



C R A I G D A L E

HOUSING ASSOCIATION LTD

Craigdale: The Home of Good Housing

DESIGN GUIDE AND TECHNICAL SPECIFICATION 2020

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1 CHA DEVELOPMENT POLICY

Our main objectives in the Development of New Properties are:

- 1.1 In order to alleviate fuel poverty and minimise our environmental impact we will ensure our homes are as energy efficient as is practical;
- 1.2 We will, where possible, exceed the space standards and ensure that they are accessible and allow for the tenant's changing needs;
- 1.3 Sites will be designed with a suitable density in line with the surrounding areas as appropriate, striking a balance between external amenity areas and economic considerations;
- 1.4 Our properties will be pleasant in appearance, and will promote innovation with interest created through shape and form. We will utilise materials and finishes sympathetic to the surrounding area;
- 1.5 We will create communities where people want to live by striking a balance between pushing the architectural boundaries and regurgitating what other providers produce;
- 1.6 We will work alongside our Technical Services colleagues to ensure our ongoing maintenance requirements are minimised.

2 APPLICABLE STANDARDS

The guide will not seek to repeat existing guidance, statutory or otherwise. All CHA developments will comply with the following standards/guidance:

- 2.1 Building Standards (Scotland) Regulations: The Association expects to achieve Silver Standard for CO2 emissions and space heating.
- 2.2 Housing for Varying Needs: The Association expects that designs will comply with all of the appropriate “Essential” criteria, and as many “desirable” criteria as is practically possible. Designers will provide a statement to the Association detailing the areas of non-compliance at building warrant stage.
- 2.3 Secured by Design: It is a condition of funding that projects comply with Secured by Design. Designers should take advice from Police Scotland at an early stage.
- 2.4 Current IEE Regulations.
- 2.5 All roads, footpaths, street lighting, water and drainage shall be constructed to adoptable standards and adoption sought from the appropriate authority.
- 2.6 Designers attention is drawn to “Building for Life 12” – ref: www.builtforlifelifehomes.org, the principles of which articulate many of the Association’s aspirations.
- 2.7 The Association expects designers to be familiar with [“Creating Places - A policy statement on architecture and place for Scotland”](#) and to follow the principles.
- 2.8 All materials used will comply with the relevant British Standard, Code of Practice, Agreement Certificate, trade body guidance, manufacturer’s recommendations and recognised good practice.

3 SITE LAYOUT

- 3.1 Designers must take account of existing site connections in terms of vehicular, pedestrian, cycling, public transport the Associations and future adjacent developments.
- 3.2 Car parking should be sufficient and not excessive. Occasionally this may conflict with LA policy.
- 3.3 Early consideration must be given to external storage requirements, in particular cycle storage and refuse collection. The Association's preference is for communal bin stores that promote recycling.
- 3.4 Where appropriate, a children's play area should be provided. The Association will advise.
- 3.5 Designers should take conscience of the topography, particularly in relation to massing/storey heights and SUDS/drainage.
- 3.6 The Associations preference is to minimise hard landscaping and accordingly shared surfaces, wherever possible, should be provided and not carriageways with footpaths either side. Shared surfaces in particular should also be used as social/play spaces.
- 3.7 Maximum use should be made of southerly aspects, solar gain and natural light. Generally, windows should be larger on southerly facing walls and vice versa.

See "EXTERNAL WORKS" for further details.

4 GENERAL CONSIDERATIONS

- 4.1 Designers' attention is drawn to pp 3 outlining the Association's policy requirements. Designers will create interest through shape and form, and sites will utilise local materials which blend in with their surroundings.
- 4.2 Generally, semi-detached and terraced houses along with up to 4 storey tenement or "four in a block" flats are acceptable. Higher blocks with a lift or detached houses must be agreed with the Association at an early stage.
- 4.3 The undernoted space standards will apply to all new developments. 5% tolerance is permissible in either direction with the express written agreement of the Association.

Single Storey	Two Storey Houses	Flats
1 person-39m ²		1 person-39m ²
2 person-51m ²		2 person-50m ²
3 person-64m ²		3 person-63m ²
4 person-74m ²	4 person-82m ²	4 person-70m ²
5 person-83m ²	5 person-92m ²	5 person-86m ²
6 person-92m ²	6 person-102m ²	6 person-94m ²
7 person-119m ²		

- 4.4 The following storage will be provided as part of the above GIFA.

Single Storey	Two Storey Houses	Flats
1 person-3m ²		1 person-2.5m ²
2 person-4m ²		2 person-3m ²
3 person-4m ²		3 person-3m ²
4 person-5m ²	4 person-5m ²	4 person-4m ²
5 person-6m	5 person-6m ²	5 person-5m ²
	6 person-6.5m ²	
	7 person-6.5m ²	

- 4.5 The Association recognises the "fabric first" approach to designing for energy efficiency and only when this is exhausted revert to micro-renewables. Although other systems will be considered, gas combi boilers are preferred. Where the scale of a development allows, district heating or CHP may be considered.
- 4.6 Traditional masonry, timber frame, CLT, modular and closed panel systems are all acceptable in principle, however designers should agree with the Association at an early stage which method is preferred.
- 4.7 Roofs should effectively overhang external walls to prevent drips/staining onto walls. Parapet walls and secret/valley gutters should be avoided. Exposed

timber is not acceptable and all fascias, verges and soffits shall be in uPVC or similar maintenance free material. Brown is preferred.

- 4.8 Internally, rooms should be reasonably proportioned. Long and thin or irregularly shaped rooms are unlikely to be acceptable. Curves should generally be avoided.
- 4.9 Kitchen living rooms are permissible in 1 or 2 bedroom flats only. Other properties should have separate kitchens. Dining areas may be accommodated as part of either space. Staircases in houses should not form part of the living room.
- 4.10 Adequate sound insulation is critical. Rooms either side of party walls should have the same use, e.g. bedroom to bedroom or living room to living room. Careful consideration should be given to the attenuation of party walls and floors.
- 4.11 Care should be taken to group all service risers/pipe boxes and other ducts together and that access to these is critical.
- 4.12 Designers will effectively manage Health and Safety of the properties both during construction and future use/maintenance. Materials should be selected which minimise future maintenance requirements and design will permit safe access to all parts of the building in order to maintain it.
- 4.13 Generally windows should maximise natural light and solar gain. Excessively large opening sashes should be avoided. Living room windows should have a cill height low enough to allow a wheelchair user to see outside.

