



**Leeds**  
CITY COUNCIL

**Extra Care Package 2  
2.1.2 Part B  
Output Specification Part 1  
General Requirements and Design Standards**

**APRIL 2019**



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# **PART 1 INTRODUCTION AND BACKGROUND**

## **1. PURPOSE OF THIS DOCUMENT**

- 1.1.** This Output Specification relates to the procurement of the Council House Growth New Build Programme Extra Care Accommodation. It sets out the Client requirements and Contractor obligations in respect of the design and construction of the new Council dwellings. It details the standards and outputs that the *Contractor* is required to achieve.
- 1.2.** The Output Specification is one document within a suite of documents, which together form the Project Documents for the Council House Growth New Build Programme. As such, it should be read in conjunction with the full tender package as listed below:

### **Instructions for Tendering**

- i. Stage 1 Instructions & Evaluation Criteria
- ii. Tender Schedule

### **Terms & Conditions**

- i. Template Contract Data Parts 1 and 2
- ii. Template Form of Agreement
- iii. Design Services Agreement (DSA)
- iv. Appendix 1 - Gateway Process
- v. Appendix 2 - Fee Schedule
- vi. Appendix 3 - Boundaries of the site drawings

### **Client Scope**

- i. Output specification - Part 1 (Parts A - E)
- ii. Output Specification - Part 3 (Appendix 1 - 4)
- iii. Appendix 1 - Template Activity Schedule
- iv. Appendix 2 - Employment & Skills Information
- v. Appendix 3 - Risk Register
- vi. Appendix 4 - High Level Programme

## **Client Site Information**

- i. Site Introduction

## **2. COUNCIL HOUSE GROWTH NEW BUILD PROGRAMME**

- 2.1.** The Council House Growth New Build Programme will deliver quality new council dwellings that achieve high standards in design, sustainability and energy efficiency; homes that are affordable, low maintenance and weather tight, along with being thermally and acoustically well insulated and will provide secure, well-engineered and comfortable accommodation. This programme supports the objective of sustainable and inclusive growth by increasing quality housing options and stimulating the construction industry.

The objectives of the Council House Growth New Build Programme are:

- i. To increase housing choice and affordability;
- ii. To build high quality homes based on principles of design excellence;
- iii. To make a positive contribution to sustainability and place-making;
- iv. To improve energy efficiency and reduce running costs for tenants; and
- v. To offer opportunities for training and employment and the engagement of local supply chain partners linked to the objectives contained within Leeds City Council's Best Council Plan.

- 2.2.** The Council has set the following high-level outcomes for the Programme:

- i. The new provision should make best use of the available sites and offer the best possible environment in which to live and to promote health and wellbeing by means of excellent design, layout, technology and location; and the new properties will provide a safe and secure environment for people to live in. The new provision will work in harmony with their external surroundings.
- ii. All new buildings shall be designed to have a minimum life of 60 years. Designs shall conform to all mandatory and statutory requirements and the requirements detailed therein.

## **3. EXTRA CARE ACCOMMODATION PROJECT - OBJECTIVES**

- 3.1.** Leeds City Council has an ambition to make Leeds the best city to grow old in, and housing plays a fundamental role in fulfilling this ambition. The homes provided by this Extra Care project must represent a positive choice for older people, not a last resort. We welcome innovative proposals for homes and spaces that help their residents retain independence, socialise and be active and healthy, living well for longer.

- 3.2.** The project seeks to support the health and wellbeing of end users through good use of space and reduced running costs to tenants through energy efficient designs. To this end, the following principles will apply:
- i. Design Quality – Scheme designs must demonstrate implementation of the ten HAPPI (Housing our Ageing Population Panel for Innovation) principles, as summarised and adapted within this document.
  - ii. Space Standards – Proposals will include space standards as detailed in the accommodation schedule and room data sheets and as per the indicative apartment floor plans.
  - iii. Energy Efficiency and smart technologies - Design solutions will deliver highly energy efficient dwellings to minimise running costs for tenants, address fuel poverty and contribute to broader sustainability and wellbeing agendas. The design of all properties must comply with all relevant guidance concerning sustainability and energy efficiency. (The *Contractor* should take into account good industry practice at the time of the build in relation to the buildings themselves).
- 3.3.** All New Build Dwellings and associated works in relation to this project are to be carried out and complete by no later than (*refer to Contract Data Part 1*).
- 3.4.** The term “Works” encompasses all activities relating to construction of the New Build Dwellings and all associated works as identified within the NEC contract terminology.
- 3.5.** NEC definitions shall apply.



## **PART 2 GENERAL REQUIREMENTS**

### **4. CONSENTS AND APPROVALS**

The Contractor shall ensure that all relevant consents and certification required by legislation, guidance or Good Industry Practice are obtained and maintained. The following requirements are not intended to be exhaustive and shall not limit the designers' liability under the terms of the Contract. The *Contractor* shall be responsible for making all applications, obtaining all consents and approvals and providing Certificates, including paying all fees, costs and charges therewith.

#### **4.1. TOWN AND COUNTRY PLANNING**

- 4.1.1 The design shall comply with the latest requirements of the Town and Country Planning Acts, together with any particular conditions imposed by the Local Planning Authority.
- 4.1.2 Generally, the *Contractor* will be responsible for notifying neighbouring / affected properties of the planning approved works. This will need to be agreed with the NEC *Project Manager* in a timely fashion for each scheme, but will be necessary to ensure that unwanted delays caused by poor communication are avoided by using a robust communications plan.
- 4.1.3 Communications will include the new development of an induction letter describing the nature of the work, and how it may affect the community. Proposed communications plans will indicate key personnel involved in the scheme and include help desk numbers, works programmes and the like.
- 4.1.4 Where planning permission has been received prior to contract:
- i. No works shall commence on site until the original planning permission has been received and the pre-commencement requirements of any relevant conditions imposed have been met.
  - ii. The *Contractor* shall be responsible for the discharge of all conditions and allow any associated costs in his tender.
  - iii. Should the *Contractor* require any amendment to the approved planning permission (where applicable) he must obtain the written approval of the NEC *Project Manager*. The *Contractor* will be responsible for obtaining approval to any amendment and for all costs and fees associated with the amendments. Any approval to amendments to the permission given shall not be deemed a change in the Works Information and shall not entitle the *Contractor* to additional costs or extension of time. Any wholesale revision to a scheme, requiring an amendment to a planning approval, or variation of condition or similar is to be at the discretion and with the prior agreement of the Council and their technical advisors.

