 200 years:

The traditional small croft house with thick stone walls and a thatched roof, often with outbuildings attached to either/both gables, small windows. ▶



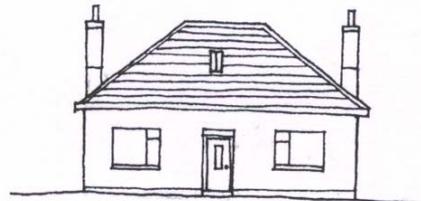
New materials and building techniques lead to slate/profiled metal roofs, thinner walls, larger & deeper house plan, larger windows and painted render walls. ▶



The constant improvement in building techniques/materials, as well as social changes, led to improvements in housing standards and construction. Bigger houses, more rooms and better facilities are becoming more commonly available. ▶



30s/50s bungalow, housing design becomes uniform across the UK. Modernisation of materials and building techniques, largely generated in southern Britain, spread north and lead to the continual demise of traditional techniques and local character. ▶



People aspire to leave their 'old fashioned' croft house and go modern, with cavity walls, tiled roofs, and bigger windows. ▶



All reference to traditional houses disappears; bungalow/kit styles become the cheapest and easiest housing option. Larger rooms, highly insulated but less character and little or no reference to the forms and materials that give an area its identity. ▶



and the future?.....

Environmental awareness and higher levels of design expectation and knowledge lead to more sustainable houses and individuality. ▶



# APPENDIX 4

## USEFUL ADDRESSES / CONTACTS

**Shetland Islands Council,  
Infrastructure Services Department,  
Grantfield,  
Lerwick,  
ZE1 0NT.**

**Tel:01595 744800**

Use the above address + phone number for:

**Building Control Service**  
(all queries concerning Building Warrants)

**Planning Control Service**  
(all queries concerning planning permission and applications)

**Development Plans Service**  
(for all queries concerning planning policy)

**Conservation Service**  
(for all queries relating to Conservation Grants, Listed Buildings and Conservation Areas, designed landscapes and wildlife sites)

**Energy Unit**  
(for all queries relating to sustainable and energy conscious design, including energy management and conservation)

**Environmental Health Service**  
(all queries concerning housing improvement grants or housing conditions in general)

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### SEPA

For environmental protection issues e.g. pollution.

**Tel:01595 696926**

Or Marine Lab. Aberdeen

**Tel:01224 876544**

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**S.I.C.  
Roads Service,  
Toll Clock Centre,  
Lerwick,  
ZE1 0PE.**

**Tel:01595 744870**

For all queries concerning roads, accesses, parking and turning.

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**Shetland Amenity Trust,  
Garthspool,  
Lerwick,  
ZE1 0NY.**

**Tel:01595 694688**

For queries relating to grant aid and archaeological investigation.

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**The Crofters' Commission,  
Castle Wynd,  
Inverness,  
IV2 3EQ.**

**Tel:01463 663450**

For all queries relating to crofting issues, de-crofting and grants.

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### Energy Saving Trust (DTI)

For grants to install solar panels or P.V. tiles.

**Tel:0800 298 3978** or visit

[www.energysavingtrust.co.uk/solar](http://www.energysavingtrust.co.uk/solar)

[http://www.solartwin.com/grants\\_info.htm](http://www.solartwin.com/grants_info.htm)

**For further info on all grants:**

[www.practicalhelp.org.uk/housing/funding/fundingdb/](http://www.practicalhelp.org.uk/housing/funding/fundingdb/)

<http://www.est.org.uk/schri/household/grant.cfm>

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# APPENDIX 5 : PLANNING ISSUES

## HOUSING ZONES

All of Shetland has been classified into 4 housing zones, to guide housing development. The housing zones have been drawn up by the local community/Community Council so that local needs and concerns become an integral part of the planning process.

As well as conforming to the general requirements (see Local Plan Policy LP HOU4 and points *a to o* below) new development must conform to the following Zoning requirements:

**Zone 1** areas are generally at the centre of established settlements where new development is welcome and encouraged. Proposals for two or more houses should reflect the character and density of surrounding [existing] development.

**Zone 2** areas are settled countryside in rural areas generally away from Lerwick. Here applications for new development will be favourably considered, as long as they are not on the best agricultural land; for 2 or more units they must reflect the established settlement pattern.

**Zone 3** areas are countryside areas close to Lerwick, where new development must: be within/adjoining an existing building group [2 or more domestic scale buildings], must not extend roadside development or be on the best agricultural land. Proposals for 2 or more units should also form loose clusters which reflect the pattern and density of surrounding development.

**Zone 4** areas are open countryside where new dwelling houses will only be permitted in exceptional cases: for crofting purposes, as part of a building group and not on the best agricultural land.

See the **Shetland Local Plan** for area zoning maps and Zoning Policy LP HOU4.

In all zones, applications for new houses, for the conversion of a building to form a house, or the bringing back into use of an abandoned dwelling, will need to meet all of the following general **requirements**:- [abridged]

- a) the site is not located within an identified local protection area.;
- b) the site is not less than 5 metres above MHWS (mean high water springs) or any flood risk;
- c) the solum of the house is not less than 5 metres above MHWS, unless it can connect to an existing public sewer;
- d) a suitable and sufficient water supply can be provided;
- e) suitable waste water disposal facilities can be provided. Where more than one dwelling is proposed, a communal septic tank or connection to an existing sewer is required;
- f) if the site lies within the catchment of a drainage scheme (existing or committed), connection to the scheme will be required;
- g) development is sited to reflect the character, style, pattern and density of the surrounding area;
- h) all new accesses will be assessed on their merits, to ensure that a safe road access can be achieved, taking into account traffic speeds and volume, carriageway width, visibility and the number and proximity of other accesses;
- i) the proposed development is in accordance with the Council's access and car parking guidelines;
- j) the proposed development is in accordance with the Council's guidance on siting, design, amenity space, materials and colours; the proposed development will not have a significant adverse effect on neighbouring uses;
- k) the proposed development will not have a significant adverse effect on neighbouring uses;
- l) the proposed development should, as appropriate, provide each unit with a minimum of 100m<sup>2</sup>. of private amenity space, usually at the rear;
- m) the proposed development will not harm Listed Buildings/settings, Conservation Areas, Scheduled Ancient Monuments or sites notified for nature conservation/landscape value;
- n) the proposed development will not significantly harm sites of local archaeological, botanical or wildlife importance;
- o) the proposed development will not prejudice future mineral extraction.
- p) the proposed development does not conflict with other Structure and Local Plan policies.