5 WINDOWS

- 5.1 Timber, uPVC or aluminium clad timber windows are all acceptable in principal to the Association. Prospective suppliers should be discussed at an early stage. All windows to be fitted with restrictors (regardless of location). Chrome, stainless steel or powder coated handles and ventilators to be provided throughout. All stairwell windows to be capable of cleaning safely from both inside and outside.
- 5.2 Windows should be manufactured by a firm currently registered under a third party quality assurance scheme and a certified Secured by Design licence holder, to BS7950:1997 for the enhanced security performance of windows for domestic applications. Contractor to comply with BS8213-4 for the survey and installations of windows.
- 5.3 Ironmongery/Accessories: SAA finish to comply with the requirements of Housing for Varying Needs, all to comply with Secured by Design.
- 5.4 Timber windows to be 'H' type fully reversible High Performance Casement Windows and manufactured to BS 644. Windows to have FSC European Redwood frames with hardwood cills, from a sustainable source treated with preservative, complete with full opaque paint system, factory finished. Exposure category to BS637S-1, designed for severe exposure rating to satisfy current building regulations.
- 5.5 Double glazed 28 mm (4/20/4) argon filled double glazed hermetically sealed units, factory glazed with low emissivity glass to BS EN 1279 with internal beads and rubber gaskets.
- 5.6 PVC-U windows to be fully reversible and manufactured generally to BS7412. Windows fabricated with PVC-u extruded hollow 5 chamber profiles, solid sections with fusion welded joints with steel reinforcement as required. Double glazed 28mm (4/20/4) argon filled double glazed hermetically sealed units, factory glazed with low emissivity glass with internal beads and rubber gaskets. Windows should be finished white internally.
- 5.7 Composite Windows (Aluminium Clad Wood) Windows to be fully reversible and manufactured generally to BS7412; exterior frame polyester powder coated extruded aluminium alloy profiles with FSC European Redwood inner frames, from a sustainable source treated with preservative, complete with a full opaque paint system, factory finished.

- 5.8 Double glazed 28mm (4/20/4) argon filled double glazed hermetically sealed with low emissivity glass to BS EN 1279 with internal beads and rubber gaskets.

6 FLOORING

- 6.1 All flooring to be 22mm tongued and grooved chipboard. All kitchens, bathrooms, shower rooms, toilets and utility rooms to be floored with moisture resistant chipboard to BS EN 312-P5. All flooring should be glued and screw fixed to manufacturer's instructions. Adequate dwangs at joints to be included. Silent floor systems shall be encouraged as an alternative.
- 6.2 Where floating floors are specified, these must be installed as per manufacturer's instructions including inclusion of trimmers/dwangs below perimeter of heaters, baths and kitchen fittings to resist deflection. In flatted separating floors where the specification is not a 'deemed to satisfy' system or where the separating floor is entirely of timber, then a sound test shall be required in each flat. In some local authority areas a sound test shall be required regardless.
- 6.3 Where possible at level or near-level sites, solid ground floors with timber floating floors are preferable to suspended floors. Insulation between battens over concrete floor units should be cellular slab type. On dwellings where suspended floors are used, crawlspaces between sleeper walls should be incorporated. Isolating membranes at perimeters should be carefully inserted and terminated under skirtings. Solid concrete floors will not be acceptable.
- 6.4 Where walls around shower rooms and bathrooms are formed in timber stud construction sheet a plywood fixing base is required for grab rails.

7 DOORS

- 7.1 Entrance doors to be minimum 44mm thick and to achieve at minimum a 'clear' opening width of 850mm within a 1000mm door set.
- 7.2 External doors to be hardwood, fully draught-stripped and have barrier free low weather bar (max 25mm high), detailed to allow door to open over a quality carpet and underlay approx. 18mm thick. Timber door thresholds to be avoided wherever possible.

- 7.3 External doors to be factory finished high performance laminated/insulated door set complete with 3 point locking system with Barrier Free threshold detail and minimal glazing. Metal faced doors to be avoided. Where 3 point locking systems are used, locking must be achievable with minimum effort by the throw of the cylinder or the lifting of the handle. All doors to be certified PAS24 and to BS5950 to satisfy 'Secured by Design' criteria.
- 7.4 Weather proofing for doors (in lieu of superseded PAS 23): BS 6375 Part 1: 2015 Performance of windows and doors - Classification for Weathertightness. Doorsets UK Exposure category 800 X (to ensure compatibility with accessibility requirements)
- 7.5 Air Permeability Class 1; Watertightness Class 2A; Resistance to Wind Load Class A2.
- 7.6 Flat entrance doors must comply with fire rating with intumescent strip and smoke seal. Minimum 44mm thick and giving a clear opening width of 850mm minimum within a 1000mm door set and also must be 'Secured by Design' accredited.
- 7.7 Section of entrance door frames to be adequate to accept 'box' keepers without overall weakness of frame. Consideration should be given to design of lintels over front and rear door openings to allow for future door opening devices.
- 7.8 Glazing to front and rear entrance doors to be restricted to top 40% of door to maintain security (less to front doors if possible).
- 7.9 Entrance doors/screens to common stairwells, corridors, etc. to be constructed of hardwood or laminated redwood. All doors to have kick plates, on both sides. Common doors to be minimum 850mm wide 'clear' opening within a 1000mm door set and be outward opening with restraints.
- 7.10 External store doors to be timber solid core construction or framed, lined and braced complete with suited lock, 1 1/2 pairs of hinges and cabin hook and eye. Letterplate heights to be 700-750mm from FFL to comply with Housing for Varying Needs clause 9.6.9 and BS EN 13724: Postal services - Apertures of private letter boxes and letter plates - Requirements and test methods. Please note they must also be min. 400mm from the locking point to comply with Secured By Design.
- 7.11 Entrance doors to common stairwells and closes must open outwards and must comply with 'Secured by Design' criteria selecting from certified manufacturers. Note: Door entry systems and locking mechanisms must also be compliant when used in conjunction with door sets.

