

**ER Version 18 - Apartments: CONTENTS**

**Employer's Requirements Version 18 Apartments Specification**

**New Build Specification**

Revision 18 **October 2023**



<b>Contents</b>
1.0 Procedural Requirements (see separate document)
<b>APARTMENT BLOCK - Sections 2-19</b>
2.0 Design
3.0 Provision of Information
4.0 Site Investigation
5.0 Foundations
6.0 Ground & Upper Floors
7.0 External & Internal Walls
8.0 Roofs & Balconies
9.0 Fire Detection Systems
10.0 Fire Doorsets
11.0 Door Access controls
12.0 Water Pumps
13.0 Lifts
14.0 Photovoltaic Panels
15.0 Electric gates
16.0 Communal Areas - Electrical
17.0 Communal Areas - Internal Finishes
18.0 Communal Areas - External Finishes
19.0 Communal Areas - Turf and Landscape
<b>INDIVIDUAL APARTMENTS - Sections 20 -34</b>
20.0 Individual Apartments - Internal walls
21.0 Individual Apartments - Doors
22.0 Individual Apartments - Windows
23.0 Individual Apartments - Skirting and Architrave
24.0 Individual Apartments - Miscellaneous fittings
25.0 Individual Apartments - Stores
26.0 Individual Apartments - Wall tiling
27.0 Individual Apartments - Floor coverings
28.0 Individual Apartments - Kitchens
29.0 Individual Apartments - Electrical
30.0 Individual Apartments - Mechanical ventilation
31.0 Individual Apartments - Heating and Hot water Systems
32.0 Individual Apartments - Plumbing
33.0 Individual Apartments - Wet rooms
34.0 Individual Apartments - Painting
<b>ADDENDUMS</b>
Addendum A - Superseded
Addendum B - Superseded
<b>Addendum C: Specification for Trees &amp; Tree Planting</b>
Addendum D - Superseded
<b>Addendum E: Accessibility Specification</b>
<b>Addendum F: Fire Specification - Alarms and Detection</b>
<b>Addendum G: Door Entry System Specification (see separate document)</b>
<b>Addendum H: Electric Gates Specification</b>
<b>Addendum J: Approach to Part L/ O/ F (see separate document)</b>
Revisions

**ER Version 18 - Apartments: 1.0 PROCEDURAL REQUIREMENTS**

<u>Clause</u>	<b>Affordable Rent and Shared Ownership</b>
1.0 Procedural Requirements	See separate document <a href="#">1.0: Procedural Requirements</a>

**ER Version 18 - Apartments: 2.0 DESIGN**

<b>Clause</b>	<b>Affordable Rent and Shared Ownership</b>
<b>2.0 Introduction</b>	<p>This specification defines our requirements for all new build projects which include apartments/flats and/or communal spaces.</p> <p>The Contractor is free to take all measures that they deem necessary to satisfy themselves as to the correctness of the information contained in these documents and all other Appendices, and that the information contained herein is able to achieve the specific scheme Fire and Building Safety requirements.</p> <p>The Contractor shall be entirely responsible, at all stages, for ensuring that his detailed proposals will conform with the current Building Regulations. Where these ERs and associated documents call for standards higher than those indicated in the Building Regulations, those standards shall be followed. It will be the contractor's responsibility to obtain all necessary statutory approvals in this respect.</p>
<b>2.1 Associated documents</b>	<p>Apartment blocks shall also meet the following documents:</p> <p>Employer's Requirements Version 18 <b>Section 1: Procedural Requirements</b>  ER Version 18: Addendum C - Specification for Trees &amp; Tree Planting (if applicable).  ER Version 18: Addendum E - Accessibility Specification (if applicable).  ER Version 18: Addendum F - Fire Specification - Alarms and Detection  ER Version 18: Addendum G - Great Places Housing Group Door Entry System Specification  ER Version 18: Addendum J - Great Places Approach to Part L/ O/ F  ER Version 18: Addendum K - Site Investigation Brief</p> <p>The Contractor's proposals are to be provided for each scheme in addition to this document and will form part of the contract documents.</p> <p>The requirements in this document will apply to all projects. Any variation or shortfall from these standards or procedures must be formally approved, recorded and agreed with the Employer.</p> <p>The ER is reviewed and updated regularly. At the commencement of any project all consultants and contractors must confirm that they are working to the most current version of the document.</p>
<b>2.2 Non-Compliance</b>	<p>Evidence of consent for the non-compliance must be documented with the reasons for the recommendation and decision. All agreed non-compliances are to be confirmed by the Employer.</p> <p>Unless appropriate written approval has been obtained to non-compliant items, or unless a varied provision has been agreed, the Employer expects all housing at hand-over to reflect and conform in every respect with the ER's, third party and legislative requirements.</p> <p>It will be deemed that the stipulations within this document apply unless variation has been specifically pre-agreed or notified before tender acceptance. Where any conflicts exist between briefing materials it will be deemed that the higher quality alternative solution will be provided. Nothing within the Contractor's proposals will supersede this view.</p>
<b>2.3 Testing</b>	<p>The Contractor shall carry out and provide certificates as required to demonstrate compliance and provide all necessary certified instruments, plant, labour and materials for tests. In the event of any section or sections of the installation not passing the prescribed tests the Contractor shall remedy the faults and they shall be re-tested to the satisfaction of the relevant authority.</p>
<b>2.4 Design Standards</b>	<p>The development shall comply with all relevant statutory legislation, including (but not limited to):- Planning Legislation, Building Regulations, British Standards, Environmental Health, Disability Discrimination, Fire, Health and Safety and Party Wall legislation. Nothing within the ER will override any relevant statutory legislation.</p> <p>All instructions &amp; recommendations of the manufacturer's of the materials and products used are to be complied with.</p> <p>The design and construction shall have regard to an anticipated life of 60 years for the main structural components assuming normal regular maintenance.</p>

Standard of finish	All fittings and finishes shall be adequately protected during construction, including protection to sanitary ware, floor finishes, kitchen fittings, windows and doors. The works will be snagged by the Employer, in line with the NHBC standards 'A consistent approach to finishes'. Where stated any relevant performance standards within the ERs take precedence. See s.1.0 Procedural Issues for details of the snagging and handover process.
Building Regs Part L	In order to achieve Part L the following approach shall be followed - refer to addendum J: Enhanced fabric U-Value, Enhanced air-tightness, Ventilation Strategy to meet the requirements of Part F/ L/ O in-line with site constraints. Solar PV (see also clause 14: PV Panels) Electric heating (see also clause 31: Heating and Hot water)
Renewable Energy	Where any alternative renewable technologies are necessary either to meet a statutory requirement or by instruction from a Local Authority then options shall be discussed and agreed by the Employer prior to start on site.

2.5	Construction	<p><b>Multi storey and/or multiple occupancy buildings shall be of traditional (brick &amp; block) construction.</b> Alternative construction to be agreed with the Employer on a scheme by scheme basis. <b>Timber frame construction is not accepted on schemes with shared common spaces/ communal entry points and of more than 3 storeys (GF, FF, SF)</b> <b>Cladding systems are not accepted unless agreed otherwise with Employer.</b></p>
2.6	Design Guide	<p>The Contractor shall ensure that thorough consideration is given to the following design elements and shall provide drawings and design rationale for review by the Employer:</p> <p><b>Main entrance design</b> <b>Corridor width</b> <b>Vertical circulation</b> <b>Means of escape</b> <b>Fire separation/ compartmentation &amp; Evacuation Strategy</b> <b>Servicing strategy, including bins/ refuse strategy and vehicle and cycle parking strategy</b> <b>Parcel delivery and storage</b> <b>Uplift in finishes to public facing common spaces</b> <b>Plant space allocation</b> <b>Specialist end user requirements (e.g. Over-55's schemes).</b></p> <p>2.6.1 Homes England Best Practice and Guidance <a href="https://www.gov.uk/government/organisations/homes-england">https://www.gov.uk/government/organisations/homes-england</a></p> <p><b>Refer to Employers Design Quality Guide</b></p>
2.7	Space standards	<p>Unless otherwise dictated by planning the minimum acceptable property sizes for flats and apartments shall be as follows:</p> <p>1b 1p: 33m<sup>2</sup> 1b 2p: 45m<sup>2</sup> 2b 3p: 57m<sup>2</sup> 2b 4p: 67m<sup>2</sup> 3b 4p: 67m<sup>2</sup> 3b 5p: 75m<sup>2</sup> 3b 6p: 85m<sup>2</sup></p> <p>NDSS NDSS space standards shall be achieved when required.</p>
		Standard house types are available on request and consideration will be given to alternative and/ or supplier standard house types as appropriate for scheme specific requirements
2.8	Wet Rooms	<p>All ground floor apartments shall include a wet room with level access shower (baths are not required), See clause <b>33.0: Wet rooms</b>.</p> <p>The inclusion and design of wet rooms in Shared Ownership ground floor apartments and bungalows shall be agreed with the Employer at design stage.</p>
2.9	En-suites	Provision of en-suites shall not be included in rented properties of less than 3 bedrooms unless otherwise agreed with the Employer.
2.10	Balconies	The inclusion of balconies within the design shall be agreed with the Employer. See also clause <b>7.10: Balconies</b> .
2.11	Accessibility	<p>The design shall take into account the requirements of the end user and the FRA. The Contractor shall provide evidence that this has been reviewed and incorporated into the design as necessary, in the form of a design statement or similar.</p> <p>In <b>all schemes</b> the Contractor shall allow for the following:</p> <p>Different colour schemes on different floors Different colour front doors - LRV 30 points difference to host wall. Level access at all ground floor apartments (including access to private garden areas if applicable). Additional wayfinding graphics/ signage at each storey access point</p>
2.11.1	Aids & Adaptations	Specialist schemes will require additional items to be included, the Contractor shall engage with the Employer to agree any additional items, including but not limited to the following:

Over-55's housing	<p>In <b>over-55 housing schemes</b> the Contractor shall allow for the following:  <b>Addendum E: Accessibility</b> specification shall be included.          Corner protection shall be included.          Scooter storage and charging facilities shall be provided (fire risk assessment required).          Parking spaces shall be sized as disabled parking spaces.          Access to all ground floor gardens/external areas shall have accessible thresholds (as described in Part M).          Assisted doors shall be included.          Handrails around corridors shall be included.          Evacuation chairs shall be included as per Regulations &amp; Fire Risk Assessment.          Refuge areas shall be included as per Regulations &amp; Fire Risk Assessment.</p>
Supported housing	<p>In <b>supported/specialist housing schemes</b> the Contractor shall allow for the following:          Suitable wall finishes to achieve increased robustness.          Anti-ligature fixtures and fittings          LD1 Fire alarm system          Additional access control by storey level</p>
Evacuation strategy	<p>Evacuation strategy for vulnerable persons shall be provided for the identified end user as per the Fire Risk Assessment.          Redcare line, refuge areas and EVC shall be provided as required by Regulations/Fire Risk Assessment.</p>
	<p>The Contractor shall request the scheme specific aids and adaptations specification from the Employer for any further adaptations if applicable.</p>
<b>2.11.2</b> Customer Profile	<p>The design shall take into consideration the customer profile and accommodate changing profile so far as is practicable and all fire strategy and design shall make reference to the end user.</p>
<b>2.12 Coastal Areas</b>	<p>It is the Contractor's responsibility to provide a suitable design and specification for coastal areas. The below specification shall be followed as a minimum requirement.</p> <p>Design and materials for external components on any site within 5km inland from the shoreline shall take into account increased risks for high wind speed, rain penetration and salt corrosion.</p> <p>The Contractor shall provide evidence for suitability for use in a coastal regions for all external materials and fixings.          This shall include (but is not limited to):          Design and construction of walls &amp; roofs,          External fixings and ironmongery including operating mechanisms for opening elements          TV aerials,          PV panels &amp; support systems,          Cladding systems, and masonry restraint          External metalwork, railings etc.</p>

2.13 Additional Requirements	As a minimum the scheme must comply with the most recent versions of the standards set out in clauses 3.9.1 - 3.9.10 below:
2.13.1 Building Warranty	For each property the Contractor is required to obtain a 12 year building warranty under either NHBC 'Buildmark Choice' or LABC Warranty or Premier Guarantee. Insurance is to include cover for insolvency, the payment of professional fees, removal of debris, additional costs, alternative accommodation, and loss of rent. The maximum excess is to be agreed with the Employer but in all cases to be the lowest available excess.
2.13.2 Mitigating increased overheating risk	<p>Our Development Team work with design consultants and contractors to ensure that all homes are in line with the latest Regulations and Requirements and are designed and constructed to:</p> <ul style="list-style-type: none"> <li>• Limit unwanted solar gains in summer</li> <li>• Provide an adequate means of removing excess heat from the indoor environment</li> </ul> <p>In meeting this requirement contractors must demonstrate the following has been assessed:</p> <ul style="list-style-type: none"> <li>• Safety and wellbeing issues: noise at night, pollution, security, protection from falling and protection from entrapment</li> <li>• Mechanical cooling has been adopted only where mitigation of overheating cannot be achieved via air circulation and extraction</li> </ul> <p>Allowable temperature in the home (includes bedrooms between 7am and 10pm), may spend no more than 3% of the year at more than 1°C above the comfort temperature of 26°C. In addition to the above, bedrooms may only be warmer than 26°C for 1% of the year's sleeping hours (10pm-7am).</p> <p>Compliance with building regulations Part O may be demonstrated by either:</p> <ul style="list-style-type: none"> <li>• Simplified Method, or,</li> <li>• Dynamic Thermal Modelling</li> </ul> <p>To ensure the most suitable method to demonstrate Part O compliance is utilised, the Contractor is responsible for ensuring the lead design consultant provides all required studies, and analysis and assessments are completed in advance of detailed design development.</p> <p>Please note it is unlikely flatted blocks/ mid-terrace units/ cottage style apartments will demonstrate compliance under the simplified method without significant trade-offs between quality of space and compliance with the simplified method.</p> <p>To allow for maximum design flexibility and to ensure the provision of an optimal design solution for building comfort the dynamic thermal model should be used.</p> <p>Where required to achieve compliant design solar gains in summer should be limited by any of the following means;</p> <ul style="list-style-type: none"> <li>• Fixed shading devices</li> <li>• Glazing design</li> <li>• Building design</li> <li>• Shading provided by adjacent permanent buildings, structures or hard landscaping.</li> </ul> <p>N.B. Although internal blinds and curtains provide some reduction in solar gains, they should not be taken into account when considering whether compliance with Part O has been met. Foliage, such as tree cover, can provide some reduction in solar gains. However, it should not be taken into account when considering whether compliance with Part O has been met.</p> <p>Where required to achieve compliant design excess heat should be removed from the residential building by any of the following means, in order of priority and preference;</p> <ul style="list-style-type: none"> <li>• Opening windows.</li> <li>• Ventilation louvres in external walls.</li> <li>• A mechanical ventilation system.</li> <li>• A mechanical cooling system</li> </ul> <p>The proximity to airborne noise or pollution from busy roads, railways and industrial uses may prevent an occupant from opening and using the windows as they were intended. Windows are likely to be closed during sleeping hours if noise within bedrooms exceeds the following limits.</p> <ul style="list-style-type: none"> <li>• 40dB LAeq,T, averaged over 8 hours (between 11pm and 7am).</li> <li>• 55dB LAFmax, more than 10 times a night (between 11pm and 7am).</li> </ul> <p>Compliance may be achieved using mechanical ventilation for those sites where windows cannot be opened.</p>

Dwellings should be constructed to mitigate overheating risk using passive means as far as reasonably practicable. It should be demonstrated to the building control body that all practicable passive means of limiting unwanted solar gains and removing excess heat have been used first before adopting mechanical cooling.

A section on 'staying cool in hot weather' should be included in the property's Home User Guide including information about the overheating mitigation strategy and its maintenance requirements.

Where standard dwelling types are available, these should be dynamically thermally modelled in different locations and orientations, incorporating changes as required to achieve Part O compliance for each scenario. This should include a library of approved products and variations, as required to suit scenario driven overheating risk, such as window types, shading devices, and ventilation opening details).

2.13.3 Construction Design Management Regulations 2015 (CDM15)

<http://www.hse.gov.uk/pubns/books/l153.htm?ebul=gd-cons/jul15&cr=2>

2.13.4 Secure by Design

The Contractor shall seek scheme specific advice from local police design advisers prior to detailed planning and be fully aware of the detail guidance available from the ACPO.

The design of the site, boundaries and dwellings shall follow the guidance set out in SBD "New Homes 2019" as well as guidance and updates from [www.securedbydesign.com](http://www.securedbydesign.com)

[https://www.securedbydesign.com/images/downloads/HOMES\\_BROCHURE\\_2019\\_NEW\\_version\\_2.pdf](https://www.securedbydesign.com/images/downloads/HOMES_BROCHURE_2019_NEW_version_2.pdf)

Any areas of non-compliance with the above guidance shall be agreed with the Employer before proceeding.

The Contractor shall provide any uplift for securing full SBD certification for all properties, requirement for certification level obtained shall be agreed with the Employer.

2.13.5 Design Council (CABE) Building for Life

The Contractor shall ensure that the design meets the best practice recommendations contained in the Building for a Healthy Life - A Design Toolkit for neighbourhoods, streets, homes and public spaces

At Design Stage, designers must provide the Employer with a report to confirm design response to each of the 12 criteria and to demonstrate how the 'green light' target is to be met.

At PC stage, designers must provide the Employer with a report to confirm design response to each of the 12 criteria and to demonstrate how the 'green light' target has been met on site.

Designers shall also make reference to the guidance document "Building for a Healthy Life 2020", published by Homes England.

<https://www.creatingexcellence.net/wp-content/uploads/2020/07/Building-for-a-Healthy-Life-July-2020.pdf>



2.13.6	IET (previously NICEIC) Regulations	<a href="https://www.niceic.com/contractor/essentials/downloads">https://www.niceic.com/contractor/essentials/downloads</a>
2.13.7	Considerate Constructors Scheme	<p>We are committed to recognising and encouraging construction sites that are managed in an environmentally and socially considerate manner. As one of Considerate Constructors Associate Members the Employer has agreed to register all their sites with the Scheme, and to comply with all aspects of the Scheme's Code of Considerate Practice.</p> <p>All schemes are to be registered and monitored by the Considerate Constructors Scheme. The Employer requires that a score in excess of 35 is achieved.</p> <p><a href="http://www.ccscheme.org.uk/">http://www.ccscheme.org.uk/</a></p>
2.13.8	Sustainability  Sustainable Materials	<p>The Contractor shall meet the specification previously required by the Code for Sustainable Homes in the areas specified below by following guidance set out in the current version of the BREEAM New Construction Technical Manual.</p> <p><a href="http://www.breeam.com/new-construction">Available at http://www.breeam.com/new-construction</a></p> <p>The Contractor shall employ a suitably qualified environmental assessor and demonstrate this compliance.</p> <p>The Contractor shall ensure the specification of construction materials which meet the sustainable materials requirements as previously required by the Code for Sustainable Homes.</p> <p>Technical guidance in the BREEAM Technical Manual shall be followed (see section "Materials").</p>
2.13.9	Daylighting	<p>The Contractor shall ensure that daylight calculations are carried out on all dwellings to ensure daylighting provision as previously required by the Code for Sustainable Homes. I.e. minimum of 1.5% to all habitable rooms and 2% to kitchens, using the BRE daylight calculator.</p> <p>Technical guidance in the BREEAM Technical Manual shall be followed (see section "Health and Wellbeing – Visual Comfort").</p> <p>The contractor shall ensure that impact of development on neighbouring properties shall be assessed and addressed accordingly in relation to the Rights of Light Act 1959</p>
2.13.10	Sound Insulation	<p>The Contractor shall ensure that the design meets an enhanced specification which achieves airborne and impact sound insulation values that are at least 5dB improvement over Part E of the building regulations.</p> <p>Technical guidance in the BREEAM Technical Manual shall be followed (see section "Health and Wellbeing – Acoustic performance").</p>

**ER Version 18 - Apartments: 3.0 PROVISION OF INFORMATION**

<b>Clause</b>	<b>Affordable Rent and Shared Ownership</b>	
<b>3.0 Provision of Information</b>		<p>The Contractor shall provide all necessary information from the Construction phase as required for:</p> <ul style="list-style-type: none"> <li>• Building Regulations,</li> <li>• Fire Risk Assessment,</li> <li>• Fire Safety Act,</li> <li>• Building Safety Bill,</li> <li>• Safety Case.</li> <li>• Golden Thread Data Requirements (See 1.18 Appendix 7)</li> </ul> <p>Information shall be updated following any changes to the design/construction.</p> <p>Information shall be provided in a format as agreed with the Employer</p> <p>Information format</p>
<b>3.1 Fire strategy Report</b>		<p>Fire strategy at design stage shall be lead by the client or shall be signed off by the client. Fire Strategy Report shall be by an accredited 3rd party.</p>
<b>3.2 EWS1 form</b>		<p>All new apartment projects with 5 storeys or more of habitable accommodation above external ground level shall incorporate Class A2-s1-d0 or better materials within external walls, in accordance with Part B Volume 1 2022, and shall also include for the completion of the EWS1 form process.</p>
<b>3.3 Construction Stage Fire Safety Information Requirements</b>		<p>The Contactor shall provide the following information to the Employer:</p> <p>Site records shall contain the following information. All information shall be provided to the Employer.</p> <ul style="list-style-type: none"> <li>• Fire stopping manufacturers test data sheets and dimensionally detailed technical illustrations.</li> <li>• Details of third party certification for the product being installed.</li> <li>• System designers' project-specific detailed and dimensioned arrangement drawings incorporating: <ul style="list-style-type: none"> <li>○ the compartment walls and location of fire stopping.</li> <li>○ cross references back to a schedule of all fire stops to include their rating and location.</li> <li>○ specification and location of all fire doors.</li> <li>○ specification and location of fire protection of penetrations and voids.</li> </ul> </li> <li>• Activity programme clearly detailing the sequence of installation relative to each contractor.</li> <li>• Installation checklist.</li> <li>• Inspection and handover checklist/requirements.</li> <li>• Any additional or special requirements.</li> <li>• Inspection and handover requirements including need for labelling of finished installations.</li> <li>• Service support arrangement (if applicable).</li> <li>• Maintenance requirements.</li> <li>• Identification of all parts of the construction acting as part of a compartment and identification of all materials.</li> </ul> <p>List details of all tags for passive fire protection of penetrations through compartmentation separating elements, documentation to include identification of location, ID number and photographic evidence.</p>

<b>3.4 Information on Fire Safety/Safety Management Systems</b>	<p>The contractor shall provide the following information for all safety management systems, including fire and carbon monoxide detection systems and sprinkler/suppression systems:</p> <ul style="list-style-type: none"> <li>• Specification &amp; Installation information.</li> <li>• Evidence of commissioning and testing.</li> <li>• Manufacturer's recommended maintenance &amp; testing regime.</li> <li>• Training for the Employer on the use of the system.</li> </ul>
<b>3.5 Information for the Safety Case</b>	<p>The Contractor shall provide all relevant information from the Construction Phase for the building Safety Case, including, but not limited to:</p> <ul style="list-style-type: none"> <li>• Building address,</li> <li>• Building height,</li> <li>• Building area,</li> <li>• Building location and details of surrounding buildings,</li> <li>• Services provided to the building,</li> <li>• Construction of the building including as built plans of the building, materials and fire safety information (see also section 1.3),</li> <li>• Structural protection (against, for example, fire and water),</li> <li>• Weather protection and protection against water ingress,</li> <li>• Electrical protection provided (from hazards including local electrical shock, mains installation, lightning protection)</li> <li>• Identification of building safety management systems (see also section 1.4),</li> <li>• Identification of vents and smoke control systems,</li> <li>• Equipment provided for the fire and rescue service to use protection provided to bin chutes and bin rooms</li> <li>• Any additional information relevant to the safety of the finished building and its users with respect to fire and structural safety,</li> <li>• Photographs and drawings to aid description of the above.</li> </ul>
<b>3.6 Training on Systems Installed</b>	<p>The Contractor shall provide training for the Employer on the use of all installed systems. Separate demonstrations are required for each systems</p> <p>The Contractor shall ensure training opportunities are provided when the systems are fully commissioned, prior to handover. The Contractor shall allow time in the programme for this process.</p> <p>The Contractor shall ensure that the relevant specialists from the sub-contractors involved in the installation of the systems are available to meet on site and demonstrate the systems to the relevant personnel from Great Places.</p> <p>Systems requiring training shall be agreed with the Employer, this shall include the following (or as necessary for the scheme):</p> <ul style="list-style-type: none"> <li>• Door Entry System</li> <li>• Fire Detection Systems and AOV's</li> <li>• Lifts</li> <li>• Water pumps</li> <li>• Communication systems, Aerials/Satellites, CCTV systems</li> <li>• Fall protection systems</li> <li>• Heating and hot water systems</li> <li>• Mechanical Ventilation systems</li> <li>• Electrical services, location of landlord consumer unit, isolation switches etc.</li> <li>• PV systems</li> <li>• Vehicle Gates</li> <li>• Electric vehicle chargepoints</li> <li>• Overview of apartment block layout including service risers, roof access, store areas etc.</li> <li>• Any other scheme specific specialist systems</li> </ul>

3.7	Warranty Information	The Contractor shall provide all necessary warranty, maintenance and inspection information for all systems installed, as stated under the relevant sections of the ER's.
	Inspections & Maintenance during the DLP	<p>The Contractor shall undertake all statutory inspections and maintenance on systems during the DLP, including but not limited to:</p> <ul style="list-style-type: none"> <li>• Fire detection systems &amp; AOV's</li> <li>• Lifts</li> <li>• Door Entry Systems and electric gates</li> <li>• Water pumps, boosters and storage systems</li> <li>• PV systems</li> <li>• Communal heating and hot water systems</li> </ul>
	Thermal record minimum requirements	<p>1 – Foundations &amp; Ground Floor: To indicate continuity of thermal insulation at</p> <ul style="list-style-type: none"> <li>a - Ground floor perimeter edge insulation</li> <li>b - External door threshold</li> <li>c - Below damp-course on external walls</li> </ul> <p>2 – External walls: To indicate insulation continuity for each wall type at</p> <ul style="list-style-type: none"> <li>a – Ground floor to wall junction</li> <li>b – Structural penetrating elements</li> </ul> <p>3 – Roofs: To indicate insulation continuity for each roof type at</p> <ul style="list-style-type: none"> <li>a – Joist/ rafter level</li> <li>b – Eaves and gable edges</li> </ul> <p>4 – Openings: To indicate insulation continuity for openings at</p> <ul style="list-style-type: none"> <li>a – Window position in relation to cavity closer or insulation line</li> <li>b – External doorset positioning and insulation line</li> </ul> <p>5 – Air tightness:</p> <ul style="list-style-type: none"> <li>a - To clearly identify air tightness details and penetrations.</li> </ul> <p>6 – Services: To clearly show space and water heating/ renewable tech/ ventilation etc</p> <ul style="list-style-type: none"> <li>a – Equipment makes and model and identification</li> <li>b – Continuity of insulation for primary pipework</li> <li>c – Ventilation ductwork and continuity of insulation.</li> </ul>

**ER Version 18 - Apartments: 4.0 SITE INVESTIGATION**

<b>Clause</b>		<b>Affordable Rent and Shared Ownership</b>
<b>4.0</b>	<b>Site Investigation</b>	<b>Refer to Addendum K - Site Investigation Brief</b>
<b>4.1</b>	<b>Site Investigation Generally</b>	<p>A full site investigation shall be undertaken by the Contractor, any hazards identified and removed from site. The Contractor shall comply with all recommendations identified in the site investigation and fully remediate the site in compliance with Planning, the Warranty Provider's requirements and Building Control.</p> <p>The Contractor shall investigate and advise on how the effects of redirecting or placing increased demand on services is likely to impact on the cost of proposed programming of the new development. Furthermore, the Contractor is required to inspect the site and carry out detailed and comprehensive searches, through the relevant authorities, to discover the existence of any existing or redundant sewers, drains, water, gas, electric or other such services. Where a site investigation has been provided by the Employer, the Contractor shall be deemed to have satisfied himself as to its accuracy and included for undertaking all necessary additional checks, searches and investigations as deemed necessary. Where the Contractor has procured the site investigation report it shall be owned by the Employer.</p>
<b>4.2</b>	<b>Invasive Species</b>	<p>It is the Contractor's responsibility to ensure that investigations have proved that there are no invasive weeds on the site such as; Japanese Knotweed, Giant Hogweed, Himalayan Balsam or any other weed as defined in the Wildlife and Countryside Act 1981.</p> <p>Should there be any evidence of an invasive species then the Contractor must employ the services of a suitably licensed removal contractor and ensure that services include an insurance backed warranty for a period of 10 years from the date of eradication/removal, before construction work commences on site.</p> <p>The warranty must be in the name of the Employer.</p>
<b>4.3</b>	<b>Environmental Assessment</b>	<p>A suitably qualified ecologist shall be appointed to determine the species per hectare and the recommendations for any proposed planting implemented.</p> <p>All consideration must be given to deliver bio-diversity net-gain in accordance with the following hierarchy to achieve a minimum 10% net uplift in biodiversity to each scheme;</p> <ul style="list-style-type: none"> <li>avoidance of reduction in ecological value,</li> <li>minimisation of impact of development on existing bio-diversity,</li> <li>restoration of habitat delivered on site,</li> <li>delivered uplift in the immediate community,</li> </ul>
<b>4.4</b>	<b>Land drains / Waterlogged gardens</b>	<p>The Contractor shall perform close examination of the site investigation report and an assessment of the ground permeability to avoid creating waterlogged gardens.</p> <p>The Employer requires a minimum 600w x 900d land drain be provided to the edge of patio junction with garden to the full width of the plot.</p> <p>Where the prevailing sub strata conditions are not predominantly clay and of high permeability, the Contractor may offer an outline designed solution to reduce this scope. Guidance provided in BS 4428 – Landscape shall be followed, see also clause <a href="#">18.8 Site Drainage</a>.</p>

**ER Version 18 - Apartments: 5.0 FOUNDATIONS**

<b>Clause</b>		<b>Affordable Rent and Shared Ownership</b>
<b>5.0</b>	<b>Foundations</b>	To be in accordance with NHBC Guidance Chapter 4
<b>5.1</b>	<b>Foundations Generally</b>	The choice, design and construction of foundations and the co-ordination of service entry points are the Contractor's responsibility and shall in all cases meet with the requirements of the current Building Regulations.
	Design	<p>Foundations shall be designed to suit local ground conditions and suitable for the loads to be imposed.</p> <p>Foundations shall be designed in such a way so as to show brickwork above finished ground levels externally.</p> <p>All work shall be in accordance with Structural Engineer's requirements. Any variations due to ground conditions and/or warranty providers requirements shall be the Contractor's responsibility. Sulphur resisting cement shall be used where the Structural Engineer indicates ground conditions warrant. Tolerances of installed works are to meet the requirement of the chosen superstructure construction methodology. Accuracy and coordination fo substructure elements with above ground works is the reponsibility of the principal contactor</p>
<b>5.2</b>	<b>Facing Brickwork below DPC</b>	Two courses of facing bricks to match those on the external walls immediately above ground level are required below finished ground level or paving level. Mortar classification shall be of suitable strength to BS EN 998-2:2010 (Specification for mortar for masonry. Masonry mortar) and to the correct exposed application.

**ER Version 18 - Apartments: 6.0 GROUND & UPPER FLOORS**

<b>Clause</b>	<b>Affordable Rent and Shared Ownership</b>	
<b>6.1</b>	<b>Ground Floors</b>	<p>The design and construction of the ground floor is the Contractor's responsibility and shall in all cases meet with the requirements of the current Building Regulations.</p> <p>All work shall be in accordance with Structural Engineer's requirements. Timber ground floors are not acceptable unless specifically approved for the chosen method of installation by building control body and warranty provider.</p>
6.1.1	Vented sub-floor void	Sub-floor ventilation shall meet with the requirements of current Building Regulations & the warranty provider.
6.1.2	Treatment under Concrete Suspended Floors	Surfaces of ground shall be levelled and treated with weed killer. No materials which may contain wood rotting agents shall be left under ground floor slabs and any filling of the sub floor shall be free from vegetable matter and comprise a minimum 100mm thick blinded and inert hard-core.
<b>6.2</b>	<b>Upper Floors</b>	<p>The design and construction of the upper floor is the Contractor's responsibility and shall in all cases meet with the requirements of the current Building Regulations.</p> <p>All work shall be in accordance with Structural Engineer's requirements. Ceiling Voids below floor soffit/ between floor structure to allow for air quality management systems ducts. Provisional minimum depth of 150mm clear zone to be allowed within dwellings, and common spaces to allow 250mm minimum clear zone</p>
6.2.1	Pre-cast Concrete Floors	<p>Dependant on the form of construction all floors between adjacent dwellings (apartments) are to be proprietary reinforced concrete either beams with concrete infill blocks or wide slab units of sufficient design (or an approved system) to span between load bearing walls.</p> <p>ALternate construction methodology in accordance with engineered design/ details acceptable by agreement with Employer.</p>

**ER Version 18 - Apartments: 7.0 EXTERNAL & INTERNAL WALLS**

<b>Clause</b>	<b>Affordable Rent and Shared Ownership</b>	
<b>7.0</b>	<b>External Walls</b>	All external walls shall meet current building regulations, in addition to this external walls shall meet the requirements below.
<b>7.1</b>	<b>General Requirements</b>	
	Timber Frame	Timber frame is not accepted for apartments, other than as defined in clause 2.5
	Secondary DPC	Paths adjacent to the property shall be maintained at 150mm below DPC around the full perimeter. Secondary DPC shall be installed to all walls with level access/less than 150mm below DPC.
	Insulation	Where masonry cavity walls are to be fully filled details proposed and contractors testing and inspection plan, including recording and reporting of thermal junctions and thermal continuity to be agreed by Employer prior to commencement of works.
	Movement Joints	Positions of movement joints shall be determined by a structural engineer appointed by the Contractor; preferred position of movement joints is in corners or behind rainwater pipes where possible.
	Provision of information	The Contractor shall provide all necessary details of fire protection, see clause <b>3.0: Provision of Information</b> .
	Core drilling	All holes through the external facing brickwork, other than formed openings, shall be core drilled
<b>7.2</b>	<b>Facing Bricks</b>	Facing bricks shall be clay only. Alternative facing brick details to be provided to Employer for consideration. The Contractor shall provide a range of brick samples for the Employer to choose from, taking into account any planning restrictions as necessary. A variety of colour and texture options shall be provided. Bricks shall be from an intermediate price range as a minimum. Engineering bricks with water absorption less than 7% shall be used for brickwork below DPC.
<b>7.2.1</b>	<b>Technical Requirements</b>	Masonry units and mortar shall comply with BS EN 1996-1-1. For buildings higher than three storeys, masonry shall be designed by a suitably qualified Engineer.
	Freeze/thaw resistance	Brickwork on exposed parts of the building (copings, cills, parapets, chimneys etc.) or brickwork for schemes in extremely exposed areas shall be freeze/thaw-resistant <b>F2,S2</b> or <b>F2,S1</b> to BS EN 771.  Brickwork for general wall areas shall be moderately freeze/thaw resistant <b>F1,S1</b> or <b>F1,S2</b> to BS EN 771, provided they are classified in the manufacturer's recommendations as satisfactory for the exposure, the Contractor shall provide evidence confirming this.
	Compressive strength	Bricks for one and two storey homes shall have a minimum compressive strength of 9N/mm <sup>2</sup> unless otherwise stated by a suitably qualified Engineer. Bricks for three storey homes shall have a minimum compressive strength of 13N/mm <sup>2</sup> to all storeys unless otherwise stated by the Engineer. Enginners design to be provided for masonry to multi-storey blocks.
	Water Absorption	Facing bricks above DPC shall have water absorption of 15% or less.
	Mortar	Mortar classification shall be of suitable strength to BS EN 998-2:2010 (Specification for mortar for masonry) and shall be suitable for the works exposure condition. Unless coloured mortar is specified on a scheme by scheme basis natural mortar shall be used.