# APPENDIX 6: CAR-PARKING, ACCESS, TURNING AND ADOPTABLE ROAD STANDARDS

## Car Parking

All residential development should provide suitable parking provision for both the occupants and visitors. Spaces should be provided at the rate of:

- 1½ spaces per 1 bedroom unit,
- 2 spaces for 2 and 3 bedroom units,
- 3 spaces for dwelling units with 4 or more bedrooms.

Housing development within Conservation Areas may be permitted a lower level of parking provision (in accordance with Appendix D of the Shetland Local Plan).

A reduction in overall parking provision may be permitted where communal parking is provided to serve a number of dwelling units (in accordance with Appendix D of the Shetland Local Plan).

Parking spaces should be well located in relation to the dwelling units they serve and should be easily accessible. For that reason it would not normally be acceptable to count any parking spaces within a garage or stacked behind another space. However, provided that adequate justification is given, there may be instances where the provision of a parking space within a garage is deemed to be acceptable.

Please refer to Appendix D of The Shetland Local Plan for more details of car parking standards or contact the Roads Service for information and advice.

## Access

All properties and developments require to be served by a safe and convenient means of access and egress onto the road.

In order for vehicles to enter or leave a road safely and without significant inconvenience to other vehicles on that road drivers need to be aware of each other with such warning that they have time to judge the speed or anticipate the actions of each other.

To ensure this all new accesses need to be located such that they do not conflict with any existing accesses points or junctions and are constructed such that they provide adequate visibility of approaching vehicles and pedestrians. Please refer to the leaflet produced by the Roads Service regarding Visibility Splays for more details of how these are determined.

In addition to adequate visibility and a suitable location the following requirements must be met by each development to ensure that the infrastructure serving the development site provides a safe access for vehicles. This is in the interests of public and road safety and is in compliance with the Shetland Structure Plan and Shetland Local Plan:

- There shall be no obstruction to visibility within the site in the area of the visibility splay. The Roads Service will determine the exact area of the visibility splay,
- The gradient of the access shall not exceed 5% (slope of 1 in 20) for the first six metres from the road edge,
- The access shall be piped with headwalls constructed at either end and set to a self-cleansing gradient (the diameter of the pipe will be determined by the Roads Service),
- The access shall be surfaced with bitmac for a least the first six meters behind the road edge,

- Site and access drainage shall be designed, provided and maintained such that no surface water from the site or access shall drain, or run onto, the public road.

For more information and advice on suitable locations for accesses or junctions please contact the Roads Service.

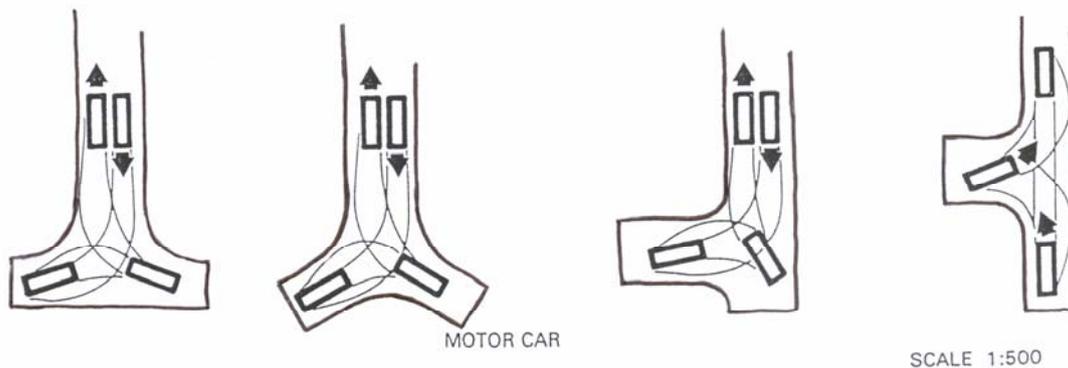
Please note that all accesses across either a footway or verge require written consent from the Roads Service and must be constructed to the standards specified in the consent. Accesses onto Class A, B or C roads also require planning consent.

## Turning

Most residential developments will be required to provide a suitable means of turning a vehicle off the road within the curtilage of the dwelling in order that vehicles may enter and leave the road in a forward gear.

The area required for this turning provision is in addition to a space required for parking provision.

Suitable turning provision may take several forms, from a simple 7.6m x 7.6m square area to one of the turning head designs as indicated below.



Where there are low traffic volumes and speeds, such as within a housing scheme or on residential streets, then direct frontage access may be permitted from parking spaces onto the road.

## Adoptable Road Standards

While all developments are required to be served by a safe and convenient means of access the provision of suitable infrastructure for both pedestrians and vehicles is very important to the overall success of any development.

The following standards indicate the level of provision that the Roads Service considers appropriate for various levels and types of development. While there is no absolute requirement to provide such a level of infrastructure provision for a development it would be prudent to ensure that adequate space is available to provide it in the future if necessary.

It should be noted that it is most unlikely that any existing access not conforming to the following standards would be considered for adoption as a public road.

For the following tables a rural setting is one where there is typically little existing housing development or it is small and dispersed in nature. An urban or developed setting would

refer to areas such as Lerwick, Scalloway, Brae, Gulberwick, Tingwall, Sandwick etc where there is an identifiable pattern and contiguous spread of existing development.