- 7.12 Doors fitted with Magnalocks must be designed to accommodate the bulk of the magnet without interfering with the required opening width of the door, or impacting on the integrity of the fire door edge.
- 7.13 Patio doors should be to a comparable specification/finish to all windows and should generally be of a sliding type or outward opening (inward opening doors are not permitted except in relation to access to balconies). All such doors must be 'Secured by Design' accredited.
- 7.14 Patio doors must be openable from outside (no lock out) and incorporate 3 point locking and securing keepers.
- 7.15 Door entry systems to be provided to all flatted dwellings including cottage flats (upper flats only). All door entry systems must meet "Secured by Design" requirements for both audio and visual control systems.
- 7.16 Internal pass doors to achieve at minimum a 'clear' opening width of 850mm within a 1000mm door set and to be hollow core pre-finished hardwood veneered flush panel plywood doors. (Fire rated doors to flatted dwellings). Submit veneer sample for approval (Maple or Koto not acceptable).
- 7.17 All cupboard doors housing hot water cylinders, boilers or whole house ventilation units etc to be adequate to enable unrestricted removal of such equipment.
- 7.18 Outward opening toilet/bathroom doors for Amenity housing. Inward opening doors to have 'planted' screwed stops for ease of removal. Current regulations may dictate use of outward opening doors.
- 7.19 Wardrobe doors to have matching leaves and to be side hung and should comprise door leaves not exceeding 826mm wide. Mirrored doors should not be used.

8 IRONMONGERY

8.1 All ironmongery to doors and windows to be easy to manipulate and located at levels suitable for all users (see “Housing for Varying Needs”). Copies of keys must be obtainable from local retailer. A number/coded system is not acceptable. Ironmongery should be brushed steel or anodised aluminium finish.

Ironmongery fittings for each door to be as follows: -

8.2 House front door

- 3 x 150mm stainless steel hinges.
- 3 point locking system – key operation from the outside and thumb turn from the inside – keeper to be ‘box type’.
- 1 set lever handles (not brass).
- Extended SAA letter plate with internal security hood if located in door.
- Door viewer with wide angle lens.
- Secured by Design Accredited.
- Property numerals – should be fixed to doors and clearly visible from the pavement.

8.3 House rear door

- 3 x 150mm stainless steel hinges.
- 3 point locking system – key operation from the outside and thumb turn from the inside - keeper to be ‘box type’.
- 1 set lever handles (not brass).
- Secured by Design Accredited.

8.4 Hinged patio door (outward opening)

- 3 x 150mm brass or stainless steel hinges.
- 3 point locking system.
- 1 set lever handles (not brass).
- Automatic stays/hold open device.
- Secured by Design Accredited.

8.5 Sliding Patio Door

- 5 lever sliding door lock.
- Secured by Design Accredited.

8.6 Internal Pass Door

- 3 x 100mm steel loose pin or 'lift off' type hinges.
- Mortice latch.
- 1 set lever handles (not brass).

8.7 Internal self-closing door

- 3 x 100mm steel loose pin hinges or 'lift off' type hinges.
- Mortice latch.
- Hush latch.
- 1 set lever handles
- Type of door closure to be approved by The Association.
- Cushion stop material.

8.8 Bathroom door

- 3 x 100mm steel loose pin hinges or 'lift off' type hinges.
- Bathroom lock with indicator and external release.
- 1 set lever handles

8.9 Flat entrance door

- 3 x 150mm brass or stainless steel hinges.
- 3 point locking system - key operation from the outside and thumb turn from the inside - keeper to be 'box type'.
- 1 set lever handles (not brass).
- Extended SAA letter plate with internal security hood (if located in door).
- Door viewer with wide angle lens.
- Intumescent strip and smoke seal in frame.
- Hydraulic door closer with 'check' facility.
- Draught stripping.
- Secured by Design Accredited.

8.10 All doors to be fitted with skirting mounted door stops suitable to their location.

8.11 Communal entrance doors to blocks of flats require to be secured by an electromagnetic lock the associated to the door entry system. Provide 3 fobs per property for door entry system. 3 no. keys to be provided per property clearly labelled. Provide power supply and the design of lintels/frames to allow for future addition of automatic door opener. Door entry system panel to be engraved with CHA logo in colour.

- 8.12 Outward opening store doors and the like to be fitted with restrictor stays.
- 8.13 All service/cleaners cupboards in common areas to be fitted with a Yale cylinder supplied by the Association.
- 8.14 Skirtings, stops, facings curtain plates, etc. to be dressed redwood or MDF.

9 DECORATIONS

- 9.1 Vinyl matt emulsion to walls (white) and ceilings (white). Silk emulsion to be used in kitchens and bathrooms.
- 9.2 Internal woodwork shall have a white gloss finish. External finished woodwork: microporous opaque or stained finish system to give minimum of 5 year lifespan finished to same standards as windows and doors which shall be pre-finished. Exposed pipes in rooms to be painted (not valves and isolators). Thresholds: polyurethane gloss varnish.
- 9.3 Where painted wall finish is proposed in common areas, this should be hard wearing, practical and easily cleaned. Common areas to be finished in light or bright colours and will be agreed with the Association.

10 COMMON STAIRS

- 10.1 All landings and corridors to have natural daylight to avoid the need for artificial light during daylight hours and dark corners to be avoided. Long runs of corridor without windows should be avoided. Where there is a requirement for artificial lighting, this should provide adequate lux levels at flat entrance doors.
- 10.2 Door entry systems must be installed to all communal stairs powered from a “shared” supply. The system should be Secured by Design approved. (Refer to 3.11 d). Provision should be made for hearing and visually impaired or wheelchair bound visitors (max height to top buttons – 1200mm). Panels to be engraved with street, flat numbers and service button – name plates are not permitted. Provide additional directional signage within or around flatted developments as required by the Association.
- 10.3 Stair floor coverings and wall decoration should be hard wearing and easily maintained, finishes to be approved by CHA. Slip resistant vinyl flooring in common close.

