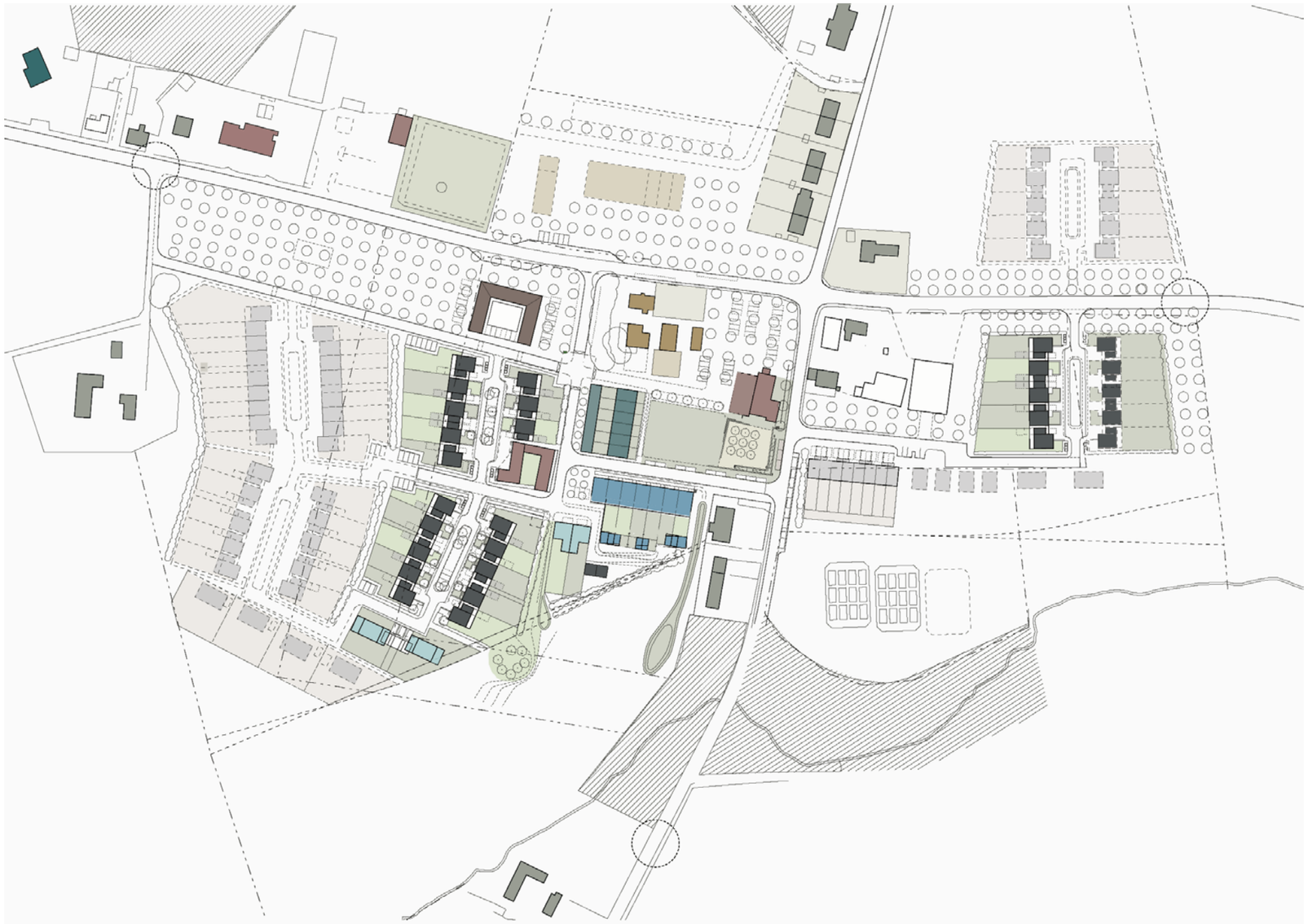


Fig 6.0 Site distribution of building types

6.0 Buildings

6.1 Introduction

The masterplan described in Section 2.0 responds to the existing site and the clients brief in creating a coordinated proposal that maximises the opportunities available in the creation of a sustainable development. This section describes the building types and their contribution to this vision.

Issues of sustainability affects all items in this section on Buildings with information on the mix of dwellings, the inclusion of affordable housing, the provision of work opportunities, the key construction details, materials and performance of buildings. Reference is made to their ecological footprint and a commitment is made to assess the environmental performance of the buildings before and after construction and use.