Development in a Rural Setting					
Road Width	Surface Type	Verge/ Footway	Up to 4 houses	5 to 8 houses	9 to 20 houses
3.0m	50mm dense bitmac or 2 coat surface dressing	1.0m grassed verge each side	<i>Only in certain circumstances - see note 1</i>	<i>Only in certain circumstances - see note 1</i>	
3.3m	100mm dense bitmac	1.0m grassed verge each side	✓		
3.3m	100mm dense bitmac	1.0m grass strip with 1.5m remote footway one side with 1.5m grassed verge on the other		<i>May be appropriate for lower density developments - see note 2</i>	
3.5m kerbed	100mm dense bitmac	1.5m footway one side with 1.5m grassed verge on the other		✓	<i>May be appropriate for lower density developments - see note 2</i>
5.5m kerbed	100mm dense bitmac	1.5m footway one side with 1.5m grassed verge on the other		<i>May be required for short accesses</i>	✓

Development in an Urban or Developed Setting					
Road Width	Surface Type	Verge/ Footway	Up to 4 houses	5 to 8 houses	9 to 20 houses
3.5m kerbed	100mm dense bitmac	1.5m footway one side with 1.5m grassed verge on the other	✓	<i>May be appropriate for lower density developments - see note 3</i>	
5.5m (6.0m for bus routes) kerbed	100mm dense bitmac	1.5m footway one side with 1.5m grassed verge on the other		✓	<i>May be appropriate for lower density developments - see note 3</i>
5.5m (6.0m for bus routes) kerbed	100mm dense bitmac	1.5m footways to both sides		<i>May be required for high density developments - see note 4</i>	✓
Courtyard type access and parking	Various material options	depends on layout design		<i>May be appropriate for certain types of high density developments</i>	<i>May be appropriate for certain types of high density developments</i>

## Notes

1. *Such a low standard of construction would only be considered in a remote rural location with a very low housing density in relation to the length of the road serving the houses such that the cost of providing a proper standard construction would be prohibitively expensive. However, such roads should have a smooth and flowing alignment with no tight or sharp bends.*

*Gradients throughout the length of the road should generally be below 5% and not exceed 6.5% at any point.*

2. *A low density development in a rural setting would normally involve large plot areas and/or distinct non-developable gaps between adjacent plots.*
3. *In an urban or developed setting a low density development would be readily identifiable through the provision of much larger plot sizes relative to the house sizes than those typically provided in the surrounding area. While all developments are ultimately assessed on their own merits it is unlikely that any relaxation would be applicable for developments within Lerwick, Scalloway, parts of Brae and Sandwick.*
4. *Developments in an urban or developed setting that have an identifiably higher density than other developments in the surrounding area are likely to be require to provide a higher level of infrastructure provision. However, all such developments will be assessed on their own merits as there may be mitigating factors.*
5. *Where a road width less than 5.5m is provided then suitable passing places will also be required, as may widening at bends and junctions.*

For more information and advice on appropriate levels of infrastructure provision or standards suitable for adoption please contact the Roads Service.

## APPENDIX 7 : Septic Tank Guidance

### Guidance on the Siting of Septic Tanks and Infiltration Systems, including Soakaways.

A poorly sited septic tank and/or infiltration system can cause endless problems for residents and neighbours. To ensure this doesn't happen, you need to consider how your development is going to be drained at a very early stage, even before you submit your planning application. Statutory national requirements are set down in the Building Regulations and by SEPA, with additional local experience and advice on ground conditions available from the Council's Environmental Health officers.

It is obviously unsatisfactory from a site layout, amenity and public health perspective to locate septic tanks and other foul drainage arrangements close to dwellings. It is important to consider where the septic tank and its associated infiltration system (e.g. a soakaway) are to be sited when you are considering the layout of your site, and should be submitted as part of your planning application. Development with septic tank drainage will not be permitted within the catchment area of a public water supply (see Shetland Local Plan policy LP WD5) or a mains wastewater scheme (see policy LP WD7). The Building Regulations and SEPA's Pollution Prevention Guidelines specify minimum distances, which septic tanks and infiltration systems should be from dwellings, boundaries and watercourses, these are adjusted and are often increased because of local ground conditions.

It is recommended for maintenance, emptying, access and ownership reasons that the **SEPTIC TANK** is sited **within the curtilage** of the site. Building Regulations require tanks to be at least **5 metres from the site boundary** and not be within 5 metres of the dwelling; however local ground conditions and past experience dictates a distance of **at least 15 metres away from a house is more satisfactory** and is recommended. Tanks for two dwellings or more require an accordingly greater distance. If you are building a single house in an isolated location, it may be possible to locate your tank on the adjoining land, however to prevent legal problems arising in the future, make sure you put in place the appropriate access rights and wayleaves with the landowner. Consult SIC Building Control to discuss the best options for your site.