- iv. The *Contractor* will be responsible for passing a copy of any amendments or further clarifications to the approval notice to the NEC *Project Manager*. The *Contractor* is to notify the NEC *Project Manager* of any items in the Works Information, which differ from the design for which planning permission has been obtained.
- v. The *Contractor* shall be responsible for obtaining written confirmation from the planning authority that the completed works comply with the planning requirements, and shall pass on copies of the written confirmation to the NEC *Project Manager*.

Where obtaining planning permission is a contractor duty:

- i. The above process is to be adhered to generally, but in addition, the *Contractor* (and his design team) shall seek and obtain full planning permission via the local Planning Authority for each project. It shall be the *Contractor's* responsibility to liaise with the NEC *Project Manager* or Lead Technical Advisor to determine the development of the scheme to suit client requirements overall. *Contractors* shall ensure that due process is undertaken such that all interested parties are consulted in the application development phase, in line with client team expectations.
- ii. It is deemed that the *Contractor* is responsible for the costs relevant to obtaining planning permission and any planning condition discharge costs (or variation to the approval).
- iii. The *Contractor* must ensure that their designs fully comply with key planning policy guidance and other relevant supplementary planning documents (SPDs) prepared by Leeds City Council and available on the Leeds City Council website including:
  - Neighbourhoods for Living planning/design guidance. The designs must comply with the standards/guidance detailed in this document, including the 2015 Memoranda.
  - 'Street Design Guide'
  - Parking SPD
  - 'Sustainable Design and Construction – Building for Tomorrow Today'
  - Leeds City Council Guideline Distances from Development to Trees
  - Leeds Core Strategy

4.1.5 The *Contractor* must ensure that their designs for the project comply with Core Strategy Policy EN1. This policy aims to achieve high standards of sustainable construction and has two components:

- i. achieving CO<sub>2</sub> reductions of at least 20% below Building Regulations

- ii. Providing 10% of the development's energy requirements via low or zero carbon sources. The policy allows for flexibility in how compliance is achieved, and 'overachievement' against one of the criteria may be offset against compliance with the other, subject to provision of justification for the approach taken if so
- 4.1.6 Should PV panels be used to fulfil EN1 requirements, these should be positioned to provide a landlords supply for sufficient power for communal lighting.
- 4.1.7 The *Contractor* shall produce and submit a travel plan to accompany planning applications in accordance with national thresholds and the Travel Plans SPD.

## **4.2. BUILDING REGULATIONS**

- 4.2.1. The *Contractor* shall be responsible for ensuring that the design and construction complies with the requirements of the latest edition of the Building Regulations.
- 4.2.2. The Contractor to pay all charges/fees etc. in connection with obtaining building regulation approval and completion certificate.
- 4.2.3. No works shall commence on site until the NEC *Project Manager* has received a copy of the building regulation approval submission, which is to be made through Leeds City Council Building Control.
- 4.2.4. The original building regulation approval, together with the original completion certificate shall be obtained by the *Contractor* and provided to the NEC *Project Manager* upon satisfactory completion of the works at handover.
- 4.2.5. No adjustments will be allowed to the tender, or subsequently to the contract sum, for any costs of whatever nature incurred in conforming to the requirements of the building regulations in force.
- 4.2.6. The *Contractor* is advised to obtain preliminary opinion from the building control officer for any design proposals.
- 4.2.7. Any drawing submitted for building regulation approval shall be submitted in a timely manner to the NEC *Project Manager* for comment prior to submission to the City Council's Building Control Department. Any post tender delay arising from obtaining approval for works will not give rise to adjustment of the tender, contract sum or construction period.
- 4.2.8. Compliance with building regulations may be by use of authorised Robust Details or alternative registered, tested and approved robust details.
- 4.2.9. The *Contractor* shall be responsible for registering the works with the regulating authority Robust Details Ltd, or alternative registered schemes and paying for all fees and charges in connection with obtaining the required approvals.
- 4.2.10. All statutory regulations shall be met as part of any submission including but not limited to fire, acoustic, thermal and robustness performances and MEP strategy.

- 4.2.11. The proposed method of construction shall take into account the need for any future repair, service or replacement of elements and services such as plumbing, heating, drainage and electrical installations, with detailed proposals and designs provided to the NEC Project Manager, Technical Manager and Lead Technical Advisor for initial consideration and comment. The NEC Project Manager shall also consider sending the proposed details to Leeds City Council's and Housing Management and technical compliance representatives for their consideration and comment.)
- 4.2.12. The *Contractor* should produce design SAP calculations to demonstrate energy compliance including consideration of any overheating to each dwelling. During the design stage, should the properties indicate a risk of overheating, then this is to be brought to the attention of the NEC *Project Manager*, and the *Contractor* will be responsible for adjusting designs to minimise or eliminate overheating in normal defined conditions.
- 4.2.13. The Energy Performance Certificate (EPC) for each scheme must be provided by the *Contractor* and at the proposed handover or early take over (please note that no handover or early take over will be taken if the certificate is not provided).
- 4.2.14. Where the buildings have a floor area over 500m<sup>2</sup> then the contractor must make arrangement to provide a Display Energy Certificate (DEC) to indicate the performance of the building based on its actual energy usage.
- 4.2.15. The contractor must also produce a Simplified Building Energy Model (SBEM) to demonstrate that the building meets the planning regulations.
- 4.2.16. The *Contractor* should also be aware that L1 requires that the heating system is commissioned in accordance with the Domestic Building Service Compliance Guide (incorporating 2018 amendments), and that this is notified to the *Client*.
- 4.2.17. Instructions on how to operate the systems must be provided for the occupier, both verbally as part of a new induction process and contained within a home user guide/service pack.
- 4.2.18. The *Contractor* is responsible for all fees and charges in connection with obtaining the required approvals.