The arrangement of the buildings themselves creates the edges of the key spaces in Millbank for example the Green, (refer to Section 6.2) South Square (refer to Section 6.2) and the Homezones (refer to Section 5.0).

A zoned plot or feu is to be provided for each residential building type with zones for the core building, future expansion, the garden and for parking.

The key characteristics are described for the amenity and work buildings.

The arrangement of buildings creates a viable solution that can be phased in conjunction with other elements of the development. A core of sufficient density and scale around the Green.

.

Fig 6.1 Plan of the Green

6.2 The Green

While Millbank presently is formed around the crossing of the Aberdeen-Alford road, and the lesser Tarland road continued as Anvil Terrace, it is very loosely so. Ultimately it is our hope and intention that Millbank will develop fully, when this cross-road centre will be strengthened.

However, in the short to medium term we wish to develop the settlement so as to be friendly to old and young, and we thus begin its growth in the south-west quarter adjacent to the Hall, where we can create a safe, environment-friendly largely pedestrian “centre” based on the Green. The row of cottages at its west side, and the row of larger houses along the south edge will give an immediate focus of form and associated activity, somewhat like Monymusk, nearby.

The Green is the major public realm place and will be the centre for social activity in Millbank. It reinforces the existing Hall as a centre of local events by establishing it at the highest point of the new Green onto which the proposed Hall extension looks. The refurbishment of the Hall site in conjunction with the main development retains the tradition and culture of village life at the centre of the village.

The Green and the buildings that surround it will provide Millbank with a range of amenities and activities. The buildings include The Village Hall to the North East (to be refurbished and extended on the Green), a range of possible amenities in the cluster of refurbished existing buildings within the buffer zone to the North and the dwellings to the West (Cottages) and South (Village Houses). The activities on the landscaped area of the Green are described in section 3.3.6 - 3.3.7 will help to animate the grassed central areas.

6.2.1 Heritage

Millbank Cottage which sits within the refurbished building zone is listed at Category C(S). This building was built in 1902 with timber from The Cluny Estate (purchase orders still exist) by a local joiner, the owner of the adjacent timber mill. It is an interesting interpretation of the regional vernacular and adds to the rich character and heritage of the ‘cluster’ of existing buildings. It is and an asset to the qualities of the site.

Fig. 6 i) Millbank Cottage

Any proposal for the refurbishment and possible change of use of this building would be subject to the recommendations of the Built and Cultural Heritage team at Aberdeenshire Council. The development team would look to establish a function that will preserve Millbank Cottage and its special qualities in a sensitive manner for future generations. This function might be residential in nature, potentially as a place for rent, B+B or hostel. It could feasibly be converted into a visitor attraction with reference to timber construction techniques.
The scale and the materials of the other (stone, timber panels, sheet metal roofing and glass) ‘cluster’ buildings establishes a corner of the traditional Aberdeenshire cottage and farm building types which are reinterpreted within the proposed development areas to create an holistic and sensitive vision for the built environment at Millbank.

Fig 6.2 Plan of the South Square

6.3 The South Square

In contrast to the Green the South Square is a hard surfaced place with a formal planting of trees. South Square contributes variety to the site in a sequence of spaces connecting the Green to the site boundaries and the countryside beyond (refer to Fig 3.10).

The dimensions of the square are 35 m x 21 m and will be characterised by materials that contrast the finishes of the adjoining roads and pavements.

The square will be a shared surface, raised platform creating a traffic calming event.

The main building elevations onto the square are all 3 stories (2 plus dormers in the roof space);

- To the East the end building to the terrace of Village Houses there is a three storey apartment building. All elevations to be harled to match the Village Houses north elevation. Parking is possible in front beneath a formal grid of trees.

- To the South is a plot for 1-2 Manses or 2 Houses (they could be separated). Parking is either on the plot or behind in the garage area.

6.2.1 To the west a Health Centre with Sheltered Accommodation and Respite Facilities is proposed

This building would provide space for a 'mobile' General Practitioner to set up surgery. Interest has already been received for such a facility. In addition the building with its proximity to health care could be used as a respite home for those recovering from illness or injury.

Additional functions might include the provision of sheltered accommodation for the elderly supporting the ambition for Millbank to provide dwellings for all age groups.

The Health Building would create a significant civic edge to south square. The material palette would be in keeping with the rest of Millbank. A colonnaded sheltered pavement to the building would reinforce its role with in the community.