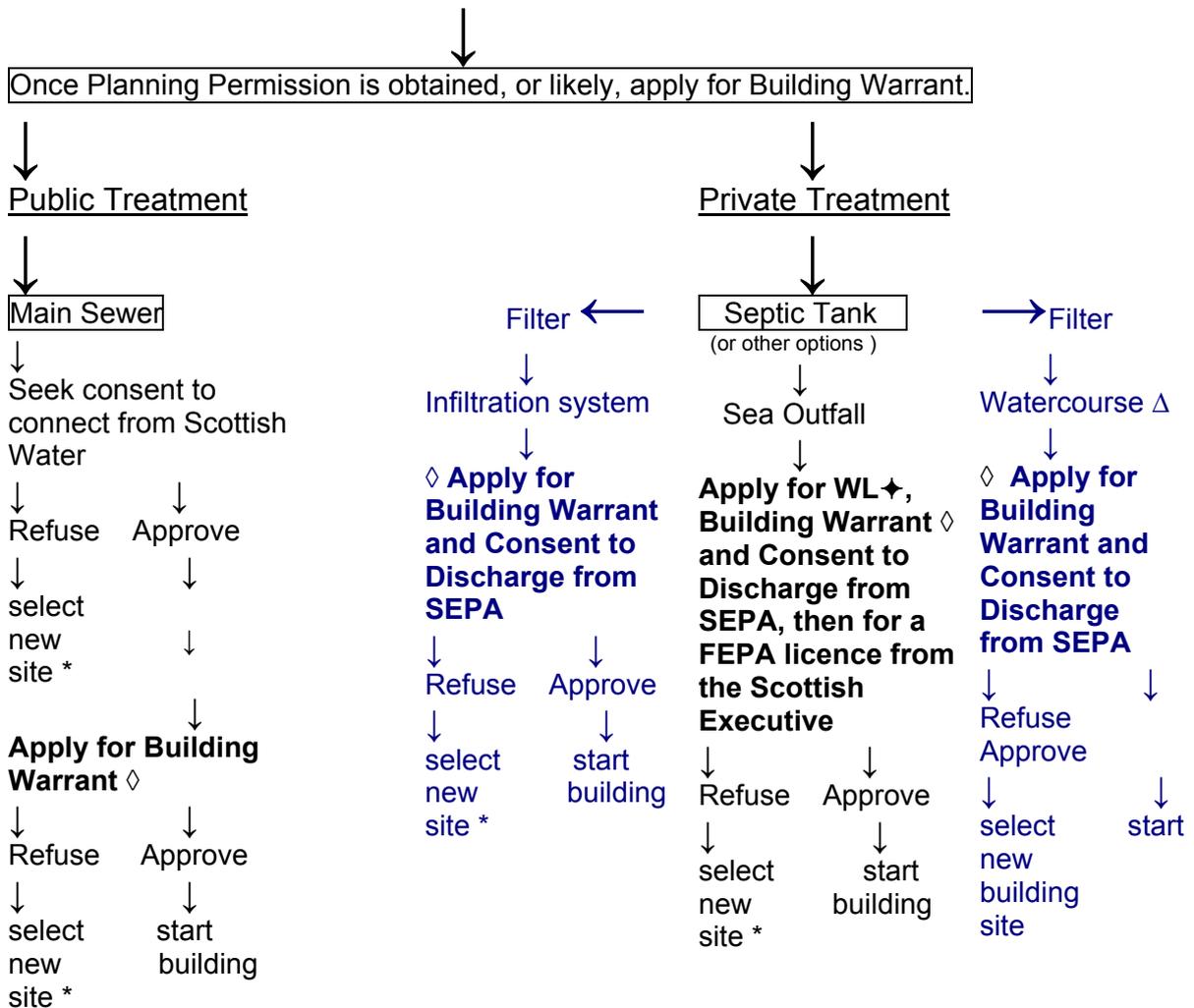
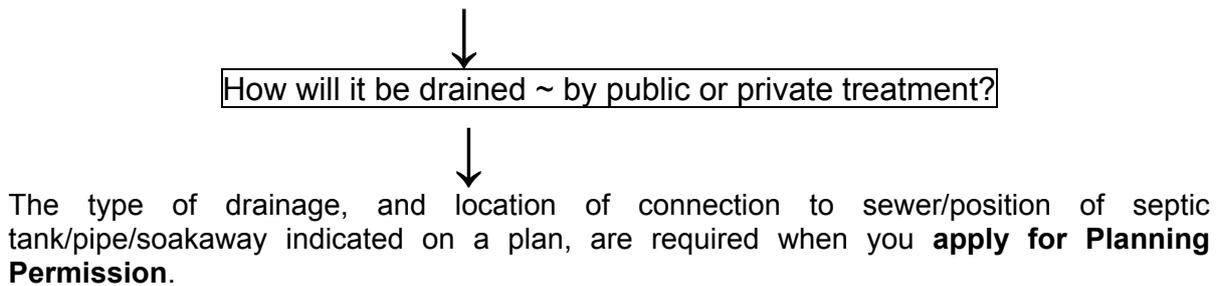
It is important that all septic tanks are sited so they are **accessible by the effluent disposal vehicle**, the distance given in the Building Regulations is **25 metres from the road**, but Scottish Water may accept a slightly longer distance; you should consult them directly.

The location of the **INFILTRATION SYSTEMS** including soakaways is also governed by the Building Regulations and SEPA's Pollution Prevention Guidelines. The specified distances for soakaways and infiltration systems are as follows:-

- **a minimum of 5 metres from a building or boundary;**
- **at least 10 metres horizontally from any watercourse, ditch, permeable drain, road or footpath and**
- **at least 50 metres from any spring, well or borehole used as a drinking supply.**
- **The suitability of the ground must be demonstrated by a ground assessment and percolation test, carried out by an approved engineer.**

## Diagram of Site Drainage Planning

*Identify Possible Development Site*



# We would strongly advise a pre-application discussion/consultation meeting with both Planning Control (to discuss relevant planning policies) and Building Control (to discuss building regulation issues); this should help to iron out any problematic issues at an early stage.

✦ A works licence is required for a septic tank that has a sea outfall. It is also recommended that applicants contact the Coastal Zone Manager to identify any Designated Shellfish Waters that a sea outfall may affect.

\* Select alternative site or different method of drainage; negotiate with Scottish Water for an advancement of capital works; the final option is to appeal against the refusal.