### **4.3. LABC WARRANTY**

- 4.3.1. The *Contractor* shall ensure that each individual scheme is successfully registered with an LABC Social Housing cover: Extended period of cover for 12 years.
- 4.3.2. The *Contractor* shall be responsible for all fees and charges in connection with obtaining the required approvals

### **4.4. SECTION AGREEMENTS AND OTHER CONSENTS / APPROVALS**

- 4.4.1. The *Contractor* shall be responsible for obtaining and complying with all necessary approvals relating, but not limited to The Highways Act, The Town and Country Planning Act, The Water Act, e.g. Section 38, 50, 116, 184, 247, 278, 104 Agreements, including submitting details to, obtaining the approval of and entering into an Agreement with the appropriate Authority to enable the works to be carried out.
- 4.4.2. The *Contractor* shall liaise with Leeds City Council's Land and Property Team for any wayleaves and/or easements required which cross Leeds City Council's owned land.
- 4.4.3. The *Contractor* shall advise the NEC *Project Manager* of all such Agreements relevant to the contract by production of schedule against to each site and any concerns they may have or which arise during this process.
- 4.4.4. In addition the *Contractor* shall be responsible for providing any form of surety. This shall be between the *Contractor* and Highways.
- 4.4.5. The *Contractor* shall be responsible for paying all costs incurred including the lodging of monies and payment of surety bonds, commuted sums, etc. as required by the relevant authorities.
- 4.4.6. The NEC *Project Manager* shall agree with the *Contractor* the extent of works to be adopted by the local highway and drainage authorities.
- 4.4.7. All design work associated with the drainage shall be the responsibility of the *Contractor* and shall be designed in conjunction with Yorkshire Water Authority.
- 4.4.8. The *Contractor* shall subsequently comply with the requirements of all Acts of Parliament and local authority regulations relevant to such adoption.
- 4.4.9. Drawings indicating areas to be adopted should be handed to the NEC *Project Manager* no later than the first site meeting. Copies of the relevant agreements shall be passed to the NEC *Project Manager* when available.
- 4.4.10. The *Contractor* will be required to facilitate the *Client* in entering into any way leave agreements, land lease agreements or the like regarding statutory authorities and mains service supply companies. The *Contractor* shall make due allowance within his programme for the works to enable the *Client* to complete any such agreements.
- 4.4.11. Construction, maintenance, repair or alterations to any footpaths closure/diversions, roads, service reservation strips, street lighting, drainage and public open spaces etc. to be adopted by the Council are the responsibility of the *Contractor* and are to be constructed to the specification and standards laid down by the local authority or statutory authority. The *Contractor* must obtain the relevant agreement or license. Section agreements to be in the Council's name and handled by their solicitor.
- 4.4.12. For the Section 106, rather than draw up a section agreement, a unilateral agreement is preferred. No allowances have been made on any sites for 106 contributions or work.
- 4.4.13. The *Contractor's* design for highway and ancillary works shall be checked by the highway authority. The decision of the highway authority as to the acceptability of the highway design shall be final. Highways and highway drainage to be carried out under

Section 278 of the Highway Act 1980. Any alterations are covered by a section 38/278 agreement whereas excavations only are covered by a section 171 and installing, maintaining, repairing or replacing apparatus is covered by a section 50. Please note it is illegal to carry out any works in the adopted highway without the relevant agreement or licence.

#### **4.5. PARTY WALL ACT**

- 4.5.1. The *Contractor* must ascertain at the relevant design stages whether the Party Wall Act will apply to the works. Wherever possible, the *Contractor* (or his design team) should adjust the design so that the Act will not apply.
- 4.5.2. The *Contractor* should ensure that all drawings and description of the proposed works are available as soon as possible for the NEC *Project Manager* and when agreements under the Party Wall Act are required they must be obtained prior to the works starting on site and copies provided for audit purposes.
- 4.5.3. The *Contractor* shall allow for all fees and charges in connection with obtaining the required approvals.

#### **4.6. LOCAL AUTHORITY ADOPTIONS**

- 4.6.1. All access roads, public footpaths and sewers are to be built to the relevant Council adoption standards and as such will need to become adopted. The *Contractor* must maintain the works during the 12 months Defects Liability Period and they will be responsible for cleaning and repairing at the end of the period. All works must be to the satisfaction of the Council Highway Engineer. The *Contractor* shall pay all fees and charges in connection with the supervision and administration of the adoptable works and the adoption thereof.
- 4.6.2. Long straight sections of road must be avoided where possible. Footpaths must allow easy pedestrian/wheelchair/pram access by use of dropped kerbs. The gradient of footpaths must meet with relevant standards in respect of gradient/falls (where site conditions permit).
- 4.6.3. Before the scheme completion is agreed with the NEC *Project Manager*, the Council Highways Engineer must have approved both highway and drainage works and the *Contractor* must have the 'Provisional Notice' of adoption in his possession.

#### **4.7. ENVIRONMENT AGENCY**

- 4.7.1. All designs must comply with the requirements of the Environment Agency.

#### **4.8. EXISTING SERVICES**

- 4.8.1. It shall be the responsibility of the Contractor to satisfy himself as to the accurate locations and conditions of any services.

#### **4.9. STATUTORY UNDERTAKERS' REQUIREMENTS AND LIAISON WITH ENGIE**

- 4.9.1. Statutory undertakers including but not limited to Yorkshire Water, Northern Powergrid and Northern Gas Networks are defined as "Subcontractors" in this contract. The *Contractor* shall liaise with the statutory undertakers, provide new supplies for gas, water and electric as required, and place all orders. The *Contractor* will be required to obtain and pay for all approvals and obligations, section agreements and consents to complete the works and divert services as required.
- 4.9.2. The *Contractor* shall be responsible for all necessary liaison, applications and associated charges with regards to Leeds City Council's preferred energy supplier (Engie) who shall supply gas and electric, including metering to each dwelling. Any drainage build overs will be required to meet the requirements of Part H4 Building Regulations 2000. The *Contractor* shall ensure all necessary applications are submitted and the supply of energy is provided to coincide with the *Contractors* proposed handover of each dwelling.
- 4.9.3. If the *Contractor* establishes that a new sub-station is required, the *Contractor* will be responsible for placing all orders and connecting the new supply from the sub-station and will liaise with the statutory undertakers regarding the design and build and any accesses required. These will be sub-contract works.