1


2


3


4

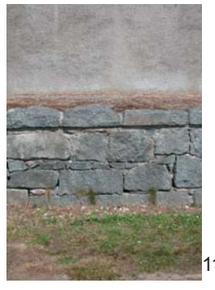

5


6


7


8

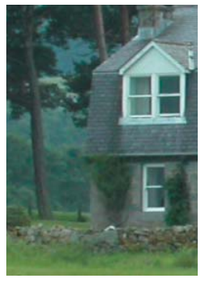

9


10


11


12

13



Key Reference details

1-3 Zinc roof with raised seams
4 Local materials; granite rubble walls and slate
5-6 Traditional Dormer windows
7-9 Painted harling with granite stones defining edges and openings
10 Granite walls and harling
11 Timber panels
12 Timber and glass
13 Innovative add ons such as grass roofs

6.4 Residential Buildings

6.4.1 Key Visual Details

- Elevation to public spaces will be of a suitably painted harl in the colour range white to off-white (or natural pink eg. Corrennie pink) to a specification of substrate and material to minimise the number of expansion joints. These joints where possible should be masked by rainwater goods. Finishes are to be agreed by control samples.
- A proportion of the harled elevations will be punctuated by openings framed by granite lintels and jambs. These granite elements are to be of a generous scale and will lend a dignity to the façade typology. Typically a main door will have above it a 2.4m long x 0.3m high x 0.25 wide single piece granite member. The jambs will be in either two or three pieces to a plan dimension to match the lintel.
- Granite type to be agreed by control sample
- A typical weathering detail to the base of all walls is to be developed
- Roofs are to be finished in either zinc with standing seams (a zinc composite sheet material with a standard set of details to be developed) or natural slate or comparable material in the same colour range
- The majority of gutters will be ½ round fixed to an overhanging eave but in some elevations parapet gutters with a zinc coping will be adopted
- Chimney/heat exchanger flues will be encased in a harled or zinc upstand with details to be developed
- Rooflights and dormer windows are to be to a standard set of details and dimensions
- Rear elevations will be either painted harl as per front elevations, zinc panels, or stained/painted boarding to a standard set of details
- Walls defining the boundary of the feu at the street fronting a public space will be either low, in granite rubble and with the capacity to be planted (see landscape section) or hedges of species consistent with the landscape strategy
- Windows and doors are to fabricated from FSC (Forest Stewardship Council) or locally sourced (grown) hardwoods. Plastics will not be acceptable.
- There is to be no clear visual distinction between affordable and market houses in build quality or finishes.