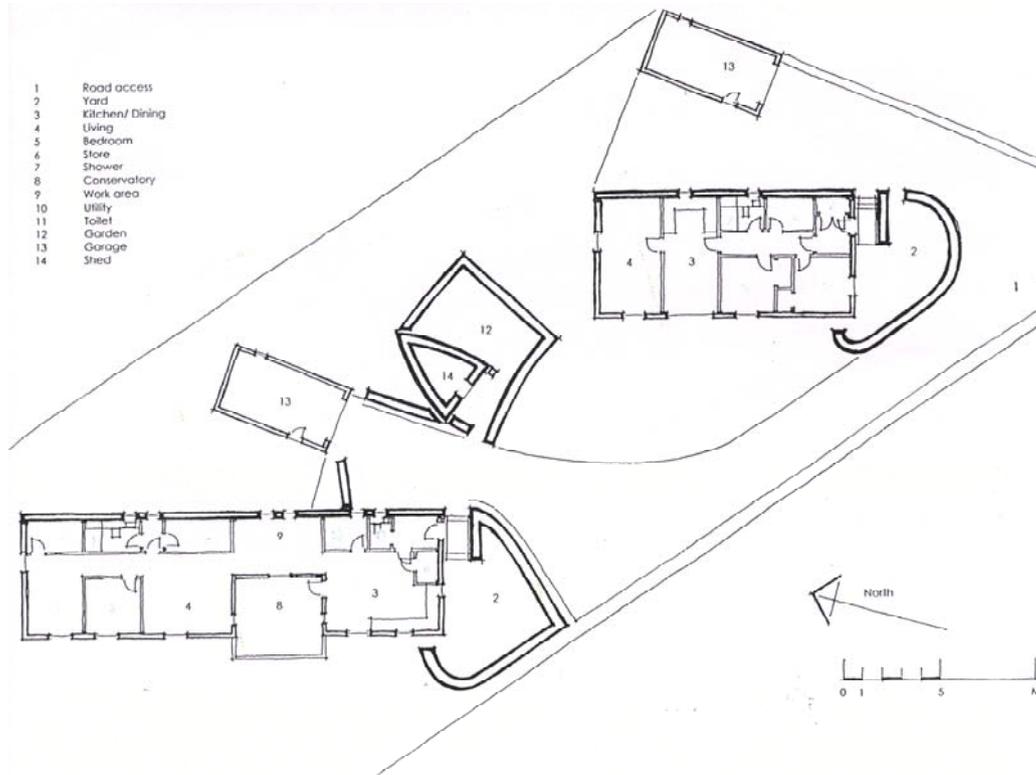
◊ A percolation test for both foul and surface water will be required for Building Warrant.

Δ Watercourses capable of receiving effluent are extremely limited in Shetland.

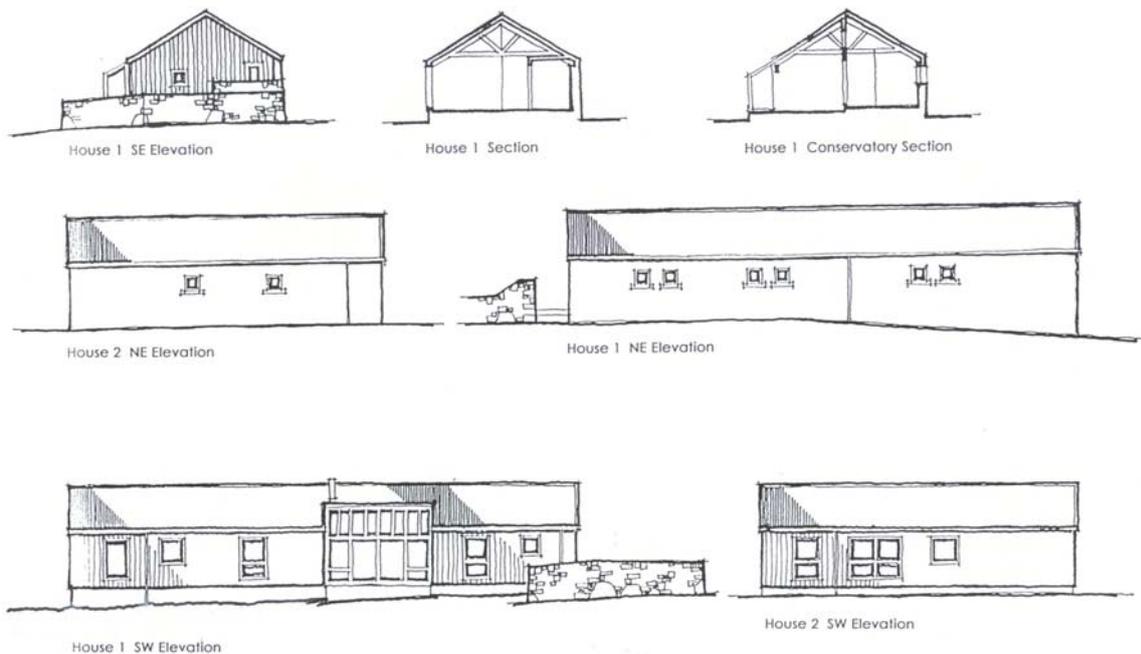
# APPENDIX 8 : EXAMPLES OF HOUSE DESIGNS

## House 1 : Scheme A [of 3]

These houses were designed by Mike Finnie, to whom we are grateful for permission to reproduce them here.

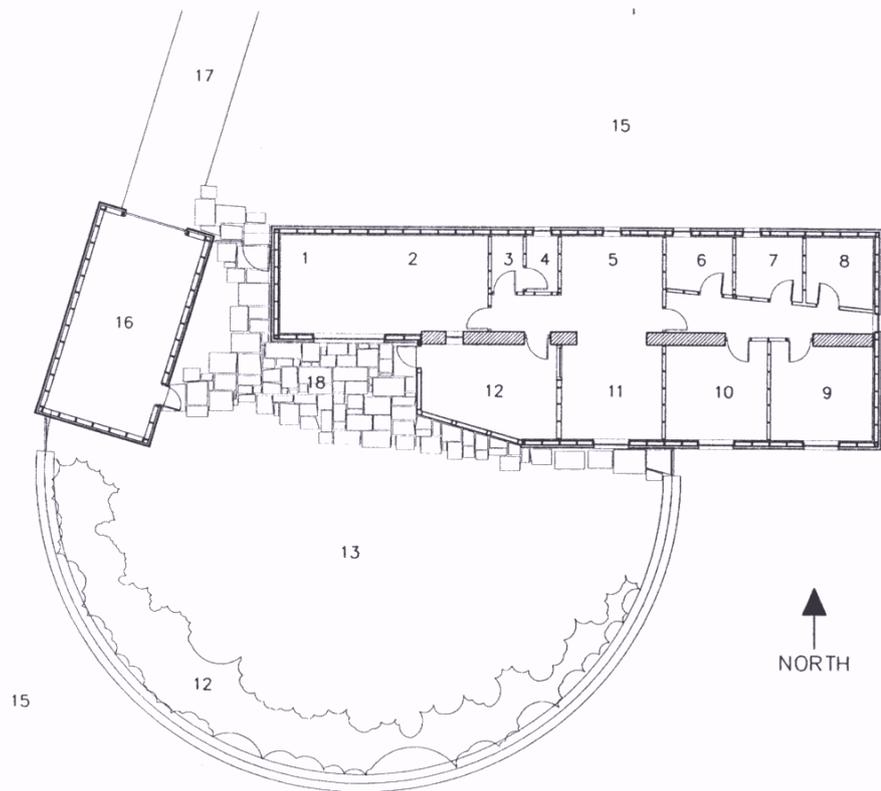


Principal house [left] and 'Mother-in-law' house, with outbuildings, carefully sited for independence and south-westerly passive solar gain. Sections show the solid wall to the NE and 'open' wall to SW.