#### **4.10. TELECOMMUNICATIONS**

- 4.10.1. Duct size, positioning of draw pits, numbers of ducts, specification of ducts etc. to be agreed between the telecommunications utility provider, Council and the *Contractor* on a scheme by scheme basis. Please also refer to the 'NewExtraCare-ICT requirements.docx' and its included references.
- 4.10.2. The *Contractor* is to allow for ducting and draw pits from the edge of the pavement to the foot of each scheme y to enable the future installation of fibre optic cables.

#### **4.11. APARTMENT METERING STRATEGY**

- 4.11.1. Leeds City Council purchase utilities for its non-domestic properties (gas, electricity and water) and will do so for these schemes following agreed handover of the buildings. Prior to handover the Contractor will be responsible for all utilities and payment of utilities. The Contractor will then transfer over to Leeds City Council who will add to their non-domestic utility provider arrangement.
- 4.11.2. In line with the Heat Network (Metering and Billing) Regulations 2014 for heat suppliers this project will adhere to these regulations. Sub-metering will be provided for each

utility (Heat, domestic hot water, domestic cold water and electric) to each apartment and other areas required, typically to the commercial kitchen and hairdressing salon.

- 4.11.3. Leeds City Council will have in place a Metering & Billing provider for all other district/communal heating schemes and it may be an option to use this provider and this can be determined at the tender stage.
- 4.11.4. The successful contractor is to appoint a suitable Metering and Billing company to provide the following:
- Bulk and final customer heat meters to comply with Heat Network Regulations and ensure accurate billing
  - Hot and cold water meters for each property
  - Electricity meters to monitor resident usage
  - Billing administration and customer support thereafter

Adopting this solution ensures the residents only receive one bill, which covers all four utilities. In addition, residents shall receive timely and accurate billing from the provider.

- 4.11.5. This solution provides residents within Extra Care with metered energy which provides affordable warmth and electricity, all included within a simple to understand monthly bill.
- 4.11.6. All apartments shall have SMART utility meters
- 4.11.7. The *Contractor* is to provide their detailed proposals a minimum of 10 weeks prior to commencement.

#### **4.12. CDM REGULATIONS 2015**

- 4.12.1. The *Contractor* is required to comply with their duties as Principal Contractor under the Construction (Design and Management) Regulations 2015 (CDM 2015) in the carrying out of all design and construction works. The *Contractor* will coordinate matters during the construction phase so work is carried out without risks to health or safety. The *Contractor* must take into account the general principles of prevention.
- 4.12.2. The *Contractor* must organise cooperation between contractors including successive contractors on the same construction site and implementation by the contractors of applicable legal requirements for health and safety.
- 4.12.3. The *Contractor* must ensure that a construction phase plan is produced prior to works starting on site. The *Contractor* must also ensure that a suitable site induction is provided, the necessary steps are taken to prevent access by unauthorised persons to the construction site and facilities that comply with the requirements of Schedule 2 are provided throughout the construction phase.



- 4.12.4. The *Contractor* is appointed by the *Client* as *Principal Designer* and is responsible for undertaking the role of *Principal Contractor* and *Principal Designer* for the Project. The *Contractor* is required to satisfy the *Client* that it possess the required skills, knowledge and experience to effectively perform the *Principal Designer* and *Principal Contractor* roles. If they are an organisation, the organisational capability necessary to fulfil the role that they are appointed to undertake, in a manner that secures the health and safety of any person affected by the project.
- 4.12.5. The *Client* is aware of its duties under the regulations and may employ a competent person to assist them discharging the duties.

## **5. DESIGN PRINCIPLES AND CONTROLS**

### **5.1. GENERAL REQUIREMENTS**

- 5.1.1. LCC expects the highest level of architectural, landscape and urban design, maximising opportunities for place making for future residents and surrounding communities considering, but not exclusively, the following issues:
- i Architectural design of dwellings;
  - ii Landscape design of the setting of buildings and site;
  - iii Positive street scenes which minimise the impact of vehicles and parking;
  - iv Pedestrian first designs of highways and paths;
  - v Appropriate choice of scale, massing, form and materials;
  - vi Designs which sit comfortably within established settings and communities.
- 5.1.2. The design of the works shall comply with all mandatory and statutory requirements together with the following requirements that are not intended to be exhaustive and shall not limit the designers' liability under the terms of the Contract.
- 5.1.3. The scheme mix requirements are set out in the Project Overview document within the Output Specification part 2 and within the Tender Instructions
- 5.1.4. Whilst every effort has been made to ensure that complementarity of approach is maintained, there may be minor variations that conflict between standards. It is the *Contractor's* responsibility to highlight such conflicts or contradictions between standards and bring such to the attention of the NEC *Project Manager, Technical Manager and lead Technical Advisor* in a timely fashion.
- 5.1.5. Certificates of compliance must be provided to the Client at Practical Completion and Partial Possession of the Works.
- 5.1.6. Designs must take in to account future maintenance and running costs and these must be kept to a minimum.

- 5.1.7. Building methods and details must be adopted which minimise the risk of failure in construction.
- 5.1.8. Note should be taken of relevant current advice when preparing design proposals, including the extensive range of publications produced by the building industry.
- 5.1.9. Where products or systems do not comply with a current British Standard in respect of quality and performance, they must have a current British Board of Agreement (BBA) certificate.
- 5.1.10. Handling, storage, preparation and use or fixing of each product must be in accordance with the manufacturer's written instructions.
- 5.1.11. The *Contractor* is able to consider utilising modern methods of construction for the proposed programme of works, in particular pre-fabricated and pre-finished components. This can reduce the on-site construction period ensuring the outputs contained within the specification are achieved and maintained throughout the contract period. Any system proposed must be sufficiently durable and robust with a minimum life expectancy of 60 years.
- 5.1.12. The *Contractor* shall demonstrate that any proposed methods of construction allow for the external materials to reflect the character, appearance and are sympathetic to the local area.