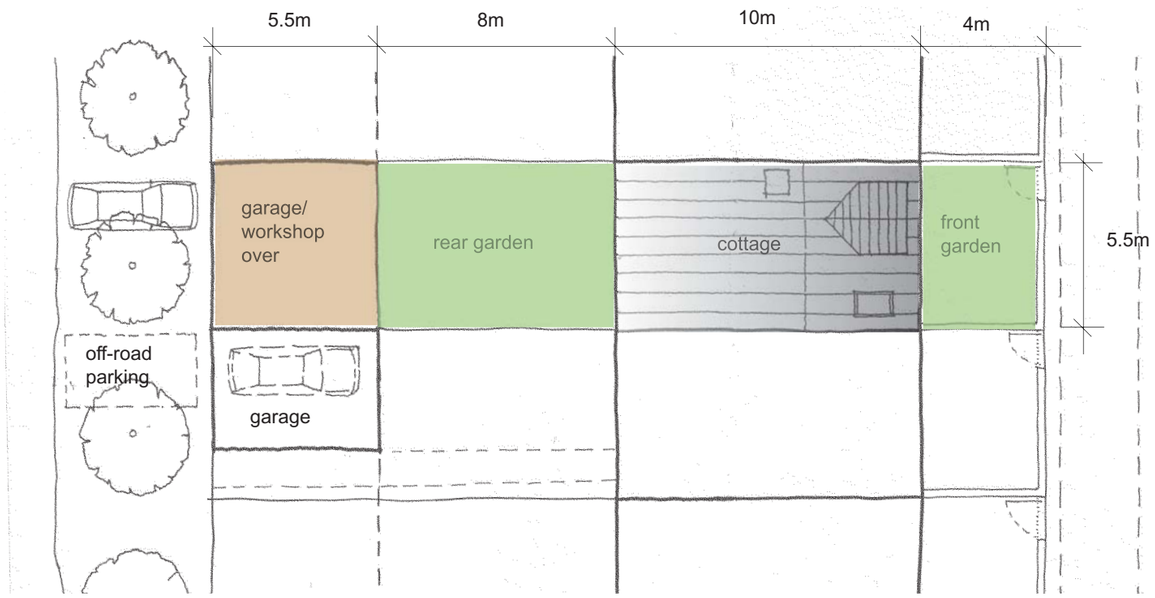


Fig 6.3 Cottage: schematic plan
1:200

6.4.2 Cottages

The six Cottages are to be arranged in a row on the west side of the Green (refer Fig 6.3) They are to be 5.5 meters wide by 10 meters deep and of two stories to provide 2/3 double bedrooms, living/dining/kitchen on open plan, utility room, cloakroom, bathroom and attic storage. Garages with workshops or studios are to be provided at the west end of the gardens with additional parking between gardens and lane.

The Cottage group is to be designed as a composed unit of identical houses on a level terrace.

Each feu is to be demarcated by a granite rubble wall with smart pointed cope to a height of 1.4 meters to the rear (West) of the dwelling and a maximum of 0.5 metres around the front gardens, or hedges of appropriate species consistent with the landscape strategy.

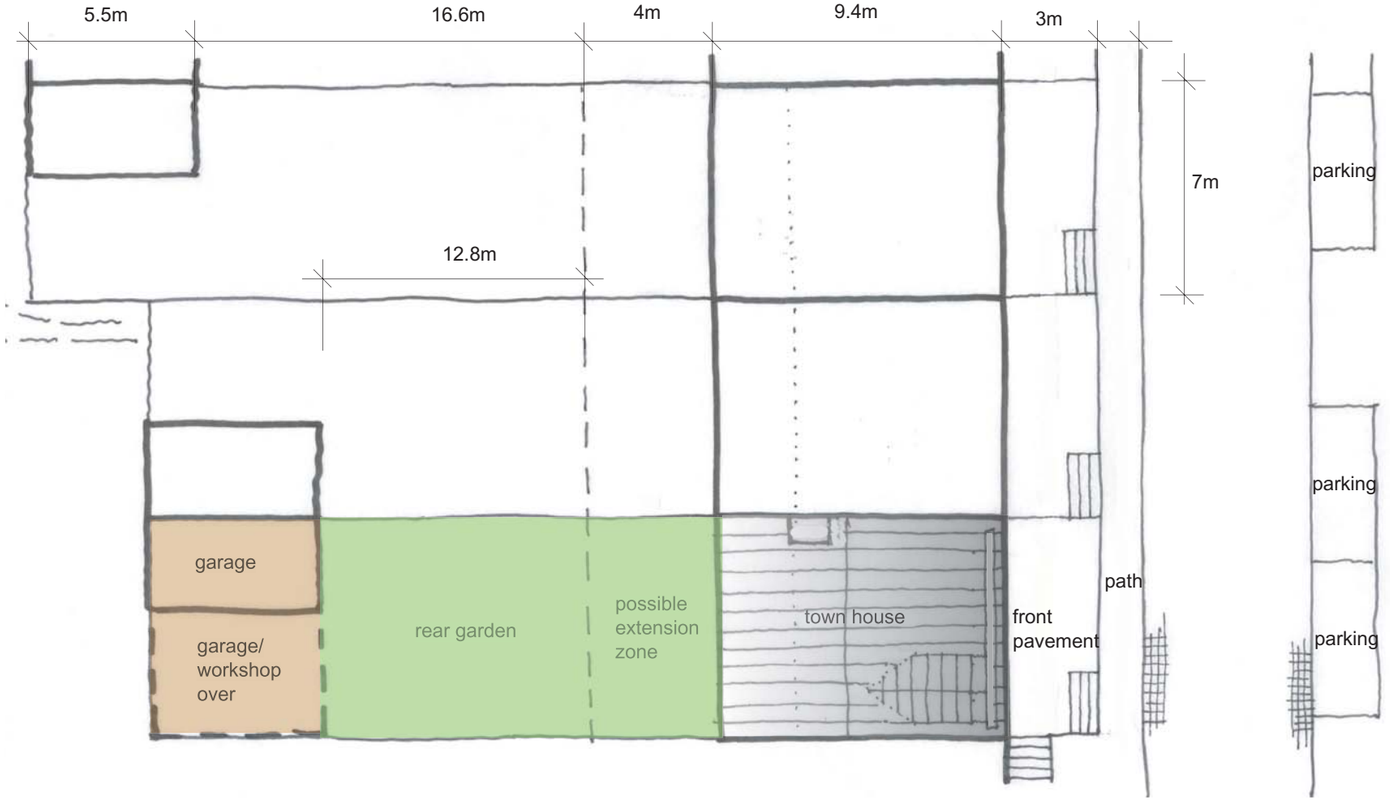


Fig 6.4 Cottage: schematic plan
1:200

6.4.2 Village Houses

The row of seven Village Houses on the south side of the Green (refer Fig 6.4) are to be designed as a composed group creating a unified composed frontage to the Green.