- 10.4 Matwell minimum 750mm deep and width of door plus 200mm to be provided at all entrances to common stairs complete with complementary textured matting, fitted 'flush' with floor finish.
- 10.5 Provide non-slip vinyl (min 2.5mm thick) to common stairs and corridors with welded skirting. Performance spec: Min. 2mm thick; TRRL Pendulum Test to be 36 or higher PTV (low slip potential); Surface Roughness min. 20 mu; EN 13893 Class DS (dry slip resistance) and EN 13485 Class ESf (enhanced slip resistance with footwear). Welded skirtings: Compatible contrasting stair nosings and edge trims; Easy to clean, with cleaning and maintenance details to form part of handover package.
- 10.6 All floor coverings to be washed down and 'sealed' as per manufacturer's instructions. Maintenance details to form part of 'handover' package. In flatted developments studded floor tiles should be fitted to the edge of landings for the visually impaired.
- 10.7 Finishes should be agreed with the Association. Wall finishes should be robust to withstand impact damage. See also 12.3.
- 10.8 Each communal stair to have a 'lockable' twin socket power supply for use by cleaners etc.
- 10.9 All light fittings must be accessible for maintenance (max height 2.80m) and should not be located over wells or items which impair safe access. Lighting to be designed to local authority adoptable standards where applicable. Lighting system to access stairs and all common areas to be activated by PIR motion sensors and making full use of dawn to dusk sensors. Lighting system to common access stairs and passage to be fed from an unmetered/metered landlords supply. LED closed bulk head fittings to be provided for stair lighting.
- 10.10 Shared supply consumer unit to be split load type with lighting and door entry system controlled by RCD. Each communal stair to have a 'lockable' twin socket power supply for use by cleaners etc.
- 10.11 Handrails on both sides of stair. Handrail to be 45 – 50mm in diameter and be mounted on a dressed softwood backplate at 900mm above nosing height, with a finger clearance of 50mm. A handrail should be provided securely fixed to the wall on both sides of all common access passages leading to amenity flats.

- 10.12 Corridors at ground floor level should be at least 1.2 metres wide and where space is required to turn a wheelchair at the entrance door the width should be not less than 1.5 metres. Where protective barriers are required, these must be approved by The Association.
- 10.13 Where a lift is required designers should take advice from the Association at an early stage. Clear opening at lift doors must be 800mm wide, minimum. Internal dimensions of lift car must be no smaller than 1400mm deep and 1100mm wide. Lift control panels to be at a maximum height to top of panel of 1200mm above FFL.
- 10.14 Internal telephone with emergency direct line required. (Details to be confirmed prior to ordering and installation). Alarm sounders and remote alarm sounders required. Full set of emergency instructions to be located in convenient location within lift car with similar instructions adjacent to ground floor lift door. Lift to be fully certified and tested with a further test prior to the expiry of the defects liability period. Lift car controls to be anti-vandal standard. Hydraulic lifts not to be used over 5 storeys. Lifts to be checked and overhauled six months after practical completion and adjustments made. Final check at end of twelve month DLP period. Lift to be provided with a 24 hour emergency response service.

11 INTERNAL LAYOUT

- 11.1 Long lengths of hallway or hallways with corners should be avoided with a square hallway being preferred where possible.
- 11.2 Radiators in circulation areas should be carefully positioned so as not to hamper movement or reduce the width of a hall below 900mm.
- 11.3 All staircases should have straight flights with top and bottom landings, allowing for the possible future installation of stair lifts. Where possible stairs should have natural daylight.
- 11.4 All stairs should have a handrail on one side and in the case of amenity housing on both sides.
- 11.5 The main living area should have space for all fittings and furniture needs for the household's leisure activities allowing for adequate circulation throughout the room

- 11.6 Plans should show furniture layouts conforming to the dimensions given in the Scottish Homes document “HfVN – A Design Guide – Part 1” which gives minimum furniture provision and space requirements. An identified location should also be made for a future through floor lift to a bedroom above.
- 11.7 Irregularly shaped living rooms should be avoided wherever possible. Where this is not possible it is imperative that sensible furniture layouts and everyday use of the room is achievable.
- 11.8 Window sills should be of a height that allows a seated person to see out – suggested maximum height 600mm. Bedroom windows should have a maximum sill height of 900mm.
- 11.9 All bedrooms should comply with the dimensions and furniture layouts given in the Scottish Homes document “HfVN – A design guide – Part 1” and comply with current building regulation standards. Plans detailing furniture layouts should be provided.
- 11.10 Irregular room shapes and very narrow rooms should be avoided. It is desirable that the bed can be placed in a minimum of two positions.
- 11.11 Built-in wardrobes should preferably be provided with side hung doors, shelf and hanging rail at approximately 1700mm high. Wardrobes should have a minimum of 600mm depth. Wardrobes against an external wall should be avoided.
- 11.12 General storage should be provided in suitable locations throughout the house and of a volume which will comply with the storage standards in section 3 of this document. Stores off living rooms should be avoided. In general, two smaller stores are preferable to one larger one.
- 11.13 A linen store must be provided with 3 slatted shelves to be removable and have all edges chamfered. All other stores should have a solid shelf at 1700mm above the floor. All visible timbers inside cupboards to be dressed.
- 11.14 Any store exceeding 900mm in depth should be provided with an electric light and lever handles and a latch to the door.

See also table in Section 4 for areas.