<b>7.2.2 Bricklaying</b>	Facing bricks shall be chosen from 3 packs and be well mixed when laying. Bricks shall be selected having regards to the works exposure condition in relation to frost resistance. Brick type, make up and appearance to be agreed with the planning authority and the Employer prior to order. Two courses of facing bricks to match those on the external walls immediately above ground level are required below finished ground level or paving level.
<b>7.2.3 Sample Panel</b>	Sample Panel – Prior to commencement of the brickwork, the Contractor shall prepare sample panels indicating the various facing bricks and associated mortars he proposes to use for approval by the Employer and include for all costs for this in his tender. Sample panel shall include cladding sample when relevant to the scheme.
<b>7.2.4 Brick Slips</b>	Brick slips are not accepted unless otherwise agreed with the Employer. Any slip system must be mechanically secured - bonded systems will not be considered.
<b>7.3 Stone</b>	Stone for external walls shall be gauged dressed coursed stone. Axed dressed stone with irregular quoins is not accepted. All stonework shall be dressed from manufacturer, with square edges to form neat alignment of reveals, unless guided by Planning Conditions with designated natural stone.
<b>7.4 Finishing of Joints</b>	Face brickwork shall be pointed with a bucket handle joint (unless stated otherwise by the Employer).
<b>7.5 Cavity Cleaning</b>	Brickwork cavities shall be kept clean during bricklaying. Method of inspection to be agreed with the COW.
<b>7.6 Alternative Cladding</b>	<b>Cladding is not accepted for apartments unless otherwise agreed with Employer</b> If cladding panels are required for planning requirements the specification shall be agreed with the Employer (note that cladding specification can be found in ER V.17 Housing specification)
<b>7.7 Render</b>	Render is acceptable only with the prior approval of the Employer; Render shall be through coloured silicone render, applied to the substrate in accordance with the manufacturer's instructions.
Colour	Care must be taken in detailing and colour selection to ensure that weathering and water staining does not occur. Preferred colours are: 'Champagne' Colours not accepted are: 'Buttermilk'
Design	The Contractor shall ensure that the following design criteria are met: <ul style="list-style-type: none"> <li>• Provide a minimum 150mm overhang at roof verge and eaves level and minimum 50mm overhang at cills and elsewhere.</li> <li>• Render shall be finished with a suitable detail at a minimum of 150mm above ground level in all areas around the building.</li> <li>• White colour render is not acceptable.</li> </ul> NHBC best practice shall be followed for accommodation of movement in rendered walls; movement joints shall be continuous through the render and background. Austenitic stainless steel bed joint reinforcement conforming to BS EN 845-3 shall be placed in the first two courses of the external leaf, above and below any openings. Where possible the reinforcement shall extend 600mm beyond the opening.
<b>7.8 Steel or Concrete Frames</b>	A qualified Structural Engineer shall be employed to design any steel or concrete frames required in the construction of the building and full details shall be provided together with details of Building Regulation approval.
<b>7.9 Internal Walls</b>	All external walls shall meet current building regulations, in addition to this external walls shall meet the requirements below.
<b>7.10 Pattresses</b>	Ply lining/pattresses shall be provided as necessary to allow the fixing of the following: <b>N.B. Pattress material is subject to wall system manufacturer fire test data.</b> Stair balustrades and handrails, Bathroom grabrails/ future provision Wall mounted MEP, Radiator panels Kitchen wall units, Scheme specific equipment e.g. evac chair

## ER Version 18 - Apartments: 8.0 ROOFS

Clause		Affordable Rent and Shared Ownership
<b>8.0</b>	<b>General Requirements</b>	<p>Whenever possible, roofs shall be pitched roof design.</p> <p>Any membrane roof system details including performance specification and warranty details shall be provided to the Employer for consideration.</p> <p>Flat roof design shall be agreed with the Employer prior to construction.</p> <p>Flat roofs shall only be accepted when evidenced that an alternative design cannot be achieved. In these circumstances the following specification shall be followed: Detailed designs, material specifications and maintenance plans shall be provided and agreed with the Employer.</p> <p>Roof design needs to be carefully considered to avoid an increased likelihood of failure due to complicated detailing requiring extra work on site. See also clause <b>8.4: Flat roof construction</b>.</p>
	Non-combustible materials	<p>Roof insulation materials shall be non-combustible, where required by the fire risk assessment and development of the fire strategy by suitably qualified persons.</p> <p>Roof coverings shall achieve classification BROOF(t4) in accordance with BS EN 13501-5.</p> <ul style="list-style-type: none"> <li>• No penetration of roof system within 60 minutes</li> <li>• In preliminary test, after withdrawal of the test flame, specimens burn for less than 5 minutes</li> <li>• In preliminary test, flame spread less than 0.38 m across region of burning</li> </ul>
<b>8.1</b>	<b>Pitched roof construction</b>	<p>The roof structure shall comprise either softwood trussed rafters or softwood rafters and all trussed rafters and associated bracing shall be detailed, designed and manufactured by a member of TRADA QA scheme for trussed rafters, and all components and accessory bracing shall comply with the requirements of the Building Regulations and BS EN 1995-1-1:2004+A2:2014 (Eurocode 5: Design of timber structures. General. Common rules and rules for buildings).</p> <p>Alternate construction types such as light gauge steel frame panel and cassette based roof systems are acceptable by agreement with Employer.</p>
<b>8.2</b>	<b>Roof Tiling</b>	<p>Tiles shall be fixed in accordance with the Manufacturer's instructions with a layer of breathable membrane supplemented by proprietary PVC over eaves fillet.</p>
	Tiles	<p>Subject to planning, tiles shall be Marley Edgemere or other equal and approved concrete interlocking roof tiles, as agreed by the Employer.</p> <p>Alternative tiles/ roof materials details to be provided to Employer for consideration.</p>
	Roof components	<p>Consideration shall be given to using maintenance free components in all areas. Dry fixed ridges, hips and cloaked verges shall be used. All verges to be continuous verge system as Kytun or similar.</p>
	Dry Fix Systems	<p>All proprietary dry fix systems shall be in accordance with BS 8612.</p>
	Roof membrane	<p>All overlaps in the roofing felt shall be secured to meet BS 5534, the Employer does not accept the use of an intermediate batten to secure the overlap of the roofing felt (due to H&amp;S trip hazard).</p>
	Fascia	<p>Any fascia/ soffit/ capping system to be designed and detaild by specialist.</p>
<b>8.3</b>	<b>Roof Flashings</b>	<p>All flashings shall be designed and detailed in accordance with chosen roof soluiton. All lead flashings shall be a minimum of 1.8mm Code 4 adequately chased and wedged into brickwork and sealed. Code 5 lead shall be used for gutters. Alternative substitutes such as Ubiflex lead free flashing will be considered where theft is extremely likely or has already occurred prior to handover. Work shall be in accordance with the lead sheet association recommendations.</p> <p>A pocket guide can be located at: <a href="http://leadsheet.co.uk/service/rolled-lead-sheet-the-complete-manual/">http://leadsheet.co.uk/service/rolled-lead-sheet-the-complete-manual/</a></p>

<b>8.4 Flat Roof Construction</b>	The choice, design and construction of the roof is the Contractor's responsibility and shall in all cases meet with the requirements of the current Building Regulations. Engineer's design drawings shall be provided to the Employer.
Warranty	Flat roofs shall have min. 25 year insurance backed warranty. PV installation, where applicable, must not affect the warranty. The Contractor shall provide all information on maintenance schedule and inspections required for the warranty and shall fulfil these during the DLP.
Roof covering	Roof covering shall be fleece backed single ply membrane, designed detailed and installed in accordance with manufacturers requirements and recommendations by approved installer.
Parapets	If applicable, the Contractor shall provide detailed design drawings & specification of the parapet detail for approval by the Employer prior to construction.
<b>8.5 Roof Ventilation</b>	All roofs shall be vented in accordance with the Building Regulations and BRE recommendations. The design shall ensure reduced risk of condensation by means of ventilation. All roof ventilation shall have fly mesh protection.  Ventilation requirements must be clearly detailed on drawings.
<b>8.6 Compartmentation in roofs</b>	Compartment walls shall extend through the roof space. All roof space compartments, where access is required for maintenance, shall have access hatches, with adequate fire protection - Sterile roof voids with no access is preferred.
Fire detection in roofs	Fire detection systems shall be installed in roof spaces.
<b>8.7 Roof access</b>	Roof access requirements shall be agreed with the Employer. All roof access shall be via secure maintenance access, and shall not be via AOV's. Roof access to be provided by secondary lockable hatch with integrated drop down ladder – location to be agreed – as per Stakka DL147 or similar approved
8.7.1 Maintenance Access- External	Lockable access hatches with retractable steps shall be provided in all locations where maintenance access is required - locks are to be key locked not budget/ tool operated locks
Fall protection systems	Fall protection to roof edge is provided by parapet at a minimum height of 1100mm above finished roof level at roof perimeter line, designed in accordance with BS EN 1991-1-1 to resist horizontal loading and as required by building regulations. Mansafe/ fall arrest system is not desirable - Type and specification shall be agreed with the Employer. The Contractor shall provide the Employer with training on the use of the fall protection system, either through the manufacturer or by separate third party training.
8.7.2 Roof void access	Lockable fire rated access hatches shall be provided to all roof voids for maintenance. Any voids that are in excess of 800mm require fire detection coverage. Roof access to be provided by secondary lockable hatch with integrated drop down ladder – location to be agreed – refer to attached pdf Stakka DL147 for acceptable spec/ type.
8.7.3 Roof Inspection during Construction	The Contractor shall provide a suitable set of steps to enable the COW to check the roof space. Steps shall enable safe inspection of the roof space from the loft hatch, access and inspection of all roof spaces shall be agreed with the Employer prior to inspections (swingback stepladder, open height 1.7m, Class 1 BS2037 or BS EN 131 provided at 14 day snagging would normally be suitable).

<p><b>8.8 Equipment in Roof Spaces</b></p>	<p>Installation of serviceable equipment in the roof void space shall be avoided.</p> <p>If serviceable equipment is installed in the roof space the following specification shall be followed:</p> <ul style="list-style-type: none"> <li>• Equipment shall be in an accessible location.</li> <li>• The area around any service equipment shall be boarded out to allow safe access, location and access area to be agreed with the Employer prior to installation of equipment.</li> <li>• A light fitting and light switch shall be provided in the roof space.</li> <li>• Adequate thermal insulation shall be maintained in all areas.</li> <li>• Suitable and sufficient number of Multi-sensor fire detectors shall be positioned in the loft/ void space and form part of the designed system, see clause <a href="#">9: Fire Detection Systems</a>.</li> </ul>
<p><b>8.9 Roof drainage &amp; Guttering</b></p>	<p>The Contractor shall provide detailed water management design drawings and specifications for approval by the Employer prior to construction and calculated to 1 in 100 year rainfall</p> <p>Gutters to traditional roofs shall be Marley 150mm deep flow or equal and approved by the Employer. Gutters shall be fitted in line with the manufacturers installation instructions, and to the correct falls.</p> <p>For roof drainage designs not using standard plastic guttering and downpipe, the drainage design shall be approved by the Employer prior to installation.</p>
	<p>All roof drainage details including setting out information to be provided to Employer for review.</p>
<p><b>8.10 Balconies</b></p> <p>Balustrade</p> <p>Regulations</p> <p>Decking, guarding &amp; handrails</p> <p>Pest Control</p>	<p>Balcony design shall be approved by the Employer. Balcony design shall meet current NHBC Standards (even if NHBC is not the warranty provider).</p> <p>Balcony structural design and fixings shall be designed by an Engineer.</p> <p>Balconies and roof terraces shall have glass &amp; stainless steel balustrades. Ground floor balconies/terraces shall have obscure glazing/frosted glass. Glazing shall be designed by an Engineer or competent person and the glass shall be of adequate thickness for its size and purpose. Privacy panel shall be provided between balconies, privacy panel shall be obscure glazing, min height 1.8m. All fixings and glass clamps shall be stainless steel.</p> <p>Balcony design shall meet all current legislation/regulations. In addition to this the balcony shall meet the following: Inset balcony floors and walls shall be treated as a compartment, with min. 60mins fire resistance.</p> <p>Timber decking, guarding and handrails are not accepted.</p> <p>If balcony design is for drip through drainage, the decking shall be Graepel SafeDeck 'Garden' or equal and approved by the Employer.</p> <ul style="list-style-type: none"> <li>• DD 11 hot-dipped galvanised or Stainless steel.</li> <li>• Material thickness 2.5mm</li> <li>• Anti-slip R 10</li> <li>• Displacement V 10 (open area 9%)</li> <li>• Maximum hole size 8mm diameter</li> </ul> <p>Guarding and handrails shall be metal or glass, note that the preference is for metal construction.</p> <p>Balcony (including Juliet balcony) balustrading and guard rails should be of adequate durability and fixed securely.</p> <p>The balcony shall be designed with consideration to reducing nuisance from birds and shall incorporate pest control as necessary.</p>

<b>8.11 Canopy</b>	All apartment block entrances shall have a canopy, design shall be agreed with the Employer.
<b>8.12 Roof Terraces</b>	Roof terraces are not accepted for affordable rent properties.

**ER Version 18 - Apartments: 9.0 FIRE DETECTION SYSTEMS**

Clause	Affordable Rent and Shared Ownership	
<b>9.0 Fire Detection Systems</b>	<p>The fire detection system shall meet the specification in the Addendum document 'Fire Specification - Alarms and Detection'.</p> <p><a href="#">Addendum F: Fire Specification - Alarms and Detection</a></p> <p>NOTE: The specification is to provide a fire detection system specific to the occupancy type and building risk level, <b>it goes above the minimum requirements for building regulations.</b></p>	
<b>9.1 General Requirements</b>		
9.1.1 Design	<p>Fire alarm systems and sprinkler systems shall be designed &amp; installed in accordance with the Fire Strategy Report.</p> <p>The design shall take into account the following:</p> <ul style="list-style-type: none"> <li>Occupancy type,</li> <li>Risk factor of the building,</li> <li>Evacuation strategy,</li> <li>Who the alarm alerts and how,</li> <li>Testing regime,</li> <li>False activations.</li> </ul>	
9.1.2 Approval	<p>Any fire alarm system shall be approved by Building Regulations, the appointed fire risk assessor and the Employer.</p>	
9.1.4 Maintenance during DLP	<p>The system shall be serviced and maintained at correct intervals during the D.L.P. by the Contractor. It is essential that the Contractor includes for payment of all fees associated with the provision of a full 12 months service contract to coincide with the 12 months warranty. A copy of the service contract will be required.</p>	
<b>9.2 Systems for 3 storey (or less) buildings</b>		
<p>General needs apartments of 3 stories or less (low risk) shall meet the following minimum requirements:</p> <p>All buildings over 3 meters or high risk buildings shall meet requirements as specified in <a href="#">Addendum F: Fire Specification - Alarms and Detection</a>.</p> <p>All Grade A Category LD1 and LD2 systems shall be based on a Protec 6500 Series Panel. The fire alarm system will be based on the Protec 6000plus protocol smoke detectors and field devices.</p>		
9.2.1 Apartments	<p>System shall be <b>Grade D1, LD2 with upgrades</b>, including the following:</p> <ul style="list-style-type: none"> <li>• Smoke detector in dwelling lobby.</li> <li>• Smoke detector in dwelling living room.</li> <li>• Smoke detector in all dwelling bedrooms.</li> <li>• Heat detector in kitchen.</li> <li>• Multi sensor (Heat/Smoke) detector should be installed in living room at close proximity of the kitchen if the dwelling has an open plan kitchen/lounge instead of the heat alarm in the kitchen.</li> </ul> <ul style="list-style-type: none"> <li>• All smoke and heat alarms need to be interlinked within the dwelling.</li> <li>• Low-level wall mounted test and hush switches connected to LD2 detection system.</li> <li>• No detection installed to bathrooms or WC.</li> </ul>	

9.2.2 Communal Spaces, Ancillary Spaces & Voids	<p>System shall be <b>Category L2 Grade A</b>.</p> <p>Fire detection and alarm system shall incorporate control indicating equipment (CIE) in the form of a main control panel. It is expected that the following are included:</p> <ul style="list-style-type: none"> <li>• A main control panel to BS EN5 4-2. Due to the number of individual detector heads, the panel should be an analogue-addressable type</li> <li>• Power supply equipment to BS EN 54-4.</li> <li>• Smoke detectors must be installed to all communal areas: corridors, stairways, and shared spaces. This is to include loft spaces/roof voids where present.</li> <li>• Smoke detectors must be installed to all offices, gyms, activity rooms, hair salons, games rooms. (if applicable)</li> <li>• Smoke detectors must be installed to all lift shafts, electric meter cupboards, cleaners' cupboards, landlord distribution board.</li> <li>• Smoke detectors must be installed to all areas with electrical installations, including but not limited to PV panel inverters and water pumps.</li> <li>• Heat detectors must be installed to all plant rooms.</li> <li>• Multi-sensor (Heat/Smoke) must be installed to laundry room.</li> <li>• No detection installed to any communal bathrooms or WC.</li> <li>• Communal system extends into all flat lobbies with a single multi -sensor (Heat/Smoke) detector.</li> <li>• Communal system includes all leaseholder flats without exception.</li> <li>• Fire alarm control panels for the communal System should be addressable, giving an exact location description of the activation with an adequate and accurate zone plan fitted next to the control panel.</li> <li>• Repeater panel should be installed to larger sites at an alternative entrance point, where there is more than one main entrance showing the state of the fire panel at the main entrance area.</li> </ul> <ul style="list-style-type: none"> <li>• System to be linked to the ARC (Remote Monitoring) system</li> <li>• System to be silent with option of fire service control to aid with phased or full evacuation</li> </ul> <ul style="list-style-type: none"> <li>• Any voids with floor area in excess of 800 x 800mm require coverage.</li> </ul> <p>All detectors shall be installed as per the manufacturer's instructions and in line with any requirements of the fire strategy report.</p>
9.2.3 Maintenance access	<p>The Contractor shall provide suitable and adequate access for future maintenance to all smoke detectors. This shall include boarding to allow access to detectors in roof spaces.</p>
<b>9.3 ARC System</b>	<p>The system shall have an autodial facility direct to an approved off-site monitoring station via a designated phone line or SIM.</p>

<b>9.4 Fire Panel</b>	Fire panel shall be <b>Protec 6500</b> or equal and approved, with monitoring service linked to ARC with phoneline or sim card.
9.4.1 Fire panel interface	The fire alarm shall fully interface to the access control system and all mechanical plant, including but not limited to, the following systems: <ul style="list-style-type: none"> <li>• Smoke ventilation system/AOV's</li> <li>• Gas supplies isolated.</li> <li>• BMS system – to interface with gas solenoid valves, ventilation systems, etc.</li> <li>• Electronic access controls (magnetically locked doors to release/fobs disabled)</li> <li>• Door hold open devices (door détentes)</li> <li>• Lifts to return to ground floor and remain out of use.</li> <li>• Sprinkler system</li> <li>• Water tank over-flow detection</li> <li>• Lifts</li> <li>• Electric gates (gates unlock/open)</li> <li>• Communal ventilation system (facility for Fire and Rescue services to control/shut down ventilation systems)</li> </ul>
9.4.2 Warranty	Fire panel system shall have min. 1 year warranty and shall include 1 year servicing and monitoring contract with the installer.
9.4.3 Zone plan	Zone plan shall be provided next to the fire panel.
<b>9.5 Smoke Ventilation Panels</b>	Smoke ventilation panels shall be provided adjacent to the main fire panels to allow the Fire and Rescue Service to override the smoke ventilation system as required.
<b>9.6 Automatic Smoke Vents</b>	Automatic smoke vents shall be installed as required to meet building regulations and/or as advised in the fire risk assessment/strategy. The Contractor shall identify where all ASV's are located & provide a maintenance plan including safe access arrangements. AOV's shall have over-ride facility for Fire & Rescue Services to enable them to control the AOV's in the event of a fire.
Warranty	AOV system shall have min. 1 year warranty and shall include 1 year servicing and maintenance contract with the installer.
<b>9.7 Sprinkler Systems</b>	Sprinkler systems shall be included in all apartments & multiple occupancy dwellings where upper storey is over 11m above ground level. Sprinkler systems shall be included in all apartments & multiple occupancy dwellings for sheltered housing and supported housing schemes. The Contractor shall provide an assessment for the tank volume for the sprinkler system. Sprinkler systems shall meet the following standards: <ul style="list-style-type: none"> <li>• BS 9251:2021 – Sprinkler Systems for Residential and Domestic Occupancies.</li> <li>• BS EN 12845:2004 – Fixed Fire Fighting Systems. Automatic Sprinkler Systems. Design, Installation and Maintenance.</li> </ul> All systems shall be designed and installed by registered providers. The Contractor shall provide the Employer with guidance from the system installers regarding ongoing maintenance and inspection regimes required for the specified system.
<b>9.8 Cold water tank</b>	Cold water tank shall be installed as required for sprinkler systems. Design and location to be agreed with the Employer prior to installation. Safe access shall be provided for maintenance. Over-flow alarm shall be provided.
<b>9.9 Fireman's switch</b>	Fireman's switch: Flush mount in bezel box and drop key type.



<b>9.10 Property Information Box</b>	<p>The Contractor shall provide a property information box (Gerda Box). The Contractor shall provide necessary information, including:</p> <p>Floor Plans, Elevations, with individual apartments identified, FRA, Locations of high risk areas.</p> <p>This information shall also be provided to the Employer in a digital format. The location of the property information box shall be agreed with the Employer, and shall meet any requirements of the FRA and emergency services to enable the Fire &amp; Rescue Service to have immediate access to this information.</p>
<b>9.11 Evacuation strategy</b>	<p>Evacuation strategy shall be designed and agreed in conjunction with the Employer based on the Fire Strategy Report and end user requirements and shall take into consideration of the following:</p> <p>Risk Assessment, Evacuation Policy, Fire strategy drawings, Alarm system cause and effect.</p> <p>The Contractor shall provide all necessary installations and information to meet the requirements of the evacuation strategy,</p>
<b>9.12 Fire fighting Equipment</b>	<p>Fire fighting equipment is not required.</p>
<b>9.13 Signage - Wayfinding</b>	<p>The Contractor shall provide adequate provisions to enable wayfinding for the Fire and Rescue Service within the building, including identification of flats on each floor and directions to flats .</p> <p>The Contractor shall provide design for adequate provisions to enable wayfinding for residents and visitors to exit the building in the event of an emergency evacuation. Temporary laminate signage is not accepted.</p>
<b>9.14 Signage - Fire Escape</b>	<p>Safety Signage design/location shall meet Building Regulations and the Fire Strategy Report.</p>
<b>9.15 Arc Fault Detection Devices (AFDD's)</b>	<p>Arc fault detection devices are required for all apartments and landlord supply. - as per Electrical spec: Consumer Unit.</p>
<b>9.16 Surge Protection Devices (SPD)</b>	<p>All consumer units shall have suitable and sufficient surge protective devices (SPD's) installed as per BS 7671 section 534.</p>

**ER Version 18 - Apartments: 10.0 PASSIVE FIRE PROTECTION & FIRE DOORSETS**

Clause	Affordable Rent and Shared Ownership	
<b>10.0 Passive Fire Protection Elements Generally</b>	All fire protection elements of the construction shall be installed by a 3rd party accredited installer. The Principal Contractor shall be responsible for monitoring and signing off all fire protection elements.	All elements of the design and materials shall be in accordance with the FRA/Fire strategy Report.
	The design and construction shall meet ASFP best practice guidance (available free to download <a href="http://www.asfp.org.uk/publications">www.asfp.org.uk/publications</a> ), or alternative industry accredited guidance as agreed by the Employer.	
	All passive fire protection elements shall have UKAS accredited third party product certification such as BM TRADA Q-Mark or BWF-Certifire.	
	All fire protection shall be installed and/or inspected by a UKAS accredited installer, details of the installer and their accreditation shall be provided to the Employer.	
	All fire stopping systems must be installed in accordance with the manufacturer's written instructions.	
<b>10.1 Fire doorsets generally</b>	All fire doors (in dwellings and communal areas) shall be certified and supplied as complete doorsets from a single source, as described by BS EN 12519 with single fire certificate identifying the components used.	
	<b>Fire Door Assemblies are not accepted.</b>	
	All doorsets shall meet the requirements of the FRA and current Building Regulations.	
Fire rating	All flat entrance doors, riser cupboard and meter cupboard doors shall be FD60S rating and all cross corridor, lobby doors shall be FD30S unless specified (specifically) otherwise.	
Signage	As required by regulatory compliance, plus additional unique identifier reference signage to be included to each doorset.	
Durability	All doorsets and windows with fire resisting and/or smoke control characteristics shall meet BS EN 14600:2005 for durability of 200,000 cycles prior to the fire-resistance test.	
Warranty	All fire doorsets shall be supplied with an independent 10 year insurance backed guarantee. Warranties and guarantees shall be made in the name of the Employer.	
Hinges	Fire doorsets shall have min. 3 no. hinges. For doors without a door closer, all hinges shall be CE marked and shall have minimum durability Grade 11. For doors with a door closer, all hinges shall be CE marked and shall have minimum durability Grade 13.	
<b>10.2 Communal Entrance Doorsets</b>	All communal entrance doorsets shall meet the following:	
	<ul style="list-style-type: none"> <li>• All requirements of the FRA/Fire Strategy Report,</li> <li>• Provision for lock release in the event of a power outage/emergency,</li> <li>• Emergency services access requirements</li> <li>• DDA requirements</li> <li>• Secure By Design</li> <li>• See Also clause <a href="#">11.0 Door Access Controls</a></li> </ul>	
	Doorsets shall be Bamford Modular Aluminium or equal and approved by the Employer, uPVC/composite doors are not accepted.	
	Locking system shall be min. 3 no. maglocks inter-linked with the Entrotec door entry system.	
	Main Entrance doors shall match the window colour unless otherwise agreed.	

10.3	<b>Internal Communal Doorsets</b>	<p><b>Corridor</b> doorsets shall be oak veneer/ through colour laminate finish with vision panels. Sample to be approved by the Employer.</p> <p><b>Communal Rooms/Bin Store/Cycle Store</b> doorsets shall be oak veneer finish.</p> <p><b>Plant Room/Store</b> doorsets shall be paint grade with white gloss finish.</p>
Ironmongery	<p>All communal doors shall have the following fittings, samples shall be provided for approval by the Employer:</p> <p>Door Handles Hinges Kick plates</p>	
Door closers	<p>Fire door self closers shall be appropriate to the intended users of the building. Sample shall be provided for approval by the Employer.</p> <p>Low energy assisted open/close devices shall be provided for sheltered housing, over-55 schemes, etc.</p> <p>The Contractor shall provide 3rd party accredited certification for fire doors, specific to the product and all fittings.</p>	
Fob Access	<p>The Contractor shall allow for fob access to internal communal doors. Fob access zones shall be agreed with the Employer.</p>	
Locks	<p>Locks shall be provided for all communal doors.</p> <p><b>Doors requiring resident access</b> (including meter cupboard, cycle store, bin store etc.) shall have suited locks and landlord master key.</p> <p>The Contractor shall provide 2 keys per apartment and 6 spare keys per apartment block</p> <p><b>Doors requiring private/landlord access</b> (including store cupboards, service risers, plant rooms etc.) shall have suited locks and landlord master key system.</p> <p>The Contractor shall provide 6 keys per apartment block.</p> <p>The Contractor shall provide a key schedule for approval by the Employer prior to ordering any locks.</p>	
10.4	<b>Dwelling Entrance doorsets</b>	<p>The Contractor shall provide evidence that all fire doorsets comply with the following:</p> <ul style="list-style-type: none"> <li>• Fire rated and Secured by Design Dorset Specification.</li> <li>• Approved Document B.</li> <li>• BS 476 Part 22</li> <li>• BS EN 1634-1</li> <li>• Fire rating in accordance with FRA and Fire Strategy</li> <li>• PAS 24</li> </ul> <p>Certification/ Accreditation</p> <p>The Contractor shall provide certificate evidence for the following:</p> <ul style="list-style-type: none"> <li>• BS EN 1634 FD60S Dual orientation fire test evidence.</li> <li>• BM TRADA Q-Mark Enhanced Security door scheme certification.</li> <li>• BM Trada Q-Mark Fire Door third party fire door certification scheme, or other UKAS accredited body.</li> <li>• ISO 9001 certification</li> </ul> <p>Components</p> <p>All apartment primary entrance fire doorsets shall include the following components as part of certified fire doorset:</p> <p>Letter plate (if applicable) Knocker Viewer Numerals</p> <p>Multi-point lock with internal thumb turn, to meet Part Q of the building regulations.</p> <p>Door closer shall be fitted in accordance with fire test certificate requirements.</p> <p>Door style</p> <p>Doorsets shall be oak veneer finish or alternative style to be agreed with Employer.</p>

10.5	<b>External dwelling doorsets (private)</b>	External (private) dwelling doorsets (if applicable) shall meet the requirements of the fire strategy report and -clause <b>21.0: Doors</b> .
10.6	<b>Internal dwelling doors</b>	Internal dwelling doors and ironmongery within apartments shall meet the requirements of the fire strategy report where defined as necessary and clause <b>21.0: Doors</b> .

**ER Version 18 - Apartments: 11.0 DOOR ACCESS CONTROLS**

Clause	Affordable Rent and Shared Ownership	
11.0	<b>General Requirements</b>	<p>The Contractor shall provide a door entry system for all apartment block entrance doors.</p> <p>Lock type and suiting of keys for all other doors shall be agreed with the Employer. This will need to include the following, as well as any scheme specific access requirements:</p> <ul style="list-style-type: none"> <li>• Apartment block entrance doors - fob access (see clause <a href="#">11.1 Door Access Control</a>)</li> <li>• Zoned communal corridor doors - fob access</li> <li>• Apartment front doors - key lock or fob access</li> <li>• Bin store doors - metal gates with digilock</li> <li>• Cycle store doors - metal gates with digilock</li> <li>• Electric gates - fob access</li> <li>• Meter cupboard door - suited key for residents with landlord master key</li> <li>• Communal room doors - suited key for residents with landlord master key</li> <li>• Store doors - landlord key access only</li> <li>• Roof &amp; roof void access - landlord key access only.</li> </ul> <p>The Contractor shall provide a key schedule for approval by the Employer prior to ordering any locks.</p>
11.1	<b>Door Access Control</b>	<p>All main entrances to apartment blocks shall be fitted with the <b>Entrotec door entry system with KMS cloud access control</b> as described in <a href="#">Addendum G: Great Places Housing Group Door Entry System Specification</a>, or equal and approved by the Employer.</p> <p>It shall be the Contractor's responsibility to obtain all necessary information from the manufacturer to enable him to carry out a complete working installation.</p>
	Signal strength	The Contractor shall ensure adequate strength of signal for KMS cloud system, the Contractor shall check signal strength and provide confirmation.
	Access zones	Zoned access for fobs shall be agreed with the Employer.
	Fobs	The Contractor shall provide a minimum of 3 fobs per apartment. The contractor shall provide a minimum of 6 spare fobs per apartment block.
	Postal Access	The Contractor shall provide fobs to the post office for postal delivery, number of fobs as required by the post office.
	Training	The Contractor shall provide training for the Employer covering the use of the door access controls, training shall be provided at handover and refresher session shall be provided 6 months after handover.
	Warranty	Door entry system shall have min. 1 year warranty.
	Emergency Service Access	The Contractor shall ensure the access for emergency services is installed as required by the local authority/emergency services.