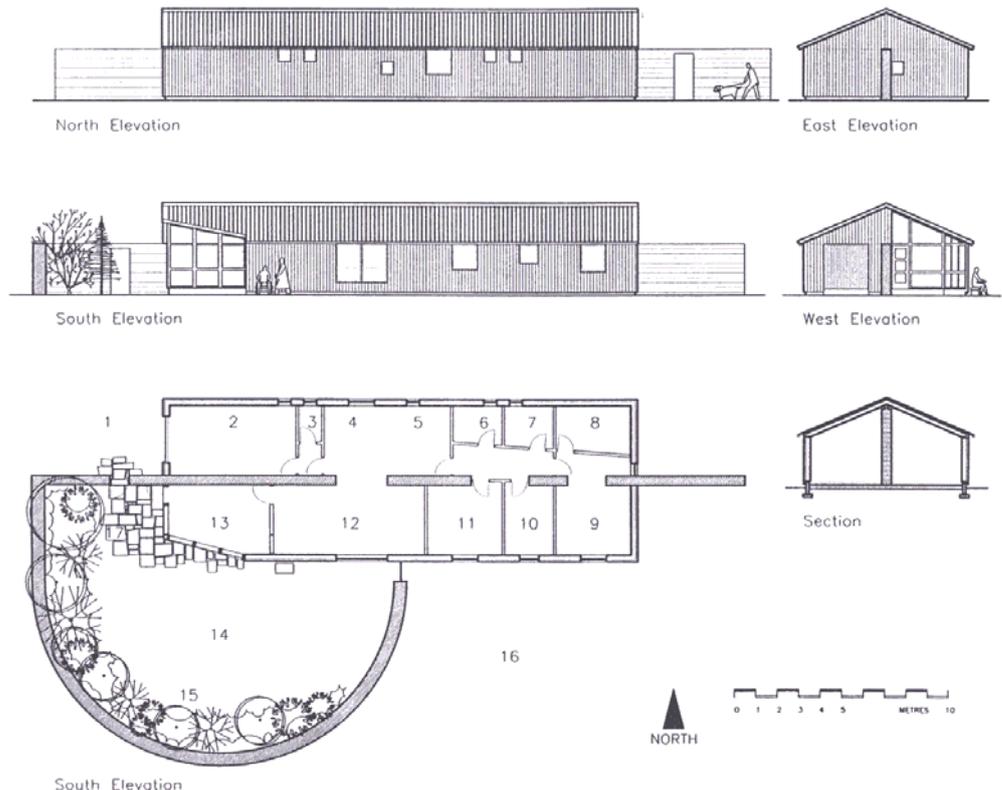
### Scheme B

- 1 Study
- 2 Living room
- 3 Store
- 4 WC
- 5 Kitchen
- 6 Utility
- 7 Shower
- 8 Store
- 9 Bedroom 1
- 10 Bedroom 2
- 11 Dining
- 12 Conservatory
- 13 Grass
- 14 Garden
- 15 Rough grass
- 16 Garage
- 17 Road Access
- 18 Briggistones



Living room, conservatory and dining open to the semi-circular enclosed garden. The circular element linking the rectangular elements as a protective group.