12 BATHROOMS

- 12.1 Bathrooms should comply with 'Housing for Varying Needs' and be accessible to someone in a wheelchair to enter and close the door. Internal bathrooms should be avoided and bathrooms should not be directly opposite the entrance door. Consideration should be given to allow for direct access to an adjacent bedroom in the future. Partitions forming bathrooms and separate WC compartments should be sound insulated within the stud void, with dwangs capable of supporting grab rails and poles adjacent to the bath and WC.
- 12.2 The layout and dimensions of the bathroom must allow for a bath to be replaced by a shower if this becomes necessary for particular residents' needs. Drainage should be capable of accommodating this. The layout of bathrooms should allow free access to windows for opening.
- 12.3 Bathrooms must be furnished with a bath, wash-hand basin and a WC. All sanitary ware to be white. Access panels should be designed in such a manner that the removal of skirtings or appliances is unnecessary for easy access – bath panels shall be constructed in decorative high pressure laminate board and in one piece. The system of fixing should be re-usable without damage to the panel. All water services to bathroom appliances should be fitted with suitable isolating valves. Thermostatic mixing valves are required to all hot water outlets.
- 12.4 Baths will be enamelled steel 1700mm long with non-slip finish, twin handgrips and chrome plated ¼ turn lever type taps with ceramic discs. A shelf, which can be used as a seat, should be provided at the head of the bath (not the tap end). An electric shower, as below, will be provided over all baths.
- 12.5 Provide 9.8Kw thermostatically controlled electric shower complete with shower head rail, with appropriate plumbing and electrical supplies. The electrical supply should be capable of being isolated at an indicator switch out with the bathroom. Access to the bulkhead should be designed for ease of access and reinstatement without damage to decoration. A single leaf shower screen should be provided to baths.
- 12.6 Wash hand basins and pedestals will be white vitreous china minimum size 550mm x 425mm. All taps should be operated by ¼ turn short lever tap heads with inbuilt flow restrictors and be of a chrome finish utilising ceramic disks.

- 12.7 The W.C. should have its centre line 450mm from a wall capable of taking support rails to allow for possible future installations of grab rails. WCs will be low level close coupled in glazed fireclay (white) with a white plastic seat and cover. Cistern to be dual flush and Eco 4/2.6 litre capacity.
- 12.8 Decorative high pressure laminate board to be provided at full height to 3 sides of the bath, above the WHB and to the seat at the end of the bath, complete with proprietary fixing system and sealing. Consideration to be given to extending the area of high pressure laminate board behind the toilet and wash hand basin where the design allows.
- 12.9 The light fitting should be LED closed bulkhead fitting operated by a pull switch inside the door, close or adjacent to the door facing, or by a rocker switch from outside the bathroom adjacent to the door opening.
- 12.10 Ventilation should be by a low energy constant trickle fan with humidistat control and pull cord override and should be silent running. (Where positive ventilation is proposed this shall negate this requirement).
- 12.11 Services should be organised in such manner that all pipework is accessible for maintenance purposes and lengths of supply and waste pipes kept to a minimum. Hand holes and access caps to be fitted to all pipework to allow easy cleaning where necessary.
- 12.12 All water services to bathroom appliances should be fitted with suitable isolating valves.

13 KITCHENS

- 13.1 Kitchens must be from a manufacturer's "mid" range, the basic/contract range is not acceptable. The kitchen layout should be agreed with the Association as early as possible in the design process.
- 13.2 Each kitchen should be designed to provide an efficient working space. The equipment and appliances should be arranged in a manner that makes for ease of operation and minimum cost of service installation wherever possible - no services should pass behind domestic appliance spaces. Internal kitchens should be avoided.

- 13.3 Layout of kitchen should comply with activity space requirements of current Building Regulations. In addition, consideration should be given to “Housing for Varying Needs” (HfVN). Minimum 1200mm space in front of all fitments and 1500mm diameter turning circle available for potential wheelchair use. Provision should be made for dining either within the kitchen or living area with a space for a table and an adequate number of chairs as required by HfVN.
- 13.4 In family houses of 5 persons or over a separate utility room should be provided close to the rear entrance to the house, or alternatively on the upper floor.
- 13.5 Each kitchen should be equipped with storage units to meet regulation requirements, and must as an absolute minimum have 1m³ of kitchen storage excluding the sink base unit to comply with SHQS. However, enhancement of the minimum requirements is encouraged in particular the provision of sufficient units. A typical kitchen should have between 8 and 12 units.
- 13.6 Wall units must not be fixed above the cooker, refrigerator spaces or sink bowl location. Windows behind kitchen fitments should be avoided to allow for cleaning windows. Kitchen fitment layout to be designed to avoid any gaps or voids, cover plates/infills or matching materials to be used as required.
- 13.7 Central heating boilers should not be located over domestic appliance spaces to avoid conflict of service pipes and vents.
- 13.8 Spaces should be provided for the following appliances:
- Washing Machines: A space with worktop should be provided adjacent to the sink, minimum 620mm wide, for an automatic machine.
 - Tumble Dryer (in 5 person houses and larger): A space of 620mm minimum wide should be allowed to accommodate a tumble dryer preferably adjacent to an external wall with a suitable venting provision installed complete with backdraught shutter or similar. Where this is not possible a space should be provided for a condensing washer dryer appliance.
 - Cooker: A space of 620mm minimum wide with a worktop either side for a cooker (edges protected). Non-combustible cooker plinths to be provided to ensure top of the cooking surface is level with adjacent worktop surfaces as necessary.
 - Refrigerator: A space of 620mm minimum wide should be located at the end of any run of units to allow a free standing fridge freezer to be accommodated.
 - Dishwasher (In 5 person houses and larger): A space of 620mm minimum should be located adjacent to the sink for a dishwasher.