**ER Version 18 - Apartments: 12.0 Water Pumps**

<u>Clause</u>	<b>Affordable Rent and Shared Ownership</b>	
<b>12.0</b>	<b>General Requirements</b>	<p>The Contractor shall provide a water pump system to meet the requirements of the apartment block where in excess of 3 habitable storeys. (Omission to be agreed with Employer where long term performance can be calculated and demonstrated.)</p> <p>System needs to meet the following min. requirements:</p> <ul style="list-style-type: none"> <li>• Pump and storage tank to meet the water demands of the structure ensuring demand is met at the highest point.</li> <li>• Design for suitable location &amp; access of water tank.</li> <li>• Inclusion of any sprinkler system requirements including back up power.</li> <li>• Alarm system to notify the landlord of failure of the pump.</li> <li>• Drainage requirements for the system.</li> <li>• Trace heating requirements (prevention from freezing).</li> </ul>

## ER Version 18 - Apartments: 13.0 LIFTS

Clause	Affordable Rent and Shared Ownership
<b>13.0 General Requirements</b>	<p>Lifts shall be design to meet the specific requirements of the scheme. The design shall be approved by the Employer.</p> <p>The Contractor shall assess the scheme requirements including foot fall, end user, etc. to ensure the lift specified is fit for purpose and sourced from reliable contractors to ensure improved on-going maintenance levels.</p> <p>The lift shall be designed by a lift consultant, the preference is for design by VT Consult (gurpal@vtconsult.co.uk – 07593 117521).</p> <p><b>The lift shall be open protocol and parts shall be readily available in the UK.</b></p>
<b>13.1 Lift Installation</b>	<p>Unless further specified, a 13 person lift shall be provided to access all properties with four above ground storeys (GF, 1F, 2F, 3F). For a climb of more than 6 storeys, minimum two lifts should be provided. Where lifts are required, a specialist Lift Consultant shall be appointed to develop the detailed brief requirements, number and type of lifts for the project prior to tender. The Employer will nominate the consultant to be used.</p> <p>Where lifts are to be fitted on Elderly persons 'Extra care' schemes, a 13 person lift shall be fitted as a minimum, with a min length of 2.1m.</p> <p>The Contractor shall install lift equipment in accordance with Building Regulations and Disability Discrimination Act. Specification shall be fully approved by the Employer's Development Department and Asset Manager prior to ordering.</p> <p>Lift shaft walls shall be sealed prior to commission to prevent dust migration onto lift rams and control gear.</p> <p>The installation shall have an autodial facility direct to an approved off-site monitoring station, via a designated phone line, provided by the Contractor.</p> <p>The Lift shall be completed with stainless steel internal walls and doors and heavy duty vinyl sheet flooring and protective curtain.</p> <p>The Lift must automatically descend to ground floor in the event of a fault, power failure or fire alarm. In addition all staff must be able to disable the lift car.</p> <p>The Contractor shall provide a declaration of conformity certificate.</p>
<b>13.2 Maintenance and Warranty</b>	<p>The lift shall be serviced and maintained by the installer during the D.L.P. in accordance with the British Standards. All works during this time must be identified to the Employer.</p> <p>It is essential that the Contractor includes for payment of all fees associated with the provision of a full 12 months service contract to coincide with the 12 months warranty.</p> <p>All warranty information shall be provided to the Employer.</p> <p>A minimum of 4 services shall be included, proof of service records shall be provided to the Employer.</p> <p>At the end of the 12 months the service contracts shall not automatically be renewed by the contractor without express instruction from the Employer. A copy of the service contract will be required.</p>

**ER Version 18 - Apartments: 14.0 PHOTOVOTAIC PANELS**

<b>Clause</b>	<b>Affordable Rent and Shared Ownership</b>	
<b>14.0 PV Panels</b>		<p>Photovoltaic panels shall not be installed without prior agreement with the Employer (all dwellings shall meet building regulations with a fabric first approach).</p> <p>The Contractor shall provide the following information prior to the approval of the system by the Employer: Orientation assigned in SAP on a plot by plot basis to ensure efficiency of system is correct within SAP report. PV design and layout to ensure if there are any Building Control objections, planning conditions regarding the visual impact of PV etc.</p> <p>Inverters Inverters shall have remote control to enable the Fire &amp; Rescue Service to isolate the power to the inverters. Location of controls shall be at the main entrance, or alternative location as agreed with the Employer and the Fire Engineer.</p> <p>Remote Meter PV shall have remote meter that is SIM enabled and open source.</p>
<b>14.1 Information Requirements</b>		<p>The Contractor shall provide the following information prior to the approval of the system by the Employer:</p> <ul style="list-style-type: none"> <li>• Total annual output of PV.</li> <li>• Kwh peak of PV.</li> <li>• Predicted hourly demand of the meters the PVs are connected to.</li> <li>• Predicted annual on site consumption of the generated electricity.</li> <li>• Total consumption demand on the meters over a 24 hour period.</li> <li>• Predicted efficiency of the PVs over time.</li> <li>• Break down of predicted savings to each customer.</li> <li>• Maintenance schedule and predicted costs/service charge costs</li> </ul> <p>PVs are not accepted if the majority of the electricity is exported to the grid. It results in our customers paying for the decarbonisation of the grid with no direct gain nor financial benefit.</p>
<b>14.2 Design</b>		<p>The design shall ensure that the roof has the maximum number of panels that is practical for the roof.</p> <p>Safe access route(s) shall be provided to the PV panels and isolator (the panels &amp; kit must be fully and easily accessible for future maintenance).</p> <p>Schematics showing location of PV / cable runs / isolator / meter.</p> <p>Remote meter enabling us to see if the PVs are generating without having to access the site and if the meters are being connected to a LL supply I would expect the electricity meter to me an AMR / HH meter which we would have access to</p> <p>The design for fixing the PV panels to the roof must not affect the warranty of the roof, Contractor shall ensure that the design for both the roof and the PV panels is developed in conjunction.</p> <p>Design shall incorporate pigeon proofing/pest control, type to be agreed with the Employer. PV panel design shall ensure there are no accessible areas for bird nesting.</p>
<b>14.3 Warranty</b>		<p>The panels and system shall meet the following requirements:</p> <ul style="list-style-type: none"> <li>• minimum 20 year insurance backed warranty on the invertors.</li> <li>• Warranty on the PV panels of minimum 80% output by year 20.</li> <li>• minimum 20yr insurance backed warranty for the PV panel materials including the supporting framework.</li> <li>• MSC certificate</li> </ul>
<b>14.4 High Voltage DC supplies from Solar Arrays.</b>		<p>Where Solar panels are employed on a scheme to support communal infrastructure, cabling from such arrangements should be as short as possible to the inverter, clearly identifiable and where subject to levels of exposure be protected to reduce the risk of damage.</p>



**ER Version 18 - Apartments: 15.0 ELECTRIC GATES**

<b>Clause</b>		<b>Affordable Rent and Shared Ownership</b>
<b>15.0</b>	<b>Electrically Operated External Gates</b>	<p>The inclusion of electric gates shall be approved by the Employer. Electric gates shall be sliding type.</p> <p>Electric gates and barriers shall be as per <b>Addendum H: Great Places Housing Group Automated Systems Performance Specification</b>.</p> <p>The Contractor shall provide a declaration of conformity certificate.</p>
	H&S	<p>The Contractor shall pay particular attention to the safety in use of electrically operated external gates. Reference shall be made to the Health and Safety Executive Safety Bulletin Number FOD WSW 1-2010 dated 26th February 2010. See HSE website: <a href="http://www.hse.gov.uk/safetybulletins/electricgates.htm">http://www.hse.gov.uk/safetybulletins/electricgates.htm</a></p> <p>In particular, the Contractor and designer shall undertake a suitable and sufficient risk assessment to identify any hazards and associated risks to persons using the gates.</p>
	Access Controls	<p>Access controls and monitoring system shall be as per <b>Addendum H: Great Places Housing Group Automated Systems Performance Specification</b>.</p> <p>Gates shall allow for emergency service access.</p>
	Minimum requirements	<p>Gates shall meet the current standards which are relevant to powered gates, including:</p> <ul style="list-style-type: none"> <li>• BS EN 13241-1 the Product Standard for powered doors and gates (and most relevant to the CPR)</li> <li>• BS EN 12604 &amp; BS EN 12605 on mechanical requirements and tests</li> <li>• BS EN 12453 &amp; BS EN 12445 on requirements and test for powered gates</li> <li>• BS EN 12635 on installation and use</li> <li>• BS EN 12978 on safety devices for power operated doors and gates</li> <li>• BS EN 60335-2-103 on drives for household and similar gates</li> <li>• BS EN 60335-2-95 on drives for residential vertically moving garage doors</li> </ul>
	Warranty	<p>Minimum 2 year warranty shall be provided.</p>

**ER Version 18 - Apartments: 16.0 COMMUNAL AREAS - ELECTRICAL**

<b>Clause</b>	<b>Affordable Rent and Shared Ownership</b>
<b>16.1 Existing Services</b>	<p>It is the sole responsibility of the Contractor to ascertain the actual locations and routes of all services on site and make all timely arrangements for diversions, disconnections, crossings or protection as required. All costs or fees in respect of this shall be included in his tender.</p> <p>All wayleave agreements shall be approved by the Employer although approval will not be unreasonably withheld. The Contractor shall be responsible for preparing the required documentation and all costs or fees in respect of this are to be included in his tender.</p> <p>The Contractor will be required to indemnify the Employer for all costs arising from the interruption or damage to any services by his action.</p> <p>The Contractor shall pay all necessary fees arising out of any works to existing services by statutory authorities.</p>
<b>16.2 Street and External Communal Lighting</b>	<p>All street lighting shall be to Local Authority requirements in adopted areas. Non-adopted street and external lighting shall comply with LA adoption requirement standards and shall be low energy LED, column or wall mounted, and shall be vandal proof.</p> <p>The external lighting proposals shall ensure a reasonable level of illumination of all recesses and similar areas (where intruders may lurk). All costs shall be included in the tender. The Contractor shall provide proposals for approval by the Employer prior to the commencement of works.</p> <p>Any lighting columns over 3m high shall be articulated for ease of maintenance. Street light heads shall be LED. All external lighting, whether adopted or unadopted, shall be designed and positioned to avoid excessive glare to bedrooms and other habitable room windows.</p>
<b>16.3 Electricity Sub-Station</b>	<p>If required, the cost of the installation shall be met by the Contractor, who shall minimise possible disruption by noise and visual impact to residents through best use of location and materials.</p>
<b>16.4 Meter boxes</b>	<p>All electric meters for flats shall be located in dedicated meter cupboard / room where practicable to enable easy access. Meter cupboard shall be lockable, see also section 13.0.</p> <p>Landlords Supply</p> <p>Landlord's external and communal space lighting, and TV Aerial Amplifier shall be metered separately from the dwellings on a landlord's supply and the meter shall be fixed before completion.</p> <p>The contractor shall ensure that for the landlord supply, the meter serial number &amp; address match the royal mail address for the location exactly.</p> <p>The Contractor shall provide a drawing showing the location of the landlord meter and identification of all locations and details of items it supplies.</p> <p>Fire detection shall be provided in all locations where there is landlord/communal electrical equipment including the distribution board and aerial amplifier.</p>
<b>16.5 Landlord Consumer unit AFDDs SPD's</b>	<p>Arc Fault Detection Devices (AFDD's) shall be fitted to all circuits.</p> <p>All consumer units shall have suitable and sufficient surge protective devices (SPD's) installed as per BS 7671 section 534.</p>
<b>16.6 Cable trays</b>	<p>Cable trays shall be constructed of perforated galvanised mild steel in accordance with the sizing and spacing requirements of BS 7671 and be of sufficient width, depth and gauge to accommodate all cables, without undue bunching. Cable trays shall be adequately and securely fixed and supported along the entire length on brackets spaced to prevent undue deflection. Fixings shall be adequate to carry the weight of the fully loaded tray. Trays shall be fixed with consideration for appearance and maintenance access. Manufacturer's recommended galvanised brackets shall be used.</p>

<b>16.7 Wiring Generally</b>	All cables shall incorporate insulation and sheathing materials that do not emit any Halogens and have reduced smoke emission properties. These are termed LSHF (Low Smoke Halogen Free), LSOH, LSZH (Low Smoke Zero Halogen) or sometimes OHLS (Zero Halogen Low Smoke). These products must emit no more than 0.5% HCl and must comply with BS 7211, IEC 60754-1, IEC 60754-2, IEC 61034, and BS EN/IEC 60332-1-2, shall be of harmonised colours and consist of XLPE Insulation and LSZH sheath.
<b>16.8 Lighting Generally</b>	Lighting shall provide a level of illumination to facilitate the safe pedestrian access and egress both externally and internally. Lighting in common areas shall be separately circuited with landlord supply and careful consideration shall be made to reduce service charges by minimising light fittings and other electrical items.  All light fittings shall be vandal proof. All light fittings shall be LED. Samples All light fittings shall be approved by the Employer prior to ordering.
<b>16.8.1 Internal lighting</b>	All light fittings shall be surface mounted on the ceiling or wall. Feature light shall be fitted in the entrance lobby. Light fittings shall operate with movement sensor with an adjustable timer. Light fittings shall have opal diffuser and chrome base.
<b>16.8.2 External lighting</b>	The external lighting proposals shall ensure a reasonable level of illumination of all areas. Lightning assessment shall be carried out and all necessary provision put in place, including but not limited to the following:  Lighting design drawing shall be provided to cover all external areas. Dark spots that may encourage anti-social behaviour need to be avoided. Consideration shall be given to avoiding glare at windows of habitable rooms.  Technical Requirements External lighting shall include the following:  All circuits to external equipment must be protected by 30mA RCD protection. Landlord supplies to electrical equipment must be provided with copies of certificates & appropriate property reference (UPRN). Any accessories that will be the responsibility of The Employer to maintain must be suitably & clearly marked showing which circuit it is fed from & where the DB/CU is located.  Any external feeder pillar/access box, riser cupboard or alike (if required) must be accessible via a suited lock or suitably robust coded lock. All lighting must have suitable controls including the ability for timers & photocells. All posts / columns must be of a type that ensures accessibility without the need for a MEWP or ladder.  Locations <ul style="list-style-type: none"> <li>• Vehicle and pedestrian access routes,</li> <li>• Entrances,</li> <li>• Communal external areas,</li> <li>• Parking areas,</li> <li>• Meter boxes (if located externally),</li> <li>• Bin stores,</li> <li>• Recesses (where intruders may lurk).</li> </ul> All external lighting whether adopted or unadopted shall be designed and positioned to avoid excessive glare to bedrooms and other habitable room windows.  Feature Light Fittings Feature light fitting shall be fitted at the main entrance door and other primary access ways. Security light fittings (floodlight style) shall be fitted in all other areas. Light fitting samples shall be agreed with the Employer. Uplift shall be allowed for public facing elements as agreed with Employer Bollard lights Bollard lighting shall be Amelia 800 ( <a href="https://asbaclighting.com/product/amelia-800/">https://asbaclighting.com/product/amelia-800/</a> ) or equal and approved by the Employer.

Column lights	Post top / street light head – LuxBright/Strafford/LED/25W/Switched/PC/PreFlexed/7M - IP66 Asymmetric LED Street Light Head L 3,500 Lumens 4000K, C/W Integral Photocell & Pre Flexed With 7M 3C 1.5mm Arctic Blue Flex. The post top 'Strafford', is 40W but has a programmable driver which you can adjust the output if required. Lighting Column - LuxBright/Column/Root/5M/Tubular - 5M Root Mounted Column.
<b>16.8.3 Emergency Lighting System</b>	In communal areas to flats or other areas where required an emergency lighting system shall be installed to approval of the FRA/Building Regulations/Fire Officer/British Standards. This system shall be maintained by the contractor at correct intervals during the defects liability period according to the British Standard for safety inspections. Emergency lighting shall meet the requirements of the FRA and shall meet BS 5266-1. Emergency lighting certificate shall be provided. Emergency lighting shall activate if there is a loss of power, and shall be fully automatic and give illumination of a sufficiently high level to enable all occupants to evacuate the premises safely.  Emergency lighting shall have easily visible identification on each fitting and test facility.  Emergency lighting shall be provided for: Emergency escape lighting.
Samples	All light fittings shall be approved by the Employer prior to ordering.
<b>16.9 Sockets</b>	Any socket installed on a compartment wall shall have adequate fire protection to meet building regulations.
Communal Sockets	Communal sockets shall be lockable power sockets or operated by key switch in a communal cupboard. As a minimum the Contractor shall provide the following: <ul style="list-style-type: none"> <li>• 1no. Double socket required in each section of communal corridor/lobby (i.e. between fire doors).</li> <li>• 1no. Double socket required at each level in the stairwell lobby.</li> </ul>
<b>16.10 Roof space</b>	• If serviceable equipment is located in the roof space a light fitting and light switch shall be provided in the roof space, see clause <b>8: Roofs</b> .
<b>16.11 TV aerials &amp; Satellites</b>	The Contractor shall install a digital IRS system installation to distribute signals to a 3 outlet triplexed wall outlet plate in the lounge & main bedroom of each apartment, and which delivers all available TV channels, including Freeview, DAB & FM Radio, and digital satellite Sky+HD, SkyQ, Freesat and foreign satellite services to the resident.
Digital Television	A communal system including satellite dish shall be provided in the roof space together with sockets, amplifiers etc. as necessary to give good digital reception. Ducting for cable television connection shall be provided following consultation with relevant service providers.  The contractor shall provide a copy of the aerial signal strength test certificate at handover.
Future proofing	Electronic communications shall meet Part R of the Building Regulations. The specialist electrical systems specified below (section 12.8) shall be provided where required.  The contractor shall ensure that for the landlord supply, the meter serial number & address match the royal mail address for the location exactly. The Contractor shall provide a drawing showing the location of the landlord meter and identification of all locations and details of items it supplies.

<p><b>16.12 Monitoring Systems</b></p>	<p>Monitoring systems shall be installed for all systems that require emergency monitoring. See also clause <a href="#">9.0 Fire Detection Systems</a>.</p> <p>Monitoring systems shall include:</p> <p>Signalling equipment infrastructure with capability to link to an Alarm Receiving Centre .</p> <p><b>The following systems shall include emergency monitoring systems:</b></p> <p>Fire Alarms.  Passenger Lifts.  Controlled door access systems.  Electric gates.  Float Valves passing / Leak detection – water storage tanks.  Chillers.  Pumps sets.  System boilers for district heating systems.  Intruder Alarms.  CCTV.</p>
<p><b>12.13 EV charging</b></p>	<p>EV charging points shall be provided as per planning requirements.</p> <p>If EV charging is required (as stipulated above) <b>the following minimum specification shall be used:</b></p> <ul style="list-style-type: none"> <li>• All public EV chargepoints shall have 'pay-as-you-go' charging system.</li> <li>• Electric vehicle charging points shall comply with guidance provided by HM Government 'Electric Vehicle Charging in Residential and Non-Residential Building 2019'.</li> <li>• Chargepoints shall provide a minimum power rating output of 7kW and shall be suitable for Fast Charging.</li> <li>• Chargepoints shall be fitted with a universal socket.</li> <li>• Chargepoints shall be minimum Mode 3 or equivalent, Chargepoints shall allow 'smart' charging.</li> </ul> <ul style="list-style-type: none"> <li>• Chargepoints must comply with the appropriate parts of BS EN 61851-1</li> <li>• Chargepoints should be 'untethered', i.e. there should be a universal connector.</li> <li>• Chargepoints shall be installed on a freestanding mount/post(s) in a suitable location next to the designated EV charging parking bay(s).</li> </ul> <p>If no provision of EV charging points is required by planning as a minimum the Contractor shall provide the following:</p> <p>Landlord supply with duct and draw cord to the car park.  Duct/draw cord shall terminate in agreed locations. Location in car park shall be identified with marker plate &amp; suitable access to duct provided.</p> <p>EV charge points are only accepted in open air car parks. EV charge points shall not be located in enclosed/underground car parks. No EV charge point is permitted to undercroft car parks below habitable accommodation.</p>
<p><b>12.14 CCTV Installation</b></p> <p><b>Design</b></p>	<p>Sheltered &amp; special needs accommodation shall be fitted with full CCTV system. Design, location and number of cameras shall be agreed with the Employer.</p> <p>For all other apartment types, the Contractor shall install CCTV infrastructure only.</p> <p>The Contractor and M&amp;E consultant shall identify positions for CCTV cameras based on a crime impact statement. The Contractor shall provide power cable and internet connection to blank plates so a camera can be plugged in.</p> <p>The Contractor shall allow for a minimum of:</p> <ul style="list-style-type: none"> <li>• 1 camera per stairwell.</li> <li>• 1 camera per building entrance point.</li> <li>• 1 camera per postal room.</li> <li>• 1 camera per plant room area.</li> <li>• 1 camera per bin store/cycle store area.</li> </ul> <p>All camera locations shall be secure/vandal proof.</p> <p>The design shall meet the following spec:</p> <ul style="list-style-type: none"> <li>• Design shall refer to information provided in the Great Places Housing Privacy &amp; Data protection Policy, under 'CCTV Policy'.</li> <li>• Design shall meet Secure by Design if applicable.</li> <li>• External CCTV coverage shall be designed in conjunction with the external lighting design.</li> <li>• CCTV shall be mounted out of reach and shall be vandal proof.</li> </ul>

<p><b>12.15 Underground cables</b></p>	<p>Where cables run underground they shall be installed at a minimum depth of 600mm below finished ground level. The cables shall be drawn into plastic ducts. At a level of 250mm below finished ground level an indestructible warning marker tape shall be laid to indicate the presence of the cable below. Joints in underground cables shall be made by means of approved watertight joint boxes suitable for this purpose and these shall be supported on concrete slabs.</p> <p>The position of all underground cables shall be accurately recorded and dimensioned on the final as-built drawings, with reference being made to any joints. Record drawings of all underground cables shall give: Description of cable, Manufacturer's name, Date laid, Position of all joint boxes, Route and depth of cables in relation to permanent reference points, Details and positions of any duct, cable joints and cable markers.</p>
<p><b>12.16 Lightning protection</b></p>	<p>The Contractor shall provide a lightning risk assessment by a certified company and shall and fulfil all requirements of the risk assessment.</p>

**ER Version 18 - Apartments: 17.0 COMMUNAL AREAS - INTERNAL FINISHES**

<b>Clause</b>	<b>Affordable Rent and Shared Ownership</b>
<p><b>17.1 Communal floors</b></p> <p>Flooring at Entrance</p>	<p>Flooring to communal areas shall be Polyflor 'Polysafe Wood FX Acoustix PUR' vinyl or equal and approved by the Employer.</p> <p>All flooring shall have appropriate anti-slip finish.</p> <p>All exposed edges shall be finished with suitable trim.</p> <p>Barrier mat flooring and matwell shall be provided at all entrances into the apartment block.</p> <p>Minimum dimensions shall be the width of the corridor x 2m length from the doorway.</p>
<p><b>17.2 Communal Stairs</b></p> <p>Handrails &amp; Balustrades</p> <p>Design</p> <p>Samples</p>	<p>Where mixed tenure blocks and/ or for blocks in excess of 4Storeys a second stair core is to be provided. Communal stairs shall be pre-cast concrete or steel with concrete pan infill. Timber stairs are not accepted.</p> <p>Stairs and landings shall have suitable non-slip aluminium/rubber nosings in a contrasting colour.</p> <p>All public facing balustrades and handrails shall be toughened glass balustrade system with stainless steel post and clamp system and stainless steel handrails.</p> <p>All fixings/brackets shall be stainless steel.</p> <p>Second stair and upperfloors are permitted to be PPC mild steel painted with flat bar balusters and square infill bars.</p> <p>Timber balustrades/handrails are not accepted.</p> <p>Design, location &amp; fixings shall be appropriate for the intended location.</p> <p>Handrail samples shall be provided for approval by the Employer.</p>
<p><b>17.3 Communal ceilings</b></p>	<p>All service voids shall be accessible.</p> <p>All ceilings in communal areas shall be grid tile with min. 250mm plasterboard perimeter</p> <p>Cabling within ceiling voids shall be fixed with metal ties/fixings and must not be in contact with the grid tile system.</p>
<p><b>17.4 Communal walls</b></p> <p>Construction</p> <p>Paint</p> <p>Paint</p> <p>Protective panels</p> <p>Skirting &amp; Architrave</p>	<p>Construction &amp; Plasterboard spec to meet regs, unless otherwise agreed.</p> <p>The Contractor shall ensure that thorough consideration is given to the design/decoration of all communal areas. The design must take into account the anticipated end-user.</p> <p>The Contractor shall provide drawings/images and design rationale for review by the Employer.</p> <p>Use of contrasting colours for door reveals, or different door or panels of colour shall be used to identify different apartments. Different colours shall be used to identify different storey levels.</p> <p>The contractor shall allow for a darker paint colour choice at low level, split mid-way up the wall (for reduced scuff marks on walls).</p> <p>The Contractor shall provide 3 colour scheme options for review by the Employer.</p> <p>Paint shall be Dulux or Crown.</p> <p>Prepare and apply one mist coat and two full coats matt emulsion paint on all walls.</p> <p>Protective panels shall be fitted to corners of walls in communal corridors/high traffic areas to prevent damage.</p> <p>The Contractor shall provide a sample for approval by the Employer.</p> <p>Skirting and Architrave spec as per clause <b>23: Individual Apartments - Skirting and Architrave</b> unless otherwise agreed.</p>

<b>17.5 Communal Windows</b>	<p>All windows in communal areas shall have lockable fixed restrictors. Communal windows shall meet specification of apartments windows. See clause <a href="#">22: Individual Apartments - Windows</a></p> <p>Windows forming part of the compartmentation shall be installed by a third party accredited installer.</p> <p>The Contractor shall provide a wind pressure assessment by a Structural Engineer for all buildings over 15m. Assessment shall ensure the window designs are able to provide sufficient resistance to the wind loads being exerted and to ensure the weather performance of the designs is sufficient to prevent water ingress.</p>
AOV	<p>Automatic smoke vent windows shall be provided as required. See clause <a href="#">9: Fire Detection Systems</a></p>
<b>17.6 Communal Stores</b>	<p>Stores shall be provided for the following:</p> <p>Store(s) shall be provided for cleaning materials.</p> <p>Store(s) shall be provided for services/meters.</p> <p>Location of all stores shall be agreed with the Employer.</p> <p>Cleaners cupboard Slip resistant vinyl flooring and cove skirting. Drain shall be provided.</p> <p>Locks Belfast sink facility with tap and water supply shall be provided.</p> <p>Fire detection All stores accessed from communal areas shall have a key lock. Access/locking arrangements shall be agreed with the Employer.</p> <p>All stores shall have appropriate fire detection system as required by the FRA and building regulations.</p>
<b>17.7 Wayfinding</b>	<p>Signage Adequate informational signage shall be provided to enable navigation within the communal areas. See also section 1.13 Wayfinding. Signage shall be provided for the following: Floor levels &amp; floor numbers that are on that floor at each level of the stairwell.</p> <p>Directional signs to apartments at corridor junctions and to identify each storey access/landing point All signs shall be brushed aluminium with black text. Signs shall be fixed with screw fixings Sample to be approved by the Employer. Temporary laminate signage is not accepted.</p>
<b>17.7 Dry Risers</b>	<p>Dry risers shall be provided as required to meet current Regulations.</p>
<b>17.8 Communal Heating</b>	<p>No heating shall be provided to communal areas where separating construction is sufficiently thermally performing to meet SAP/ EPC requirements, unless otherwise agreed by the Employer and careful consideration shall be made to reduce service charges.</p> <p>If heating is required in communal areas it shall be controlled by landlord controls, controls shall not be accessible to residents. Heating shall be provided by electric panel radiators serviced by landlord PV provision where practicable.</p>
<b>17.9 Meter boxes</b>	<p>Where gas service is present gas meters shall be located externally unless otherwise agreed with the Employer.</p> <p>All gas meters shall have paved access from the main entrance or footpath.</p> <p>Water meters shall be located in a cupboard on the ground floor (or on each floor) unless otherwise agreed with the Employer. Water meter store cupboards shall have leak detection facility.</p> <p>Electric meters shall be located in a cupboard on the ground floor (or on each floor) unless otherwise agreed with the Employer.</p> <p>All meters in communal stores shall be clearly labelled with apartment addresses. Labels must be non-removable.</p>



<b>17.10 Canopy</b>	All external entrance doors shall have a canopy, sample/style to be approved by the Employer.
<b>17.11 Letter Boxes</b>	<p>Communal letter boxes shall be in vandal proof block with key access. Letter boxes shall be located internally in the corridor near the main entrance, location to be agreed with the Employer.</p> <p>Communal letter boxes shall be engraved with the apartment number on the letter box postal access, and also on the letter box resident access if separate.</p> <p>Letter boxes which are not recessed into wall construction and are wall surface mounted/ free standing (i.e. letterboxes which do not foul or make-up part of a fire rated compartment wall line.) are not required to be fire rated.</p> <p>Security requirements as follows;  Complies with TS009:2019 standards, with a BS EN 1303:2015 certified lock, supplied with 2 keys as standard  Anti-theft/anti-fishing device required.</p> <p>Communal mail boxes must be non-combustible i.e. steel construction and front in/ front out mail delivery and collection.</p> <p>Individual letter boxes in apartment doors are accepted, the Contractor shall ensure access arrangements are agreed with the post office and additional fobs shall be provided for post delivery service.</p>

**ER Version 18 - Apartments: 18.0 COMMUNAL AREAS - EXTERNALS**

<b>Clause</b>	<b>Affordable Rent and Shared Ownership</b>	
<b>18.0 External Works</b>	<p>All hard and soft landscaping shall be explicitly defined on tender drawings, including defining each hard material, types and extent of planting etc. Landscaping, roads, paving and site works shall be subject to detail design approval by the Employer prior to work commencing on site.</p> <p>Timber shall not be used externally (unless specified elsewhere for fence/sheds). In particular: Timber shall not be used for handrails, decking or structures.</p>	
<b>18.1 Timber finishes</b>	Timber shall not be used for external handrails, decking or structures unless specified in the ER's.	
<b>18.2 Postal Numbering and Naming</b>	<p>The Contractor shall allow for the provision of all estate road names, direction, numbering signs and scheme signs to a detail approved by the Employer and the Local Authority.</p> <p>The Contractor shall be responsible for liaising with the relevant Local Authorities after consultation with the Employer, to agree postal numbering and naming of the proposed development.</p> <p>Signage shall be fixed to the apartment block to ensure the ready identification of the block by a visitor.</p> <p>The Contractor shall allow for the provision of any signage to comply with the Planning Officers' or Fire Officers' requirements.</p>	
<b>18.3 Highways &amp; Parking</b>	The Contractor is required to liaise with the Local Authority with regard to the access road, car parking and paths to the apartments block.	
18.3.1 Roads	<p>For adoptable areas the Contractor is required to enter into a Section 38 and 104 Agreement with the Local Highways Authority or utilities provider, in order to ensure the adoption of the highway/drainage to a maximum extent and to assume responsibility for all costs associated with such adoptions.</p> <p>All highway construction, including parking areas, turning heads, driveways and footpaths, shall be to adoption standards in accordance with the specification of the Local Authority.</p> <p>Highways design information is to be submitted for T.A. at point of planning approval.</p> <p>Access roads and footpaths serving dwellings shall be tarmacadam, unless otherwise agreed with the Employer.</p> <p>The Contractor shall ensure suitable access is provided for Emergency Services and refuse collection.</p>	
18.3.2 Unadopted roads & parking	All unadopted shared parking & non-adoptable roads shall be built to adoptable standards.	
18.3.3 Manholes & gullies	<p>Manholes in parking areas shall be pre-cast concrete manhole rings.</p> <p>Manhole covers &amp; gully grates shall be rated to class D400.</p>	
<b>18.4 Parking Areas</b>	<p>Parking arrangements shall allow access for the emergency services, and any requirements of the FRA.</p> <p>Parking areas shall generally be tarmacadam. Parking bays shall comply with the minimum planning requirements.</p> <p>In addition to this parking bays adjacent to structures or soft landscaping shall be <b>minimum 3.0m wide</b> to allow access to and from the vehicle.</p> <p>Perimeter of parking areas shall be finished with concrete kerbs.</p> <p>Parking layout shall be agreed with the Employer.</p> <p>Markings Parking bays shall be identified with white lining or 'T' marks and identification number/letter - labelling to be agreed with the Employer.</p> <p>EV charging bays shall be marked.</p>	

18.5	<b>Paving Requirements</b>	<p>Paving shall be 50mm thick pre-cast concrete paving slabs on a suitable laying course, sub-base and approved solid compact base.</p> <p>All hardstanding shall be laid to fall away from the property.</p> <p><b>Minimum provision shall be as follows:</b></p>
	Paths	<ul style="list-style-type: none"> <li>• Min. 900mm wide path from the parking to all entrances.</li> <li>• Min. 1200mm x 1200mm level paved area at all entrances</li> <li>• Min 900mm wide path to access all external stores (bin store, cycle store etc.)</li> <li>• Min 900mm wide path to access external meter boxes.</li> </ul>
	Mowing strip	<ul style="list-style-type: none"> <li>• 300mm wide flagged mowing strip around all elevations.</li> <li>• 100mm wide gravel strip shall be included between the flag and the property if required by the warranty provider.</li> </ul>
	Stone chippings	<ul style="list-style-type: none"> <li>• Loose gravel/stone chippings are not acceptable anywhere without prior agreement with the Employer.</li> </ul>
	Requirements for in curtilage paths	<p>Paths adjacent to the property shall be maintained 150mm below DPC around the full perimeter. Secondary DPC shall be provided at paths forming a level access (see clause <a href="#">7.1 External Walls - Secondary DPC</a>).</p> <p>Paths shall have a maximum cross fall at 1:40.</p>
	Level Access	<p>All primary access paths shall not be stepped and shall have a gradient no greater than 1 in 20, (or shall be designed as a ramp).</p>
18.6	<b>Bin and Refuse Stores</b>	<p>The Contractor is responsible for providing all bins and shall meet all costs for the provision of all bins.</p> <p>Bin areas in or near the building must meet building regulations part B and the recommendations of the FRA.</p>
18.6.1	Space requirements	<p>Suitable refuse stores shall be provided to accommodate the bins required for the apartments. The minimum space provision and arrangement and access of storage must comply with the recycling requirements of the local authority.</p> <p>The Contractor shall allow space for one additional bin (in order to future proof the facility).</p> <p>Bin store shall be designed with spaces allocated for each bin and sized accordingly. There must be provision to secure bins in place.</p>
18.6.2	Location	<p>Bin store shall be located in an accessible location so that refuse collections will be made by the local authority without the need for bins to be moved by residents on collection day.</p> <p>Bin stores shall be located to allow visual surveillance for security.</p> <p>Bin stores shall be an independent external structure, unless otherwise agreed with the Employer.</p> <p>Bin stores shall not be located near to apartment doors or windows to prevent nuisance smells.</p>

18.6.3 Design	Design and location of bins shall comply with Building Regulations. Reference shall also be made to NHBC document 'Avoiding rubbish design' <a href="https://www.nhbcfoundation.org/publication/avoiding-rubbish-design-providing-for-bin-storage-on-new-housing-developments/">https://www.nhbcfoundation.org/publication/avoiding-rubbish-design-providing-for-bin-storage-on-new-housing-developments/</a>
	<p><b>The Contractor shall ensure that thorough consideration is given to the following design elements and shall provide drawings and design rationale for review by the Employer:</b></p>
	<ul style="list-style-type: none"> <li>• Appearance of the bin store, the visual impact of the bin store shall be considered.</li> <li>• Access into the bin store, Bin store doors shall have sufficient clearance for access &amp; removal of the bins.</li> <li>• Location of the bin store in relation to nearby apartments, particularly if windows are located near to the bin store.</li> <li>• Orientation of bin store shall take into account the location of the apartments. Doors shall be orientated away from any apartment doors or windows.</li> <li>• Bin store shall have secure walls &amp; roof (access shall be through the doors only, design shall prevent the rubbish being thrown into the bin store.</li> <li>• Suitable ventilation</li> <li>• Bin store shall have metal gate structure with digilock.</li> <li>• Use of 'metroSTOR' pre-fabricated bin stores is accepted where appropriate.</li> </ul>
	<p>Design to be agreed with the Employer Where within building footprint store to be thermal, acoustic and fire separated from habitable accommodation.</p>
18.6.4 Bin Store M&E	<p>Bin stores shall have internal and external lighting to allow safe access. Bin stores shall have brass tap (see clause <a href="#">18.11: Outside Tap</a>) Bin stores shall have internal drain - floor gully centrally located unless agreed otherwise</p>
	<p>Lockable IP rated socket suitable for level of exposure to be installed at 1200mm AFFL</p>
<b>18.7 Cycle Stores</b>	<p>The Contractor shall provide cycle store(s), storage shall be sized appropriately for the number of bicycles required to meet planning requirements. Cycle stores in or near the building must meet building regulations part B and the recommendations of the FRA.</p>
18.7.1 Location	<p>Cycle stores shall be located in an accessible location. Cycle stores shall be located to allow visual surveillance for security. Cycle stores shall be an independent external structure, unless otherwise agreed with the Employer.</p>
18.7.2 Design	<p>The Contractor shall ensure that thorough consideration is given to the following design elements and shall provide drawings and design rationale for review by the Employer:</p> <ul style="list-style-type: none"> <li>• Appearance of the cycle store, the visual impact of the cycle store shall be considered.</li> <li>• Access into the cycle store, Cycle store doors shall have sufficient clearance for access with bicycles, including when there are bikes already stored.</li> <li>• Bike storage solution, store shall accommodate the required number of bicycles with provision to securely lock bikes in place.</li> <li>• Cycle store shall have secure walls &amp; roof.</li> <li>• Cycle store shall have metal gate structure with digilock.</li> </ul>
	<p>Design to be agreed with the Employer Where within building footprint store to be thermal, acoustic and fire separated from habitable accommodation.</p>
18.7.3 Cycle Store M&E	<p>Cycle stores shall have internal and external lighting to allow safe access. Cycle stores shall have brass tap (see clause <a href="#">18.11: Outside Tap</a>) Cycle stores shall have internal drain - floor gully, centrally located, unless agreed otherwise</p>
	<p>Lockable IP rated socket suitable for level of exposure to be installed at 1200mm AFFL</p>