Each unit is to be built within feus 7 meters wide and 30-42 meters deep of two stories to provide: living room, second living room (study or media), dining/family/kitchen on open plan, utility room, cloakroom, three double bedrooms, and two bathrooms. Attic storage. Garages with workspace or studio to be provided at south end of gardens.

The depth of plan could be increased to 13-14 m to enable dwellings for larger family requirements to be met.

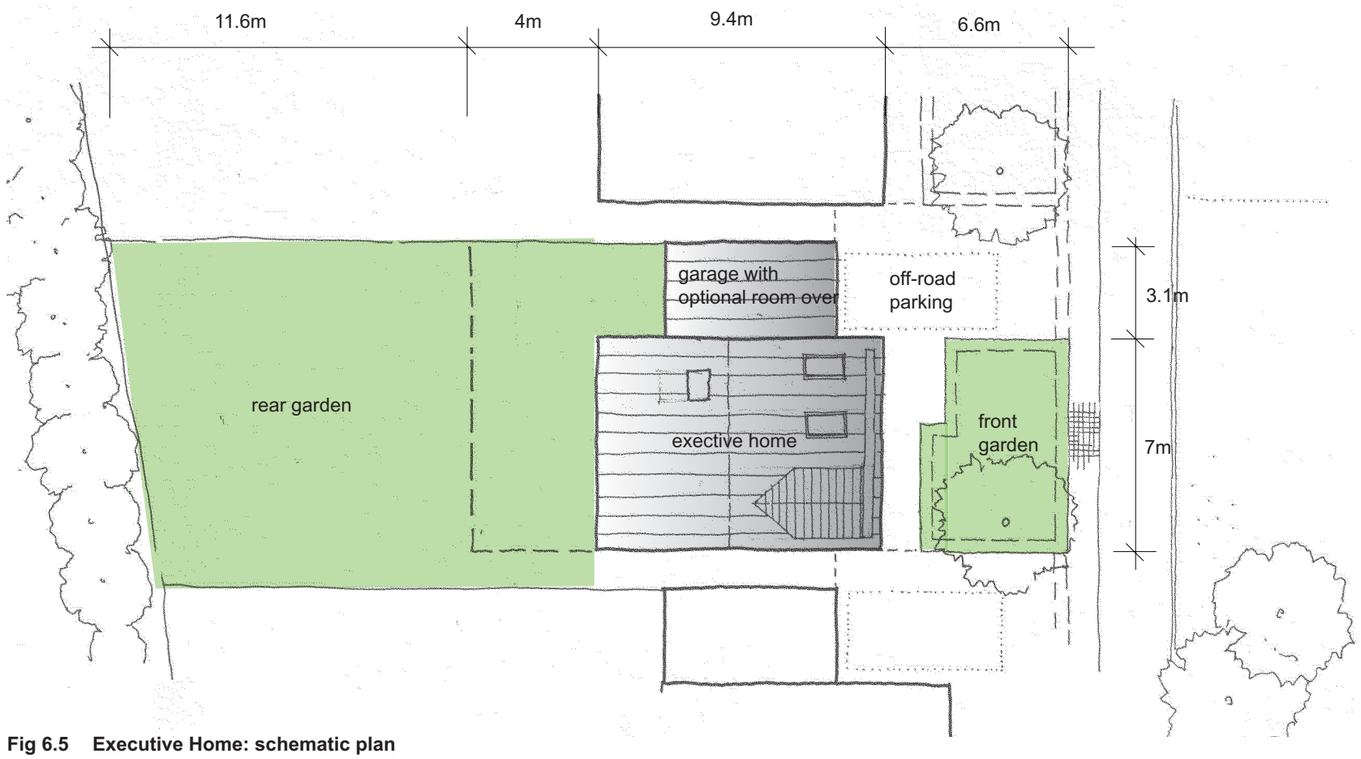


Fig 6.5 Executive Home: schematic plan
1:200

6.4.3 Houses and Manses

- A large number of Houses within the homezones (refer fig 6.0) will provide for variety of design, and to some measure, of size of feu
- They are to be generally of two stories to provide: living room, second living room, dining/family/ kitchen on open plan, utility room, cloakroom, four double bedrooms and three bathrooms. Each house is to have a garage (possibly double) with storage and off “street” parking, plus workspace or studio, and garden shed.
- Granite rubble wall and gables may be substituted for the lime harl finish granite
- Feus to be enclosed as for cottages; materials, roofs, rainwater goods as above. Materials for the walls of Houses may vary, so long as the frontages to the home-zones are composed to provide unity for the group.

- A number of large detached houses or Manses are to be provided (refer fig 6.0). These may vary in design but should provide: living room, study/ media room, dining room, dining/family/kitchen on open plan, larder, utility room/flower room, cloakroom, at least four double bedrooms, three bathrooms, and floored loft for storage or “bonus”. Double garage, ample off “street” parking, workshop or studio, and garden storage.

- Feus to be enclosed by granite rubble walls or hedges consistent with the landscape strategy (as Cottages, etc) including frontage to street or home-zone. Gates to be hardwood, or otherwise with approval of the The Millbank Regeneration Project. Material as Houses, roofs rainwater goods as above.

6.4.5 Employment and Amenities

Employment Buildings

Millbank is well located to attract businesses that would prefer a location out side Aberdeen with new dwellings for potential employees. The ethos of sustainability might attract R+D in renewable energy and sustainability from alternative energy research to building companies. Employees living in Aberdeen would be moving in the opposite direction to the rush hour traffic.

With the exception of the health facility at the centre of the residential development, Employment activities have been placed within the edges of the site, either side of the A944 within the Buffer Zone. These 'Rural Edge' locations have been traditionally associated with workplaces in rural settlements. They facilitate access to transport connections whilst minimising the impact of work activities on the amenity of residents. The existing work places including the derelict wood mill, Nicols Workshops and the Community Hall all lie within this zone.