- 13.9 Kitchen unit supplier and range will be agreed with the Association. 40mm worktops and “D” handles will be provided. 3 colour choices will be made available to the Association.
- 13.10 A stainless steel inset single bowl sink with single drainer, minimum gauge to be 0.9mm c/w chrome plated 2 hole mixer unit with ¼ turn lever taps and ceramic disks. The sink waste must not run behind an appliance space. A splashback of material matching the worktop will be provided behind the sink/drainage. Ceramic tiling is not acceptable.
- 13.11 The hot and cold water services to the sink must be fitted with valves and blank caps for a washing machine and dishwasher (if appropriate). The sink base unit should be cored to either accommodate these spurs or allow a flexible hose connection to be made from the washing machine (the tails should be extended to not less than 100mm from the adjacent cabinet) to ensure the adequacy of the appliances flexible supply and waste connections.
- 13.12 Electrical
- a) All service outlets, sockets, etc. should be set at 150 mm above worktop level to the bottom of the socket.
 - b) “Multigrid” engraved switches should be used where appropriate to the size of the kitchen and available wall space.
 - c) 3 twin 13 amp switch socket outlets to be provided above worktop level for general use.
 - d) All switches to low level unswitched 13 amp sockets for appliances will incorporate neon lights and to be engraved indicating their use, i.e. refrigerator, washing machine, tumble dryer, water heater, cooker, etc. Switches will not be directly above the fridge space in a manner that would be obscured by fridge freezer.
 - e) A cooker control switch with a pilot lamp should be installed adjacent to the cooker space but not behind the cooker and connected to a low level cable outlet.
 - f) Where gas supply is installed in a dwelling, provide a 600mm high gas riser pipe and blank cap for a gas cooker in addition to a separate Cooker Control Unit.

- g) Ventilation should be by a low energy constant trickle fan with humidistat control and pull cord override. (Where positive ventilation is proposed this shall negate this requirement.)
- h) Lighting – the kitchen should be illuminated by LED fittings in the form of directional track spotlights.

14 ELECTRICAL AND COMMUNICATION SERVICES

- 14.1 Consumer units should be of the split busbar type with residual current overload and miniature circuit breakers and be located where easily accessible. Consumer units to be segregated from water mains and preferably located in a cupboard in the hall (not in wardrobes or tank cupboards).
- 14.2 Electrical switchgear, meters and consumer units must be fitted onto a non-combustible board with a fire resistance of 1 hour, an alternative would be plywood, painted with 2 coats of intumescent paint giving a fire resistance of 1 hour. Boards should be positioned 1200mm above floor level. Provide adequate protection where timbers have been notched for wiring. Provide a battery backup light in service cupboards to provide light during power cuts to reset RCDs.
- 14.3 Switches and sockets should comply with HfVN Standards. Power point requirements are as follows:
 - Living room: 4 x 13A twin outlets.
 - Kitchen: 3 x 13A twin outlets (in addition to specific equipment provision).
 - Single bedroom: 3 x 13A twin outlets.
 - Double bedroom: 4 x 13A twin outlets (1 double socket located at each side of bed location).
 - Hall: 1 x 13A twin outlets.
- 14.4 Water heater boost controls to be located above worktop in kitchen.
- 14.5 All lamp holders in houses and flats to be fitted with a low energy bulb A rated (equivalent to 100 watt tungsten) prior to final inspection. Provide bulkhead or similar weatherproof external light fittings to front and rear doors, rear doors to have PIR operation with daylight sensor and manual switching override and a minimum life expectancy of 10 years. Low energy bulbs and fittings to be used. Pendant drops should terminate at a maximum height of 2200mm above floor level and should be installed so as to allow doors with a minimum clearance of 75mm from the bulb.

- 14.6 Each property is to be fitted with a mains operated door bell.
- 14.7 A single telephone outlet point must be provided in the living room and main bedroom of each dwelling and should be located adjacent to one of the double switch sockets.
- 14.8 Smoke detectors to be mains powered with battery backup—one per floor in two storey houses. A carbon monoxide detector should be fitted in each room with a gas appliance and each habitable room in which the appliance flue passes through. Each detector should be fitted in accordance with the manufacturer's instructions on siting, testing and replacing the detector and be powered by a battery designed to operate for a minimum of 10 years. Each detector must be audible and marked EN50291 and also have the British Standards Kitemark or other European approved organisation's mark.
- 14.9 COMMUNAL TV (IRS)
- a) All new housing developments, irrespective of property type, should be served from one single communal TV system. This system being able to provide, as a minimum, Sky +, Digital Terrestrial and DAB radio to every The Association property within the development. Note: The design and installation of the communal IRS (Integrated Reception System) is to be fully compliant, and in accordance with The Sky Homes Specification for a coaxial Integrated Reception System (New Build MDU 2014) or as appropriately revised for future additions. The installation shall be capable of providing the following services:
- Digital Terrestrial
 - Digital Satellite
 - FM Radio
 - DAB Radio
- b) One landlord's electrical power socket outlet must be provided in a location suitable for providing power to the TV systems "Head End Equipment". All aerial rigs should be mounted external to the building in a location suitable to provide adequate signal levels, easy access for ongoing maintenance and to minimise visual intrusion.
- c) All coaxial distribution cables should be installed within the fabric of the building during first fix. Cables located within walls should be "contained" to facilitate their easy removal and replacement at a later date if required.

- d) The living room outlet should have a minimum of 5 outlet points, two for satellite, one for audio, covering DAB and FM, one for digital terrestrial TV, and one for the return path. Bedroom outlets should provide for digital terrestrial only. All face plates should be double screened, flush mounted and located adjacent to a double power socket in accordance with the proposed furniture layout.
- e) All amplifiers, switches and all distribution equipment should be located in a dry, lockable, secure metal Bemco or similar cabinet, located in a communal area for ease of future maintenance. Cabinets should not be located in roof spaces accessible only from individual flats.
- f) All IRS systems should have a 10% additional capacity within the system to accommodate possible future expansion. Switches, Amplifiers etc should be designed with this in mind.
- g) All IRS systems should be fully commissioned by a suitably qualified “Systems Engineer” and appropriate commissioning and test certificates provided to the client on completion of the installation. All outlet plates are to be tested and signal levels, Carrier to Noise levels and frequencies are to be in accordance with the Sky Homes Specification.
- h) A system design drawing should also be provided as part of the hand-over documentation, showing as-built cable routes, location of “Head-End” equipment and specific design details of the system including cable loss, amplifier sizes and specification, switch details etc.
- i) Where a communal TV system may not be practical on a development, The Association may consider the use of individual TV aerials or alternative “Hybrid” TV system with the same system performance as the IRS system. Each installation should be capable of providing a digital terrestrial TV service to the Living room and all bedrooms.
- j) All aerial rigs should be mounted external to the building in a location suitable to provide easy access for ongoing maintenance and to minimise visual intrusion. All face plates should be double screened, flush mounted and located adjacent to a double power socket in accordance with the proposed furniture layout.
- k) Commissioning certificates are to be provided for all TV outlets to ensure acceptable signal levels are being achieved. Signal levels, etc, to comply with those detailed within the Sky Homes Specification.