<b>18.8 Drying Areas</b>	<b>External communal drying areas shall be provided if internal drying facilities are not provided.</b>
	Communal external drying areas shall be provided in sufficient number and location to enable convenient access from all dwellings and shall be surfaced in 50mm pre-cast concrete paving slabs on 100mm blinded hard-core and screened by 1800mm high decorative diagonal timber fencing on concrete posts. Each area shall have four concrete or metal clothes posts, plus associated lines and hooks, with lines fitted at a height convenient for Employer group concerned.
<b>18.9 Site Drainage</b>	<p>The Contractor shall provide drainage of topsoil and subsoil by the insertion of pipes, or the formation of channels, below ground in such positions that they will gather water at depths chosen on the basis of soil, structure, vegetation, climate and designed activity as necessary in order to:</p> <ul style="list-style-type: none"> <li>a) lower an existing water-table to a depth that will enable optimum root penetration in zones of intermittent or permanent saturation; and/or</li> <li>b) gather water, arriving by direct precipitation, from zones of non-saturation and so assist in drying the topsoil and upper layers of the ground.</li> </ul> <p>The contractor shall ensure all site drainage and new connections are coordinated with the dwelling foul and surface water layout and design</p> <p>Drainage and surface water run off shall be designed to be fully in accordance with the requirements of the Local Authority and their requirements for adoption, and to comply with all their requirements including water attenuation. Flood risk assessments and mitigation measures shall be included in accordance with Local Authority requirements.</p> <p>All impervious surfaces shall be drained either onto permeable garden areas, into 'Aco drains' or into trapped gullies connected to a soak-away or the drainage system and always away from the building. All in accordance with British Standards and NHBC requirements.</p> <p>The finished site levels and design of the external works and drainage shall be carried out so as to prevent flooding, or ponding occurring to gardens, patios, car parking, roads, footpaths and paving and to ensure that grass and planted areas drain naturally within a reasonable timescale. Landscape and drainage shall be designed in accordance with BS 4428 (landscape).</p> <p>The Contractor shall ensure that adequate site investigation is carried out in order to achieve the above specification and all necessary drainage shall be installed prior to practical completion. Compliance with the above shall be monitored during the defects liability period, and the Contractor shall be responsible for the provision of all additional drainage measures and associated costs required in order to achieve compliance after completion.</p> <p>The Contractor shall perform close examination of the site investigation report and an assessment of the ground permeability to avoid creating waterlogged gardens.</p> <p>The Employer requires a minimum 600w x 900d land drain be provided to the edge of patio junction with garden to the full width of the plot.</p> <p>Where the prevailing sub strata conditions are not predominantly clay and of high permeability, the Contractor may offer an outline designed solution to reduce this scope. Guidance provided in BS 4428 – Landscape shall be followed</p>
<b>18.10 Rainwater Installations</b>	All rainwater installations shall be designed specifically for the type & size of roof, to account 1 in 100 year rainfall.
Flat roofs	Flat roof rainwater design details shall be included in the roof design and detailed drawings & specification of products shall be provided for approval by the Employer prior to construction. Tell-tale weir overflows provided to all concealed gutters with the addition of spare capacity RWOs

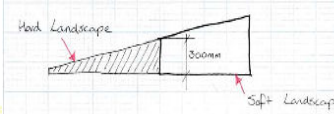

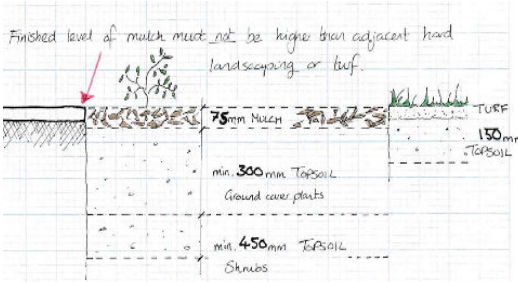
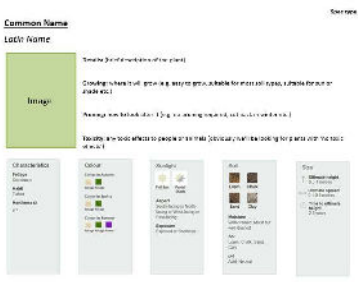
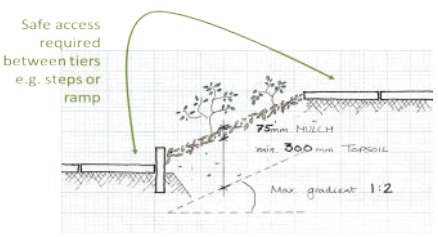
Pitched roofs	<p>All rainwater goods shall be deep flow round section down pipes and gutters incorporating approved anti-rust fixings.</p> <p>The colour of rainwater goods shall be agreed with the Employer.</p> <p>Positions of all outlet points shall be shown on the roof layout drawings.</p> <p>All roofs including porches shall have gutters, fixed in accordance with the manufacturer's recommendations.</p>
Leaf guards	<p>Gutters in close proximity to trees shall have leaf guards.</p> <p>All RWOs to be fitted with leaf guards</p>
Internal rainwater pipes	<p>Internal rainwater and soil pipes shall be tested to withstand a constant air test pressure of 38mm water gauge for a period of 3 minutes.</p>
Gullies	<p>All rainwater downpipes shall drain into a gully with removable trap. Gully shall be located so as to allow access (i.e. not below the fence line).</p>
<b>18.11 Outside Tap</b>	<p>Brass outside taps shall be provided connected to landlord supply. Location of tap shall be agreed with the Employer.</p> <p>Taps shall be provided in the following locations (number of taps and locations to be agreed with the Employer):</p> <ul style="list-style-type: none"> <li>• External wall of apartment block</li> <li>• Cycle store.</li> <li>• Bin store.</li> </ul> <p>Taps shall include:</p> <ul style="list-style-type: none"> <li>• Double check valve.</li> <li>• Stainless Steel tap box with hinged lid.</li> <li>• Lock with 4 pin combination code.</li> <li>• Thermal insulation.</li> <li>• Isolation valve shall be provided, location to be agreed with the Employer</li> </ul>


<b>18.12 Exterior Decorations</b>	External timberwork shall be avoided, where planning dictates the use of timber externally then all finishes shall be approved by the Employer prior to work commencing.
	All paint work shall be carried out to manufacturer's recommendations.
Timber Fencing	Timber fencing and timber products used for bin stores, gates and similar external elements shall be treated off site with stain or non-creosote preservative coating. All fence panels and components shall have an even finish, all cut ends shall be treated similarly (see also clause <a href="#">18.13.1 Timber Fencing</a> ).
External Steelwork	External steelwork shall be fully galvanised by hot dipping. Where appropriate, additional paint finish over galvanising is acceptable (Scope is to be agreed with the Employer at Design Stage). All paint systems and preparation shall be fully compatible with, and recommended by, the system manufacturer for the galvanised coating. All exposed lintels to openings shall be painted.
	Where required, exposed structural steel shall receive intumescent paint fire protection installed in strict accordance with the manufacturer's recommendations.
Exposed pipes	All exposed external copper pipework shall be painted black/to match brickwork.
Meter Boxes	External meter boxes shall be painted to match the facing brickwork or alternative colour to be agreed with the Employer.
<b>18.13 Boundary Treatments</b>	
18.13.1 Timber Fencing	Timber fencing shall be Concrete H post and timber infill panel system close boarded timber fence with min. 3 no. timber horizontal rails (as shown in photo). All timber fence panels shall have 300mm concrete gravel board at ground level. Close boarded fences shall have a 2mm gap between boards to allow for expansion. Start and end post required to each linear run of fencing.
	Timber panels shall be secured in place so they cannot be lifted out. All timber fences shall be in accordance with BS 1722, all concrete fencing elements shall be in accordance with BS EN 12839. Fencing timbers shall be British Standard fencing grade pressure impregnated off-site with approved preservative, cut ends dipped, all prior to fixing.
	Where trellis is fitted, this must be secured to the lower panel. Where fence panels are accessible from public spaces, for example driveways or shared spaces, these must be secured to prevent theft.
18.13.2 Metal railings	Metal railings shall be formed from minimum 12mm thick section and fully galvanised by hot dipping. Additional paint finish over galvanising also required.
18.13.3 Timber Knee Rails	Timber knee rails are not accepted.

<b>18.14</b>	<b>Boundary types</b>	The extent and specification of boundary walls and fencing shall be agreed by the Employer before planning submission. Generally the following specification shall be used:
18.14.1	At Apartment frontage	<p>900mm high metal railings or demarcation with landscaping using shrubs/hedge plants.</p> <p>In vulnerable areas, including main thoroughfares and gateway situations, a 600mm high brickwork wall topped by 600mm robust metal railings shall be provided. Walls shall be protected by copings with drips to throw water away from the face of the wall. Brick on edge is not acceptable as a coping without clay creasing tiles.</p> <p>In less vulnerable areas, including quiet streets or parking areas, 900mm high metal railings over a concrete conservation kerb upstand (see photo) shall be provided. Where a kerb or wall is not provided, railings are to have a minimum 150mm high litter plate fitted to the base of the railings.</p>
18.14.2	At highways/POS	<p>Where private boundaries abut public highways or public open space, the boundary structure shall be an 1800mm high brick wall and 300mm timber trellis topping to deter climbing. Total height of boundary minimum 2100mm.</p> <p>Walls shall be minimum 215mm thick in a suitable bond, (with stainless steel ties if required), and with brick piers as required for stability, as specified by Engineer. 1 course above ground and 2 courses below shall be engineering brick.</p> <p>Walls shall be protected by copings with drips to throw water away from the face of the wall. Brick on edge is not acceptable as a coping without clay creasing tiles.</p> <p>Frost resistant F2 bricks shall be used for copings.</p> <p>Engineering bricks with water absorption less than 7% shall be used for DPC courses.</p>
18.14.3	At perimeter boundary	1800mm or 2100mm high timber fence with concrete post and gravel board. Fence height to be agreed with the Employer and shall meet planning requirements.
13.14.4	At SUDS, ponds & water courses	A barrier shall be provided to prevent easy access to any SUDS, ponds or water courses. Boundary treatments and locations shall be approved by the Employer.
18.14.5	Pedestrian Gates	All communal gates shall be metal not timber.
18.14.6	Electrically Operated External Gates	See clause <a href="#">15.0 Electric Gates</a>
<b>18.15</b>	<b>Retaining Walls</b>	All retaining structures over 400mm shall be designed by a competent Engineer, with a minimum service life of 60 years.
18.15.1	<b>Materials</b>	<p>Facing material to retaining walls in public areas shall be brickwork.</p> <p>For walls facing private gardens, and with prior approval of the Employer, interlocking timber or concrete 'crib lock' or stone filled gabions may be acceptable.</p> <p>Brick specifications for retaining walls shall be provided by the Engineer.</p> <p>Flag on edge may also be used for small changes of level, subject to confirmation of its adequacy by a structural engineer.</p>
18.15.2	<b>Design</b>	<p>Retaining walls shall be designed &amp; adequately guarded to allow safe access, use and maintenance as necessary.</p> <p>Concrete gravel boards or flag on edge shall not be used as a retaining wall above a height of 300mm.</p>



**ER Version 18 - Apartments: 19.0 COMMUNAL AREAS - Turf & Landscape**

Clause	Affordable Rent and Shared Ownership	Example Images
19.0	<p><b>Key Principles</b></p> <p>The Contractor shall meet the following key principles as well as the detailed specification that follows:</p> <p><b>1 - Gradients</b> The maximum gradient of all garden areas shall be 1:12</p> <p>For gardens on steeply sloping sites see clause 19.1 below.</p> <p><b>2 - Small areas of landscape</b> Soft landscape shall not be used for small areas.</p> <p>Any area narrower than 0.3m and/or shorter than 1m shall not be planted/turfed.</p> <p><b>3 - Levels of mulch</b> The finished level of any mulch must not be higher than the adjacent hard landscaping or turf.</p> <p>Mulch must be retained as necessary to ensure that the level is not higher than the adjacent hard landscape</p> <p><b>4 - Information on plants</b> The Contractor shall provide an information sheet for each species of plant used, to include the following: (to enable the Employer to approve the landscape layout &amp; to be included in the HUG).</p> <ul style="list-style-type: none"> <li>Plant name (Latin &amp; common name).</li> <li>Description of plant (Size, colour, hardness).</li> <li>Growing conditions required for plant (soil type, sunlight, moisture).</li> <li>Pruning requirements.</li> <li>Toxicity (plant species which are toxic to humans are not accepted).</li> </ul>	   
26.1	<p><b>Soft Landscaping in Curtilage areas</b> - Plant species selection and layout shall be carried out by a qualified Landscape Design Consultant.</p> <p>The Contractor shall provide landscape drawings. The landscape design shall be made available for review/comment by the Employer prior to works commencing on site.</p> <p>The proposals are subject to approval by the Employer prior to work commencing on site.</p> <p>Plot boundaries in areas of soft landscaping to the front of properties shall be demarcated with the use of planting, suitable shrubs shall be used to create a physical boundary unless an alternative, such as railings, is used.</p> <p>All landscape drawings shall identify the species, size and number of plants.</p> <p>The Contractor shall provide images of all plants to enable the Employer to identify and approve the planting design.</p> <p><b>Sites with steep gradients</b> Gardens steeper than 1:12 shall be tiered to form level sections. The design of tiered gardens and the landscaping to any slopes greater than 1:12 shall be agreed with the Employer at design stage, or as soon afterwards as possible. Planted areas must not be steeper than 1:2. Turfed areas must not be steeper than 1:12. All maintainable areas must have safe access e.g. ramps or steps. Turf must not be used in areas where it is not safe to access with a lawn mower. All rear garden areas shall be secure. All garden areas shall have safe access, tiered gardens shall have stepped access or alternative access route agreed with the employer. All garden areas shall have gated access secured with latch and bolt. Unsupported granular soil should be 5° less than its natural angle of repose. Unsupported cohesive soil should not exceed 9° (1:6).</p> <p><b>Restrictions</b> Careful consideration shall be made regarding on-going maintenance of landscaped areas.</p> <p>The Contractor shall provide maintenance guidance for all soft landscaped areas.</p> <p>Small areas and narrow strips of soft landscaping are not acceptable; hard landscaped alternatives for small areas shall be agreed with the Employer. Grass turf shall not be laid below metal fencing or any areas inaccessible to lawn mowers. Grass turf shall not be laid on steep slopes where it would not be possible to cut with a lawnmower. Bark mulch shall not be applied on steep banks. Finished level of bark mulch shall not be higher than the surrounding hard landscaping or turf, or shall be retained with concrete pin kerbs.</p>	





19.2 Planting Specification for Shrubs	<p>All planted areas shall be kept weed free or treated with Glyphosphate based weed killer 10 days prior to planting.</p> <p>All plants shall be healthy, hardened off and with good fibrous root system and in accordance with all relevant British Standards. All pot grown plants shall be near "pot bound". All plants shall be protected from wind exposure at all times.</p> <p>All plants shall be pit-planted, with sufficiently large pit to accommodate root system without bending roots. A minimum size of 450 x 450 x 450mm depth for shrubs and feathered/whips, and 300 x 300 x 300mm for ground cover plants.</p> <p>Pits shall be filled with a 50/50 mixture of topsoil and compost. Growtab fertiliser shall be placed in bottom of each pit.</p> <p>All planting shall be undertaken in accordance with the relevant British Standards. All handling and transport of plants shall comply with JCLI Code of Practice. No plants or roots shall be exposed to sun or drying winds.</p> <p>All plants shall be soaked in water for several hours prior to planting and shall be well watered in.</p> <p>75mm depth sterilised bark mulch shall be applied to ground cover and around all shrubs/planting. Level of mulch shall be below the level of any surrounding hard landscaping or turf, or retained with concrete pin kerb so as to avoid the mulch spreading everywhere. Bark mulch shall not be applied on steep banks.</p> <p>All planting areas shall be tidy and weed free upon completion. All pots and rubbish shall be taken off site. Plant labels shall be removed.</p> <p>The Contractor shall take up and replace any shrub which has died or is not developing its full foliage throughout its branches, as identified during the DLP.</p>	
19.3 Planting Specification for Trees	<p>The Contractor shall provide a minimum of 1 tree per plot.</p> <p>Species of trees shall be suitable for the intended location.</p> <p>Locations of trees shall be agreed with the Employer.</p> <p>All trees shall be pit-planted, with sufficiently large pit to accommodate root system without bending roots. A minimum size of 900 x 900 x 600 mm for selected standard trees.</p> <p>All trees shall be secured with sound treated stake 1m long with 600 mm below ground and secured, and with spacer 300 mm above ground.</p> <p>Trees shall be planted in accordance with <a href="#">Addendum C: Specification for Trees &amp; Tree Planting</a>.</p> <p>The Contractor shall take up and replace any tree which has died or is not developing its full foliage throughout its branches, as identified during the DLP.</p> <p>For maintenance purposes trees shall always be planted within red line boundaries and shall not be planted on the red line boundary line itself.</p>	
19.4 Planting Specification for Turf	<p>All grassed areas shall be laid with turf (not seeded) and shall be properly protected, maintained and watered prior to handover. No turf shall be laid in exceptionally dry or frosty weather.</p> <p>The Contractor shall supply and deliver a good quality meadow turf consisting of dwarf natural grasses free from weeds.</p> <p>Preparation for Turf Preparation: Garden areas shall be free from obstructions beneath the surface and adequately prepared for cultivation.</p> <p>All rubble, concrete, brickwork, and similar obstructions occurring within 300mm of the finished ground surface shall be removed.</p> <p>All vegetable matter, stones, rubble and other debris shall be removed from the garden and any other areas around the property.</p> <p>The garden shall be graded to an even gradient (max. gradient 1:12). The topsoil shall be spread evenly and shall be free from localised undulations/hollows.</p> <p>Topsoil A minimum of 150mm topsoil shall be applied before laying turf. Topsoil shall meet requirements set out in BS 3882 - Specification for topsoil. No subsoil shall be placed over the topsoil.</p> <p>Topsoil shall also meet the following requirements:</p> <ul style="list-style-type: none"> <li>• <b>Stones: topsoil shall not contain any stones greater than 20mm.</b></li> <li>• Foreign matter: On visual inspection, soil shall be free of fragments and roots of aggressive weeds, sticks, straw, subsoil, pieces of brick, concrete, glass, wire, earth clods, large lumps of clay or vegetation, and the like.</li> </ul> <p>Topsoil shall be rotavated to a min. depth of 300mm.</p> <p>Laying Turf Laying: Turf shall be laid off battens to 25mm above the finished level for the surrounding kerbs or paved areas, bonded with joints well buttered up, beaten with wooden turf beater, fine soil brushed into joints, lightly rolled and watered as may be necessary. Turf shall meet requirements set out in BS 3969- Recommendations for Turf for general purposes.</p> <p>Mulch Mulch perimeter of minimum 200mm width shall be provided around the edge of the turf at all fences/walls.</p> <p>Watering Turf Watering: Watering shall be carried out by means of an oscillating spray during early mornings and late afternoon to prevent grass being damaged by scorch or lack of moisture. Where shrinkage occurs and joints open, the Contractor shall supply and brush in good quality fine top soil and well water. The Contractor shall replace any areas of scorched turf at his own expense.</p> <p>The Contractor shall take up and replace any turf which has died (unless due to resident misuse or lack of maintenance), as identified during the DLP.</p>	
19.5 Soft Landscaping - Communal/ POS areas	<p>Careful consideration shall be made regarding on-going maintenance of landscaped areas because of high maintenance costs and service charges. Communal landscaped areas shall be kept to a minimum and shall be either hard landscaped or planted with slow growing, hardy and easy to maintain shrubs and not planted with grass. Steep banks and small areas of grass which will need regular cutting shall be avoided.</p> <p>The landscape design for any communal areas or public open space shall be provided for comment/review by the Employer prior to works commencing on site. Landscape plan for any communal areas shall also be reviewed by the Environmental Services Manager.</p> <p>See also <a href="#">Addendum C: Specification for Trees &amp; Tree Planting</a>.</p>	
19.6 Landscaping Maintenance during D.L.P	<p>The Contractor shall carry out maintenance of any communal landscaped areas during the DLP. This is to comprise grass cutting at monthly intervals during Apr-Sept, two monthly in winter Oct-Mar and all other work in accordance with the Employer's grounds maintenance specification (Copies available from the Asset Manager) inclusive of the sweeping/cleaning of all hard surfaced areas.</p> <p>Trees shall be well watered in at the time of planting unless conditions are such as to prohibit watering in which case they shall be watered at the earliest opportunity.</p> <p>The Contractor shall take up and replace any shrub, tree or area of turf which has died or is not developing full healthy growth, as identified during the DLP.</p> <p>See also <a href="#">Addendum C: Specification for Trees &amp; Tree Planting</a>.</p>	





**ER Version 18 - Apartments: 20.0 INDIVIDUAL APARTMENTS - Internal Walls**

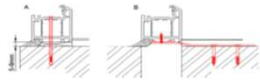
<b>Clause</b>	<b>Affordable Rent and Shared Ownership</b>	
<b>20.0</b>	<b>Internal Walls and Partitions</b>	
<b>20.1</b>	<b>Non-Load Bearing Walls</b>	Non-load bearing walls shall be min. 75mm x 50mm softwood (C16-C24) or galvanised metal stud partitions constructed in accordance with the specification of the approved plasterboard manufacturer's technical data. All to comply with the current Building Regulations.
<b>20.2</b>	<b>Ply lining &amp; Pattresses</b>	Ply lining/pattresses shall be provided for future proofing to achieve line load requirements of 1.5Kn/m <sup>2</sup> as per Building Regulations Part M 4 (2) to allow the fixing of the following: <p>Bathrooms Provide additional noggins at 450 centres and 18mm bond class II plywood (WBP) facing to all stud walls in bathrooms to accommodate future handrails and other fittings.</p> <p>Wet rooms See clause <b>33.0: Wet Rooms</b>.</p> <p>Pattresses Pattresses shall be included to enable the secure fixing of all fittings as necessary, including but not limited to, radiators, kitchen units, stair handrails, boilers, sanitary ware, bathroom fittings.</p>
<b>20.3</b>	<b>Internal Wall and Ceiling Finishes</b>	The Employer will accept traditional plasterboard and skim coat or taped and jointed tapered plasterboard to internal walls and ceilings. <p>All plasterboard shall be installed to British Gypsum recommendations.</p> <p>Internal brick and block walls shall be finished with a plasterboard &amp; skim coat plaster finish or two coat plaster at the discretion of the Contractor.</p>
<b>20.4</b>	<b>Plasterboard</b>	In addition to the above, the Contractor shall meet the following: <p>Bathrooms and En-suites All bathrooms and en-suites shall receive moisture resistant plasterboard to all walls.</p> <p>Bathrooms, En-suites, Kitchens &amp; Utility All bathrooms, en-suites, kitchens, and utility rooms to receive vapour check plasterboard to all ceilings. <p>Additional studding for rigidity is required to partitions receiving wall tiling.</p> <p>Moisture Resistant Plasterboard Where moisture resistant plasterboard is to be plastered, surfaces shall be treated with Thistle Bond-It, or equal and approved bonding agent, as described in the British Gypsum technical literature for moisture resistant boards. <p>See White Book Chapter 08, Section 02, Page 06.</p> <p>Tape and Jointed plasterboard Tape and jointed boards shall be treated with Gyproc Drywall Primer or Sealer, or equal and approved plasterboard primer, in accordance with British Gypsum technical literature. <p>See White Book Chapter 08, Section 03.</p> </p></p></p>
<b>20.5</b>	<b>Compartment Walls</b>	Compartment walls shall meet current Building Regulations.




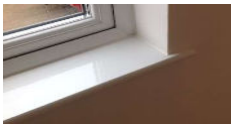
## ER Version 18 - Apartments: 21.0 INDIVIDUAL APARTMENTS - Doors

Clause	Affordable Rent & Shared Ownership	Example Images
<p><b>21.1 Doorsets Generally</b></p> <p>Front Doorsets</p> <p>Private External Doorsets</p> <p>Warranty</p>	<p>All doorsets shall meet the required fire protection to meet building regulations part B.</p> <p>See clause <a href="#">10.0: Fire Doors</a></p> <p>If the apartment has access to a private rear garden, terrace or balcony, rear doorsets shall be glazed PVC-U doorset or patio doors, See also clause <a href="#">22.0: Windows</a> Glazed doorsets shall meet the specification for uPVC frames and glazing as per clause <a href="#">22.0: Windows</a>.</p> <p>All external doors shall be supplied with an independent 10 year insurance backed guarantee. Warranties and guarantees shall be made in the name of the Employer. All external door ironmongery shall be supplied with min. 2 year warranty.</p>	
<p><b>21.2 Private External Door Fittings/ Ironmongery</b></p> <p>Hinges</p>	<p>All external door fittings/ironmongery shall meet a minimum of <b>BS EN 1670:2007 Class 4 (240 hours) corrosion resistance</b>.</p> <p>All ironmongery fitted to external doors in coastal areas shall have increased corrosion resistance of Class 5 (480 hours) corrosion resistance.</p> <p>External doors shall be fitted with minimum 3 no. adjustable hinges. Hinges shall meet the requirements of:  <ul style="list-style-type: none"> <li>• <b>BS 6375 minimum of 50,000 cycles of operation</b>.</li> </ul> All outward opening rear doors shall be fitted with overhead restrictors.</p>	
<p><b>21.3 Internal Doors - Affordable Rent</b></p> <p><b>Internal Doors - Shared Ownership</b></p> <p>Installation</p> <p>Door Casings</p>	<p>Internal doors shall be moulded vertical 5 panel with middleweight/semi-solid core.</p> <p>Facing shall be moulded wood fibre face, doors shall be finished in white gloss (see clause : <a href="#">34.1: Interior decorations</a>).</p> <p>The Contractor shall provide a sample to be approved by the Employer prior to final ordering.</p> <p>Internal doors shall be moulded vertical 5 panel with middleweight/semi-solid core.</p> <p>Facing shall be moulded wood fibre face, doors shall be finished in white gloss (see clause : <a href="#">34.1: Interior decorations</a>).</p> <p>The Contractor shall provide a sample to be approved by the Employer prior to final ordering.</p> <p>All internal doors (unless fire doors) shall be fitted with 20mm ventilation gap between the unfinished floorboard and the base of the door to meet current building regulations.</p> <p>Lightweight doors are not acceptable</p> <p>Door casings shall be timber or moisture resistant MDF.</p>	 
<p><b>21.4 Ironmongery</b></p>	<p>Lever latches and handle furniture shall be provided on all internal doors and cupboards, fixed with through bolts. All latches shall be metal. Nylon or plastic latches are not acceptable.</p> <p>The Contractor shall provide a sample board of all proposed ironmongery for approval by the Employer prior to ordering.</p>	 

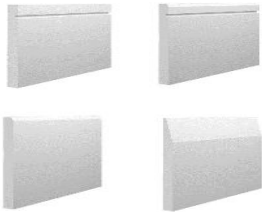
<b>21.5 General Internal Door Requirements</b>	<p><b>Hinges</b> Internal doors shall be fitted with one and a half pairs of 75mm (performance ball race) steel butt hinges.</p> <p><b>Door Stops</b> Door stops shall be fitted to the floor or skirting board where the door opens against a wall or fitting. Spring loaded types are not acceptable.</p> <p><b>Door Closers</b> Concealed hydraulic door closers shall be fitted as required to comply with Building Regulations and also as specified by a specialist supplier to meet specific scheme requirements and the end user group.</p> <p><b>Store Door Vents</b> All store doors shall be vented with vent plates to either side of the door, colour and finish to match the paint finish of the door. Vents shall have appropriate fire protection.</p>	
<b>21.6 Bathroom Door Ironmongery</b>	<p>Bathroom, en-suite and downstairs WC doors shall be fitted with lever handles as described in clause 21.4 and separate escutcheon with thumb turn locking mechanism that can be operated in an emergency from the circulation area.</p>	
<b>21.7 Protection during Construction</b>	<p>All doors &amp; ironmongery/hinges shall be adequately protected during construction to prevent damage, and shall be handed over in a clean condition - tape/protective plastic/mortar shall not be left on the doors. Particular care shall be taken to protect the locking mechanism &amp; hinges.</p>	

## ER Version 18 - Apartments: 22.0 WINDOWS



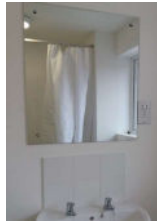



Clause	Affordable Rent and Shared Ownership	Example Images
22.0	Windows	
22.1	<p><b>Windows &amp; Glazed Doorsets Generally</b></p> <p>Windows &amp; glazed doorsets shall be of a thermally broken profile with frame arrangement and depth suitable of accepting future install triple glazed units, as Eurocell Modus or equal and approved by the Employer, with 80% recycled PVC-U content. Alternative products shall be agreed by the Employer and must demonstrate similar recycled content. All windows shall be 100% Lead, Barium and Cadmium Free.</p> <p>Aluminium/ composite/ curtain wall systems are acceptable subject to provision of details of proposals for Employer consideration.</p> <p>Window hardware shall be from manufacturers accredited list of Kitemark 33520 Pas 24 Approved Hardware.</p> <p>The Contractor shall provide written evidence supplied by the manufacturer that the product and components meet the requirements stated in clause 11 of the ER's.</p> <p>All glazing systems to BFRC certified</p> <p><b>Warranty</b></p> <p>Windows shall be supplied with an independent 10 year insurance backed guarantee. Warranties and guarantees shall be made in the name of the Employer.</p> <p>See also Procedural Requirements clause <a href="#">1.7.1 Windows</a>.</p> <p><b>Energy Rating</b></p> <p>All windows shall be minimum A++ rated in the Window Energy Rating System and shall comply with current Building Regulations and Secured by Design requirements. Building Regulation Approval, accreditation by the British Board of Agrément (BBA) and British Standards Institute (BSI) shall be obtained for all window installations.</p> <p><b>Design</b></p> <p>Glazing to be approved and cross checked between Part L and Part O compliance to ensure uniform approach. Glazing values to be provided to SAP assessor/overheating modeller when available to confirm performance based on actual as-built performance rather than a designed value.</p> <p>Windows shall be fitted with obscure glazing to bathroom, en-suite &amp; WC windows, glazing pattern to be agreed with the Employer prior to ordering.</p> <p>All kitchens, dining rooms and lounges shall have an opening window(s).</p> <p>Patio doorsets shall be fitted with opening sidelights (if applicable)</p>	
22.2	<p><b>Window Installation</b></p> <p>Windows shall be installed in accordance with the manufacturer's recommendations.</p> <p>Fixing of windows and glazed doors shall be carried out with mechanical fixings; either through frame fixing or where this is not possible due to the position of the cavity, internally fitted fixing clips shall be used as shown, with screw fixings into both the frame and the structure (see detail).</p> <p>PVC-U windows shall be glazed using internal beads.</p>	
22.3	<p><b>Technical Requirements</b></p> <p>Windows and ironmongery shall comply with the most current version of the following documents:</p> <ul style="list-style-type: none"> <li>• Approved Document Q1 'Unauthorised Access' and PAS 24:2016 for doors and windows.</li> <li>• Approved Document L1A</li> <li>• Approved Document B, <b>Emergency Escape</b></li> <li>• EN 14351-1:2006+A2:2016 (Windows and doors. <b>Product standard, performance characteristics</b>. Windows and external pedestrian doorsets).</li> <li>• BS 6375-1:2015+A1:2016 (Performance of windows and doors. Classification for <b>weather tightness</b> and guidance on selection and BS specification).</li> <li>• BS 6375-2:2009 (Performance of windows and doors. Classification for <b>operation and strength</b> characteristics and guidance on selection and specification).</li> <li>• BS 6375-3:2009+A1:2013 (Performance of windows and doors. Classification for additional <b>performance characteristics</b> and guidance on selection and specification).</li> <li>• BS 8213-1:2004 (Windows doors and roof lights. <b>Design for safety in use</b> and during cleaning of windows, including door-height windows and roof windows. Code of practice).</li> <li>• BS 7412:2007 (<b>Specification for windows and doorsets</b> made from plasticized polyvinyl chloride (PVC-U) extruded hollow profiles).</li> <li>• BS EN12608 for extrusion performance standards.</li> <li>• BS EN 1279 for insulating glass units.</li> <li>• British Plastics Federation Code of Practice 356/1 (Code of Practice for the design and installation of PVC-U windows and doorsets in new domestic dwellings).</li> <li>• Secured by Design</li> <li>• NHBC Standards</li> <li>• Disabilities Discriminations Act Part 3 2005</li> <li>• Housing Providers' Disability Equality Duty</li> </ul>	
22.4	<p><b>Window Hardware/ Ironmongery</b></p> <p>All elements including ironmongery shall be guaranteed a minimum of 2 years and samples shall be submitted for approval by the Employer.</p> <p>All window hardware/ironmongery shall meet a minimum of BS EN 1670:2007 Class 4 (240 hours) corrosion resistance.</p> <p>All ironmongery fitted to windows in coastal areas shall have increased corrosion resistance of Class 5 (480 hours) corrosion resistance.</p>	
22.4.1	<p><b>Window Handles</b></p> <p>All ground floor windows shall be fitted with handles incorporating push release mechanism with key operated barrel lock.</p> <p>All escape windows shall be fitted with non-locking handles.</p> <p>All handle components shall be capable of sustaining a minimum of 30,000 cycles of operation in accordance with BS EN 1191 &amp; BS EN 12400.</p> <p>All handles shall be BBA certified.</p>	

22.4.2	Anti-Jemmy Catches	All ground floor windows shall be fitted with anti-jemmy device. Hinge side guide wedges shall be provided to avoid deflection of the opening sash.	
22.4.3	Restrictors	All upper & ground floor windows shall incorporate child restrictors within the hinge or fixed separately within the sash. All relevant hardware shall comply with BS EN 13126-5:2011 Requirements & Test Methods. Devices that restrict the opening of windows.	
22.4.4	Hinges	The Contractor shall provide evidence that the strength of the hinge is suitable to support the weight of oversize sashes and glazed doors. All hinge components shall be capable of sustaining a minimum of 30,000 cycles of operation in accordance with BS EN 1191 & BS EN 12400. All hinges shall be BBA certified.	
	Easy Clean Hinges	The window design shall permit safe cleaning of windows from within the property without putting the occupier in a dangerous position in accordance with BS 8213-1. Opening sashes shall incorporate "easy clean" hinges to enable this.	
22.4.5	Trickle Vents	It is preferred that all trickle vents are located in the head of the sash not the head of the frame. The Contractor shall ensure that all trickle vents are clear of plaster if vents are to be incorporated in the head of the frame. Any dwellings that pass Part O via natural ventilation ie. No supply air must have trickle vents fitted to windows. Plots passing via mechanical vent due to window opening restrictions to omit trickle vents from the design. Trickle vents to be compliant with Part E All windows shall meet requirements of NHBC document: "BUILDING REGULATIONS GUIDANCE NOTE NHBC BUILDING CONTROL: GLAZING, GUARDING AND RESTRICTORS IN DWELLINGS"  <a href="http://www.nhbc.co.uk/Builders/ProductsandServices/BuildingControl/documents/filedownload_40525_en.pdf">http://www.nhbc.co.uk/Builders/ProductsandServices/BuildingControl/documents/filedownload_40525_en.pdf</a>	
22.5	Internal Window Boards	Window boards shall be 25mm bullnosed, water resistant MDF (with bullnosed return ends). PVC window boards are not acceptable. Window boards shall be fixed using window board straps, with minimum of two straps and a spacing no greater than 600mm. MDF window boards shall be fitted to all windows except kitchens, utility rooms (with sink), bathrooms and en-suites (see clause 26: Wall Tiling for tiled cills). All window boards shall have white gloss paint finish.	
22.6	Rooflights	Rooflights shall be VELUX roof windows, or equal and approved by the Employer, and must be capable of being opened from a floor standing position. If this cannot be achieved, then a purpose made pole shall be provided. All rooflights shall be fitted with proprietary blinds.  Opening sash of rooflight shall be capable of rotating 180 degree to enable safe cleaning from inside the property.	
22.7	Alternative Windows	Alternatives to PVC-U windows, such as timber or metal, will be considered by the Employer on an individual scheme by scheme basis. An equivalent high performance specification will be required. Full details of the proposals shall be approved by the Employer.	
22.8	Protection during Construction	All windows & ironmongery/hinges shall be adequately protected during construction to prevent damage, and shall be handed over in a clean condition - tape/protective plastic/mortar shall not be left on the windows.	