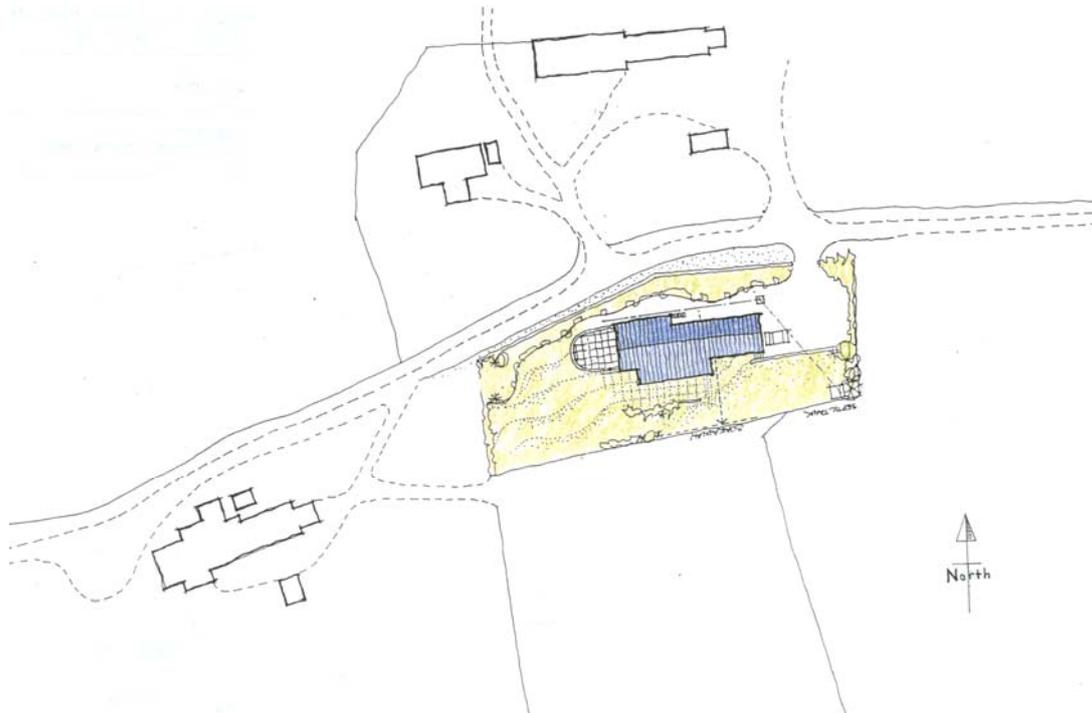
### Scheme C



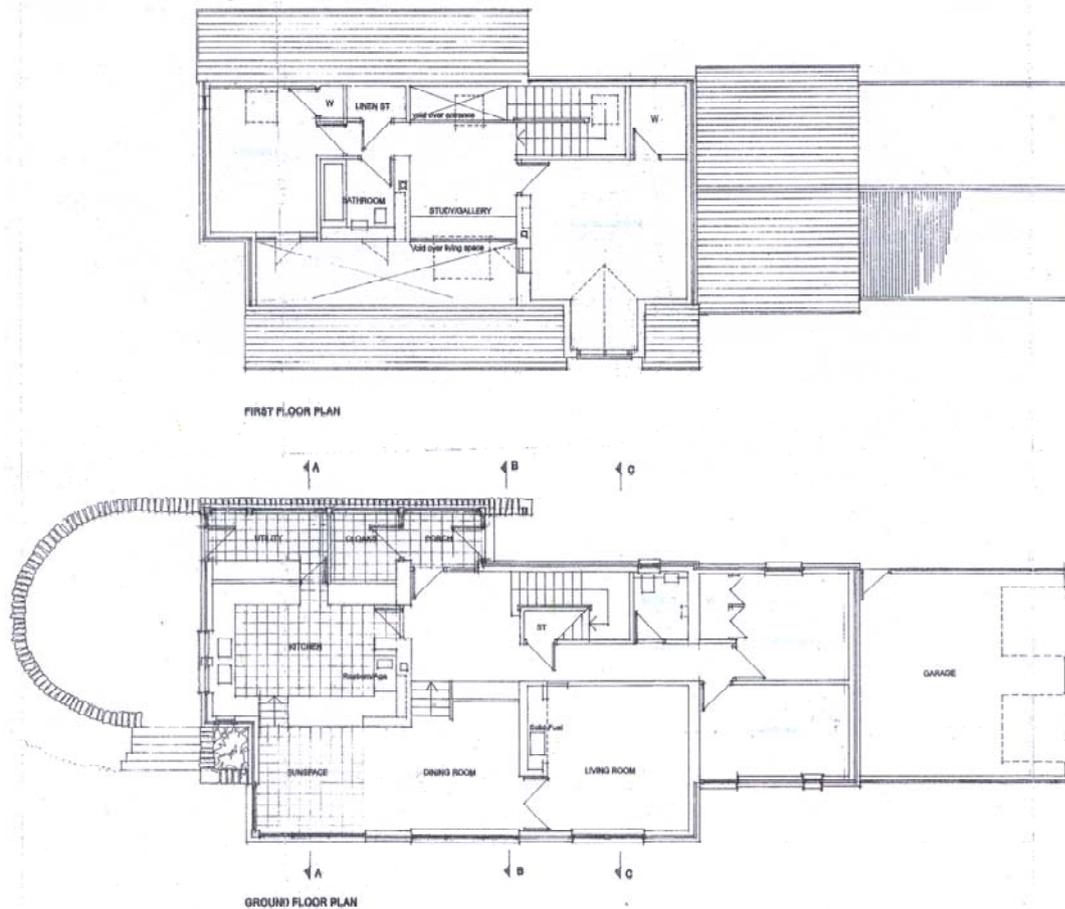
A more basic version of the design above.

## House 2 : Location Plan & Site Plan

The design for a rural house, fitting into the existing scattered settlement pattern and the lie of the land.



## House 2 : Floor plans



The modern plan evokes the traditional longitudinal layout, with ancillary buildings (a garage in this case instead of a byre) attached to the gable. Principal day rooms face south and

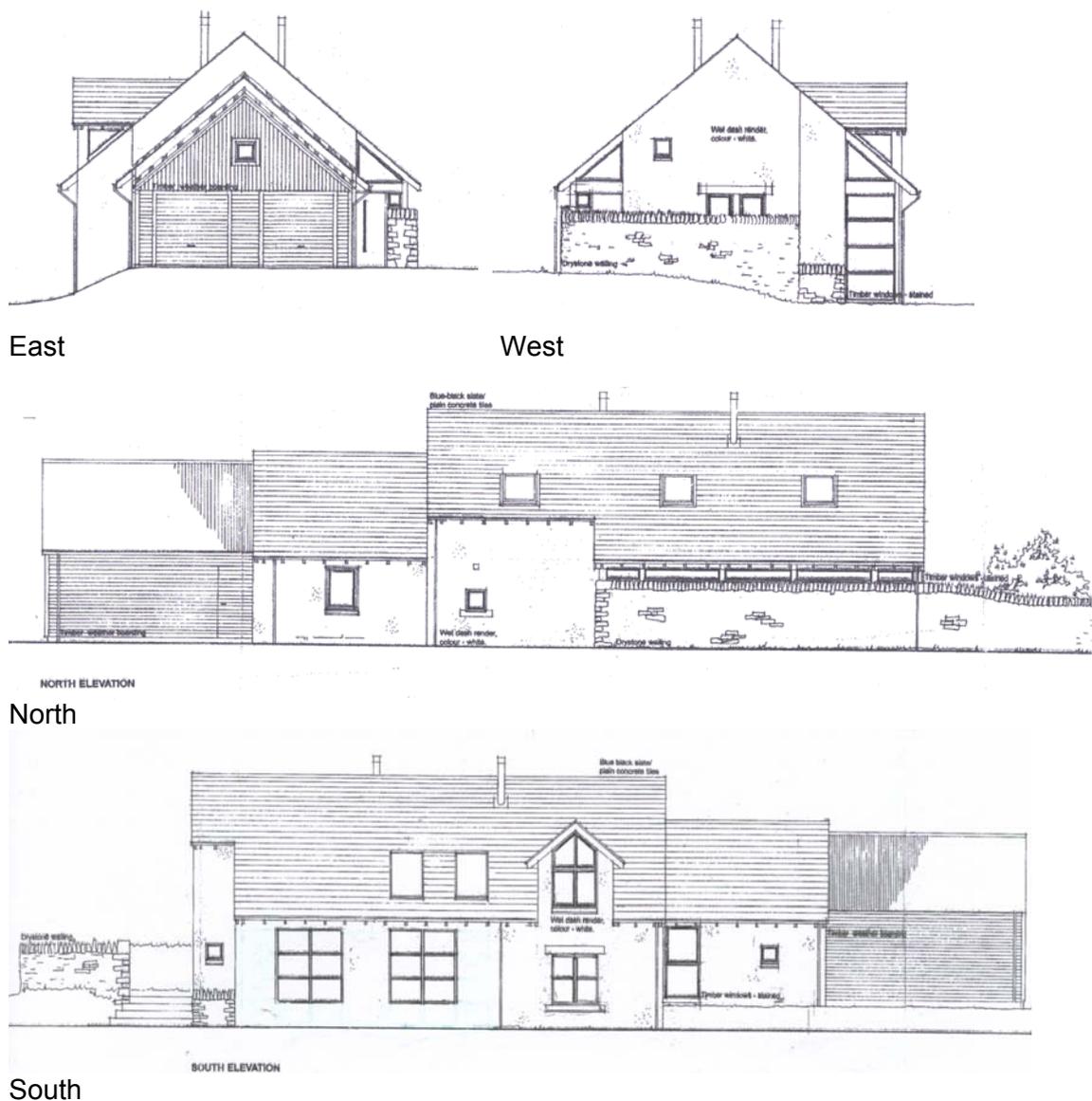
west, with secondary rooms against the north wall. Of note is how the thick stone wall to the north elevation continues as the curved garden wall, continuing to give shelter.