- l) The Association may consider the installation of Cable TV to all developments to provide residents with an additional choice. However, this will be assessed on a development by development basis and dependent on capital cost, service availability and added benefit to residents.
- m) An allowance may be required for the installation of Cable TV ducting and wiring where possible to an accessible junction box externally (TV/phone socket located in living room only next to terrestrial outlet). This will be agreed during the design stage in conjunction with The Association's development team.

15 WATER AND HEATING SYSTEMS

- 15.1 All water and heating systems will be contractor designed. In normal circumstances the Association will not appoint a consultant to design domestic systems.
- 15.2 Cold water storage should be avoided wherever possible. Where hot water cylinders are fitted, they should have a single side entry immersion heater in gas heated properties and a dual side entry immersion heater in electrically heated properties.
- 15.3 The maximum working pressure at hot taps/washing machines is to be 3 bar.
- 15.4 Mains water stop tap/control – all properties to be fitted with a remotely controllable, non-electrical WRAS approved stopcock/ stop valve within a height band of 450mm to 1200mm from the floor and at least 300mm away from any room corner. Exact location to be agreed by The Association.
- 15.5 Water system to be designed to current water by-laws (stop cock and double check valve to be labelled) including any testing for lead content required by local authority. Minimum water pressure at mains of 2 bars required. Pressure reducing valves and thermostatic valves to be fitted in accordance with prevailing requirements and by laws.
- 15.6 Bath water temperature should be maximised at 46oC. There are some instances where the temperature should be lower to reflect particular needs. The Association will confirm if this is required.

- 15.7 All pipework under floors must be adequately insulated to current regulations. Where pipework is located under floors or adjacent to external walls they should be protected against heat loss or frost as applicable. All pipework to appliances should be fitted with isolating valves immediately below or adjacent to the appliance for easy removal and replacement of that fitting and/or taps, etc.
- 15.8 All soil vent pipes and ventilation stacks in ducts and roofspaces to be suitably insulated to minimise sound transmission and condensation internally or externally. All drainage stacks passing through dwellings and roof voids should be insulated to avoid condensation and reduce noise transmission.
- 15.9 All rainwater pipes to have handholes for rodding. Alternatively trapped gulleys with raising piece and grating. Where there is a danger of vandalism or proximity to landscape maintenance machinery, one length (2m) to be cast iron.
- 15.10 Where a service main to flats is located within a common stair, lockshield valves will be fitted at the point of entry to the property and a screw down valve fitted immediately inside the unit. The valves should be labelled to identify the pipe. Drain down valves/scours to be fully accessible.
- 15.11 In ground floor situations, scours and overflows for hot & cold water system are to be provided to the exterior of the building, utilising a safe form of termination. In upper floor locations the scour will be fitted within a cupboard with a clearly marked access panel.
- 15.12 Lockshield valves to each flat to be accessed through face of service ducts or the like at a height of not exceeding 2.00m above landing level.
- 15.13 Where low pressure hot water central heating with a system boiler is installed an indirect hot water cylinder or unvented hot water cylinder will be required and this should be fitted with an electrical immersion and thermostat. Immersion heater switches in cylinder cupboards to be identified as to 'on/off' and 'standard' or 'low' tariff. Provide easy access to cylinder and connections for future maintenance. Hot and cold water systems to be flushed out to ensure potential for grit damaging ceramic discs in taps is minimised. All hot water cylinders and the like must be connected by means of mechanical type fittings for ease of removal.
- 15.14 All water systems must be capable of being drained down via permanent copper scour pipes taken to the outside of each building. Allowance made for draining down at point of handover and re-commissioning all 'wet systems' unless instructed otherwise.

- 15.15 The preferred option for gas central heating is a condensing combination boiler. The boiler should be accurately sized to provide heating to suit the property and a minimum of 11 litres of water per minute for up to 3 apartment flats/houses and 14 litres for 4 Apartment properties and above. Low nox output boilers should be used at all times.
- 15.16 Consideration should be given to the position of the boiler e.g. flue runs and termination (avoid flue runs through living rooms), condensing pipework and termination, kitchen location - ensure the boiler does not obstruct any kitchen appliance and cooker restrictions. All concealed flues must comply with current standard and be accessible. Locating in bedrooms should be avoided unless under exceptional circumstances. In addition access is required to inspect/maintain each joint within the flue system. The flue system must be adequately designed to take into account prevailing winds and rain.
- 15.17 Filling loop hoses are to be clipped to the wall using a proprietary 15mm pipe clip after disconnection and capping of the heating and cold water mains connections. All exposed pipework below the boiler which is cited above worktops etc must be concealed by a casing easily removed for future servicing. Magnetic Central Heating Filter/Cleanser must be fitted and the spanner left in situ.
- 15.18 Where the length of the condensate pipe from the boiler to the waste connection exceeds the manufacturer's recommendation, the use of a condensate pump will be permitted. Condensate pipework terminations must be internal. The same boiler manufacturer and type must be used throughout each individual development.
- 15.19 Where the boiler is located in the kitchen it should be housed within a kitchen unit ensuring that the required minimum clearances are achieved as per boiler manufacturer's instructions. Pressure losses during Defects Liability Period must be attended to by the contractor.
- 15.20 Where weather compensators are fitted, they must be located on the north face of buildings. Radiators to be of the compact type and any exposed pipework/copper tails should be avoided. Where this is not achievable, chrome plated copper piping must be used and clipped to the wall. Proposals must be approved by The Association.
- 15.21 TRVs to be top mounted and connections to be TBOE (Top Bottom Opposite End). Radiator positions to be approved by The Association. Consideration to be given to zone control in 2 storey properties.