Clause	Affordable Rent and Shared Ownership	Example Images
23.0 Skirting and Architrave	<p data-bbox="360 248 1114 315">Skirting shall be softwood or MDF (min. dimensions 18 x 94 mm). The Contractor shall provide a minimum of 3 profile options, skirting choice to be approved by the Employer.</p> <p data-bbox="360 344 735 367">Note that skirting is not to be used below wall tiles</p> <p data-bbox="360 412 1114 456">Skirting in WCs, bathrooms/en-suites and kitchens/utility rooms shall have clear (or alternative colour to be agreed on site) silicone sealant joint with vinyl floor coverings.</p> <p data-bbox="360 483 951 506">MDF/timber skirting is not acceptable in wet rooms, see clause <a href="#">33: Wet Rooms</a>.</p>	
23.2 Architrave	<p data-bbox="360 533 1114 555">Architraves shall be softwood or MDF in a section to match the skirting (min. 18 x 69 mm).</p> <p data-bbox="360 555 1114 600">Full architraves shall be achieved around all door frames/casings (especially at heads where storey-height frames are fixed). Architraves shall not be cut down or cut out around switches/fittings.</p>	




## ER Version 18 - Apartments: 24.0 INDIVIDUAL APARTMENTS - Miscellaneous Fittings

Clause	Affordable Rent ONLY (not required in shared ownership)	Example Images
<b>24.0 Miscellaneous Fittings</b>	The Contractor shall provide samples of all items for approval by the Employer prior to ordering. All heights and positions of fittings shall be agreed with the Employer on site prior to installation. Note the below fittings are not required for Shared Ownership properties.	
Curtain Batten	Curtain rail battens, 50mm x 16mm (50mm x 18mm PAR Redwood), above all windows and patio doors extending 150mm beyond openings, painted with wall colour.	
Coat Hooks	Four double hat and coat hooks fixed to a pattress; either preformed or timber with sanded and splayed edges painted with wall colour. Generally to be located in store cupboard.	
Shower Curtain	Shower curtain and rail over bath. Shower rail shall be screw fixed to walls /ceiling (not spring loaded).	
	For showers in wet rooms see clause <a href="#">33: Wet Rooms</a> .	
Mirror	Minimum size 600mm x 450mm safety backed mirror, pre-drilled & fixed with 4 no. chrome dome headed screws above WHB's in main bathroom only. Sizes in exceptional circumstances to be agreed.	
Medicine Cupboard	Lockable medicine cupboard, by means of a locked wall unit in the kitchen.	
Towel Rail	Towel rail to each bathroom and WC, fixed to a timber pattress of softwood or MDF with sanded and splayed edges painted with wall colour.	
Toilet Roll Holder	Toilet roll holder to each bathroom and WC, spring loaded toilet roll holders are not acceptable.	
Robe Hooks	A pair of robe hooks, fitted in the bathroom, fixed to a pattress size 150x100x18mm, softwood or MDF, with sanded and splayed edges painted with wall colour (robe hooks must not be fitted to the door).	
Letter boxes	Location of letter boxes shall be agreed with the Employer. All letter box systems shall have access for residents to retrieve post inside the building (either from an internal access point on letter box system or by individual letter boxes on apartment doors).  Individual letter boxes to be provided on dwelling entrance doors. The Contractor shall ensure access for deliveries, fobs shall be provided for the post office as necessary.	
Clothes drying	Retractable pull out clothes line with multiple lines shall be provided. Generally to be fitted in the bathroom, location to be agreed with the Employer.	

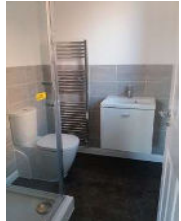
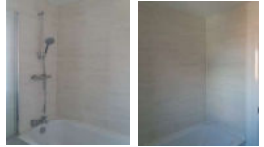
## ER Version 18 - Apartments: 25.0 INDIVIDUAL APARTMENTS - Stores



Clause	Affordable Rent and Shared Ownership	Example Images
25.0 Store Cupboards Shelves	All over stair and full height storage cupboards shall have a minimum of 2 rows of removable softwood slatted shelving where achievable.	
Heating	Any heating provisions to the store cupboard shall be agreed with the Employer.	
Store door vents	Appropriate venting shall be provided and is subject to the approval of the Employer (see also clause <a href="#">21: Doors</a> ). Vents shall have appropriate fire protection.	

**ER Version 18 - Apartments: 26.0 INDIVIDUAL APARTMENTS - Wall Tiling**




Clause	Affordable Rent	Example Images	Shared Ownership	Example Images
<b>26.0</b>	<b>Wall Tiling</b>			
<b>26.1</b>	<b>General Requirements</b>	Tiling shall be provided in bathrooms and kitchens, ground floor WC's and shower rooms using waterproof adhesive and mould resistant grout. Tiles shall be glazed to current British Standards. No seconds will be accepted.	Tiling shall be provided in bathrooms, en-suites, ground floor WC's and shower rooms using waterproof adhesive and mould resistant grout. Tiles shall be glazed to current British Standards. No seconds will be accepted.	
	Plot choice schedule	N/A	The Contractor shall produce a tile choice plot schedule, including choice for wall tile, feature tile, grout colour, tile trim colour, & silicone colour.	
	Sealant	Mould resistant silicone sealant shall be provided at all joints with sanitary appliances or worktops to ensure a watertight seal. Flexible sealant/expansion joint shall be provided at each corner of full and half height tiling. All silicone sealant to wall tiles/sanitary ware shall be either matching colour or white, unless otherwise agreed with the Employer.	Mould resistant silicone sealant shall be provided at all joints with sanitary appliances or worktops to ensure a watertight seal. Flexible sealant/expansion joint shall be provided at each corner of full and half height tiling. All silicone sealant to wall tiles/sanitary ware shall be either matching colour or white, unless otherwise agreed with the Employer.	
	Grout	Grout shall be white mould resistant.	Grout shall be mould resistant in white or colour co-ordinated to match tiles (i.e. grey grout for grey tiles), grout colour shall be as per the manufacturer's recommended spec where available, and as agreed with the Employer as part of the tile choices.	
	Tile Trim	Suitable tile edge trim shall be provided at all exposed edges of tiles.	All exposed edges of tiles shall be fitted with tile trim. Tile trim shall be corresponding colour to match tiles or aluminium with brushed chrome finish, tile trim shall be agreed with the Employer as part of the tile choices. Thickness of tile trim shall be selected to suit the thickness of the tiles.	
	Spare Tiles	In addition to the wall tiling, the Contractor shall provide 6 no. spare kitchen wall tiles to be left behind the plinth and 6 no. spare bathroom wall tiles to be left behind the bath panel.	Additional tiles not required.	
	Samples & Choices	N/A	The Contractor shall provide samples of all tiles proposed including feature tiles, for approval by the Employer prior to ordering. The contractor shall offer a minimum of 8 tile samples and shall allow for an unlimited number of tile choices (each with corresponding feature tile).	
	Tile Ranges	N/A	Preferred supplier and ranges are: <b>Porcelanosa Tiles</b> Level 1 Ceramic Tiles Level 2 Ceramic Tiles Alternative ranges shall be from Johnson Tiles or other equal and approved by the Employer.	
	Sizes	See clause 26.2 & 26.5	Tiles shall be minimum 250mm x 440mm	
	Layout / Feature tile	N/A	All tiles shall be laid landscape pattern.  The location/layout of feature/border tiles shall be specified by the Employer when selecting tile choices.  The colour of the grout and the silicone sealant shall be agreed with the Employer when selecting tile choices. In bathrooms/en-suites the Employer shall have the choice of tiling to the floor (on tiled walls) as an alternative to skirting.	

<p><b>26.2 Bathroom wall tiling</b></p> <p><b>Wall tiles</b> In bathrooms wall tiles shall be white 150mm x 150mm ceramic tiles.</p> <p><b>Tiling at baths / showers</b> Wall tiling shall extend to full height on all walls around baths. Wall tiling shall extend to full height on all walls around showers.</p> <p>At the shower curtain, tiling shall extend 150mm past the edge of the bath and to full height (floor to ceiling), or to the edge of any window/ door reveal within 450mm</p> <p><b>Tiling at basins / toilets</b> Wall tiling for basin splashbacks shall extend a minimum of 300 mm above all basins and min. 150mm beyond edge</p> <p><b>Feature tile</b> N/A</p> <p><b>Wet rooms</b> See clause <a href="#">33: Wet Rooms</a></p>	<p>In bathrooms wall tiles shall be Porcelanosa or Johnson ceramic wall tiles, or equal approved by the Employer. Acceptable tile choices are listed above.</p> <p>Wall tiling shall extend to full height on all walls around baths.</p> <p>Wall tiling shall extend to full height on all walls around showers.</p> <p>Wall tiling shall extend to half height (approximately 1100mm, or to window cill height if applicable) on all walls and pipe boxings behind the basin and WC.</p> <p>Note: In bathrooms the Employer shall have the choice of tiling to the floor (on tiled walls) as an alternative to skirting.</p> <p>A feature tile wall shall be incorporated into the design; location of feature tile shall be agreed with the Employer prior to tiling.</p> <p>See clause <a href="#">33: Wet Rooms</a></p>
<p><b>26.3 En-suite wall tiling</b></p> <p><b>Wall tiles</b> In en-suites (if applicable) wall tiles shall be white 150mm x 150mm ceramic tiles.</p> <p><b>Tiling at showers</b> Wall tiling shall extend to full height on all walls in the shower enclosure. Tiling shall extend 150mm past the edge of the enclosure and to full height (floor to ceiling), or to the edge of any window/ door reveal within 450mm</p> <p><b>Tiling at basins / toilets</b> Wall tiling for basin splashbacks shall extend a minimum of 300 mm above all basins and 150mm beyond basin edge</p>	<p>In en-suites wall tiles shall be Porcelanosa or Johnson ceramic wall tiles, or equal approved by the Employer. Acceptable tile choices are listed above.</p> <p>A feature tile wall shall be incorporated into the design; location of feature tile shall be agreed with the Employer prior to tiling.</p> <p>Wall tiling shall extend to full height on all walls in the shower enclosure. Tiling shall extend 150mm past the edge of the enclosure and to full height (floor to ceiling), or to the edge of any window/ door reveal within 450mm</p> <p>Wall tiling shall extend to half height (approximately 1100mm, or to window cill height if applicable) on all walls behind the WC and basin.</p> <p>Note: In en-suites the Employer shall have the choice of tiling to the floor (on tiled walls) as an alternative to skirting.</p>
<p><b>26.4 Ground Floor WC wall tiling</b></p> <p><b>Wall tiles</b> In WCs wall tiles shall be white 150mm x 150mm ceramic tiles.</p> <p><b>Tiling at basins / toilets</b> Wall tiling for basin splashbacks shall extend a minimum of 300 mm above all basins and 150mm beyond basin edge</p>	<p>In WCs wall tiles shall be Porcelanosa or Johnson ceramic wall tiles, or equal approved by the Employer. Acceptable tile choices are listed above.</p> <p>Basin splashback shall be a minimum of four tiles, (generally two tiles high and two tiles wide) and shall extend a minimum of 150mm past each side of the basin and a minimum of 400mm above the basin.</p>





<p><b>26.5 Kitchens and Utility Rooms wall tiling</b> In kitchens and utility rooms wall tiles shall be white 200mm x 100mm ceramic tiles.</p> <p>Wall tiling shall extend up to the underside of wall units and 1 tile below worktops behind cooker spaces. Wall tiling shall extend to a minimum of 760mm above the cooker space and a minimum of 150mm to either side, tiling shall extend to the nearest wall unit where applicable.</p> 	<p>In kitchens and utility rooms, worktop upstands shall be fitted.</p> <p>Wall tiling is not required in kitchens and utility rooms if there is a worktop upstand.</p> 
<p><b>26.6 Window cills</b> Window cills and reveals in bathrooms, en-suites, kitchens and utility rooms (with sink) shall be tiled unless otherwise agreed with the Employer.</p>	<p>Window cills, reveals and shelf tops in bathrooms and en-suites shall be tiled. All other window cills shall be MDF painted gloss white.</p>

**ER Version 18 - Apartments: 27.0 INDIVIDUAL APARTMENTS - Floor Coverings**

Clause	Affordable Rent	Example Images	Shared Ownership	Example Images
<b>27.0</b> <b>Flooring Generally</b>	Finish	All floors shall be free from nibs, rough spots & major irregularities. All concrete and screeded floor areas shall be painted with a light grey floor paint. See also clause <a href="#">34: Painting</a> .	All floors shall be free from nibs, rough spots & major irregularities. All concrete and screeded floor areas shall be painted with a light grey floor paint. See also clause <a href="#">34: Painting</a> .	
	Barrier Matting	The Contractor shall provide barrier matting to the full width of the hallway and min 900mm deep to front entrance door on all individual dwellings. Matt to include aluminium edge trim.	The Contractor shall provide barrier matting to the full width of the hallway and min 900mm deep to front entrance door on all individual dwellings. Matt to include aluminium edge trim.	
	Floor Protection	The Contractor shall provide protection to all floor surfaces including floorboards and stairs.	The Contractor shall provide protection to all floor surfaces including floorboards and stairs.	
<b>27.1</b> <b>Vinyl</b>	Slip resistant vinyl floor coverings shall be provided to all kitchen, bathroom, en-suite, WC, and utility room floors. Polysafe Wood FX PUR by Polyflor Ltd, or other equal and approved by the Employer, in colours agreed with the Employer to coordinate with kitchens, bathrooms and sanitary fittings.  All joints in vinyl flooring shall be hot-welded. Strip or plank flooring is not permitted.		Slip resistant vinyl floor coverings shall be provided to all kitchen, bathroom, en-suite, WC, and utility room floors. Flooring shall be: <ul style="list-style-type: none"> <li>• Polyflor 'Expona Wood' or 'Camaro' luxury vinyl tile ranges by Polyflor Ltd, or</li> <li>• Karndean 'Knight Tile', or</li> <li>• Other equal and approved by the Employer.</li> </ul>	
<b>27.1.1</b> <b>Areas</b>	Vinyl shall be laid throughout the kitchen, utility room, laundry room/cupboard, bathroom, downstairs WC and en-suite if applicable.		Vinyl shall be laid throughout the kitchen, utility room, laundry room/cupboard, bathroom, downstairs WC and en-suite if applicable.	
Kitchen	Vinyl flooring shall extend underneath kitchen plinths.		Vinyl flooring shall extend fully underneath kitchen plinths.	
Kitchen/diner or Kitchen/ lounge	Where there is an open plan kitchen/diner or kitchen/lounge the flooring shall extend to a location to be approved by the Employer.		Where there is a kitchen/diner the flooring shall also extend throughout the dining space.  Where there is an open plan kitchen/lounge the flooring shall extend to a location to be approved by the Employer.	
Bathrooms / en-suites	Vinyl flooring shall be laid under sanitary ware (prior to fitting the toilet and wash basin pedestal), and shall extend fully behind the basin, toilet and under the bath panel.  Vinyl flooring shall be sealed around penetrations.		Vinyl flooring shall be laid under sanitary ware (prior to fitting the toilet and wash basin pedestal), shall extend fully behind the basin, toilet and under the bath panel.  Vinyl flooring shall be sealed around penetrations.	
Wet rooms	See clause <a href="#">33: Wet Rooms</a>		Vinyl, as above specification, shall be laid throughout wet rooms.	
<b>27.1.2</b> <b>Installation</b>	The vinyl shall be installed in accordance with BS 8203 and the manufacturer's guidelines. The Contractor shall ensure that the subfloor is free of contaminants, suitably dry, and suitably prepared prior to installation of the floor covering. Vinyl floor shall be installed to the manufacturer's installation instructions using manufacturer's approved adhesive.		The vinyl shall be installed in accordance with BS 8203 and the manufacturer's guidelines. The Contractor shall ensure that the subfloor is free of contaminants, suitably dry, and suitably prepared prior to installation of the floor covering. Vinyl floor shall be installed to the manufacturer's installation instructions using manufacturer's approved adhesive.	
<b>27.1.3</b> <b>Samples</b>	The Contractor shall allow for 3 colour choices for all finished flooring. The Contractor shall provide a sample board of all floor finishes proposed for approval by the Employer prior to ordering.		The Contractor shall provide a sample board of the complete range of the above floorings for approval by the Employer prior to ordering. The Contractor shall allow for an unlimited number colour choices for finished flooring across the site.	
<b>27.1.3</b> <b>PVC edging</b>	PVC edging shall be provided at all exposed edges of vinyl flooring for example at door thresholds.		PVC edging shall be provided at all exposed edges of vinyl flooring for example at door thresholds.	
<b>27.1.4</b> <b>Sealant</b>	All perimeter joints to flooring shall be finished with clear or translucent high performance silicone sealant, unless otherwise specified.		All perimeter joints to flooring shall be finished with clear or translucent high performance silicone sealant, unless otherwise specified.	
<b>27.2</b> <b>Protection during Construction</b>	All floor finishes shall be adequately protected during construction to prevent damage, and shall be handed over in a clean condition - tape/protective plastic/plaster/paint shall not be left on floor finishes.		All floor finishes shall be adequately protected during construction to prevent damage, and shall be handed over in a clean condition - tape/protective plastic/plaster/paint shall not be left on floor finishes.	

**ER Version 18 - Apartments: 28.0 INDIVIDUAL APARTMENTS - Kitchens**

Clause	Affordable Rent	Example Images	Shared Ownership	Example Images
28.0 Kitchen Fittings	Design review	For each house type on the site, the Contractor shall provide drawings showing the kitchen design for review and subsequent approval by the Employer prior to ordering the kitchen fittings, see also clause 1: <a href="#">Procedural Issues</a> .	For each house type on the site, the Contractor shall provide drawings showing the kitchen design for review and subsequent approval by the Employer prior to ordering the kitchen fittings, see also clause 1: <a href="#">Procedural Issues</a> .	
	Kitchen design	The kitchen & utility room layout, including no. of base and wall units shall be agreed with the Employer at the earliest possible stage of the design.  Fridge freezer space shall not be located behind kitchen door. Corner base unit doors shall be a minimum width of 500mm (where achievable).	The kitchen & utility room layout, including no. of base and wall units shall be agreed with the Employer at the earliest possible stage of the design. Where possible an indicative kitchen layout shall be agreed pre-contract.  Fridge freezer shall not be located behind kitchen door. Corner base unit doors shall be a minimum width of 500mm (where achievable).	
28.1 Kitchen Fittings General Requirements	All kitchen units shall comply with BS 6222-2 Level H (structural performance) and all surface finishes shall comply with BS 6222-3 (durability of worktops and finishes). Kitchen fittings and worktops shall have FIRA gold product certification.		All kitchen units shall comply with BS 6222-2 Level H (structural performance) and all surface finishes shall comply with BS 6222-3 (durability of worktops and finishes). Kitchen fittings and worktops shall have FIRA gold product certification.	
	Storage volume	Kitchen storage volume minimum capacity requirements (which must include drawers) are:  <ul style="list-style-type: none"> <li>• 1 person - 1.3 cu m</li> <li>• 2 persons - 1.5 cu m</li> <li>• 3 persons - 2 cu m</li> <li>• 4 persons - 2.1 cu m</li> <li>• 5 persons - 2.2 cu m</li> <li>• 6 persons - 2.4 cu m</li> <li>• 7 persons - 2.6 cu m</li> </ul> Note total cubic capacity includes any storage capacity in the utility room where applicable.	Kitchen storage volume minimum capacity requirements (which must include drawers) are:  <ul style="list-style-type: none"> <li>• 1 person - 1.3 cu m.</li> <li>• 2 persons - 1.5 cu m.</li> <li>• 3 persons - 2 (cu m.)</li> <li>• 4 persons - 2.1 cu.m</li> <li>• 5 persons - 2.2 cu. M</li> <li>• 6 persons - 2.4 cu m.</li> <li>• 7 persons - 2.6 cu. M</li> </ul> Note total cubic capacity includes any storage capacity in the utility room where applicable.	
28.2 Kitchen Ranges	Accepted suppliers and ranges are: <b>Symphony:</b> Hacienda - Light Driftwood, Platinum, Grey Driftwood & Nordic Blue  <b>Moores:</b> Jazz Range  <b>Magnet:</b> Trieste range Ascoli range  or other equal and approved by the Employer.		Preferred suppliers and ranges are: <b>Symphony:</b> New York Gloss Woodbury Urban Harvard  <b>Howdens:</b> Greenwich Gloss Allendale  <b>Magnet:</b> Luna Tribeca  <b>Roundel:</b> Carston Carnoch  Or equal and approved by the Employer. Handle choice options shall be provided from the kitchen range selected. Or equal and approved If required for the scheme, the Contractor shall provide an uplift kitchen choice specification from a selection of higher ranges from the specified kitchen supplier.	
	Handles	Stainless steel or chrome. Bar or D-shape handle.		
Uplift spec	N/A			



**28.3 Base and Wall Units**

Base units	Base units shall be standard height and depth, approximately 900mm to top of worktops manufactured from 15mm high density chipboard, all edges are to be lipped and suitably sealed to prevent water ingress. All chipboard used in manufacture shall comply with BS EN 312 P2 (Particleboards Specifications).
Unit colour	All exposed side panels, corner posts and infill panels shall be colour coded to the door facings.
Adjustable legs	Adjustable legs shall be fitted as standard to all units.
Drawers	Drawer system shall be 15mm chipboard base, metal enamel coated drawer sides/back with parallel guides and drawer stop for smooth running.
Hinges	Hinges shall be 170 degree concealed fully adjustable metal hinges.
Shelves	Shelves shall be height adjustable shelves supported in 6 positions, shelves shall be fitted in all units.
Unit backboards	Unit backs shall be hardboard, backboards shall be fitted in all units including sink units.
Corner base units	All corner base units shall be either fitted with pull out carousel shelves or have fold back doors (to enable use of corner storage space). The minimum size of corner unit door shall be 500mm.
Larder unit	Full height larder unit shall be included (except where not possible because of space restrictions).
Lockable unit	Lockable wall unit shall be included; the specific unit the lock is fitted to shall be agreed with the Employer prior to fitting.
Wall units	Wall units shall be 900mm high fitted above worktop, height above worktop to be agreed with the Employer.
Removable unit for Dishwasher	A removable 600mm base unit shall be fitted with future provision for a dishwasher (power/water/waste to be provided). This unit shall not be counted towards min. capacity requirements,
Clearance at fridge space	No wall units shall be located above refrigerator spaces, which shall be located at the end of a run of units where possible.
Clearance at cooker	No wall units shall be located within 150 mm of the cooker space. Minimum clearance shown in diagram shall be met. Minimum requirement of 300mm clear worktop each side of the hob location. See also clause 28.5: <b>Worktops</b> for minimum worktop requirements. See also clause 26.5: <b>Kitchen &amp; Utility Room wall tiling</b> for minimum tiled splashback requirements.
Recycle bin	Recycle bin not required.
Plinths	The Contractor shall supply material for plinth return where there are pull out units.



Base units shall be standard height and depth, approximately 900mm to top of worktops manufactured from 15mm or 18mm high density chipboard, all edges are to be lipped and suitably sealed to prevent water ingress. All chipboard used in manufacture shall comply with BS EN 312 P2 (Particleboards Specifications).

All carcasses shall be a complementary colour to the unit doors, including blended end panels, plinths and infill panels.

Note – some kitchen manufacturer’s (e.g. Symphony) require 18mm carcass to be fitted in order to colour match to unit doors (15mm carcass is only available in limited colour choices).

Adjustable legs shall be fitted as standard to all units.

Drawer system shall be 15mm chipboard base, metal enamel coated drawer sides/back with parallel guides and drawer stop for smooth running.

Hinges on all unit doors and drawers shall be fitted with a soft close mechanism.

Shelves shall be height adjustable shelves supported in 6 positions, shelves shall be fitted in all units.

Unit backs shall be hardboard, backboards shall be fitted in all units including sink units.

All corner base units shall be either fitted with pull out carousel shelves or have fold back doors (to enable use of corner storage space). The minimum size of corner unit door shall be 500mm.

Full height larder unit shall be provided (except where not possible because of space restrictions). Larder unit doors shall match height of fridge freezer unit doors if positioned side by side.

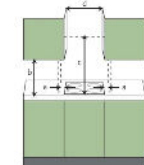
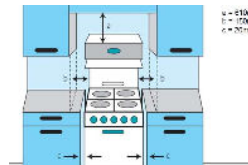
Lockable unit not required.

Wall units shall be 900mm high fitted above worktop, height above worktop to be agreed with the Employer.




A removable 600mm base unit shall be fitted with future provision for a dishwasher (power/water/waste to be provided). This unit shall not be counted towards min. capacity requirements,

N/A

Minimum clearance shown in diagram shall be met.  
A = min. 50mm (see also clause 18.4 for min. worktop requirements).  
B = min. 460mm  
C = min. 760mm  
D = width of hob














Heating control unit/ boiler	<p>If the this is located in the kitchen it shall be housed in a boiler unit to match the kitchen. Note that this must be a unit specifically design for the boiler, larder units cut to fit the boiler are not accepted. If the boiler is too large to fit in a unit then it shall not be located in a store cupboard or utility room.</p> <p>The Contractor shall ensure that the minimum clearance for maintenance (as specified by the boiler manufacturer) is achieved around the boiler without having to remove the boiler unit.</p>	<p>If the boiler is located in the kitchen it shall be housed in a boiler unit to match the kitchen. Note that this must be a unit specifically design for the boiler, larder units cut to fit the boiler are not accepted. If the boiler is too large to fit in a unit then it shall not be located in a store cupboard or utility room.</p> <p>The Contractor shall ensure that the minimum clearance for maintenance (as specified by the boiler manufacturer) is achieved around the boiler without having to remove the boiler unit.</p>
Hob splashback	N/A	<p>Hob Splashback - A glass (opaque) splashback shall be fitted behind the hob. Splashback shall be full height between the worktop (no upstand below splashback) and the and the extract hood, and shall be minimum height 760mm. Splashback shall be full width of the hob.</p> <p>The Contractor shall provide minimum 3 colour choices &amp; samples of the splashback for approval by the Employer prior to ordering.</p>
<b>28.4 Kitchen Sink</b>	<p>The kitchen sink and drainer shall be made from minimum 1.5mm gauge,18/10 stainless steel to BS EN 13310:2015 (Kitchen sinks functional requirements and test methods).</p> <p>All kitchen sinks shall have a drainer. Kitchen sink shall be 1 bowl sink; bowl size shall be a minimum of 345 x 420 x 170mm (Suggested sink: Clearwater Contract BS 0.9mm gauge s/s sink).</p> <p>Sink tops shall be fixed &amp; sealed in accordance with the manufacturer's recommendations.</p> <p>Kitchen sinks shall be fitted with low flow deck mixer taps, waste, plug and chain.</p> <p>N/A</p> <p>Sink shall have plug on chain.</p> <p>Sockets and switches shall not be located within 300mm of the kitchen sink.</p>	<p>The kitchen sink and drainer shall be Kensington 1.5 bowl drainer inset sink or equal and approved by the Employer, minimum 1.1mm gauge,18/10 stainless steel to BS EN 13310 (Kitchen sinks functional requirements and test methods) or granite composite material.</p> <p>All kitchen sinks shall have a drainer. Kitchen sink shall be 1.5 bowl sink, main bowl size shall be a minimum of 340 x 400 x 170mm, fitted with Monobloc kitchen tap (see clause 32.5: Taps).</p> <p>Sink tops shall be fixed &amp; sealed in accordance with the manufacturer's recommendations.</p> <p>Kitchen sinks shall be fitted with monobloc tap, waste, and plug. The Contractor shall ensure that the kitchen sink and Monobloc tap are compatible; sink must be capable of supporting tap without flexing.</p> <p>Sink tap shall be fitted with tap brace.</p> <p>Sink shall have metal strainer plug.</p> <p>Sockets and switches shall not be located within 300mm of the kitchen sink.</p>
<b>28.5 Worktops</b>	<p>Worktops shall be 40mm moisture resistant laminated worktops in accordance with BS 312 P3 and BS EN 438 (High-pressure decorative laminates) and shall be sealed as necessary between worktop and wall with a suitably coloured sealant.</p> <p>Cooker space shall have a minimum of 300mm of worktop to both sides with minimu clear width of 630mm between end panels/ worktop edges</p> <p>Sockets &amp; switches shall not be located within 300mm of the cooker space.</p> <p>All cut edges shall be sealed in clear silicone (e.g. at sink cut out).</p> <p>N/A</p> <p>Aluminium "Tile Saver" strip shall be fitted to all worktops between the wall tiles and the worktop to enable the removal of the worktop without damaging the wall tiles.</p> <p>Aluminium joint strip shall be fitted to all joints in worktops.</p> <p>Aluminium worktop edge strips shall be fitted at the end of all worktop edges adjacent to cooker spaces.</p>	<p>Worktops shall be 40mm post formed or square edged laminate worktops in accordance with BS 312 P3 and BS EN 438 (High-pressure decorative laminates) and shall be sealed as necessary between worktop and wall with a suitably coloured sealant.</p> <p>Cooker location shall have a minimum of 300mm of worktop to both sides.</p> <p>Sockets &amp; switches shall not be located within 300mm of the cooker space.</p> <p>All cut edges shall be sealed in clear silicone (e.g. at sink cut out).</p> <p>Worktops shall have a matching upstand min. height 100mm, fitted to the wall above the worktop in all areas except at the hob splashback.</p> <p>N/A</p> <p>Worktops shall have butt and scribe joints.</p> <p>N/A</p>

<p>Samples</p> <p>Ranges</p> <p>Uplift spec</p>	<p>Worktop samples shall be provided with kitchen choices.</p> <p>Accepted suppliers and ranges are:  <b>Symphony:</b>                  Alpine White, Alaska, Brazilian Walnut, Copper Slate, Dark Ash, Everest Black, Marble Sirocco, Natural Ash, Oak Block, Pastel Oak, Stella Mare, Tectonica.</p> <p>Moores:</p> <p>Rixonway:                  N/A</p>	<p>The contractor shall provide samples of all worktops proposed. Preferred worktop choices are listed below. The Contractor shall allow for an unlimited number of worktop choices.</p> <p>Accepted suppliers and ranges are:  <b>Symphony:</b>                  Alpine White, Alaska, Brazilian Walnut, Copper Slate, Dark Ash, Everest Black, Marble Sirocco, Natural Ash, Oak Block, Pastel Oak, Stella Mare, Tectonica.</p> <p><b>Howdens:</b>                  Quartzstone White Smooth, Quartzstone Grey Smooth, Oak Block, Walnut Block, Grey Oak Block, Grey Oak Effect, Dark Granite, Walnut Block.</p> <p>If required for the scheme, the Contractor shall provide an uplift worktop choice specification from a selection of higher ranges from the specified kitchen supplier.</p>	
<p><b>28.6 Kitchen/ Utility Room Appliances</b></p> <p>28.6.1 Integrated Appliances</p> <p>28.6.2 Fridge Freezer</p> <p>28.6.3 Approved Manufacturers</p> <p>Energy Rating</p>	<p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p>	<p>The Contractor shall supply and install the following integrated kitchen appliances with stainless steel finish (see example images). Samples shall be agreed with the Employer prior to ordering.</p> <ul style="list-style-type: none"> <li>• Fan assisted oven for 2 bed properties, built-in tall unit or under-counter.</li> <li>• Fan assisted double oven for 3 and 4 bed properties, built in to a tall unit (under-counter ovens only accepted if the layout does not allow for an oven in a tall unit).</li> <li>• 5 zone Induction hob for 3 and 4 bed properties</li> <li>• 4 zone Induction hob for 2 bed properties</li> <li>• Slimline Cooker Extractor Hood or Integrated Cooker Hood to match kitchen range. Cooker hood shall extract out to air unless otherwise specified in the ventilation strategy.</li> <li>• Integrated Fridge Freezer.</li> </ul> <p>Fridge freezer shall be integrated; proportion split shall be agreed with The Employer. Split of the fridge freezer shall be the same as the full height larder unit (if positioned next to the integrated fridge freezer).                  Aluminium plinth vent with minimum area 200cm squared shall be fitted below the freezer unless otherwise stated by the manufacturer’s installation instructions.</p> <p>Integrated appliance shall be mid-range by an approved manufacturer from the list below and exact model shall be approved by The Employer prior to ordering:</p> <ul style="list-style-type: none"> <li>• NEFF</li> <li>• Hotpoint</li> <li>• Indesit</li> <li>• Baumatic</li> <li>• Bosch</li> <li>• AEG</li> <li>• Electrolux</li> <li>• Zanussi</li> </ul> <p>other equal and approved by The Employer.</p> <p>All appliances shall have a minimum EU Energy Efficiency rating of A.</p>	  
<p><b>28.7 Appliance spaces</b></p>	<p>Appliance spaces shall be provided for a minimum of 3 appliances (fridge, cooker, washing machine).</p> <p>All necessary power/waste/water shall be located in or adjacent to the space.                  Sockets must not be mounted on unit backboards.</p> <p>The no. and location of appliance spaces shall be agreed with the Employer prior to ordering the kitchen.</p> <p>Dimensions</p> <p>Appliances spaces shall have a minimum clear depth of 600mm (no pipes/fittings within the 600mm depth).                  Appliance spaces shall have a minimum clear width of 625mm and can be provided within utility/ storage space where available</p>	<p>Appliance spaces shall be provided for a minimum of 2 appliances (see detailed specification below).</p> <p>All necessary power/waste/water shall be located in or adjacent to the space.                  Sockets must not be mounted on unit backboards.</p> <p>The no. and location of appliance spaces shall be agreed with the Employer prior to ordering the kitchen.</p> <p>Appliances spaces shall have a minimum clear depth of 600mm (no pipes/fittings within the 600mm depth).                  Appliance spaces shall have a minimum clear width of 625mm or width suitable for integrated appliance, with plinth and door provided (to be agreed with the Employer at review of kitchen layouts) and can be provided within utility/ storage space where available</p>	