This design is for a house in a small remote settlement. The proposed house is located and oriented to respect the existing settlement pattern, which of course follows the contours and makes maximum use of the southerly aspect.

The north elevation has few and small window openings, the southerly being the opposite, opening up the living areas to passive solar gain and sweeping views.

The plan itself is relatively simple with flowing spaces and relatively little wasted circulation space. The elevations are traditional in form but incorporate modern elements and detailing; inside and outside spaces are carefully designed to be linked.

### House 2 : Elevations



The traditional materials [slate roof, white harled walls and dry-stane dyke] together with the extended simple form, are juxtaposed with modern elements such as the window forms and proportions, the modern and vernacular successfully combined.

## APPENDIX 9 : EXTERIOR LIGHTING

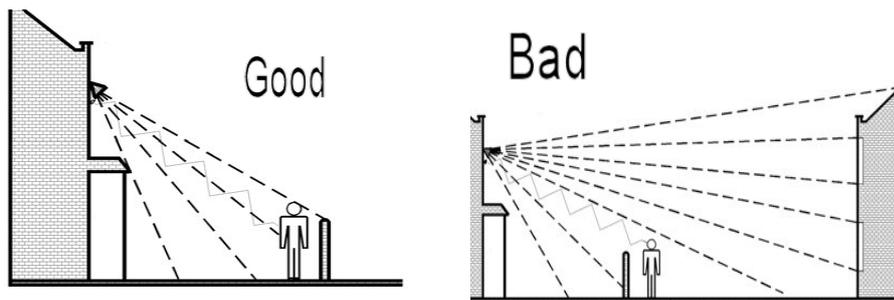
And finally, don't spoil your new house by annoying your neighbours with overly powerful and/or badly designed, positioned and directed external lights.

*Take care when selecting and installing external lights. Fit passive infra-red detector or full cut-off switches to ensure the lights are only on when they are needed.*

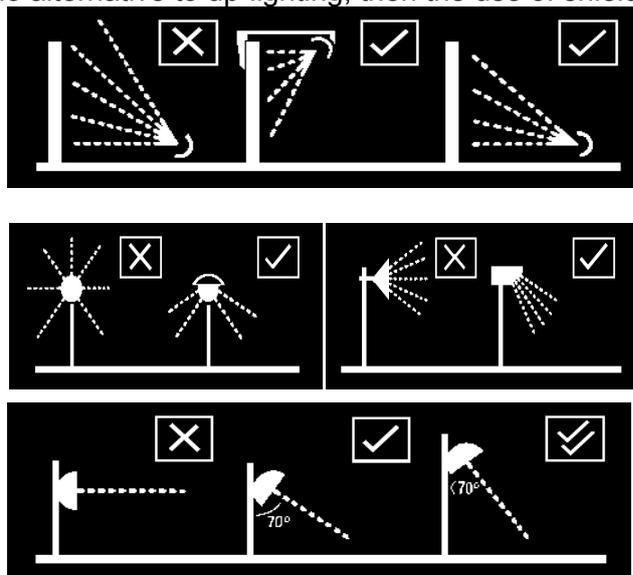
Be aware that the lights on your house may be spilling or trespassing onto another property, or spoiling other people's view of the night sky. Obtrusive light is a nuisance; don't allow your house to be the source.

### **A Few Tips on How to Prevent Obtrusive Light**

- If you need to keep a porch light on all night, a low wattage, low energy bulb or a 9W (600 lumens) compact fluorescent lamp is more than adequate in most locations.
- If you buy a DIY security light, it may be fitted with a 300W or 500W bulb. This is likely to be more powerful than necessary for most domestic applications and can be easily replaced by a 150W bulb. 300/500W lamps create too much light, more glare and darker shadows. 150W bulbs are readily available, inexpensive and use only half the electricity used by the 300W bulb.
- Ensure any exterior light you install is correctly aligned so that the light is directed to the areas where it is really needed.



- Direct light downwards wherever possible to illuminate its target, not upwards, if there is no alternative to up-lighting, then the use of shields and baffles will help.



For more information refer to the 'What is Light Pollution' leaflet, which is available from the Councils Planning Service.



## **THE SHETLAND HOUSE SHETLAND ISLANDS COUNCIL**

Development Plans  
Planning Service  
Shetland Islands Council  
Grantfield  
Lerwick  
Shetland  
ZE1 0NT