There are a variety of employment opportunities at Millbank some can occur within the existing infrastructure whilst others within the refurbished cluster of building, could be related to the management of amenities at Millbank including;

- Bed and Breakfast / Hostel in the two cottages
- A central heating plant run on renewable biomass (woodchip from surrounding woodlands)
- Occasional markets; local farmers and crafts production (combined with the Hall)
- A site-central waste collection facility
- A central collection point for internet deliveries (a sort of 'Tesco Rural') might become a focal point or catalyst for other activities linked to the Tourism and activity potential of the location

The third location for employment at Millbank will be in new build properties either side of the A944.

Workshops
A single storey block of workshops and studios is proposed adjacent to the main site entrance off the A944. Materially they will comply with the guidelines at the beginning of this section. Timber may be more dominant given the location in the wooded buffer zone. Access is off the 'main residential street' not the A944. Sufficient parking spaces will be provided. The building will provide flexibility internally to allow a range of organisations to find accommodation for their business or research in Millbank. Additional workshops/ offices/ studios might be built further west within the buffer zone or to the north of the A944 should future demand require it. The scale of any future work buildings will respect the quality of the buffer zone to as largely wooded.

6.5 Residential Mix, Tenure and Flexibility

Social Cohesion and Inclusion is one of the key aims of SSP1. At Millbank we will achieve this through the promotion of a socially inclusive community through the provision of a mix of housing which are accessible to all.

6.5.1 Residential Mix

A mix of home sizes has is essential to provide for a range of lifestyles and family groups.

The range includes 1 bedroom apartments, 2/3 bedroom Cottages, 3/4 bedroom Village Houses, 3-5 Bedroom Houses and larger Manses. This range enables residents to remain on Millbank should their requirements change.

6.5.2 Tenure Types

A range of tenure types is to be accommodated at Millbank.

In discussion with Aberdeenshire Council an affordable housing allocation of 25% has been set for Millbank. It is proposed to meet this allocation with a mixture of let housing and affordable housing for sale. The affordable housing should not be obviously distinct from the market housing either in design, finishes or location. The mixture of affordable, market, sale and rent aims to bring balance to the settlement.

All of the affordable housing will be designed to meet the current standards recommended by Community Scotland and the National Housing Federations good guide 'Standards and Quality in Development'.

The proposal for a health building including respite and possibly sheltered accommodation would ensure a range of ages and family groups retain the potential to live a full life at Millbank.