## **5.2. HAPPI DESIGN PRINCIPLES**

- 5.2.1. Scheme designs must demonstrate implementation of the ten HAPPI (Housing our Ageing Population Panel for Innovation) principles, as summarised and adapted here for this project:
  - 1. Homes have generous internal space standards (as per the accommodation schedule) and should be designed to accommodate flexible furniture layouts;
  - 2. Care is taken in the design of homes and shared spaces, with the placement, size and detail of windows, to ensure plenty of natural light, and to allow daylight into circulation spaces;
  - 3. Building layouts maximise natural light and ventilation by avoiding internal corridors and single-aspect apartments where possible and minimising the number of north-facing apartments. All apartments to have private external space: balconies, patios, or terraces with enough space for tables and chairs as well as plants;
  - 4. Homes are designed to be 'care ready' so that new and emerging technologies, such as telecare and community equipment, can be readily installed;
  - 5. Building layouts promote circulation areas as shared spaces that offer connections to the wider context, encouraging interaction, supporting interdependence and avoiding an 'institutional feel', including the imaginative

use of shared balcony access to front doors and thresholds, promoting natural surveillance and providing for 'defensible space';

6. Indoor and outdoor communal spaces are flexible enough to support an appropriate range of activities, and have a strong connection and attraction for the local community;
7. The development engages positively with the street. The natural environment is nurtured through new trees and other soft landscaping and the preservation of mature planting, providing wildlife habitats as well as colour, shade and shelter. Access to the outdoors is direct and easy for residents, so that they can enjoy high levels of daylight and activity;
8. Homes are energy-efficient and well insulated, but also well ventilated and able to avoid overheating by, for example, passive solar design, the use of native deciduous planting supplemented by external blinds or shutters, easily operated awnings over balconies, green roofs and cooling chimneys;
9. Adequate storage is available outside the scheme together with provision for cycles and mobility aids. Storage inside the home meets the needs of the occupier;
10. The areas around the building accessible to vehicles give priority to pedestrians so that they feel safe.

### **5.3. MATERIALS, GOODS AND WORKMANSHIP**

- 5.3.1. All Works are to be designed and constructed to meet all national and local legislation and conform to Good Industry Practice in all respects. The Contractor will be expected to make itself aware of any new Guidance, Policy or examples of best practice which have been adopted.
- 5.3.2. Notwithstanding the requirement to comply with relevant Statutory Requirements, the *Contractor* shall also comply with the following requirements and good practice. In all cases, both statutory and otherwise, the latest enactment or re-enactment shall apply.
- 5.3.3. All materials, goods and appliances and building systems shall be new and accredited as a minimum with the latest relevant standards:
  - British Standard Specifications and any latest revisions
  - CIBSE guides
  - Building Energy Codes and Technical Memoranda
  - Building Research Establishment Digests and Good Building Guides
  - British Board of Agreement, including certification

- Accreditation certification scheme for any proposed Modern Methods of Construction
- 5.3.4. All standards of workmanship and finish shall as a minimum be in accordance with the specification and as agreed on site. The following will apply:
- British Standard Specifications and any latest revisions
  - British Standard Codes of Practice and any latest revisions
  - Trade suppliers', manufacturers' and representative bodies' codes of practice and recommendations of BRE Digests and Good Building Guides
  - The Chartered Institute of Building Services Engineers guidelines
  - Good Industry Practice
  - The standards set out in BS8000
- 5.3.5. All materials and workmanship must comply with the relevant European Standards as defined by the Public Contracts Regulations applicable at the date of the use and or performance of the same, save that in the absence of such European specifications, European Standards and / or European technical approvals, the *Contractor* must abide by the relevant British Standards and Codes of Practice applicable at the date of the carrying out the works.
- 5.3.6. No materials, products or procedures which at the time of use are known to be deleterious to health or safety or to the durability of buildings and / or other structures and / or finishes and / or plant and machinery in the particular circumstances in which they are used, may be used or applied to Construction Activities.
- 5.3.7. Where materials, goods, appliances, or workmanship standards are covered by more than one of the above standards and / or recommendations, the higher or more stringent shall be adopted (meaning that BS Licensing / Codes of Practice or the equivalent European standards will take precedence). Agrément Certificates will only be considered where there are no relevant standards available for the product or material used in this contract.
- 5.3.8. It is required that all materials used will be chosen for their durability in use, long life and lack of maintenance. The *Contractor* shall comply with the component lifecycle schedule outlined in Part 3, Appendix 1. In addition the *Contractor* will outline within his proposals, the expected life expectancies and time to the first period of maintenance and between maintenance periods.

#### **5.4. ACCESSIBILITY AND MOBILITY**

- 5.4.1. The schemes should be designed to Building Regulations (approved document part M4(2) Accessible and adaptable dwellings:– 2015 edition with 2016 amendments, and code of practice BS9266:2013, combined with some minor retentions from Lifetime Homes (these are identified in the relevant sections). It is accepted that there may be

variations between the guidance documentation, and these will need to be reviewed by all parties prior to construction.

- 5.4.2. An 850mm clear opening must be provided to all internal doors to future-proof the dwellings (with the exception of stores or cupboards).
- 5.4.3. External doors shall include a low profile wheelchair accessible threshold and to be no higher than 15mm above the external paving.
- 5.4.4. Level access is required to all internal doors, including apartment doors.
- 5.4.5. People living in and visiting the scheme may use wheelchairs, walking sticks, Zimmer frames or any combination of these. Space standards should accommodate the use of all of these alongside ensuring level-access throughout with particular attention being given to door sills.
- 5.4.6. Long corridors should be avoided, as should those with dead-ends.
- 5.4.7. Resting places should be incorporated in corridors. These also serve as informal places for people to sit and chat. Some people may have been quite socially isolated and, whilst they won't wish to remain in their apartment all the time, they may find visiting a busy communal lounge a step too far and appreciate being able to sit in a quiet location nodding to passers-by.