Fridge space	Fridge space shall have a minimum clear width of 700mm.	N/A
<b>Kitchen Appliance spaces</b>	There shall be a minimum of 3 appliance spaces provided within the kitchen for cooker, fridge and washing machine.	There shall be a minimum of 2 appliance space provided within the kitchen for the washing machine and dryer
	A removable unit shall be fitted with future provision for a dishwasher (power/water/waste to be provided).	A removable unit shall be fitted with future provision for a dishwasher (power/water/waste to be provided).
<b>Utility Room Appliance spaces</b>	House types with a utility room/store: Washing machine space shall be located in the utility room/store not the kitchen.	House types with a utility room/store: Washing machine space shall be located in the utility room/store not the kitchen.
Provisions	The Contractor shall provide all necessary power sockets, switches, water supply pipework and waste pipework in a location accessible for each appliance (see also clause <a href="#">32.9: Plumbing for Kitchen/ Utility Room Appliances</a> and <a href="#">29.8: Power Circuits</a> ). Holes shall be drilled into the side of sink base unit to allow access for waste, and cold water supply pipework as necessary.	The Contractor shall provide all necessary power sockets, switches, water supply pipework and waste pipework in a location accessible for each appliance (see also clause <a href="#">32.9: Plumbing for Kitchen/ Utility Room Appliances</a> and <a href="#">29.8: Power Circuits</a> ). Holes shall be drilled into the side of sink base unit to allow access for waste, and cold water supply pipework as necessary.
<b>28.8 Utility Room</b>	Where applicable, utility room layouts shall include the following:	Utility room layouts shall include the following, unless otherwise agreed with the Employer:
Sink Worktop	<ul style="list-style-type: none"> <li>• Sink not required.</li> <li>• 40mm moisture resistant laminated worktop (as per specification in clause <a href="#">28.5: Worktops</a>)</li> </ul>	<ul style="list-style-type: none"> <li>• Sink (as per specification in clause <a href="#">28.4: Kitchen sink</a>)</li> <li>• Laminate worktop and upstand (as per specification in clause <a href="#">28.5: Worktops</a>)</li> </ul>
Wall Units	<ul style="list-style-type: none"> <li>• Wall units and base units – amount and location to be agreed with the Employer depending on design/style of utility room (as per specification in clause <a href="#">28.3 Base and wall units</a>)</li> </ul>	<ul style="list-style-type: none"> <li>• Wall units and base units – amount and location to be agreed with the Employer depending on design/style of utility room (as per specification in clause <a href="#">28.3 Base and wall units</a>)</li> </ul>
Appliances	<ul style="list-style-type: none"> <li>• Washing machine space (min. clear width 625mm), including un-switched socket, fused spur switch, cold water supply pipe with washing machine hose connections, waste pipe and provision shall be made for waste discharge.</li> <li>• Additional utility room appliance spaces shall be agreed with the Employer prior to ordering the kitchen/utility room.</li> </ul>	<ul style="list-style-type: none"> <li>• Washing machine space (min. clear width 625mm), including un-switched socket, fused spur switch, cold water supply pipe with washing machine hose connections, waste pipe and provision shall be made for waste discharge.</li> <li>• Additional utility room appliance spaces shall be agreed with the Employer prior to ordering the kitchen/utility room.</li> </ul>
Flooring	<ul style="list-style-type: none"> <li>• Polysafe Wood FX PUR (as per specification clause <a href="#">27: Floor Coverings</a>).</li> </ul>	<ul style="list-style-type: none"> <li>• Polyflor Expona or Camaro flooring (as per specification in clause <a href="#">27: Floor Coverings</a>).</li> </ul>
Extract Fan	<ul style="list-style-type: none"> <li>• Extract Fan with boost switch and isolator switch located above door or at high level adjacent to fan.</li> </ul>	<ul style="list-style-type: none"> <li>• Extract Fan with boost switch and isolator switch located above door or at high level adjacent to fan.</li> </ul>
<b>28.9 Laundry Cupboard</b>	If the property contains a laundry cupboard/room the following spec shall be used:	All properties without a utility room shall contain a laundry cupboard with the option to fit a washing machine and condenser dryer. The laundry cupboard shall contain:
Worktop	<ul style="list-style-type: none"> <li>• Laminate worktop (as per specification in clause <a href="#">28.5: Worktops</a>).</li> </ul>	<ul style="list-style-type: none"> <li>• Laminate worktop and upstand (as per specification in clause <a href="#">28.5: Worktops</a>).</li> </ul>
Appliances	<ul style="list-style-type: none"> <li>• Appliance space below the worktop for a washing machine (min. clear width 625mm) with un-switched socket, fused spur switch, cold water supply pipe with washing machine hose connections, waste pipe and provision for waste discharge as required for the appliance specified.</li> <li>• Appliance space above the worktop for dryer (min. clear width 625mm) with un-switched power socket and fuse spur switch as required for the appliance specified.</li> </ul>	<ul style="list-style-type: none"> <li>• Appliance space below the worktop for a washing machine (min. clear width 625mm) with un-switched socket, fused spur switch, cold water supply pipe with washing machine hose connections, waste pipe and provision for waste discharge as required for the appliance specified.</li> <li>• Appliance space above the worktop for dryer (min. clear width 625mm) with un-switched power socket and fuse spur switch as required for the appliance specified.</li> </ul>
Light	<ul style="list-style-type: none"> <li>• Light fitting (batten holder fitting) and light switch.</li> </ul>	<ul style="list-style-type: none"> <li>• Light fitting (batten holder fitting) and light switch.</li> </ul>
Flooring	<ul style="list-style-type: none"> <li>• Polysafe Wood FX PUR (as per specification clause <a href="#">27: Floor Coverings</a>).</li> </ul>	<ul style="list-style-type: none"> <li>• Polyflor Expona or Camaro flooring (as per specification in clause <a href="#">27: Floor Coverings</a>).</li> </ul>
Extract Fan	<ul style="list-style-type: none"> <li>• Extract Fan with boost switch/boost on light switch and isolator switch located above door or at high level adjacent to fan.</li> </ul>	<ul style="list-style-type: none"> <li>• Extract Fan with boost switch/boost on light switch and isolator switch located above door or at high level adjacent to fan.</li> </ul>
<b>28.10 Protection during Construction</b>	All kitchen components shall be adequately protected during construction to prevent damage, and shall be handed over in a clean condition - tape/protective plastic/plaster/paint shall not be left on kitchen units/appliances.	All kitchen components shall be adequately protected during construction to prevent damage, and shall be handed over in a clean condition - tape/protective plastic/plaster/paint shall not be left on kitchen units/appliances.



**ER Version 18 - Apartments: 29.0 INDIVIDUAL APARTMENTS - Electrical**

Clause	Affordable Rent	Example Images	Shared Ownership	Example Images
<b>29.0 Electrical Installation General Requirements</b>	<p>The whole of the electrical installation shall comply with the latest edition of the Regulations issued by the Institution of Electrical Engineers and Local Electricity Board Regulations and shall comply with the Electrical Equipment (Safety) Regulations. A test certificate shall be provided upon completion.</p> <p>All fittings shall comply with British Standards BS 7671 (Requirements for electrical installations. IET Wiring Regulations. Seventeenth edition).</p> <p>Low smoke and fume cables All cables shall incorporate insulation and sheathing materials that do not emit any Halogens and have reduced smoke emission properties. These are termed LSHF (Low Smoke Halogen Free), LSOH, LSZH (Low Smoke Zero Halogen) or sometimes OHLS (Zero Halogen Low Smoke). These products must emit no more than 0.5% HCl and must comply with BS 7211, IEC 60754-1, IEC 60754-2, IEC 61034, and BS EN/IEC 60332-1-2, shall be of harmonised colours and consist of XLPE Insulation and LSZH sheath.</p> <p>Cables fixings All cabling within ceiling voids shall be fixed with metal ties/fixings</p> <p>Design Review/ Mock-up For each apartment type on the site, the Contractor shall provide drawings (and mock-up if requested by the Employer) showing the electrical design for review and subsequent approval by the Employer prior to work commencing on site, see also clause 25: Procedural Issues</p>		<p>The whole of the electrical installation shall comply with the latest edition of the Regulations issued by the Institution of Electrical Engineers and Local Electricity Board Regulations and shall comply with the Electrical Equipment (Safety) Regulations. A test certificate shall be provided upon completion.</p> <p>All fittings shall comply with British Standards BS 7671 (Requirements for electrical installations. IET Wiring Regulations. Seventeenth edition).</p> <p>Low smoke and fume cables All cables shall incorporate insulation and sheathing materials that do not emit any Halogens and have reduced smoke emission properties. These are termed LSHF (Low Smoke Halogen Free), LSOH, LSZH (Low Smoke Zero Halogen) or sometimes OHLS (Zero Halogen Low Smoke). These products must emit no more than 0.5% HCl and must comply with BS 7211, IEC 60754-1, IEC 60754-2, IEC 61034, and BS EN/IEC 60332-1-2, shall be of harmonised colours and consist of XLPE Insulation and LSZH sheath.</p> <p>Cables fixings All cabling within ceiling voids shall be fixed with metal ties/fixings</p> <p>Design Review/ Mock-up For each house type on the site, the Contractor shall provide drawings (and mock-up if requested by the Employer) showing the electrical design for review and subsequent approval by the Employer prior to work commencing on site, see also clause 25: Procedural Issues</p>	
<b>29.1 Arc Fault Detection Device (AFDD)</b>	All consumer units shall have Arc fault detection devices for all circuits.		All consumer units shall have Arc fault detection devices for all circuits.	
<b>29.2 SPD's</b>	All consumer units shall have suitable and sufficient surge protective devices (SPD's) installed as per BS 7671 section 534.		All consumer units shall have suitable and sufficient surge protective devices (SPD's) installed as per BS 7671 section 534.	
<b>29.3 Meters and Consumer Unit</b>	<p>All dwellings to be fitted with either smart gas meter or smart electricity meter depending on the heating system and design</p> <p>Meter Boxes Early consideration shall be given to meter box location and positions shall be defined on tender drawings. Meter boxes to individual apartments shall be housed in a store cupboard, locations shall be agreed with the Employer.</p> <p>All meter boxes to meet current regulations &amp; service provider requirements. External meter boxes (if applicable) shall be painted to match the facing brickwork or alternative colour to be agreed with the Employer.</p> <p>Earth bonding Earth bonding is required at gas meters.</p> <p>Consumer Unit Consumer unit shall meet all current Building and Electrical Regulations and shall be Wylex all metal consumer unit, or other equal and approved by the Employer. The consumer unit shall be mounted a height to meet current regulations (currently set at 1350mm-1450mm above FFL to meet Part M). The consumer unit shall be located in a store cupboard, or a hallway/downstairs WC provided that the unit is recessed into the wall.</p> <p>Consumer unit shall be wired using RCCD's in 'split box' arrangement and MCB's. The Contractor shall provide any sub mains required to accommodate store cupboard/hallway location.</p> <p>Date of Inspection Date of next inspection shall be identified on consumer unit and certification as 5 yrs.</p>		<p>All dwellings to be fitted with either smart gas meter or smart electricity meter depending on the heating system and design</p> <p>Meter Boxes Early consideration shall be given to meter box location and positions shall be defined on tender drawings. Meter boxes to individual apartments shall be housed in a store cupboard, locations shall be agreed with the Employer.</p> <p>All meter boxes to meet current regulations &amp; service provider requirements. External meter boxes (if applicable) shall be painted to match the facing brickwork or alternative colour to be agreed with the Employer.</p> <p>Earth bonding Earth bonding is required at gas meters.</p> <p>Consumer Unit Consumer unit shall meet current building and electrical regulations. The consumer unit shall be mounted a height to meet current regulations (currently set at 1350mm-1450mm above FFL to meet Part M). Consumer units shall be situated in either the store cupboard, utility room, garage or downstairs WC. Consumer units located in the downstairs WC shall be recessed. Consumer units shall not be located in the hallway. Consumer unit shall be wired using RCCD's in 'split box' arrangement and MCB's. The Contractor shall provide any sub mains required to accommodate store cupboard/hallway location.</p> <p>Date of next inspection shall be identified on consumer unit and certification as 10 yrs.</p>	

<p><b>29.6 Lighting</b></p>	<p>All lights fitted to be 75lm/w efficacy to comply with Part L 2021. A lighting schedule to be provided to the SAP assessor as soon as it becomes available to confirm compliance. Lighting pendants and LED bulbs shall be provided to all rooms with the exception of the kitchen, bathroom &amp; en-suite.</p> <p>Light fittings shall be standard bayonet or screw fit type. Dedicated light fittings are not accepted.</p> <p>Samples</p> <p>The Contractor shall provide samples of the kitchen, bathroom &amp; en-suite lights for approval by the Employer.</p> <p>Bathrooms</p> <p>Bathrooms shall be fitted with a white circular multiple LED bulkhead lamp; min. 283mm diameter, opal diffuser, 4000K, 21W (or min. required to meet required lux levels).</p> <p>Bathroom fittings shall have an IP65 rating. Bathroom light fitting shall have a min. 5 year warranty.</p> <p>En-suites</p> <p>If applicable, en-suites shall be fitted with light fitting, specification as per bathroom light fitting.</p> <p>En-suite fittings shall have an IP65 rating.</p> <p>Kitchens</p> <p>Kitchens shall be fitted with a lighting bar with 4 LED spots and a pendant over the dining table area.</p> <p>Kitchen/diner or Lounge/diner</p> <p>Kitchen/diner or lounge/diner shall be fitted with pendant light fitting over the dining table.</p> <p>Utility &amp; Store Cupboards</p> <p>Utility &amp; Store Cupboards shall be fitted with batten light fittings in order to maximise room height.</p>	   	<p>All lights fitted to be 75lm/w efficacy to comply with Part L 2021. A lighting schedule to be provided to the SAP assessor as soon as it becomes available to confirm compliance. Lighting pendants and LED bulbs shall be provided to all rooms with the exception of the kitchen, bathroom &amp; en-suite.</p> <p>Light fittings shall be standard bayonet or screw fit type. Dedicated light fittings are not accepted.</p> <p>The Contractor shall provide samples of the kitchen, bathroom &amp; en-suite lights for approval by the Employer.</p> <p>Bathrooms</p> <p>Bathrooms shall be fitted with minimum 4 no. recessed low energy downlighters with chrome finish. Lights shall have replaceable GU10 LED bulbs. Adjustable spring clips shall be used to ensure lights are fitted tight to ceiling</p> <p>Bathroom fittings shall have an IP65 rating.</p> <p>En-suites</p> <p>En-suites shall be fitted with minimum 2 no. recessed low energy downlighters with chrome finish.</p> <p>En-suite fittings shall have an IP65 rating.</p> <p>Kitchens</p> <p>Kitchens shall be fitted with minimum 6 no. recessed low energy downlighters with chrome finish. Lights shall have replaceable GU10 LED bulbs. Adjustable spring clips shall be used to ensure lights are fitted tight to ceiling</p> <p>Kitchen wall units shall be fitted with minimum of 2 no. under cabinet LED downlighters. Under-cabinet lights shall be LED strip lights, sample to be approved by the Employer prior to ordering the kitchen.</p> <p>Kitchen/diners or lounge/diners shall be fitted with pendant light fitting located over the dining table area.</p>	  
<p><b>29.7 External Lighting to Dwellings</b></p>	<p>If the apartments has a private garden, terrace or balcony, An external low energy light shall be fitted adjacent to the rear door, light shall be controlled by a switch internally. PIR/dusk 'til dawn sensor not required.</p> <p>Sample shall be approved by the Employer prior to ordering.</p>	 	<p>If the apartments has a private garden, terrace or balcony, An external low energy light shall be fitted adjacent to the rear door, light shall be controlled by a switch internally. PIR/dusk 'til dawn sensor not required.</p> <p>Sample shall be approved by the Employer prior to ordering.</p>	 

<p><b>29.8 Power Circuits</b> General Requirements</p> <p>Radial Circuits</p> <p>Sockets &amp; switches generally</p> <p>USB charger outlets</p> <p>General Provision</p>	<p>Fixing heights for sockets, switches and other electrical outlets shall be as detailed in the "Mounting Heights of Electrical Equipment in Dwellings" available at <a href="http://www.niceic.org.uk">www.niceic.org.uk</a> In developments considered to be at risk from flooding all ground floor sockets, switches and other electrical outlets shall be mounted a minimum of 600mm above the ground floor datum.</p> <p>For domestic dwellings the use of radial circuits is the preferred method of installation, however ring main circuits supplying 13A socket outlets is accepted with prior agreement with the Employer.</p> <p>All electrical switches and sockets shall be Click Polar in white.</p> <p>Kitchen and lounge shall include a minimum of 1 no. double socket with two USB charger outlets.</p> <p>All rooms shall include a luminaire and light switch, unless otherwise stated. Rooms shall include the electrical accessories stated below as a minimum:</p>	<p>Fixing heights for sockets, switches and other electrical outlets shall be as detailed in the "Mounting Heights of Electrical Equipment in Dwellings" available at <a href="http://www.niceic.org.uk">www.niceic.org.uk</a> In developments considered to be at risk from flooding all ground floor sockets, switches and other electrical outlets shall be mounted a minimum of 600mm above the ground floor datum.</p> <p>N/A</p> <p>All visible kitchen switches and sockets shall be brushed chrome finish with black or grey inserts (extent of chrome sockets to include the whole room including kitchen/diner or kitchen/lounge in open plan layouts).</p> <p>All other switches and sockets shall be white.</p> <p>Sample to be approved by the Employer prior to ordering. All bedrooms, lounge, dining room, kitchen and any other habitable rooms shall include a minimum of 1 no. double socket with 2 USB charger outlets. All rooms shall include a luminaire and light switch, unless otherwise stated. Rooms shall include the electrical accessories stated below as a minimum:</p>
<p><b>29.8.1 Lounge</b> Lighting</p> <p>Sockets TV</p>	<p>NB vmedia plate/ tv points not to be located on compartment wall line</p> <ul style="list-style-type: none"> <li>• Two way light switch; supply and fit a two way light switch for the light fitting in the room which the back door serves, one switch is to be located next to the back door and one switch next to the internal door.</li> <li>• 3 No. double sockets (inc. 1no. with USB charger outlets),</li> <li>• 1 No. four socket combination plate adjacent to the TV,</li> <li>• 1 No. data plate adjacent to the TV, including a minimum of:</li> <li>• 1 No. BT socket,</li> <li>• 1 No. Co-axial socket and facility to link to bedroom 1.</li> </ul> <p>Note that the TV provisions should be located in the centre of the wall (at low level) where possible.</p>	<p>NB vmedia plate/ tv points not to be located on compartment wall line</p> <ul style="list-style-type: none"> <li>• Two way light switch; supply and fit a two way light switch for the light fitting in the room which the back door serves, one switch is to be located next to the back door and one switch next to the internal door.</li> <li>• 3 No. double sockets (inc. 1no. with USB charger outlets),</li> <li>• 1 No. four socket combination plate adjacent to the TV,</li> <li>• 1 No. data plate adjacent to the TV, including a minimum of:</li> <li>• 1 No. BT socket,</li> <li>• 1 No. Co-axial socket and facility to link to bedroom 1.</li> </ul> <p>Note that the TV provisions should be located in the centre of the wall (at low level) where possible.</p>
<p><b>29.8.2 Dining room</b></p>	<ul style="list-style-type: none"> <li>• 2 No. double sockets.</li> </ul>	<ul style="list-style-type: none"> <li>• 2 No. double sockets (inc. 1no. with USB charger outlets).</li> </ul>
<p><b>29.8.3 Main bedroom</b></p>	<p>NB vmedia plate/ tv points not to be located on compartment wall line</p> <ul style="list-style-type: none"> <li>• 3 No. double sockets,</li> <li>• 1 No. BT socket,</li> <li>• 1 No. Co-axial.</li> </ul>	<p>NB vmedia plate/ tv points not to be located on compartment wall line</p> <ul style="list-style-type: none"> <li>• 3 No. double sockets (inc. 1no. with USB charger outlets),</li> <li>• 1 No. Co-axial.</li> </ul>
<p><b>29.8.3 All Other Bedrooms</b></p>	<ul style="list-style-type: none"> <li>• 2 No. double sockets.</li> </ul>	<p>NB vmedia plate/ tv points not to be located on compartment wall line</p> <ul style="list-style-type: none"> <li>• 3 No. double sockets (inc. 1no. with USB charger outlets),</li> <li>• 1 No. TV socket.</li> </ul>
<p><b>29.8.4 Hallway</b></p>	<ul style="list-style-type: none"> <li>• 1 No. fused spur for future installation of a burglar alarm (alternatively alarm fuse spur can be located in the hall store),</li> <li>• Hall light switch; switch shall be 2 way switch (locations shall be agreed with the Employer),</li> </ul> <p>• Additional intermediate light switches shall be fitted in the hall where necessary, to be agreed with the Employer.</p>	<ul style="list-style-type: none"> <li>• 1 No. fused spur for future installation of a burglar alarm (alternatively alarm fuse spur can be located in the hall store),</li> <li>• Hall light switch; switch shall be 2 way switch (locations shall be agreed with the Employer),</li> </ul> <p>• Additional intermediate light switches shall be fitted in the hall where necessary, to be agreed with the Employer.</p>
<p><b>29.8.5 Kitchen</b></p>	<ul style="list-style-type: none"> <li>• 3 No. double sockets (inc. 1no. with USB charger outlets),</li> <li>• Switched electrical cooker control with terminal at low level in cooker space,</li> </ul> <p>• 1 No. single socket outlet (for igniter) at low level in cooker space,</p> <ul style="list-style-type: none"> <li>• Fridge/freezer single socket outlet (unswitched)</li> </ul> <p>• Fridge/freezer fused spur switch, If a dishwasher space is included:</p> <ul style="list-style-type: none"> <li>• Dishwasher single socket outlet (unswitched)</li> <li>• Dishwasher fused spur switch.</li> </ul>	<ul style="list-style-type: none"> <li>• 3 No. double sockets (inc. 1no. with USB charger outlets),</li> <li>• Switched electrical cooker control with terminal at low level in cooker space. Note contractor shall also supply and fit integrated oven &amp; hob (see clause 18.5),</li> <li>• 1 No. single socket outlet (for igniter) at low level in cooker space,</li> <li>• Fridge/freezer single socket outlet (unswitched). Note Contractor shall also supply and fit integrated fridge freezer (see clause 18.5),</li> <li>• Fridge/freezer fused spur switch,</li> <li>• Dishwasher single socket outlet (unswitched),</li> <li>• Dishwasher fused spur switch.</li> <li>• Cooker extract hood single socket (unswitched). Note Contractor shall also supply and fit cooker extract hood (see clause 18.5),</li> <li>• Cooker extract hood fused spur switch.</li> </ul>



<p><b>29.8.6 Kitchen (or Utility Room)</b></p> <p>Fused Spurs (kitchen and utility room)</p>	<ul style="list-style-type: none"> <li>• Washing machine single socket outlet (unswitched),</li> <li>• Washing machine fused spur switch,</li> </ul> <p>If a dryer space is included:</p> <ul style="list-style-type: none"> <li>• Dryer single socket outlet (unswitched),</li> <li>• Dryer fused spur switch.</li> <li>• 1 No. double socket above worktop (utility room only).</li> </ul> <p>Fused spurs to kitchen and utility rooms shall be switch operated from above worktop level with switches/multi grid switch serving the socket outlets below the worktop. All switches shall be engraved accordingly.</p> <p>Grid switch faceplate shall have modules contained in separate openings (see image).</p> 	<ul style="list-style-type: none"> <li>• Washing machine single socket outlet (unswitched),</li> <li>• Washing machine fused spur switch,</li> <li>• Dryer single socket outlet (unswitched),</li> <li>• Dryer fused spur switch.</li> <li>• 1 No. double socket above worktop (utility room only).</li> </ul> <p>Fused spurs to kitchen and utility rooms shall be switch operated from above worktop level with brushed chrome finish switches/multi grid switch serving the socket outlets below the worktop. All switches shall be engraved accordingly.</p> <p>Grid switch faceplate shall have modules contained in separate openings (see image).</p> 
<p><b>29.8.7 Bathrooms</b></p>	<ul style="list-style-type: none"> <li>• 1 No. Shaver socket.</li> <li>• Bathroom and shower room fittings shall be enclosed type switched from outside the room.</li> </ul>	<ul style="list-style-type: none"> <li>• Bathroom and shower room fittings shall be enclosed type switched from outside the room.</li> </ul>
<p><b>29.8.8 Store Cupboards</b></p>	<p>All full height store cupboards with floor area greater than 1m<sup>2</sup> and all stores containing an appliance or consumer unit shall have a batten holder luminaire switched from outside the store with a neon indicator switch.</p> <ul style="list-style-type: none"> <li>• 1 No. Double socket to store.</li> </ul>	<p>All full height store cupboards with floor area greater than 1m<sup>2</sup> and all stores containing an appliance or consumer unit shall have a batten holder luminaire switched from outside the store with a neon indicator switch.</p> <ul style="list-style-type: none"> <li>• 1 No. Double socket to 1st floor store.</li> </ul>
<p><b>29.9 Communications Infrastructure</b></p> <p>29.9.1 Telephone Infrastructure Installation</p> <p>29.9.2 Digital Television</p> <p>29.9.3 Infrastructure for high speed electronic communications networks</p> <p>Fibre to the Premises (FTTP) Network</p>	<p>The Contractor shall ensure that all works comply with Building Regulations Part R – Electronic Communications.</p> <p>Telephone infrastructure shall be provided via underground cable system to each dwelling either pre-wired or complete with draw wire. The location of the main telephone inlet point shall be agreed with the Employer.</p> <p>See clause <a href="#">16.0: Communal Areas - Electrical</a></p> <p>The Contractor shall provide the following infrastructure for high speed electronic communications network:</p> <p>The Contractor shall inform the Employer of any partnership with a services provider (such as BT or Virgin) which includes the provision of a 'Fibre to the Premises' network within the dwelling.</p> <p>The FTTP equipment shall be housed either in a store/cupboard or at the TV location in the lounge, the location shall be agreed with the Employer prior to installation. Cabling and installation shall be in accordance BSI and Government best practice guidance:</p> <p><a href="#">PAS2016:2010 Next generation access for new homes.</a>  <a href="#">CLG guidance on data ducting for new homes.</a></p>	<p>The Contractor shall ensure that all works comply with Building Regulations Part R – Electronic Communications.</p> <p>Telephone infrastructure shall be provided via underground cable system to each dwelling either pre-wired or complete with draw wire. The location of the main telephone inlet point shall be agreed with the Employer.</p> <p>See clause <a href="#">16.0: Communal Areas - Electrical</a></p> <p>The Contractor shall provide the following infrastructure for high speed electronic communications network:</p> <p>The Contractor shall inform the Employer of any partnership with a services provider (such as BT or Virgin) which includes the provision of a 'Fibre to the Premises' network within the dwelling.</p> <p>The FTTP equipment shall be housed either in a store/cupboard or at the TV location in the lounge, the location shall be agreed with the Employer prior to installation. Cabling and installation shall be in accordance BSI and Government best practice guidance:</p> <p><a href="#">PAS2016:2010 Next generation access for new homes.</a>  <a href="#">CLG guidance on data ducting for new homes.</a></p>
<p><b>29.10 Mechanical Ventilation</b></p>	<p>See clause <a href="#">30.0: Individual Apartments - Mechanical Ventilation.</a></p>	<p>See clause <a href="#">30.0: Individual Apartments - Mechanical Ventilation.</a></p>
<p><b>29.12 Smoke Alarms and Heat Detectors</b></p>	<p>See clause <a href="#">9.0: Fire Detection Systems</a> and <a href="#">Addendum F: Fire Specification - Alarms and Detection</a></p>	<p>See clause <a href="#">9.0: Fire Detection Systems</a> and <a href="#">Addendum F: Fire Specification - Alarms and Detection</a></p>



<p><b>29.14 Burglar Alarm</b></p>	<p>A 13amp non-switched fused spur, suitable for an Alarm system, shall be installed in the ground floor entrance hallway or ground floor store cupboard. Burglar alarm is not required.</p>	<p>A 13amp non-switched fused spur, suitable for an Alarm system, shall be installed in the ground floor entrance hallway or ground floor store cupboard. Burglar alarm is not required.</p>
<p><b>29.15 Electric Showers</b></p> <p>Shower</p> <p>Cable/fuse/ switch requirements</p> <p>Isolation switch</p> <p>Design</p>	<p>Thermostatic showers shall be provided (see clause 32.8: Showers), unless the use of the following specification for electric showers is agreed with the Employer. Electric shower shall comply with BS EN 60335-2-35.</p> <p>Electric shower shall be Triton T80z 8.5KW shower or other equal and approved by the Employer. Pipework shall be hidden.</p> <p>The contractor shall install a shower circuit up to and including the 45/50A double pole isolator. A minimum CSA of 10mm<sup>2</sup> is required for all shower circuit installations.</p> <p>Isolation switch shall be fitted outside the en-suite, position of switch shall be agreed with the Employer.</p> <p>For showers installed in a shower enclosure, the shower unit and head shall be installed on the wall adjacent to the shower door, not on the wall opposite the door.</p>	<p>Thermostatic showers shall be provided (see clause 32.8: Showers), unless the use of the following specification for electric showers is agreed with the Employer. Electric shower shall comply with BS EN 60335-2-35.</p> <p>Electric shower shall be a contemporary style Triton with brushed chrome finish, minimum 8.5KW with chrome fittings e.g. Triton Aspirante 8.5KW or other equal and approved by the Employer. Pipework shall be hidden.</p> <p>Shower installation shall be future proofed for up to 11kw shower, with increased fuse/switch rating &amp; cable size as required to meet electrical regulations.</p> <p>Isolation switch shall be fitted outside the en-suite, position of switch shall be agreed with the Employer.</p> <p>For showers installed in a shower enclosure, the shower unit and head shall be installed on the wall adjacent to the shower door, not on the wall opposite the door.</p>



**ER Version 18 - Apartments: 30.0 INDIVIDUAL APARTMENTS - Mechanical Ventilation**

<b>Clause</b>		<b>Affordable Rent and Shared Ownership</b>
<b>30.0</b>	<b>Mechanical Ventilation</b>	Mechanical ventilation shall be MVHR system unless otherwise agreed with the Employer. Manufacturer and System shall be agreed with the Employer.
		Ventilation system to be cross checked with Part O/L/F/E, including any environmental conditions within the decision notice that goes beyond baseline compliance.
<b>30.1</b>		The Contractor shall provide a ventilation system suitable for the volume of the dwelling. The Contractor shall provide accurate design information to allow accurate volume calculations by the MHVR installer/ Designer.
<b>30.2</b>	<b>Standards and Guidance</b>	<p>The contractor shall comply with all relevant regulations and shall ensure that best practice guidance is incorporated into the design &amp; specification of the ventilation system. As a minimum, the following shall be followed:</p> <ul style="list-style-type: none"> <li>· Chapter 2.1, Approved Document F.</li> <li>· Domestic ventilation compliance guide, section 3 of the technical handbook.</li> <li>· NHBC best practice guidance on MVHR.</li> <li>· Manufacturer's Installation Instructions.</li> </ul>
<b>30.3</b>	<b>Compliance</b>	<p>MHVR systems shall only be installed by operatives who are;</p> <ul style="list-style-type: none"> <li>· Competent and familiar with the system being installed.</li> <li>· Trained in accordance with the BPEC installer scheme.</li> </ul>
<b>30.4</b>	<b>Design</b>	<p>Designs and specifications shall be produced in a clearly understandable format, include all relevant information, and shall be distributed to the appropriate personnel.</p> <p>The Contractor shall provide the following information:</p> <ul style="list-style-type: none"> <li>· Location of all ductwork runs, the fan unit and controls (avoid loft space for fan unit).</li> <li>· Type, size and position of ducts and terminals.</li> </ul> <p>The location of exhaust terminals shall be positioned away from the supply intake(s) so as to prevent short circuiting.</p> <ul style="list-style-type: none"> <li>· Direction of fall for horizontal ductwork.</li> <li>· Type and spacing of clips and fixings.</li> <li>· Type and location of ancillary components, including those used for fire safety and acoustic purposes.</li> </ul> <p>· Design airflow-balancing figures for the system.</p> <p>Due to the occupation type of some developments, additional provisions may need to be made where windows cannot be opened past a restricted angle. In this case, additional fans should be fitted such as a Nuaire IAQ-Box or similar to allow increased air supply.</p>
30.4.1	Kitchen fans/ducts	<p>All kitchen fan ducts shall have a suitable fire wrap to provide fire protection at ceiling level.</p> <p>Kitchen extracts shall have grease filter.</p>
<b>30.5</b>	<b>Building Integration</b>	The Contractor shall ensure that MHVR systems are compatible with other building elements and do not adversely affect the performance of the building. In particular the Contractor shall follow the requirements set out in clause <a href="#">30.5.1</a> - <a href="#">30.5.4</a> below:
30.5.1	Weather Tightness	Proprietary roof terminals shall be used to ensure the weather tightness of the roof covering.