6.5.3 Flexibility

Overall on-site flexibility or choice of accommodation is provided by the residential and tenure mix . In addition all dwellings will be designed to meet the requirements of Lifetime Homes Standards to accommodate the changing requirements of residents including the less mobile. These standards enable residents to adapt their homes as they become older or their circumstances change.

The zoned plots for Village Houses and Houses within the homezones provide a pre-determined area for extending homes on 1-2 storeys. Cottages, as well as the Village Houses have the potential for developing their garages into workshops or studios.

The construction method and materials selected for the rear elevations will facilitate the addition of extensions without excessive waste or structural complications.

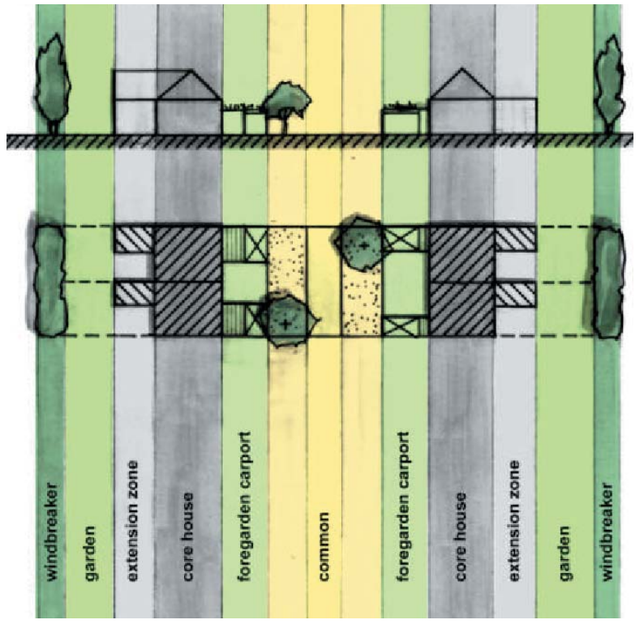


Fig 6.6 Schematic zoning of building plots

6.6
Energy Efficiency and Sustainable Design

6.6.1 Introduction

Building Construction and maintenance is responsible for 50 % of Carbon Dioxide production in the UK. The government has committed to significantly reducing these levels by 2020. Sustainability can be defined as 'meeting the needs of today without compromising the ability of future generations to meet their own needs'.

This design guide has proposed sustainable solutions for the landscape, maximising its potential in the location of planting and building, and the treatment of run off water and sewage and Biodiversity (Section 3.0). The location and orientation of the building groups has been detailed to make use of solar gain and the site topography (Section 2.0 and 5.0).

The goals of a sustainable development are;
- zero fuel use
- water use not exceed natural levels of replacement
- zero pollution
- material use at the level of replenishment,

The achievement of these goals is subject to constraints of current technologies, lifestyles and available finance.

Innovation in sustainability carries with it a financial and performance risk. At Millbank the intention is to work towards these goals using robust and tried methods whilst enabling the add on of more advanced technologies such as Photovoltaics and Solar Heating by individual owners during the construction process or following occupation.

New and refurbished buildings will be designed to perform to high levels of ecological sustainability within economically sustainable parameters.

The following areas will be reviewed to minimise the ecological footprint of ; Energy use, CO2 production, waste production and landfill.

1 Performance
2 Specifications

The method of procurement should not affect the quality of the final product, whether developer-build, self-build or client-build. Advice on the specification of energy efficient design will be readily available with supporting details and references.

When the properties are sold or let a manual will be supplied to explain to the occupants the energy efficiency and water conservation features of their home and the development as a whole. It will be a maintenance and operation manual to help them achieve the lowest running costs with reference to traditional homes for comparison.

6.6.2 Performance

The lowest legal levels of performance in construction are those required by statutory requirements. A method for assessing the performance of the buildings at Millbank is adopted will reinforce the sustainability claims. Index 21 and Ecohomes are proposed assessment methods for Millbank. Index 21 has been developed from the Local Agenda 21 process; a powerful catalyst for agreeing and implementing local sustainable development action plans for the 21st Century in partnership with the local community considering the site as a whole under the following categories; Climate, Energy, Resources, Social Sustainability (refer to section 6.5) and Biodiversity.

Ecohomes places more emphasis on the buildings with categories on Energy, Pollution, Water, Transport, Materials, Health and Well being, Ecology and Land use. The former will be assessed by the client design team and the latter will form part of the design team -contractor approach to the site.