- 15.22 Access areas to upper cottage flats must be heated.
- 15.23 Heating system designed to attain the following minimum design temperatures at -4°C external temperature:
- Living Room: 21°C
 - Kitchen/dining: 18°C
 - Bedrooms: 18°C
 - Hall: 18°C
 - Toilet: 18°C
 - Bathroom: 21°C
- 15.24 The heating must be designed to meet the current regulations and boiler manufacturer's guidance at all times. All warranties must be completed and the boiler and property registered with the boiler manufacturer. Consideration should be given to the use of Low Surface Temperature radiators and controls within any particular needs dwellings.
- 15.25 All controls should have a 7 day time switch and be capable of switching the system off and on at least twice a day and include an override facility. Consideration should be given to the position of the controls. Where a system boiler or similar system is installed with a Hot Water Cylinder a 3KW immersion heater must be fitted to the cylinder.
- 15.26 Where gas supply is unavailable consideration will be given to an efficient electric system. Seek advice from the Association at an early stage.

16 EXTERNAL WORKS

- 16.1 The Associations preference is to minimise hard landscaping at all times.
- 16.2 All family houses should have direct access to a private rear garden. It is essential that houses should be arranged in such a manner that residents do not have to carry lawnmowers, bins, etc. through the house from front to rear garden areas. Provision should be made to accommodate refuse, recycling bins and clothes drying with associated level paving surfaces.
- 16.3 For flatted developments emphasis should be on high quality landscaped areas that will produce both social and environmental benefits. Where individual or communal gardens are to be grassed they should be turfed. Small grassed areas should be avoided or consideration given to artificial grass.

- 16.4 All landscaped and grassed areas must be easily accessible for maintenance. Gates should be provided if applicable. Access must not be by way of communal or private gardens. Manholes and rodding eyes and the like in landscaped areas to be haunched in concrete and have a cast iron cover. Planting beds adjacent to paths to have bullnosed pre-cast concrete edging.
- 16.5 Trees are to be specified and positioned to benefit visual amenity, seasonal variation, screening, shelter/shade but to prevent negative effects, such as root damage, proximity to buildings and leaf fall. Existing/neighbouring trees should be inspected to avoid the negative effects above. Designers are reminded that trees can sometimes alleviate issues such as localised flooding and can retain slopes. Shrubs and Herbaceous Plants must be carefully considered to avoid removal when they become too big for their location. New planting should be protected by fencing in vulnerable situations. Where a lawn is the desired finish it should be kept as simple as possible, with the minimum of obstructions such as specimen shrubs, for the purpose of easy maintenance.
- 16.6 Pedestrian Movement - 'Desire lines' should be given careful consideration in new landscape schemes, and either discourage their use by planting barriers or fencing or endorsing them by providing footpaths following completion.
- 16.7 Ground Preparation - All stones and builders' rubble should be removed and the subsoil cross ripped before spreading topsoil. The topsoil must comply with the NBS/British Standard.
- 16.8 Clothes poles accessed by a slabbed pathway must be provided in each shared garden area and a rotary clothes dryer provided in private gardens.
- 16.9 Arrangements for the storage, recycling and removal of refuse must meet the requirements of the local authority. Seek early advice from the Association on siting and type of receptacle. All base surfaces to be appropriate for ease of washing down. Bins located to front of houses must be adequately screened. Chute systems should be avoided except in buildings in excess of four storeys.
- 16.10 Large bin stores where required must have wash down services, artificial lighting and be well ventilated. Such stores should not be located in an area where the transmission of smells to habitable accommodation is likely, nor easily overlooked from habitable rooms.
- 16.11 All front gardens to individual houses must have plot demarcation – trip rail? All boundary treatments/details must have prior written approval from The Association. Between individual rear gardens there should be a 900mm high 'vertical slatted' timber fence.

- 16.12 Site boundaries to be defined by 1800mm high vertical slatted fence unless there is an existing appropriate boundary treatment. Consideration will be given to alternative boundary treatments depending on site specific circumstances. Boundaries next to amenity areas or flatted blocks to have 1800mm high fence or alternative as above.
- 16.13 Where appropriate, gates should be provided to rear garden areas from access path (minimum width 900mm). Ensure consideration is given to the removal of overhanging branches on existing boundaries.
- 16.14 Where driveways are provided they should be done in monoblock paving subject to sample approval and give due consideration to drainage and permeability.
- 16.15 Where provided boundary, walling should not have brick on edge copes.
- 16.16 Paths should be constructed using concrete paving slabs, tarmac or brick pavements and comply with HfVN. Level access and level thresholds should be provided to at least one doorway to the house unit (preferably the front door).
- 16.17 All public footpaths throughout the site should be well lit and open, avoiding dense planting of trees and bushes or high fences in close proximity to footpaths which might hinder visual security and compromise resident safety. All to comply with Secured By Design.
- 16.18 Appropriately lit parking should be provided as close to dwellings as practicable, preferable in small blocks. Long continuous areas to be avoided. Parking spaces to be clearly defined with different appropriate hard wearing surfaces, e.g. brick pavements or tarmac with coloured chip rolled in having road painted lines or similar. Low walls adjacent to parking spaces are to be avoided. Seek advice from the Association/planners regarding electric charging points.
- 16.19 The Association will advise on whether a play area is required. The location and design of play areas should allow for natural surveillance by residents. Surfaces should be finished with proprietary safe play surface around equipment and be bounded by fence or railing designed to contain children safely whilst allowing supervision. A bench to be provided within the play area and a dog guard and gate to be provided at entrance.
- 16.20 Within a development, access to play space should be possible without crossing any vehicular traffic route. Where required, barriers should be installed on pavements in accordance with the requirements of the current Disability Discrimination Act.