## **5.5. SOUND ATTENUATION AND NOISE TRANSMISSION**

- 5.5.1. The *Contractor* shall be responsible for the design of dwellings falling within any area of the site affected by adverse noise levels must be designed so as to minimise the effects of noise within such dwellings.
- 5.5.2. Baffle ventilation, acoustic fences and the like shall be provided as required.
- 5.5.3. The layout shall be designed to minimise noise transmission within the dwelling and from adjoining properties and spaces. Where layout permits, living spaces and bedrooms of adjoining apartments should be directly adjacent to each other.
- 5.5.4. Hearing assistance systems should be made available in the main public area for residents with impaired hearing. The reverberation time of large spaces needs to be controlled with acoustically absorbent finishes in accordance with relevant guidance to improve intelligibility.

## **5.6. ENERGY AND ENVIRONMENTAL REQUIREMENTS**

- 5.6.1. Leeds City Council will expect its developer partners to adopt innovative design and construction.
- 5.6.2. The Project shall incorporate the latest energy efficient and environmentally acceptable principles of design and construction. The design of the buildings and the layout of the site should be considered across the following topics: energy use, carbon emissions,

water, materials, run-off, waste, pollution, health and wellbeing, management, land use and ecology. The required approach is to maximise passive solar gain through orientation and build highly insulated, airtight dwellings with adequate ventilation, shading and cooling and incorporate thermal mass to reduce overheating where appropriate.

- 5.6.3. The following technology should be considered by the *Contractor*: recycling of rain water, ground and air source heat pumps and biomass heating along with renewable electricity supply where practicable. In turn we anticipate lower costs for residents in terms of heating charges and service charges due to efficiencies which can be accrued over a period of time.
- 5.6.4. All designs and technologies that affect how the home works must be designed and installed so that they can be easily managed by residents or, alternatively, do not require their attention at all.
- 5.6.5. The needs and aspirations of residents will change in time and new developments should be adaptable to technological changes over their lifespan.
- 5.6.6. Every building and each individual apartment should be designed for future-proofing, to allow for climate change. As summers become warmer the need for cooling is likely to increase and efforts should be made to provide this through natural ventilation methods rather than by air conditioning.
- 5.6.7. Where appropriate, flood resistance and resilience measures must be considered within the development design, along with measures to promote water efficiency.
- 5.6.8. Internal air pollution and toxicity is a particular issue in buildings made more airtight to prevent heat loss. Many materials used in construction and finishing give off VOCs (volatile organic compounds). This should be avoided by using natural breathable products and water based finishes.
- 5.6.9. The design should follow 'fabric first' principles. U-values to all elements to be as follows:

<b>Element</b>	<b>LCC Standard (w/m3)</b>
Roof	0.15
Wall	0.15
Floor	0.15
Windows & Doors	1.2
Air Permeability	3.0m3/h.m2 at 50pa in dwellings

5.0m<sup>3</sup> /h.m<sup>2</sup> at 50pa in communal areas.

There is some flexibility to the U-values contained within the above table, however bidders must ensure the overall SAP rating achieved at completion is equal to, or better than the overall requirements of the output specification.

- 5.6.10. All components and materials shall, wherever possible, be capable of being recycled and be obtained from renewable resources which are integrated into the building fabric offering competitive whole life cycle costs. Timber shall be certified by FSC or PEFC and be from temperate sources.
- 5.6.11. Construction waste should be minimised using careful design and specification.

## **5.7. AFFORDABLE RUNNING COSTS**

- 5.7.1. The design, installation and management of energy efficient and affordable utilities are crucial to the continuing success of every scheme. Each design must ensure that energy consumption and costs to residents are as low as possible. This will require design consideration from the very initial stage of a project so that orientation, window design, heat loss and heat gain are considered along with the potential cost in use of appliances.
- 5.7.2. Sustainable energy supply should be incorporated with the intention of minimising or eliminating the use of fossil fuels and reducing carbon emissions.
- 5.7.3. Long-term costs within management and maintenance that may be passed to residents through service or maintenance charges should be considered early and kept to a minimum.
- 5.7.4. Socket provision shall be included to allow residents to make their arrangements in relation to TV, broadband and digital services within the apartments.
- 5.7.5. Communal TV aerials and cabling of TV, broadband and digital services shall be provided within the overall design

## **5.8. SECURED BY DESIGN**

- 5.8.1. The 2016 edition of SBD New Homes addresses the community safety and security requirements for most types of housing development including individual dwellings, housing estates and low-rise apartment blocks up to a maximum of 5 storeys above ground level. The design and layout and physical security sections of can be applied to both new and refurbished dwellings, regardless of tenure. Site and unit design must comply with 2016 Gold standard 'Secured by Design' standards. The scheme must be submitted to Secured by Design for approval under the scheme and a certificate obtained confirming compliance. The *Contractor* shall also provide the NEC *Project*

*Manager*, Technical Manager and lead Technical Advisor with the proposed details for consideration and comment prior to commencement.

- 5.8.2. It is the responsibility of the *Contractor* (unless otherwise agreed) to comply with the requirements of Secured by Design PAS24 2016 Gold. Where a requirement involves a component meeting a particular standard, it will be the responsibility of the *Contractor* to specify a component that meets that standard. It is the *Contractor's* responsibility to ensure certification can be given to non-referenced methods of construction if applicable.
- 5.8.3. In particular, written evidence must be provided by the Contractor that all windows have been tested to the SBD 2016 Gold. The relevant test results and certificates must be provided and will be requested by the Client. Secured by Design certification is required (parts 1 and 2 of the SBD guidance document).
- 5.8.4. Exterior lighting to be an enhancement over standard levels with external walkways etc. to be 30 lux minimum with a consistent uniformity of .4 or 40%Uo. All to be compliant with Secured by Design lighting standards.
- 5.8.5. For any specific advice, guidance or direction, please contact Chris King (Designing out Crime Officer/Crime Prevention Design Advisor /Architectural Liaison Officer), Leeds District on Mobile: 07801 260844.

## **6. CONTRACTOR'S SITE CONDUCT AND MANAGEMENT**

### **6.1. SITE COMPOUND**

- 6.1.1. The *Contractor* must provide a suitable site compound in an appropriate location, including all necessary and essential welfare, services, drainage, storage, and parking provision. The *Contractor* shall be responsible for preparing, submitting and receiving all necessary approvals associated with setting up a suitable site compound, including all associated fees.
- 6.1.2. Upon completion of the works, the *Contractor* must ensure any areas used for site compounds are fully reinstated to their original condition, with before and after photographs taken and provided to the NEC *Project Manager* as evidence.