30.5.2 Installation of MVHR Units	<p>The Contractor shall ensure that the ventilation system is designed by a suitably qualified person.</p> <p>MHVR fan units shall only be fixed to parts of the building that are capable of taking the required load. Where fan units are supported by framed structures, additional components such as noggins may be required to provide a secure fixing point.</p> <p>Fan units shall be located, oriented and fixed in accordance with the design, using the clips, brackets and fixings recommended by the manufacturer.</p> <p>Fan units shall be so located so as to facilitate easy access for periodic maintenance, access panels should not require anything other than basic hand tools to gain access.</p> <p>The Contractor shall ensure that any MHVR unit or ducting sited outside the insulated envelope of the dwelling are so insulated as to not compromise the performance of the equipment or promote the formation of condensation and subsequent mould growth.</p> <p>Maximum length of flexible ducting shall be no greater than 300mm and shall only be located adjacent to fan units and air valves.</p> <p>The Contractor shall ensure that all internal doors are so trimmed to allow sufficient air transfer throughout the dwelling. There should be a minimum of 7,600mm<sup>2</sup> undercut in all internal doors above the floor finish. For a 762 wide door the undercut would need to be 10mm above floor finishes (allow 20mm where floor coverings are not fitted).</p> <p>The Contractor shall provide confirmation if trickle vents on windows are not required where MHVR is in use. Designers and suppliers shall consult to mitigate the inclusion of such vents.</p> <p>The Contractor shall ensure that air valves located on the wall are positioned a maximum of 400mm from the ceiling, and those that are located on the ceiling are positioned a minimum of 200mm from a wall.</p> <p>The Contractor shall ensure air valves are positioned on the opposite side of the room from door openings. Consultation with the Architect's proposed furniture layout shall be undertaken when determining the position of air valves. Air valve positions behind sofas and over bed spaces are to be avoided if at all possible. Consultation and acceptance of final positions shall be agreed with the Employer.</p> <p>Extract air valves shall be positioned above the source of potential pollutant wherever possible (e.g. over showers). Supply air valves should be located to encourage air flow across the room.</p> <p>The Contractor is advised that where it is absolutely necessary that the main unit is placed in the loft (no other alternative) then a duty is placed upon them to design safe access to the unit from the loft access position. This shall include access boards and lighting and light switch within the roof space.</p>
30.5.3 Fire Stopping	<p>MHVR units and ducting runs shall be so designed as to not compromise the resilient fire envelope of a structure.</p>
30.5.4 Kitchen Extract Ventilation	<p>The Contractor shall provide evidence that the MVHR system is capable of providing adequate ventilation to all areas of the property and furthermore that the system is capable of quick removal of cooking smells in kitchen areas, if necessary additional mechanical extract ventilation shall be installed in the kitchen, as specified in the ER's.</p>
<b>30.6 Testing and Commissioning</b>	<p>The Contractor shall ensure that the following testing and commissioning is carried out by a suitably qualified person:</p> <ul style="list-style-type: none"> <li>· Ensure that the systems are checked and that filters are clear of dust and contaminants accumulated during the construction process.</li> <li>· Ensure that systems are commissioned to confirm their performance and adjusted using the air valves and controls to achieve the correct balancing and air flow rates.</li> <li>· Ensure that the completed system is checked and that it complies with the design.</li> <li>· Ensure that controls are appropriately labelled.</li> </ul> <p>The final commissioning figures shall be included in the handover information provided to the Employer.</p>

<b>30.7 Handover / Operation and Use</b>	<p>The Contractor shall ensure that the end user is provided with clear and detailed information and instruction in a format intended for a non technical user.</p> <p>The Contractor shall provide the following information:</p> <ul style="list-style-type: none"> <li>· The commissioning certificate.</li> <li>· User instructions for the system and controls.</li> <li>· A user friendly pictorial description and explanation of the system (including locations of the components) and predicted running costs.</li> <li>· Details of routine maintenance.</li> <li>· Method of cleaning ductwork (where required).</li> <li>· Guidance for the use of summer bypass and boost settings (where installed).</li> <li>· Details of the installed system, including part numbers.</li> <li>· Details of any maintenance and service agreements (warranties).</li> </ul>
230.7.1 Information requirements	<p>All design information, product information, certificates for testing and commissioning shall be provided (digital copies).</p> <p>The Contractor shall provide the required information as specified below:</p> <ul style="list-style-type: none"> <li>· Design drawings and calculations</li> <li>· Products installed</li> <li>· Operation and maintenance</li> <li>· Test and commissioning certificates</li> </ul>

**ER Version 18 - Apartments: 31.0 INDIVIDUAL APARTMENTS - Heating & Hot Water**

Clause	Affordable Rent and Shared Ownership
<b>31.0 General Requirements</b>	<p>The whole of the plumbing works shall be executed in accordance with the requirements of the Local Water Authority and local bye-laws.</p> <p>The system shall be designed to maintain a minimum of 21 degrees centigrade when the external ambient temperature is -1 degrees centigrade. Calculations validating the system design and sizing shall be provided by the Contractor to the Employer.</p> <p>The heating and hot water system shall be designed to meet current Building Regulations Part L and to meet the required SAP calculations. The heating and hot water system design shall be approved by the Employer.</p> <p>Alternatives to gas boilers shall be comparable in performance and costs (both installation and running costs) as far as possible.</p> <p>For each apartment type on the site, the Contractor shall provide drawings (and mock-up if requested by the Employer) showing the heating design for review and subsequent approval by the Employer prior to work commencing on site, see also clause <a href="#">1: Procedural Issues</a>.</p> <p>Drain cocks shall be provided at the lowest point of any wet system.</p>
<b>Installation</b>	<p>The Contractor shall carry out system pressure checks on all pressurised systems and provide a certificate of confirmation for every property before handover.</p> <p>The heating and hot water system shall be sized for the dwelling. All hot water pipework shall be insulated.</p> <p>All serviceable parts shall be accessible for maintenance, with sufficient space around the fittings to carry out maintenance.</p> <p>If applicable, boilers shall be located in a utility room or store cupboard. If there is not a suitable store cupboard the boiler can be located in the kitchen. If the boiler is located in a kitchen it shall be housed in a specific boiler cupboard to match the kitchen specification. Boiler and pipework shall be fully concealed by the boiler cupboard. Cut down larder units are not accepted.</p> <p>Hot water cylinders shall be sized for the dwelling and shall be housed in a suitably sized store cupboard with double doors.</p> <p>Locations for installations for alternative heating and hot water systems shall be agreed with the Employer. Locations shall be suitably designed to meet the requirements of the system.</p> <p>If any elements of the heating and hot water system are located in an unheated space they shall be suitably protected and insulated as necessary. Frost thermostat &amp; pipe thermostat shall be fitted and system shall be installed as per the manufacturers instructions, specification and heating design.</p>
<b>31.1 Heating &amp; Hot Water Systems</b>	<p>Heating and hot water shall be an electric system unless otherwise agreed with the Employer.</p> <p>The Contractor shall install on an <b>agile tariff</b> to allow low cost electric for heating/hot water.</p>
Warranty	Heating and hot water system shall have min. 10 year warranty.
<b>31.2 Heating System</b>	<p>Heating shall be Dimplex Quantum panel heater, or Neomitis Efluid panel heater, or equal and approved by the Employer</p> <p>Radiators shall be suitably sized and specified for the heating system installed. Electric radiators shall be Lot 20 compliant. Bathrooms and en-suites shall be fitted with electric chrome towel radiators.</p> <p>Radiators shall be wall hung, and sized, positioned &amp; fixed in accordance with heating layouts and manufacturer's recommendations. Radiators shall take into account furniture arrangements, and shall not be located behind doors, sofa's or dining tables (where possible). Bathroom radiators shall not be located in close proximity to the toilet. Radiators shall not be located within 500mm of the fridge/freezer space.</p>
Design	








Warranty	Warranty information shall be provided for radiator panel and control valves.
Controls	Controls for radiators shall be fixed, remote controls are not accepted. Heating controls shall be agreed with the Employer.
<b>31.3 Hot Water System</b>	
Hot water cylinder	Hot water cylinder shall be Dimplex Edel, McDonald Cubeflow, Mixergy or equal and Approved by the Employer. Hot water cylinder shall be sized for the dwelling and shall be housed in a large, suitably sized store cupboard with double doors. Cylinder shall be housed in a store cupboard and shall be accessible for maintenance.
Controls	Hot water controls shall be agreed with the Employer.
<b>31.4 Alternative Systems</b>	Alternative heating and hot water systems shall be agreed with the Employer.

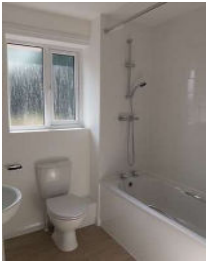




## ER Version 18 - Apartments: 32.0 INDIVIDUAL APARTMENTS - Plumbing



Clause	Affordable Rent	Shared Ownership
<b>32.0 General Requirements</b>	The whole of the plumbing works shall be executed in accordance with the requirements of the Local Water Authority, all relevant codes of practice, British Standards and all relevant bye-laws. All cocks, valves and fittings to be approved by the Employer.	The whole of the plumbing works shall be executed in accordance with the requirements of the Local Water Authority, all relevant codes of practice, British Standards and all relevant bye-laws. All cocks, valves and fittings to be approved by the Employer.
<b>Fittings</b>	All fixtures and fittings shall be of the current relevant British Standard quality. Any items not covered by a British Standard shall have an appropriate BBA Certificate. All pipework through walls and floors shall have sleeves and be suitably sealed if fire/sound criteria are relevant.	All fixtures and fittings shall be of the current relevant British Standard quality. Any items not covered by a British Standard shall have an appropriate BBA Certificate. All pipework through walls and floors shall have sleeves and be suitably sealed if fire/sound criteria are relevant.
<b>Isolating valves</b>	Isolating valves shall be fitted in an accessible position on the supply pipe to all individual outlets/appliances.	Isolating valves shall be fitted in an accessible position on the supply pipe to all individual outlets/appliances.
<b>Water meter</b>	Water meters shall be located in a cupboard on the ground floor (or on each floor) unless otherwise agreed with the Employer. Water meter store cupboards shall have leak detection facility.	Water meters shall be located in a cupboard on the ground floor (or on each floor) unless otherwise agreed with the Employer. Water meter store cupboards shall have leak detection facility.
<b>Pipework</b>	All pipework shall be appropriately sized and shall be fitted in strict accordance with the manufacturers' recommendations and relevant British Standards. All plastic pipework shall be Hep20 or Speedfit. All pipework shall be fully encased within wall voids, installation shall be as recommended by the manufacturers good practice guidance and pipework shall be terminated into an air tight termination box.  Pipework passing within a timber stud wall shall be trace marked with metallic tape. Pipework passing through a horizontal timber shall be protected by means of nailing plates and pipework shall be sleeved where passing through a stud wall. Pipework at heated towel rails shall protrude from the stud wall at the correct position in line with radiator valves and shall be copper, either painted or chrome plated. All pipework shall be installed and clipped in a manner that prevents nuisance noise from vibrating pipes. Any exposed pipework at point of connection to an outlet shall be copper, either painted or chrome plated and shall include an accessible isolation valve. To ensure the pipework and fittings have been installed correctly it is essential that the system is checked and hydraulically wet tested. Testing shall be carried out to manufacturers' recommendation. Test certificate shall be provided.	All pipework shall be appropriately sized and shall be fitted in strict accordance with the manufacturers' recommendations and relevant British Standards. All plastic pipework shall be Hep20 or Speedfit. All pipework shall be fully encased within wall voids, installation shall be as recommended by the manufacturers good practice guidance and pipework shall be terminated into an air tight termination box.  Pipework passing within a timber stud wall shall be trace marked with metallic tape. Pipework passing through a horizontal timber shall be protected by means of nailing plates and pipework shall be sleeved where passing through a stud wall. Pipework at heated towel rails shall protrude from the stud wall at the correct position in line with radiator valves and shall be copper, either painted or chrome plated. All pipework shall be installed and clipped in a manner that prevents nuisance noise from vibrating pipes. Any exposed pipework at point of connection to an outlet shall be copper, either painted or chrome plated and shall include an accessible isolation valve. To ensure the pipework and fittings have been installed correctly it is essential that the system is checked and hydraulically wet tested. Testing shall be carried out to manufacturers' recommendation. Test certificate shall be provided.
<b>32.3 Hot and Cold Water Installations</b>	All hot and cold water installations shall be installed in accordance with the Water Supply (Water Fittings) Regulations 1999 Defra, UK - Environmental protection - Water - Water Supply (Water Fittings) Regulations 1999. At the point of use, the water pressure shall be an adequate pressure for the purpose of the installation. It is the Contractors responsibility to ensure that sufficient pressure is achievable.  Hot water pipework and any pipework located in unheated parts of the building shall be fully insulated. Every pipe which carries domestic water shall be flushed out to remove debris etc. and chlorinated ready for use, in accordance with regulations. Underground or inaccessible pipework shall be capable of withstanding at least twice the normal working pressure. All other pipework and fittings shall be capable of withstanding one and a half times the normal working pressure. All completed installations shall be subject to a hydraulic test. Test certificate to be provided. Cold water to come from mains Surestop Switch Surestop switch not required. Note supported housing schemes shall be fitted with Surestop switch.	All hot and cold water installations shall be installed in accordance with the Water Supply (Water Fittings) Regulations 1999 Defra, UK - Environmental protection - Water - Water Supply (Water Fittings) Regulations 1999. At the point of use, the water pressure shall be an adequate pressure for the purpose of the installation. It is the Contractors responsibility to ensure that sufficient pressure is achievable.  Hot water pipework and any pipework located in unheated parts of the building shall be fully insulated. Every pipe which carries domestic water shall be flushed out to remove debris etc. and chlorinated ready for use, in accordance with regulations. Underground or inaccessible pipework shall be capable of withstanding at least twice the normal working pressure. All other pipework and fittings shall be capable of withstanding one and a half times the normal working pressure. All completed installations shall be subject to a hydraulic test. Test certificate to be provided. Cold water to come from mains Surestop switch not required. Note supported housing schemes shall be fitted with Surestop switch.

<p><b>32.4 Soil and Waste Pipes</b></p>	<p>Soil pipes and fittings shall be uPVC soil system or other approved in situations where plastic pipe is not acceptable. Soil and waste pipes shall be internal unless otherwise agreed with the Employer, with adequate rodding facility as appropriate to each length of pipework. Waste pipes and fittings shall be uPVC high temperature waste system or equal approved.</p> <p>Overflow pipes and fittings shall be uPVC overflow system. All joints to all systems shall be solvent welded with allowance for movement at base of stock and fixed points.</p>	<p>Soil pipes and fittings shall be uPVC soil system or other approved in situations where plastic pipe is not acceptable. Soil and waste pipes shall be internal unless otherwise agreed with the Employer, with adequate rodding facility as appropriate to each length of pipework. Waste pipes and fittings shall be uPVC high temperature waste system or equal approved.</p> <p>Overflow pipes and fittings shall be uPVC overflow system. All joints to all systems shall be solvent welded with allowance for movement at base of stock and fixed points.</p>
<p><b>32.4.1 Access for maintenance</b></p>	<p>Adequate and accessible rodding points shall be provided to all SVP's and shall meet all requirements of Building Regulations Part H.</p> <p>Note preference is for external rodding points.</p> <p>Access Points Access points shall be provided at all rodding points (if required) and durgo valves with either pre-formed access panels or fully removable boxing fixed with cup and screw fixings. Any pipe boxing containing a stub stack with durgo valve shall also be fitted with pre-formed white plastic soffit vent or similar approved.</p>	<p>Adequate and accessible rodding points shall be provided to all SVP's and shall meet all requirements of Building Regulations Part H.</p> <p>Note preference is for external rodding points.</p> <p>Access points shall be provided at all rodding points (if required) and durgo valves with either pre-formed access panels or fully removable boxing fixed with cup and screw fixings. Any pipe boxing containing a stub stack with durgo valve shall also be fitted with pre-formed white plastic soffit vent or similar approved.</p>
<p><b>32.4.2 Boxing-in of waste pipework</b></p>	<p>All bathroom waste pipework (unless concealed behind bath panel or pedestal), WC soil pipes and WC water supply pipework shall be boxed in with water resistant MDF and gloss painted.</p> <p>Soil pipes and waste pipes shall be boxed in and rockwool type insulation shall be used for sound proofing to comply with Building Regulation sound requirements. Where appropriate the colour of goods shall be agreed with the Employer.</p> <p><b>Boxing-in generally</b> The type and location of the boxing in of pipework shall be agreed with the Employer. All visible pipework shall be boxed in. Access panels shall be provided where required. All boxing shall be fixed with cup and screw fixings to allow full access to pipework.</p> <p>Wet Room pipe boxing See <a href="#">clause 33: Wet rooms</a></p>	<p>Timber boxing in of pipework shall be avoided.</p> <p>All pipework shall be concealed within the walls where possible to avoid unsightly pipe boxings. In ground floor WC, all basin waste pipes shall go directly into waste pipe floor socket, horizontal pipe boxing is not accepted.</p> <p>All bathroom waste pipework shall be concealed; generally wall behind basin &amp; WC shall be boxed in to window cill height, all boxed areas in bathrooms shall be tiled to match the walls unless otherwise agreed with the Employer. Soil pipes and waste pipes shall be boxed in and rockwool type insulation shall be used for sound proofing to comply with Building Regulation sound requirements. Where appropriate the colour of goods shall be agreed with the Employer.</p> <p>The type and location of the boxing in of pipework shall be agreed with the Employer. All visible pipework shall be boxed in. Access panels shall be provided where required. All pipe boxing shall have concealed fixings (i.e. not with cup and screw fixings as in AR spec) and shall be painted to match the walls (unless in a tiled area, see above).</p> <p>See <a href="#">clause 33: Wet rooms</a></p>
<p><b>32.5 Taps</b></p>	<p>Taps shall be fitted with restrictors to comply with the higher water usage requirements under building regulations part G of 110 litres per person per day, unless otherwise required.</p> <p>All taps shall be of all metal construction by Pegler or other equal and approved by the Employer, and shall be chrome plated with brass back nuts. All taps shall comply with BS 1010 and with any requirements of the Local Water Authority.</p> <p>Kitchen sink taps Kitchen sink taps shall be low flow deck mixer with lever taps.</p>  <p>Monobloc mixers are not acceptable.</p>	<p>Taps shall be fitted with restrictors to comply with the higher water usage requirements under building regulations part G of 110 litres per person per day, unless otherwise required.</p> <p>All taps shall be of all metal construction by Bristan or other equal approved, and shall be chrome plated with brass back nuts. All taps shall comply with BS 1010 and with any requirements of the Local Water Authority.</p> <p>Kitchen sink taps shall be Bristan, from the following ranges:</p> <ul style="list-style-type: none"> <li>• Bristan Cinnamon monobloc sink mixer tap,</li> <li>• Bristan Ruby monobloc sink mixer tap,</li> <li>• Bristan Pistachio monobloc sink mixer tap,</li> <li>• Bristan Vegas monobloc sink mixer tap,</li> <li>• or equal and approved by the Employer.</li> </ul>  

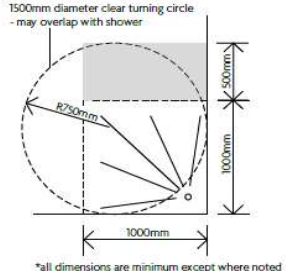


<p>Wash basin and bath taps</p>	<p>Wash hand basin and bath taps shall be Peglar lever taps, or equal and approved by the Employer.</p>		<p>Basin and bath taps shall match, from the following ranges:</p> <ul style="list-style-type: none"> <li>• Bristan Cobalt Mixer tap,</li> <li>• Bristan Quadrato Mixer tap,</li> <li>• Bristan Blitz Mixer tap,</li> <li>• or equal and approved by the Employer.</li> </ul>	
<p>32.6 Waste Outlets</p>	<p>All waste outlets shall be chromium plated brass plates with a brass backnut. Centre screwed wastes are not acceptable. All waste outlets shall be fitted with suitable chain and chrome plug. Traps to include anti vac system to prevent back syphonage of the water in the traps.  Pop up wastes are not acceptable.</p>		<p>Basin and bath wastes shall be chrome clicker or pop up waste. All waste outlets are to be chromium plated brass plates with a brass backnut. Traps to include anti vac system to prevent back syphonage of the water in the traps.</p>	
<p>32.7 Bathroom and Ground Floor WCs Generally</p> <p>Sealant</p> <p>Protection during Construction</p>	<p>All sanitary ware shall be pure white vitreous china and shall comply with BS 3402.</p> <p>All sanitary ware shall be silicone sealed appropriately and as per manufacturer's installation instructions. White mould resistant silicone sealant shall be used on all sanitary ware. Silicone beads shall be kept to minimal width, wide sealant joints are not acceptable at junctions with sanitary ware, flooring or wall tiling.</p> <p>All sanitary ware &amp; taps shall be adequately protected during construction to prevent damage, and shall be handed over in a clean condition - no tape/protective plastic/plaster/paint to be left on sanitary ware or taps.</p>		<p>All sanitary ware shall be pure white vitreous china and shall comply with BS 3402. Sanitary ware shall be from the approved manufacturers below:</p> <ul style="list-style-type: none"> <li>• Roca</li> <li>• Twyford</li> <li>• Armitage Shanks</li> <li>• Porcelanosa</li> </ul> <p>All sanitary ware shall be silicone sealed appropriately and as per manufacturer's installation instructions. Sealant colour shall be selected to match, white for sanitary ware, grey for grey wall tiles, etc. Silicone colour choice shall be approved by the Employer. Silicone beads shall be kept to minimal width, wide sealant joints are not acceptable at junctions with sanitary ware, flooring or wall tiling.</p> <p>All sanitary ware &amp; taps shall be adequately protected during construction to prevent damage, and shall be handed over in a clean condition - no tape/protective plastic/plaster/paint to be left on sanitary ware or taps.</p>	
<p>32.7.1 WC</p> <p>Wash basin</p> <p>Toilet</p> <p>The Contractor shall provide minimum of one tool for tightening the toilet seat per property. To be included in handover pack.</p>	<p>WC layouts (if applicable) shall allow space for; toilet and wash basin.</p> <p>Size of wash basins shall be agreed with the Employer prior to ordering.</p> <p>Toilet shall be Twyford or other equal approved (Armitage Shanks WCs are not permitted) close coupled dual flush WC complete with heavy duty seat and cover.</p>		<p>WC layouts (if applicable) shall allow space for; toilet and wash basin.</p> <p>Basin shall be wall hung with semi-pedestal or chrome waste and concealed pipework. Size of wash basin shall be appropriate for the room and layout, generally minimum width shall be 450mm. Size of wash basins shall be agreed with the Employer prior to ordering.</p> <p>Toilet shall be vitreous china close coupled dual flush WC from approved range. Seat shall be soft close.</p> <p>The Contractor shall provide minimum of one tool for tightening the toilet seat per property. To be included in handover pack.</p>	 <p>Twyford's basin</p> <p>Ideal Standard Concept Cube</p>

<p><b>32.7.2 Bathroom</b></p> <p>Tiling</p> <p>Bath</p> <p>Bath Panel</p> <p>Shower over bath</p> <p>Shower screen</p> <p>Shower Curtain</p> <p>Shower cubicle</p> <p>Wash basin</p> <p>Vanity unit</p> <p>Toilet</p>	<p>Generally bathroom layouts shall allow space for; toilet, wash basin, bath with shower over, or shower depending on the end user. See clause 26: <a href="#">Wall Tiling</a></p> <p>Bath shall be a pressed vitreous enamelled finished steel bath complying with BS 1390:1990 complete with 2 No. handgrips earthed to I.E.E Regulations, and with slip-resistant finish. Bath litre capacity to comply with the water usage requirements under building regulations (generally 110litres per person per day).</p> <p>Baths shall be filled with water and weighted down prior to final fixing and tiling, to ensure any later movement is prevented.</p> <p>Bath panel shall be 9mm water resistant MDF with lacquered facing and shall be colour compatible with the baths.</p> <p>Thermostatic shower over bath as per specification clause 32.8: <a href="#">Showers</a></p> <p>N/A</p> <p>See clause 24.0: <a href="#">Miscellaneous Fittings</a></p> <p>Shower cubicles (where required) shall comprise of a pivot or bi-fold cubicle and stone resin base as a minimum. Shower units shall comply with BS 6340.</p> <p>Size of wash basins shall be agreed with the Employer prior to ordering.</p> <p>N/A</p> <p>Toilet shall be Twyford's or other equal approved (Armitage Shanks WCs are not permitted) close coupled dual flush WC complete with heavy duty seat and cover.</p>		<p>Bathroom layouts shall allow space for; toilet, wall hung wash basin with vanity unit and bath with thermostatic shower over. See clause 26: <a href="#">Wall Tiling</a></p> <p>Minimum dimensions of bath shall be 1700mm x 700mm and shall be min. 370mm deep. The Contractor shall ensure that the dwelling complies with water efficiency requirements of current Building Regulations.</p> <p>Baths shall be filled with water and weighted down prior to final fixing and tiling, to ensure any later movement is prevented.</p> <p>Bath panel shall have straight, smooth (no pattern) profile with concealed fixings and shall be reinforced white plastic or mdf with gloss white finish. The Contractor shall provide a sample panel for approval by the Employer prior to ordering. The bath panel shall be sized correctly for the bath fitted; panels must not be cut down to fit unless specified by manufacturer.</p> <p>Thermostatic shower over bath as per specification clause 32.8: <a href="#">Showers</a> with glass shower screen shall be provided in all house types (including house types with en-suites and/or separate shower enclosure).</p> <p>Shower Screen - Contemporary safety glass shower screen to BS EN 14428 shall be fitted over bath. Minimum height of screen shall be 1400mm.</p> <p>N/A</p> <p>See clause 32.7.3: En-suite for shower cubicle specification.</p> <p>Size of wash basin shall be appropriate for the room and layout, generally minimum width shall be 550mm. Size of wash basins shall be agreed with the Employer prior to ordering.</p> <p>White or cashmere gloss vanity unit with one or two drawers, shall be fitted below the basin in the bathroom and en-suite. Sample shall be agreed with the Employer prior to ordering.</p> <p>Toilet shall be vitreous china close coupled dual flush WC from approved range. Seat shall be soft close.</p>	<p>Ideal Standard Concept bath</p>    <p>Ideal Standard Concept vanity unit</p> 
<p><b>32.7.3 En-suite</b></p> <p>Shower</p> <p>Shower cubicle</p> <p>Wash basin</p> <p>Vanity unit</p> <p>Toilet</p>	<p>Provision of en-suites is not required in rented properties unless otherwise agreed with the Employer.</p> <p>Where applicable, en-suite layouts shall allow space for; toilet, wash basin with vanity unit, and shower tray and enclosure with thermostatic shower (or electric shower subject to approval by the Employer).</p> <p>As per specification clause 32.8: <a href="#">Showers</a></p> <p>Shower cubicles shall comprise of a pivot or bi-fold cubicle and stone resin base as a minimum. Shower enclosure shall comply with BS EN 14428.</p> <p>Size of wash basin shall be appropriate for the room and layout. Size of wash basins shall be agreed with the Employer prior to ordering.</p> <p>N/A</p> <p>As per specification clause 32.7.2: <a href="#">Bathroom toilet</a>.</p>		<p>Provision of en-suites in Shared Ownership properties shall be agreed with the Employer. Generally the following shall be included: En-suites shall be provided in all properties with 3 bedrooms or more. En-suite provision in 2 bedroom properties shall be agreed with the Employer at design stage.</p> <p>En-suite layouts shall allow space for; toilet, wash basin with vanity unit, and shower tray and enclosure with thermostatic shower (or electric shower subject to approval by the Employer).</p> <p>As per specification clause 32.8: <a href="#">Showers</a>.</p> <p>Shower Cubicles shall comprise of pivot door (alternative style of door to be approved by the Employer prior to ordering) with chrome finish and clear glass. Shower tray shall be plain, low profile, acrylic capped stone resin shower tray. Shower enclosure shall comply with BS EN 14428.</p> <p>Size of wash basin shall be appropriate for the room and layout, generally minimum width shall be 500mm. Size of wash basins shall be agreed with the Employer prior to ordering.</p> <p>White or cashmere gloss vanity unit with one or two drawers, shall be fitted below the basin in the bathroom and en-suite. Sample shall be agreed with the Employer prior to ordering.</p> <p>As per specification clause 32.7.2: <a href="#">Bathroom toilet</a>.</p>	

<p><b>32.7.4 Wet Rooms</b></p>	<p>See clause <a href="#">33: Wet rooms</a></p>	<p>See clause <a href="#">33: Wet rooms</a></p>		
<p><b>32.8 Showers</b></p>	<p>Electric (see clause <a href="#">29: Electrical</a>) or Thermostatically controlled mixer showers with chrome plated finish shall be provided in all bathrooms over the bath. Shower shall include the following:</p> <ul style="list-style-type: none"> <li>• Separate temperature and flow controls.</li> <li>• Controls with a small lever are preferred, to enable people with poor grip easier use of the controls.</li> <li>• Adjustable slide bar and shower head in chrome finish.</li> <li>• Minimum 5 year guarantee.</li> </ul> <p>The Contractor shall provide a product sample or product catalogue information for approval by the Employer prior to ordering. Showers supplied via mixer taps are not acceptable. Shower units shall comply with BS 6340. For all showers (electric or thermostatic) installed in a shower enclosure, the shower unit and head shall be installed on the wall adjacent to the shower door, not on the wall opposite the door.</p>		<p>Electric (see clause <a href="#">29: Electrical</a>) or Thermostatically controlled mixer showers with chrome plated finish shall be provided in all bathrooms over the bath (even if there is a separate shower enclosure) and to all en-suites. Shower shall be Bristan Frenzy thermostatic bar shower with multi-function handset, or equal and approved by the Employer.</p> <p>The Contractor shall provide a product sample or product catalogue information for approval by the Employer prior to ordering. Showers supplied via mixer taps are not acceptable. Shower units shall comply with BS 6340. For all showers (electric or thermostatic) installed in a shower enclosure, the shower unit and head shall be installed on the wall adjacent to the shower door, not on the wall opposite the door.</p>	<p>Bristan Frenzy thermostatic shower</p> 
<p><b>32.9 Plumbing for Kitchen/ Utility Room Appliances</b></p>	<p>Each dwelling shall be installed with a cold water supply pipe to the washing machine and dishwasher positions complete with washing machine hose connections (with protective caps to prevent accidental discharge) to meet the water regulations and UU prevention of dead leg runs.</p> <p>Each dwelling shall be installed with waste pipework incorporating accessible rodding eye to the washing machine and dishwasher positions. Provision shall be made for appliance waste discharge where an appliance is not next to the sink waste pipework. Holes (75mm diameter) shall be drilled into the side of sink base unit to allow access for waste, and cold water supply pipework as necessary.</p>	<p>Each dwelling shall be installed with a cold water supply pipe to the washing machine and dishwasher positions complete with washing machine hose connections (with protective caps to prevent accidental discharge) to meet the water regulations and UU prevention of dead leg runs.</p> <p>Each dwelling shall be installed with waste pipework incorporating accessible rodding eye to the washing machine and dishwasher positions. Provision shall be made for appliance waste discharge where an appliance is not next to the sink waste pipework. Holes (75mm diameter) shall be drilled into the side of sink base unit to allow access for waste, and cold water supply pipework as necessary.</p>		

**ER Version 18 - Apartments: 33.0 INDIVIDUAL APARTMENTS - Wet Rooms**

Clause	Affordable Rent	Shared Ownership
<b>33.0 Wet Rooms</b>	<p>All ground floor apartments shall include a wet room with level access shower (baths are not required).</p> <p>Note this specification is not for building regulations Part M4 (2) or M4 (3) wheelchair accessible or wheelchair user dwellings.</p>	<p>The inclusion and design of wet rooms in Shared Ownership ground floor apartments and bungalows shall be agreed with the Employer at design stage. If wet rooms are included in Shared Ownership plots then the following specification shall be used:</p> <p>Note this specification is not for building regulations Part M4 (2) or M4 (3) wheelchair accessible or wheelchair user dwellings.</p>
Design	<p>Wet rooms shall be designed and constructed with tanking and drainage laid to fall to a connected gully capable of draining the floor area when used as a shower.</p> <p>The Contractor shall provide tanking detail design drawings and specification for review and subsequent approval by the Employer.</p>	N/A
Fittings & materials	<p>All fixtures, materials and floorings shall be suitable for use in a wet room.</p>	N/A
Drawings	<p>The Contractor shall provide wet room design / construction drawings for review and subsequent approval by the Employer.</p>	<p>The Contractor shall provide wet room design / construction drawings for review and subsequent approval by the Employer.</p>
<b>33.1 Shower Area</b>		
Shower tray/former	<p>Level access shower area shall be formed from a compressed GRP tray former or equal and approved alternative, sample to be approved by the Employer.</p>	<p>1200 x 900mm low profile acrylic capped stone resin shower tray with anti slip finish.</p>
Shower drainage	<p>Drains shall be specifically designed for use with sheet vinyl in wet rooms and sized to allow adequate flow rate of drainage from the shower area, drain/gully to be approved by the Employer.</p>	<p>Shower tray waste shall have chrome finish. Waste cover/flange shall be easily removeable to enable cleaning.</p>
Shower area size	<p>Shower area shall be a minimum size of 1000 x 1000mm unless otherwise agreed with the Employer. It is preferable that the shower area dimensions meet the requirements set out in Part M (2) accessible and adaptable dwellings, see diagram.</p>	<p>Minimum 1200 x 900mm shower tray.</p>
Part M (2) dimensions		
Shower screen	<p>Glass fixed shower screen or enclosure with sliding door.</p>	<p>Glass fixed shower screen or enclosure with sliding door.</p>

<p><b>33.2 Walls</b> Internal walls</p>	<p>Provide additional noggins at 450 centres and 18mm WBP plywood facing in partitions to all bathrooms to accommodate future handrails and other fittings (as per clause 7.1). All walls, ducts and boxings shall be strong enough to support grab rails and other adaptations that could impose a load of 1.5kN/m<sup>2</sup>.</p>	<p>Provide additional noggins at 450 centres and 18mm WBP plywood facing in partitions to all bathrooms to accommodate future handrails and other fittings (as per clause 7.1). All walls, ducts and boxings shall be strong enough to support grab rails and other adaptations that could impose a load of 1.5kN/m<sup>2</sup>.</p>
<p><b>33.3 Wall tiling</b></p>	<p>The Contractor shall provide a tiling layout contract drawing for approval by the Employer.</p>	<p>The Contractor shall provide a tiling layout contract drawing for approval by the Employer.</p>
<p>Wall tiling areas</p>	<p>Wall tiling shall extend to full height to all walls in the shower area and shall extend 3 full tiles past the shower curtain. All pipe boxings shall be fully tiled, generally boxing /wall tiling shall extend to window cill height / half height behind sanitary ware, allowing for boxing in of waste pipes. All other aspects of wall tiling specification shall be as per clause <a href="#">26: Wall tiling</a>.</p>	<p>See clause <a href="#">26: Wall tiling</a>.</p>
<p><b>33.4 Sanitary Ware</b></p>	<p>See also clause <a href="#">32: Plumbing</a> for all sanitary ware requirements not specified below.</p>	<p>See clause <a href="#">32: Plumbing</a></p>
<p>Wash Basin</p>	<p>Wash Basin shall have semi-pedestal.</p>	
<p><b>33.5 Pipe Boxing</b></p>	<p>No timber/MDF shall be installed at floor level  Boxing for WC and wash basin waste shall be formed from moisture resistant plaster board and fully tiled, see also <a href="#">26: Wall tiling</a>.</p>	<p>All pipework shall be concealed within the walls where possible to avoid unsightly pipe boxings.</p>
<p><b>33.6 Vinyl flooring</b></p>	<p>Vinyl floor shall be Polysafe Hydro (or equal and approved by the Employer). Vinyl floor shall be installed to the manufacturer's installation instructions using manufacturer's approved adhesive.</p>	<p>See clause <a href="#">27: Floor Coverings</a>.</p>
<p><b>33.7 Skirting</b></p>	<p>No timber/MDF skirting shall be used at floor level. Vinyl shall have appropriate floor to wall finish to ensure a water tight joint. Flooring shall be site coved to wall using cove formers and capping strips, or to manufacturer's specification.</p>	<p>See clause <a href="#">23: Skirting and Architrave</a>.</p>