'Eco Homes', The BRE environmental Assessment Method for homes set up by BRE and NHBC looks at rewarding all steps that improve on the statutory requirements of performance for homes.

The Ecohomes approach assesses operational energy use and Carbon dioxide emissions, locations in relation to transport, air and water pollution, impacts of materials selection, water consumption.

The ambition will be for a 'Very Good' rating to be the site benchmark; how-ever where-ever possible these will be bettered. As the details are developed constraints may arise and 'Good' rating might be applied to dwellings, how ever very good should be applied to all communit facilities (Health Facility).

6.6.2 Specifications

The materials used in construction are to be locally sourced where possible with low embodied energy, compatible with available local construction skills and methods.

i) Future Proofing
- New homes through out the development will be designed to enable upgrading with known technologies (if they should become more viable) or individual house owners wish to upgrade their properties. The expansion to the rear of properties to create conservatories and sun spaces will be possible
- Chimneys will allow the core specification of passive stack ventilation to be upgraded to provide a whole house fan assisted ventilation system with heat recovery to be fitted, and for the extract to be accommodated
- The service installation will be carefully considered to enable adaptation to changes in technology and smart homes potential.

ii) Energy Conservation

The goals at Millbank are to; reduce demand, use energy efficiently, use renewable energy.
- New homes will have drying spaces (gardens), any white goods will be eco-labelled. Low energy light fittings will be specified.
- The layout of houses and landscape will primarily increase protection from cold winds and then maximise solar gain
- Good day lighting will be achieved to meet the daylight factors with in Eco homes rating
- High levels of insulation will reduce the heating load. Top up heating from either an open fire, or heating from a community heating plant within the site
- Target U-Values to be refined during detailed design but generally 20 % above the current standards;
- Guideline U Values;

Walls	0.25 W/m2
Roof	0.15 W/m2
Ground Slab	0.15 W/m2
Glazing (Glass)	0.17 W/m2

- Leakage to be significantly better than statutory requirements
- Argon filled triple glazed windows with E coating and with high performance seals to be standard (Any boilers required in Millbank should be high efficiency condensing boilers with NOx emissions less than 100mg/kWh, with thermostatic valves and zoned control that is easy to programme and understand for tenants)
- Renewable heating supply. The provision of a biochip (wood chippings) community heat plant located in cluster of existing buildings
- Ventilation will be controllable and reduce heat loss to provide a good internal environment. Stack ventilation or heat exchange fanned systems to be considered. Air tightness to 2 air changes and hour at 50 Pascal's will be required. Photovoltaics might drive the fan systems (as a potential add on)
- White goods to be A rated in the EC ECO labelling scheme
- Gas cookers and hobs
- Green electricity; the option to purchase if available will be considered. Neighbouring wind farms (if they are developed might be able to feed excess power into Millbank).

Potential purchasers should be given the opportunity to assess their buildings performance and to upgrade it at a fair cost should they wish to.

ii) Water Conservation
- Section 3.0 looks at whole site water issues
- Water conservation to meet best practice guidelines. All dwellings will be equipped with water conserving devices including 6 litre or dual 6/3 litre flush WC's, Spray aerator taps on WC and bathroom basins water efficient showers
- Water butts to recycle rainwater for irrigation

iv) Home working

Additional sockets will be provided in one room to allow conversion to an office for home working if a dedicated office is not part of the design. Access to broadband is now available in Millbank and will be extended to properties.

v) Acoustic Insulation

Good acoustic insulation between properties and between rooms will ensure high levels of privacy from neighbours and family members alike.

v) Material Selection

Where ever possible the materials used in construction will be;
- locally sourced to reduce transport costs and to support local economy
- natural renewable materials
- reused materials
- materials with a high recycled content,
- with low embodied energy,
- compatible with available local construction skills and methods.

The BRE green guide for Housing Specification is to be used to help select materials with a low environmental impact.

Sustainable Timber

To be sourced from demonstrably sustainable sources such as the Forest Stewardship Council (FSC) or from local sources where available.

Concrete

Concrete to be mixed with reduced levels of cement content by replacing with Blast Furnace Slag (recycled from power stations). Recycled or locally sourced ballast to be incorporated where possible to reduce transport costs.

Oversized concrete blocks to be used to reduce the air leakage of walls. Floor hanging details to be adapted to suit and avoid penetrations to blockwork walls.

Granite

To be locally sourced and recycled where available/ affordable.

Non permitted materials

Chlorinated plastics for example uPVC