### **6.2. CONSIDERATE CONSTRUCTORS SCHEME**

- 6.2.1. All sites must be registered with the Considerate Constructors Scheme and copies of all reports must be forwarded to the NEC *Project Manager* for circulation.
- 6.2.2. The *Contractor* shall be responsible for making all applications, obtaining all consents and approvals and providing Certificates, including paying all fees, costs and charges.

### **6.3. INFORMATION SHARING**



- 6.3.1. The Council uses Microsoft 2013 any Microsoft document should be in this format.
- 6.3.2. Technical drawings must be provided in pdf and dwg format, so they can be shared amongst the Council and stakeholders.
- 6.3.3. The Contractor will be expected to confirm their method of sharing documents to the Council and the Council's technical advisor at the kick-off meeting at the beginning of Stage 2.
- 6.3.4. All documents and drawings should be clearly version controlled and dated.
- 6.3.5. The contractor shall provide a secure extranet site so that documentation can be shared between the contractor and Leeds City Council. The extranet site shall enable information to be securely accessed and uploaded. Documents on the extranet site will be subject to version control. The Contractor will provide any necessary training or user guides to ensure that the Council can use the site.
- 6.3.6. The contractor shall ensure that all copyright issues have been cleared for any licenses they hold so that all material produced can be used by the Council in communications and consultation.
- 6.3.7. Detailed apartment (indicative apartment layouts are provided) and communal area layouts are required in sufficient detail to demonstrate how space is to be set out. This shall include the provision of 3D CAD drawings for apartments.
- 6.3.8. Proposed designs shall be provided by the *Contractor* to the *NEC Project Manager, Technical Manager and lead Technical Advisor* for initial consideration and comment. The *Contractor* must ensure all designs are fully compliant with the contract specification prior to submitting any designs for consideration.
- 6.3.9. The *NEC Project Manager* shall also consider sending the designs where deemed required to Housing Management and technical compliance representatives for their consideration and comment.

#### **6.4. WILDLIFE AND ECO-BENEFITS - VEGETATION CUTTING**

- 6.4.1. Any standing deadwood should be left onsite if trees are to be felled / drastically cut back due to disease / safety issues. Reason: provides habitat for invertebrates, birds (woodpeckers / owls) and bats.
- 6.4.2. All wood / logs from tree works to be left on site in wood pile / habitat piles in order to provide habitat for amphibian and invertebrate species. Such structures should be positioned in discreet locations to avoid vandalism.
- 6.4.3. Vegetation from scrub removal to be left onsite in piles to provide habitat for species such as grass snake. These should be places in discreet locations to avoid vandalism.
- 6.4.4. Install suitably sized holes in any gates and fences to allow hedgehogs to travel between spaces. Include suitable weatherproof labelling to explain the reasoning for

the holes in order to prevent them being blocked up or covered over. Securely fixed with suitable weather proof screws.

## **6.5. LIGHTING OF CONSTRUCTION SITE AND COMPOUND**

- 6.5.1. If it is to be used on the sites, lighting to be positioned to avoid light spill on hedgerows, trees and other biodiverse areas. If a bat roost is known to be in any building on site (such as old schools) then lighting should also be positioned to avoid these.
- 6.5.2. Lighting to be switched off when not in use. Where possible lighting to be avoided during night time hours onsite during the summer months.
- 6.5.3. Any lighting to be installed onsite in the final design of the project should also be positioned/ designed to avoid impacts on nocturnal species.

## **6.6. STORAGE OF MATERIALS ON CONSTRUCTION SITES**

- 6.6.1. If materials are to be stored on site, care must be taken to not impact protected species. Piles of rubble, wood and other materials can be suitable hibernating/ resting habitat for species such as hedgehog, amphibians and reptiles.
- 6.6.2. Materials should be stored off the ground where possible and/ or covered. Materials should not be stored onsite for prolonged periods of time, especially around sensitive periods when animals are going into hibernation (late autumn).

## **6.7. EFFECTIVE STAKEHOLDER ENGAGEMENT**

- 6.7.1. The *Contractor* will provide a high quality, efficient and customer focused service that can be readily accessed by all local residents, members of the community and other stakeholders (referred to as Stakeholders).
- 6.7.2. The *Contractor* will be required to ensure that all Stakeholders are appropriately informed and engaged during design development and the construction phase.
- 6.7.3. The *Contractor* shall be responsible for providing a range of methods via which Stakeholders are able to make contact. Stakeholders must be able to make enquiries and complaints, in relation to the construction work. Methods of contact which are to be provided shall include, as a minimum: telephone; in person; in writing; and email.
- 6.7.4. The *Contractor* will develop, implement, publicise and comply with a Customer Charter (detailing customer services), and clearly sets out its standards of care and service in respect of:
  - How all staff, including those of *Sub-Contractors* will behave when working on site
  - Standards of service

- How enquiries will be dealt with, including timescales for responses
  - The *Contractor's* complaints and compliments policy and procedure
- 6.7.5. The *Contractor* must have in place a published system for handling complaints and compliments in accordance with Good Industry Practice and complies with Considerate Constructors. The system must:
- Be accessible to all
  - Have regard to and interface with the Council's own complaints and compliments policy
  - Incorporate a procedure for receiving, recording and dealing with complaints and compliments made verbally.
- 6.7.6. The *Contractor* must use reasonable endeavours to notify Stakeholders of the existence of its complaints and compliments procedure and must set out in their approach to handling complaints. This will include the process for investigating and responding to formal complaints and any appeal mechanism that a complainant will have in the event that they dispute the findings of the investigation.
- 6.7.7. The *Contractor* may be invited to attend meetings of local groups such as Tenant & Resident Associations or Community Committees, to discuss any matters arising in relation to the construction works. Such meetings are sometimes held outside of business hours.