**ER Version 18 - Apartments: 34.0 INDIVIDUAL APARTMENTS - Painting**

<b>Clause</b>	<b>Affordable Rent and Shared Ownership</b>	
<b>34.0</b>	<b>Painting and Decorating</b>	All paint work shall be carried out to manufacturer's recommendations.
<b>34.1</b>	<b>Interior Decorations</b>	
	<b>Internal walls and ceilings</b>	Prepare and apply one mist coat and two full coats matt emulsion paint on all plastered walls and ceilings to all rooms. Timber bases in stores shall be painted white.
	Paint	Paint shall be Dulux or Crown. Walls and ceilings shall be white contract matt emulsion.
	Specific requirements	Kitchens, bathrooms, wet rooms and WCs shall have additional fungicidal additive. Where taped joints are used a high performance primer sealer shall be used.
<b>34.2</b>	<b>Internal woodwork</b>	All internal exposed woodwork shall be finished in white gloss, with the exception of: <ul style="list-style-type: none"> <li>• Pipework ducts, which shall be painted out to match wall colours.</li> <li>• Stair handrails, which shall be finished in either white gloss or wood stain, finish shall be agreed with the Employer.</li> </ul> Any stain coating shall have 1 complete coat of base stain before fixing and at least 2 full coats to provide full, even colour.
<b>34.3</b>	<b>Floors</b>	All concrete and screeded floor areas shall be painted with a light grey floor paint.
<b>34.4</b>	<b>Pipework</b>	Copper pipework shall be painted white where visible. Pipework visible in stores or cupboards shall be painted grey/silver, or shall be left clean & free of any paint residue.
<b>34.5</b>	<b>Exterior Decorations</b>	See clause <a href="#">18: Communal Areas - Externals</a>

**ER Version 18: ADDENDUM C: Specification for Trees & Tree Planting**





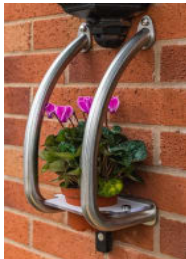
<b>Addendum C</b>		<b>Affordable Rent and Shared Ownership</b>
<b>C 1.0 Site Constraints</b>		
C 1.1	Underground Services	The Contractor shall obtain and consult utilities plans and carry out CAT scan before commencing excavations. Location, depth, diameter and nature of pipes or ducts found are to be recorded and reported to the Employer/Landscape Architect to allow inspection before backfilling the trial pit or proceeding with tree planting.
C 1.2	Aerial Services	Do not plant trees where they may foul overhead lines and cables, block windows, road signs, or interfere with street lighting or CCTV cameras.
C 1.3	Existing Tees	Avoid planting near existing trees in gardens and footpaths.
C 1.4	Road Junctions	The Contractor shall consult the Highways Department if a tree location may impair sight lines on the approach to a junction or turning.
<b>C 2.0 Pit Excavation / Construction</b>		
C 2.1	Pit size for Heavy Standard & Semi-Mature rootball trees	<p>Pits shall be a minimum 300mm wider than the width of the rootball. Machinery suitable for the site conditions shall be used, hand tools should be used where it is impractical to use machinery.</p> <p>Minimum depth of topsoil shall be 900mm, the depth of the pit should be sufficient to accommodate the rootball and to obtain the correct planting depth.</p> <p>Break up the base of the pit to 150mm deep and scarify the sides of the pit with a fork to get rid of any 'polishing'.</p>
C 2.2	Drainage	Lay minimum 100mm depth of clean stone, 20mm nominal size, over the base of newly excavated pits to allow surplus water to drain away from the rooting zone, ensure that pit base is broken up first.
<b>C 3.0 Tree Stock and Topsoil</b>		
C 3.1	General Requirements	<p>Condition Trees shall be delivered in an undamaged, sturdy, healthy condition.</p> <p>Appearance Trees shall be of good shape without elongated shoots.</p> <p>Hardiness Trees shall be grown in a suitable environment and hardened off.</p> <p>Health Trees shall be free from pests, diseases, discolouration, weeds and physiological disorders.</p> <p>Root System and Condition Root system shall comply with relevant parts of BS 3936 and balanced with branch system.</p> <p>Species Trees shall be true to name and as specified.</p> <p>Origin/Provenance Trees shall be as specified on the agreed landscape drawing and as per the meaning given in the National Plant Specification.</p> <p>Suppliers The supplier shall be members of The Horticultural Trades Association Nursery Certification Scheme and approved by the Landscape Architect and/or the Employer.</p>
C 3.2	Delivery, Handling and Storage	<p>Delivery, handling and storage shall all be in accordance with BS 4043:1989.</p> <p>The Contractor shall ensure that trees are stored and carried in such a way that the stem and branches are not damaged. The rootball shall be protected from frost and wind during transportation and storage.</p> <p>Trees damaged by mishandling during lifting, packaging, delivery and storage will be rejected.</p>
C 3.3	Imported Topsoil	<p>Imported topsoil shall meet all requirements set out in section 23 of the Employers Requirements.</p> <p>Topsoil shall be of premium quality, with a light texture, dry/friable and weed free, conforming to BS 3882 'General Purpose Category'. Topsoil contaminated with subsoil, rubbish or other materials that are hazardous or detrimental to plant growth is not acceptable.</p>

<b>C 4.0</b>	<b>Tree Planting Operation and Accessories</b>	
C 4.1	Planting Depth	The natural thickening between the trunk and the root collar shall be at the finished top surface of the planting medium.
C 4.2	Planting and Backfilling	Plant trees upright and vertical, leaning trees are not acceptable. Trees planted in a pit shall, unless otherwise instructed, be planted in the centre of the pit. Backfill around the rootball with specified material in 150mm layers, treading lightly to compact each layer.  Ensure that any underground guying system is installed prior to completing backfilling.
C 4.3	Weldmesh Tree Guards	Trees in vulnerable or public areas shall be fitted with Greencoat tree guards by Greenleaf Ltd 1800mm high x 600mm diameter, or similar approved green PVC coated galvanised steel weldmesh 3" x 1" x 12 gauge, to be fixed to wooden stakes using 40mm long u-staples at min. 300mm centres.  If guards are cut to fit ensure that the exposed cut ends and any sharp edges are filed off or folded back in to avoid risk to pedestrians.
C 4.4	Staking and Tying	
	Stakes	Stakes shall be 75mm diameter by 2.4m long or as indicated on the landscape drawings, round and planed softwood. Stakes shall be pressure treated with Alkaline Copper Quaternary (ACQ), peeled chestnut, larch or oak, free from projections and large edge knots and with pointed lower end. Cut off stakes just below lowest branch or top of guard if present.
	Ties	Trees shall be firmly but not rigidly secured to stake with at least two nylon reinforced belts fixed to stake with 40mm U fencing staples at approx. 1600mm height, overlapped by belt to deter tampering.
C 4.5	Mulching	All mulch shall be organic composting bark mulch, medium coarse grade (nominal particle size 5-50mm) weed and pest free, suitable for professional landscaping applications. Mulch shall be laid to a minimum 100mm depth around the trunk, flush or slightly below surrounding ground level. Avoid mounding mulch up around the trunk. Colour shall be brown or gold.
C 4.6	Watering	Watering shall be provided immediately for watering-in following planting, at 25 litres per tree.
<b>C 5.0</b>	<b>Aftercare and Maintenance</b>	
C 5.1	Planting Maintenance in Public Areas	During the 12 months Defects Liability Period, and 3 year maintenance period where applicable, the Contractor shall carry out the following operations:  Make visits at approximately monthly intervals during the growing season and as necessary to fulfil the requirements of this specification. During the maintenance visits, the Contractor shall carry out the following checks: · Check condition of stakes, ties, guys and guards. · Replace broken or missing items and adjust ties if necessary to prevent rubbing of bark. · Check stability of trees. Trees that are supported by underground guys should be checked for stability, if necessary the wires will need to be exposed and tightened. · Cut back any damaged bark to a clean healthy area. · Trees in grass must be kept clear of grass and weed growth over an area of 1m diameter for trees up to 30cm diameter girth. This shall be done by hand during the first year after planting or by approved herbicides during subsequent years. · Prune trees to remove dead or dying and diseased wood and suckers and to promote healthy growth and natural shape. Pruning shall take place between November and the end of February or early July to August. Vandalised, ripped and hanging branches shall be removed immediately, whatever the time of year.  · Remove timber stakes and guards 3 years after planting and/or when the tree is showing signs of strong growth.
C 5.2	Watering	During the establishment period the Contractor shall provide watering as necessary. Suggested watering; 90 litres of water per tree at fortnightly intervals between May and September unless weather conditions dictate otherwise. Once during the maintenance period, in March or April, apply liquid fertiliser to each tree, in accordance with the manufacturer's instructions.



- C 5.3 Failures of Planting The Contractor shall be responsible for the successful establishment of all tree planting during the 12 months Defect Liability Period and will be required to carry out tree replacements in the following circumstances:
- Any trees which are dead, dying or otherwise defective at the end of the DLP. Trees shall be replaced with approved equivalent tree at the next suitable planting season unless otherwise instructed. This will not apply if the defects are caused by malicious damage after Practical Completion, unless otherwise stated in the contract.
  - All trees will be assessed for growth throughout the DLP and at the end of the growing season (Sept/Oct) within the DLP. If the trees are dead, making insufficient growth or showing crown die-back, or have a percentage of dormant buds over and above that which could reasonably be expected, then they shall be replaced by the Contractor in accordance with the relevant specifications.
  - If it becomes necessary to replace a tree or trees, the Contractor shall be responsible for the protection of surrounding paved or grass areas, and for lifting and reinstating any tree guards or grilles if fitted.
- C 5.4 Evidence The Contractor shall provide dated photographic evidence of all agreed works specified above.

## ER Version 18: ADDENDUM E: Accessibility Specification

Addendum E		Affordable Rent & Shared Ownership	Example Images
E1.0	<b>Grab rails &amp; Handrails</b>	All ground floor apartments, cottage flats, bungalows and adapted housing shall have the following fittings for accessibility: Fittings shall be 'Invisible Creations' or equal and approved by the Employer.	
E1.1	Bathroom	Shower riser grab rail, note it is the Contractor's responsibility to ensure the shower rail is compatible with the shower.  Shower shelf grab rail  Mirror grab rail  Raised toilet flush, note it is the Contractor's responsibility to ensure the flush button is compatible with the toilet.  Toilet roll holder grab rail	   
E1.2	Front Door	Front door grab rail - for properties with an external front door only (not required in to internal front doors on apartments).	
E1.3	Communal Handrails	Contractor shall provide additional handrails in communal corridors, locations to be agreed with the Employer.	
E2	<b>Power Assisted Doors</b>	All apartment block entrance doors, communal corridor doors and apartment entrance doors shall be power assisted.	
E3	<b>Scooter Storage</b>	Scooter storage area shall be provided. Details to be agreed with the Employer. Scooter charging facility shall be provided, fire risk assessment to be provided. Corner protection shall be provided to walls at scooter storage areas and to access corridors to scooter storage areas.	
E4	<b>Parking spaces</b>	Parking spaces shall be designed as disabled parking spaces, minimum width 3.6m, minimum length 6m	
E5	<b>Level Access</b>	All entrances (front and rear doors) shall have level access with accessible thresholds (as described in part M).	
E6	<b>TMV's</b>	Thermostatic Mixing Valves shall be included on all hot water outlets (not just the bath).	

## ER Version 18: ADDENDUM F: Fire Specification - Alarms and Detection

Addendum F		Affordable Rent and Shared Ownership	
<b>F1</b>	<b>System Types</b>	The following system types shall be installed depending on building type/use, see sections <a href="#">F1.1</a> - <a href="#">F1.6</a>	
<b>F1.1</b>	<b>Retirement Housing Inc Extra Care Locations (Timber Frame and/or Externally Clad – Higher Risk)</b>	<b>Dwellings *BS 5839-6:2019</b>	<b>Communal *BS 5839-1:2017</b>
		<b>Grade D1 / Category LD1</b> <ul style="list-style-type: none"> <li>Smoke detector in dwelling lobby.</li> <li>Smoke detector in dwelling living room.</li> <li>Smoke detector in dwelling bedrooms.</li> <li>Smoke detector in store rooms and cupboards.</li> <li>Heat detector in kitchen.</li> <li>Multi sensor (Heat/Smoke) detector should be installed in living room at close proximity of the kitchen if the dwelling has an open plan kitchen/lounge instead of the heat alarm in the kitchen. <ul style="list-style-type: none"> <li>All smoke and heat alarms need to be interlinked within the dwelling.</li> </ul> </li> <li>Detectors to be linked to the Category L2 Grade A System.</li> <li>Low-level wall mounted test and hush switches connected to local automatic fire detection system.</li> <li>No detection installed to bathrooms or WC.</li> </ul>	<b>Category L1 Grade A</b> <ul style="list-style-type: none"> <li>Full Coverage including cupboards greater than 1m<sup>2</sup> and void spaces of 800mm and above.</li> <li>Smoke detectors must be installed to all communal areas: corridors, stairways, lounges. <ul style="list-style-type: none"> <li>Additional detection added near window frames</li> </ul> </li> <li>Smoke detectors must be installed to all offices, gyms, activity rooms, hair salons, games rooms.</li> <li>Smoke detectors must be installed to all lift shafts, electric meter cupboards, cleaners' cupboards.</li> <li>Heat detectors must be installed to all plant rooms.</li> <li>Heat detectors must be installed to all commercial / communal kitchens and kitchenettes.</li> <li>Multi-sensor (Heat/Smoke) must be installed to laundry room.</li> <li>No detection installed to any communal bathrooms or WC.</li> <li>Fire alarm control panels for the communal System should be addressable, giving an exact location description of the activation with an adequate and accurate zone plan fitted next to the control panel.</li> <li>Repeater panel should be installed to larger sites at an alternative entrance point, where there is more than one main entrance showing the state of the fire panel at the main entrance area.</li> <li>System to be linked to the ARC (Remote Monitoring) system and Cause and Effects written to alert site office/staff (pre-alert)</li> <li>System to have option of fire service control to aid with phased or full evacuation</li> </ul>
<b>F1.2</b>	<b>Retirement Housing Inc Extra Care Locations (Traditional Build and no External Cladding – Lower Risk)</b>	<b>Dwellings *BS 5839-6:2019</b>	<b>Communal *BS 5839-1:2017</b>
		<b>Grade D1 / Category LD2</b> <ul style="list-style-type: none"> <li>Smoke detector in dwelling lobby.</li> <li>Smoke detector in dwelling living room.</li> <li>Heat detector in kitchen.</li> <li>Multi sensor (Heat/Smoke) detector should be installed in living room at close proximity of the kitchen if the dwelling has an open plan kitchen/lounge instead of the heat alarm in the kitchen. <ul style="list-style-type: none"> <li>All smoke and heat alarms need to be interlinked within the dwelling.</li> </ul> </li> <li>Detectors to be linked to the Category L2 Grade A System.</li> <li>Low-level wall mounted test and hush switches connected to local automatic fire detection system.</li> <li>No detection installed to bathrooms or WC.</li> </ul>	<b>Category L1 Grade A</b> <ul style="list-style-type: none"> <li>Full Coverage including cupboards greater than 1m<sup>2</sup> and void spaces of 800mm and above.</li> <li>Smoke detectors must be installed to all communal areas: corridors, stairways, lounges. <ul style="list-style-type: none"> <li>Smoke detectors must be installed to all offices, gyms, activity rooms, hair salons, games rooms.</li> </ul> </li> <li>Smoke detectors must be installed to all lift shafts, electric meter cupboards, cleaners' cupboards.</li> <li>Heat detectors must be installed to all plant rooms.</li> <li>Heat detectors must be installed to all commercial / communal kitchens and kitchenettes.</li> <li>Multi-sensor (Heat/Smoke) must be installed to laundry room.</li> <li>No detection installed to any communal bathrooms or WC.</li> <li>Fire alarm control panels for the communal System should be addressable, giving an exact location description of the activation with an adequate and accurate zone plan fitted next to the control panel.</li> <li>Repeater panel should be installed to larger sites at an alternative entrance point, where there is more than one main entrance showing the state of the fire panel at the main entrance area.</li> <li>System to be linked to the ARC (Remote Monitoring) system and Cause and Effects written to alert site office/staff (pre-alert)</li> <li>System to have option of fire service control to aid with phased or full evacuation</li> </ul>

<p><b>F1.3</b></p>	<p><b>Care Homes</b></p>	<p><b>Dwellings *BS 5839-6:2019</b></p> <ul style="list-style-type: none"> <li>No dwelling detection required in rooms the communal L1 system to provide</li> </ul>	<p><b>Communal *BS 5839-1:2017</b></p> <p><b>Category L1 Grade A</b></p> <ul style="list-style-type: none"> <li>Full Coverage including cupboards greater than 1m<sup>2</sup> and void spaces of 800mm and above.</li> <li>Smoke detectors must be installed to all communal areas: corridors, stairways, lounges.</li> <li>Smoke detectors must be installed to all offices, gyms, activity rooms, hair salons, games rooms.</li> <li>Smoke detectors must be installed to all lift shafts, electric meter cupboards, cleaners' cupboards.</li> <li>Heat detectors must be installed to all plant rooms.</li> <li>Heat detectors must be installed to all commercial / communal kitchens and kitchenettes.</li> <li>Multi-sensor (Heat/Smoke) must be installed to laundry room.</li> <li>No detection installed to any communal bathrooms or WC.</li> <li>Fire alarm control panels for the communal System should be addressable, giving an exact location description of the activation with an adequate and accurate zone plan fitted next to the control panel.</li> <li>Repeater panel should be installed to larger sites at an alternative entrance point, where there is more than one main entrance showing the state of the fire panel at the main entrance area.</li> <li>Communal system extends into all resident rooms providing the full cover.</li> <li>System to be linked to the ARC (Remote Monitoring) system and Cause and Effects written to alert site office/staff (pre-alert)</li> <li>System to have option of fire service control to aid with phased or full evacuation</li> </ul>
<p><b>F1.4</b></p>	<p><b>General Needs (Timber Frame and/or Externally Clad – Higher Risk)</b></p>	<p><b>Dwellings *BS 5839-6:2019</b></p> <p><b>Grade D1 / Category LD1</b></p> <ul style="list-style-type: none"> <li>Smoke detector in dwelling lobby.</li> <li>Smoke detector in dwelling living room.</li> <li>Smoke detector in dwelling bedrooms.</li> <li>Smoke detector in store rooms and cupboards.</li> <li>Heat detector in kitchen.</li> <li>Multi sensor (Heat/Smoke) detector should be installed in living room at close proximity of the kitchen if the dwelling has an open plan kitchen/lounge instead of the heat alarm in the kitchen.</li> <li>All smoke and heat alarms need to be interlinked within the dwelling.</li> <li>Detectors to be linked to the Category L2 Grade A System.</li> <li>Low-level wall mounted test and hush switches connected to local automatic fire detection system.</li> <li>No detection installed to bathrooms or WC.</li> </ul>	<p><b>Communal *BS 5839-1:2017</b></p> <p><b>Category L1 Grade A</b></p> <ul style="list-style-type: none"> <li>Full Coverage including cupboards greater than 1m<sup>2</sup> and void spaces of 800mm and above.</li> <li>Smoke detectors must be installed to all communal areas: corridors, stairways, lounges.</li> <li>Additional detection added near window frames</li> <li>Smoke detectors must be installed to all offices, gyms, activity rooms, hair salons, games rooms. (if applicable)</li> <li>Smoke detectors must be installed to all lift shafts, electric meter cupboards, cleaners' cupboards.</li> <li>Heat detectors must be installed to all plant rooms.</li> <li>Heat detectors must be installed to all commercial / communal kitchens and kitchenettes.</li> <li>Multi-sensor (Heat/Smoke) must be installed to laundry room.</li> <li>No detection installed to any communal bathrooms or WC.</li> <li>Fire alarm control panels for the communal System should be addressable, giving an exact location description of the activation with an adequate and accurate zone plan fitted next to the control panel.</li> <li>Repeater panel should be installed to larger sites at an alternative entrance point, where there is more than one main entrance showing the state of the fire panel at the main entrance area.</li> <li>System to be linked to the ARC (Remote Monitoring) system and Cause and Effects written to alert site office/staff (pre-alert)</li> <li>System to have option of fire service control to aid with phased or full evacuation</li> </ul>

F1.5	<p><b>General Needs (Purpose Built Block of Flats)</b></p> <p><b>Dwellings *BS 5839-6:2019</b></p> <p><b>Grade D1, LD2 with upgrades</b></p> <ul style="list-style-type: none"> <li>Smoke detector in dwelling lobby.</li> <li>Smoke detector in dwelling living room.</li> <li>Smoke detector in all dwelling bedrooms.</li> <li>Heat detector in kitchen.</li> <li>Multi sensor (Heat/Smoke) detector should be installed in living room at close proximity of the kitchen if the dwelling has an open plan kitchen/lounge instead of the heat alarm in the kitchen.</li> <li>All smoke and heat alarms need to be interlinked within the dwelling.</li> <li>Low-level wall mounted test and hush switches connected to LD2 detection system.</li> <li>No detection installed to bathrooms or WC.</li> </ul>	<p><b>Communal *BS 5839-1:2017</b></p> <p><b>Category L2 Grade A</b></p> <ul style="list-style-type: none"> <li>Smoke detectors must be installed to all communal areas: corridors, stairways, and shared spaces</li> <li>Smoke detectors must be installed to all offices, gyms, activity rooms, hair salons, games rooms. (if applicable)</li> <li>Smoke detectors must be installed to all lift shafts, electric meter cupboards, cleaners' cupboards.</li> <li>Heat detectors must be installed to all plant rooms.</li> <li>Multi-sensor (Heat/Smoke) must be installed to laundry room.</li> <li>No detection installed to any communal bathrooms or WC.</li> <li>Communal system extends into all flat lobbies with a single multi-sensor (Heat/Smoke) detector.</li> <li>Communal system includes all leaseholder flats without exception.</li> <li>Fire alarm control panels for the communal System should be addressable, giving an exact location description of the activation with an adequate and accurate zone plan fitted next to the control panel.</li> <li>Repeater panel should be installed to larger sites at an alternative entrance point, where there is more than one main entrance showing the state of the fire panel at the main entrance area.</li> <li>System to be linked to the ARC (Remote Monitoring) system</li> <li>System to be silent with option of fire service control to aid with phased or full evacuation</li> </ul>
F1.6	<p><b>General Needs – Simultaneous Evacuation (Non-Purpose Built Block of Flats)</b></p> <p><b>Dwellings *BS 5839-6:2019</b></p> <p><b>Grade D1, LD2</b></p> <ul style="list-style-type: none"> <li>Smoke detector in dwelling lobby.</li> <li>Smoke detector in dwelling living room.</li> <li>Heat detector in kitchen.</li> <li>Multi sensor (Heat/Smoke) detector should be installed in living room at close proximity of the kitchen if the dwelling has an open plan kitchen/lounge instead of the heat alarm in the kitchen.</li> <li>All smoke and heat alarms need to be interlinked within the dwelling.</li> <li>Low-level wall mounted test and hush switches connected to LD2 detection system.</li> <li>No detection installed to bedrooms, bathrooms or WC.</li> </ul>	<p><b>Communal *BS 5839-1:2017</b></p> <p><b>Category L2</b></p> <ul style="list-style-type: none"> <li>Smoke detectors must be installed to all communal areas: corridors, stairways, and shared spaces</li> <li>Smoke detectors must be installed to all offices, gyms, activity rooms, hair salons, games rooms. (if applicable)</li> <li>Smoke detectors must be installed to all lift shafts, electric meter cupboards, cleaners' cupboards.</li> <li>Heat detectors must be installed to all plant rooms.</li> <li>Multi-sensor (Heat/Smoke) must be installed to laundry room.</li> <li>No detection installed to any communal bathrooms or WC.</li> <li>Communal system extends into all flat lobbies with a single multi-sensor (Heat/Smoke) detector and sounder.</li> <li>Communal system includes all leaseholder flats without exception.</li> <li>Fire alarm control panels for the communal System should be addressable, giving an exact location description of the activation with an adequate and accurate zone plan fitted next to the control panel.</li> <li>Repeater panel should be installed to larger sites at an alternative entrance point, where there is more than one main entrance showing the state of the fire panel at the main entrance area.</li> <li>System to be linked to the ARC (Remote Monitoring) system</li> </ul>

<b>F2</b>	<b>Equipment</b>	<p>All Grade A Category LD1 and LD2 systems should be based on a Protec 6500 Series Panel. The fire alarm system will be based on the Protec 6000plus protocol smoke detectors and field devices.</p> <p>All Grade D1 Category LD1 and LD2 systems should be based on the Aico 3000 series and in some cases will require the use of an Aico system interface.</p>
<b>F3</b>	<b>System Interfacing</b>	As with many purpose built blocks of flats, additional systems are installed that either operate as part of the fire protection system directly or are required to operate a specific way in the event of a fire to reduce fire spread and decrease risk of injury or fatalities.
<b>F4</b>	<b>Drawings</b>	On completion of every project. Great Places will require a physical zone chart placing alongside the fire panel. In addition we require the same in
<b>F5</b>	<b>System Definitions</b>	
<b>F5.1</b>	<b>Category LD1</b>	A system installed throughout the self-contained flat, incorporating detectors in all circulation areas that form part of the escape routes from the premises, and in all rooms and areas, other than those with negligible sources of ignition, such as toilets, bathrooms and shower rooms.
<b>F5.2</b>	<b>Category LD2</b>	A system installed throughout the self-contained flat, incorporating detectors in all circulation areas that form part of the escape routes from the premises.
<b>F5.3</b>	<b>Grade A Category L Systems</b>	<p>A fire detection and alarm system which incorporates control indicating equipment (CIE) in the form of a main control panel. It is expected that the following are included:</p> <p>A Grade A system can be installed with some very minor exceptions to the standards detailed in BS 5839-1:2017. These are the responsibility of the chosen designer/installer and any minor exceptions must be relayed to Great Places Housing Association for authorisation. With exceptions in place, the fundamental compliance with British Standards must remain.</p> <p>The following are expected to be included as part of all Grade A Category L System:</p> <ul style="list-style-type: none"> <li>•Manual call points to Clause 18.1b, d, e, f, g &amp; h</li> <li>•Spacing and siting of detectors to BS 5839-1 Clause 22</li> <li>•Multi-sensor detectors combining smoke, carbon monoxide, and heat sensors to BS EN 54-31</li> <li>•Enhanced fire resisting cables to BS EN 50200 (120 minute survival)</li> </ul> <p>Conduit systems classified as non flame propagating to BS EN 6138 Conduits sometimes need a certain number of conduits to provide the 'tailored assistance' required for sheltered housing schemes.</p> <p>Additionally, transmission to the ARC from the individual flat systems should also be considered, resulting in a mixed system being installed.</p> <p>N.B. BS 7671:2018 18th Edition IET wiring regulations state that all cabling systems and conduits in escape routes must be adequately secured in accordance with Chapter 42 regulation 422.2.1 to ensure that they do not entangle persons in the event of a fire. In addition, the only accepted systems are those resisting mechanical damage likely to occur during evacuation for example.</p>
<b>F5.4</b>	<b>Category L1</b>	This is the most comprehensive fire alarm system, which features detectors in all areas of a building where a fire could feasibly start. Detectors are linked up to a centralised alarm system. This alerts the whole building should a fire break out.
<b>F5.5</b>	<b>Category L2</b>	Fire alarm systems that fall into this category feature smoke detectors in all rooms that form part of an escape route, including corridors. Detectors also need to be installed in all high-risk rooms, such as kitchens, boiler rooms and areas with heavy plant machinery.

## ER Version 18: ADDENDUM H: Electric Gates Specification

Addendum H		Affordable Rent and Shared Ownership
<b>H1.0</b>	<b>General Requirements</b>	Electric gates shall be of sliding type only, unless otherwise agreed with the Employer.
H1.1	Access	Access gates shall integrate into the KMS Door Entry System (see <a href="#">Addendum G: Door Entry System</a> ). This may be in the form of a KMS shark-tooth fob or via a KMS RF transmitter: Radio/Proximity Transmitter. Access gates/barriers shall have a suitable override key-switch matched to the Employer's system (euro cylinder type), the contractor shall liaise with the Employer's Lock contractor FLK (see details below), This cost shall be fully inclusive. Gates shall allow for emergency service access.
H1.2	Egress	Egress shall be provided via a ground induction loop allowing free-egress
H1.3	Signage	As a minimum all systems shall include safety signage to warn of automatic operation, Pedestrian routes & speed limit. Any pedestrian access shall have suitable & sufficient signage to clearly signify the pedestrian access route from both an entrance & egress perspective.
H1.4	Vandal Resistance	All equipment selected shall be of an antivandal design (e.g.: suitable anti vandal covers to be fitted to all 4 units (e.g. BFT AV30 covers).
H1.5	Finish/Paint	All components shall be suitably coloured & powder coated where suitable to an agreed RAL colour specified by the Employer.
<b>H2.0</b>	<b>Control &amp; Safety Measures</b>	The Contractor shall pay particular attention to the safety in use of electrically operated external gates. Reference shall be made to the Health and Safety Executive Safety Bulletin Number FOD WSW 1-2010 dated 26th February 2010. See HSE website: <a href="http://www.hse.gov.uk/safetybulletins/electricgates.htm">http://www.hse.gov.uk/safetybulletins/electricgates.htm</a> In particular, the Contractor and designer shall undertake a suitable and sufficient risk assessment to identify any hazards and associated risks to persons using the gates. As a minimum the following control measures shall apply;
H2.1	Risk of Impact	Two pairs of photocells shall be fitted either side of the gate to prevent impact, dragging and crushing.  All photocells shall be suitably sited & sufficiently protected from vandalism, anti-vandal housing shall be fitted that allow safe operation. All photocells shall be suitably mounted on heavy duty anti-vandal posts. Bespoke anti-vandal covers are likely to be the viable option. Installation of a pressure edge shall be provided where appropriate. All safety edges shall cover the full width of the gate. A suitable pulsing beacon shall be provided to further highlight movement, however in the terms of domestic gates this may need to be considered as not appropriate and an alternative method considered.
H2.2	Pedestrian Hazards	Segregated pedestrian access must be deemed suitable & sufficient with physical barriers & warnings to ensure it is clear, safe & adhered to. The Contractor shall provide suitable & sufficient fencing, barriers or posts to segregate vehicles and pedestrians. The gate & housing shall be constructed so as not to allow any gap/area where a pedestrian could gain access through. Any areas that present hazards shall be suitably protected with fencing, barriers, bollards or other suitable guarding. Where required by Secure by Design, Anti-climb 358 Mesh Fencing shall be installed with a minimum of 4mm wires resistance welded into 76.2mm (3") x 12.7mm (1/2") rectangles making a solid steel mesh panel. Finish shall be Galvanised to B.S EN ISO 1461 or Polyester Powder Coated to a colour agreed with the Employer.
H2.3	Fireman's Drop Key Switch	Gates shall allow for emergency service access.  Fireman's Drop Key Switch: A Fireman's drop key switch shall be provided at the controlled entrance. The fireman's switch shall be of the FS5 pattern to differentiate it from the lift switch of similar construction. FS4 type switches shall not be acceptable.

<b>H3.0</b>	<b>Road Markings</b>	<p>Suitable road markings shall be provided, indicating vehicle only access together with suitable &amp; sufficient yellow hatching to show cars not to stop in the footprint of the gate” in the form of yellow hatching with “no stopping” or “keep clear”.</p> <p>Suitable &amp; Sufficient road markings shall be clearly marked to indicate a safety area, including stop line for sliding gates. If applicable, alternative gate types shall be provided with yellow hatched areas as necessary.</p> <p>Any pedestrian access shall have suitable &amp; sufficient pavement markings clearly to signify that the route is suitable for pedestrian access.</p>
<b>H4.0</b>	<b>System Requirements</b>	<p>The Contractor shall supply and fit all components and installation materials necessary to complete and make the gate entry system work fully integrated with the Door Entry System.</p> <p>Equipment shall be as manufactured by BFT, or equal and approved by the Employer, with integrated KMS proximity access control and supplied &amp; installed as a complete working system.</p> <p>All barriers shall be fitted with an integrated pre-programmed KMS 10,000 capacity SimpleKey controller. The KMS controller shall be connected to the KMS Hosting Cloud via a KMS GPRS Modem connected to the controller for administration at: The Building Safety Department</p> <p>oThe KMS controller shall be connected to a GPRS modem and shall use a contract Vodafone data only SIM card (SIM card shall be provided by the Employer on request, the Contractor shall fit and connect on site). The KMS equipment shall be integrated within an appropriate enclosure. Where controllers are required as satellite boxes these shall be fitted in Sarel IP66 boxes with a Sarel hasp and staple and fitted with the KA1 IFAM lock. Cabinet shall also be fitted with a trifoliolate label “fob Equipment”. All KMS controllers shall be supplied by the door entry equipment manufacturer. All system controllers shall have new Shark tooth tokens colour coded to the Employer’s standard supplied via Entrotec pre-programmed into the controller and on the KMS SimpleKey Web System cloud.</p>
<b>H5.0</b>	<b>British Standards</b>	<p>Gates shall meet the relevant current standards, including:</p> <ul style="list-style-type: none"> <li>• BS EN 13241-1 the Product Standard for powered doors and gates (and most relevant to the CPR)</li> <li>• BS EN 12604 &amp; BS EN 12605 on mechanical requirements and tests</li> <li>• BS EN 12453 &amp; BS EN 12445 on requirements and test for powered gates</li> <li>• BS EN 12635 on installation and use</li> <li>• BS EN 12978 on safety devices for power operated doors and gates</li> <li>• BS EN 60335-2-103 on drives for household and similar gates</li> <li>• BS EN 60335-2-95 on drives for residential vertically moving garage doors</li> </ul>



**Revisions - Great Places Apartments Specification**

<b>Version</b>	<b>Date</b>	<b>Clause</b>		<b>Changes</b>
Version 17	Nov-22	All		First issue
Version 18	Oct-23	All		Refer to revisions tracker