## **6.8. SAFEGUARDING**

- 6.8.1. Safeguarding is the term used for a range of measures employed to keep children and adults at risk safe and protected from harm. Safeguarding is an important role that must be embedded into organisations that come into contact with children, young people and adults at risk. This is not just restricted to social care services; safeguarding is everyone's business and includes anyone that comes into contact with other humans as part of their work.
- 6.8.2. As a *Contractor* you will familiarise yourself, and those who work on this contract or project, with the Leeds Safeguarding Children Board's and the Leeds Safeguarding Adults Partnership Board's safeguarding policies and procedures. These can be found at [www.leedslscb.org.uk](http://www.leedslscb.org.uk) and [www.leedssafeguardingadults.org.uk](http://www.leedssafeguardingadults.org.uk).
- 6.8.3. You will ensure that your organisation actively ensures that it and those who work on this contract or project understand the signs and symptoms of child abuse and abuse of adults at risk. And if, as a *Contractor* you suspect that there is any incident of child abuse or abuse of adults at risk, you will report it to the Leeds Safeguarding Children Board or Leeds Safeguarding Adults Partnership Board in accordance with their published procedures.

6.8.4. If you or your employees suspect that a child or adult at risk is at risk of harm or being harmed, call: 0113 222 4403 for children and 0113 222 4401 for adults. In an emergency call 999.

## **PART 3                      PERFORMANCE STANDARDS**

### **7. SCHEME LAYOUT AND DESIGN**

Scheme designs must demonstrate implementation of the ten HAPPI (Housing our Ageing Population Panel for Innovation) principles, as summarised and adapted within this document in part 2. Designs shall also comply with the latest guidance on the design of housing for older people, including RIBA's publication 'Age Friendly Housing', the Dementia Services Development Centre's resources on the design of housing, and the information available at the Housing LIN sharing network.

The Accommodation Schedule and Room Data sheets provide more detail.

#### **7.1. BUILDING LAYOUT AND CIRCULATION**

- 7.1.1. The building must have a clear and logical layout which can be easily understood. Communal areas shared with members of the public should lead from the main entrance foyer with minimal barriers to encourage use and easy access.
- 7.1.2. Communal facilities should be provided centrally to serve all residents and to encourage community use. Public spaces such as communal lounges, restaurants and hair salons should be located away from residents' apartments.
- 7.1.3. Staff, visitors or day users of the building should not need to walk through corridors off which apartments are accessed to reach their destination. Guest rooms and assisted bathing areas should be located away from the public areas and closer to the individual dwellings. Entrances to service areas should be separated visually from the main entrance.
- 7.1.4. There should be a lobby and entrance area to provide a secure and controlled access to visitors and residents.
- 7.1.5. 1 x 8 person 630kg load capacity wheelchair user lift and 1 x 13 person 1000kg load capacity stretcher lift to be included and to ensure full accessibility to all floors. Please note, any building with a floor higher than 18m above the fire and rescue service access level, then a fire fighting shaft containing a fire fighting lift must be provided in accordance with BS 9999
- 7.1.6. Access to the lifts would be from this lobby with system access restricted to legitimate users.
- 7.1.7. Circulation areas should be adequately designed for people with poor mobility and wheelchair users, avoiding long, dull areas. Circulation spaces should be clear and rational to assist people suffering from cognitive impairment.
- 7.1.8. All corridors should provide a clear minimum width of at least 1.8m
- 7.1.9. Residents must be able to move freely around the building, assisted by:

- i. hold-open mag-lock devices with fail-safe closing on fire-alarm activation
- ii. automatically opening doors via push to open hand pad
- iii. passive infra-red movement detection

The *Contractor* will discuss the appropriate use of the above devices and their locations with the *NEC Project Manager* when the building floor plans are made available.

- 7.1.10. The building should have identifiable zones and visual clues (pictures, statuary and graphics, scale and colour) to aid wayfinding. Windows should reveal orientating external views and landmarks to help people to feel in contact with the natural world and part of a community, in addition to providing reference views to the outside.
- 7.1.11. Good lighting is important throughout the corridors but higher light levels can be used to differentiate public from private areas. Lighting levels as recommended by CIBSE guides and compliant with Building Regulations.
- 7.1.12. Small seating bays in corridors should be provided to break up walking distances and provide a 'rest stop'. These also enable people to meet their neighbours and chat, away from the busy communal areas.
- 7.1.13. LED bulkhead light fitting to private patios or balconies
- 7.1.14. External lighting to any communal seating / terracing to be designed and installed as per CIBSE guides and Building Regulations

## **7.2. GENERAL SECURITY**

- 7.2.1. The main entrance and foyer area to the scheme will have a two-way access door which will enable people to gain open entrance during working hours, however, have the ability to switch to a one-way opening after hours. Switching to one-way will ensure security of the building with access only by intercom system or fob.
- 7.2.2. Residents' areas should only be accessible behind progressive privacy doors, giving their areas clear and distinct space.
- 7.2.3. Non-resident areas such as stores and staff areas must have the facility to be locked.
- 7.2.4. Service access to the kitchen external door should be covered by a SBD approved intercom system with web access, third party tested and with an intruder alarm system.
- 7.2.5. Telecare should be fitted throughout the scheme with:
  - Fire system call through that alerts staff first to avoid alarming residents. This shall be configured to turn off cooker electricity and sockets in the kitchen and to unlock doors of apartments (if electronic locks fitted)
  - A call alarm system for staff

- 7.2.6. The services to the apartments must be accessible from a manually locked box accessible off the corridor (meter box type triangular key). Staff can therefore isolate the services in a flat if required.

### **7.3. SIGNAGE AND WAYFINDING**

- 7.3.1. Signage should be minimised in the building as this will give an institutionalised feel, but where it is used, consideration should be given to materials and colours used so that it is of a style likely to be used in a hotel or a general apartment block rather than the style that is often used in institutional care.
- 7.3.2. Apartment front doors should be contained within a niche, niche painted a unique colour and with a shelf to aid personalisation and wayfinding.
- 7.3.3. Signage should comply with Approved Document Part M which includes guidelines such as minimum character size, sentence case, embossing, height, type face etc. The Sign Design Guide produced by The Sign Design Society and JMU, which is cross-referenced in Part M, is a useful reference. Signage must include the wording in Braille.
- 7.3.4. Specific dementia signage which can help to identify residents individual apartment and rooms in their apartment. The signage provides both the word e.g. 'Toilet' or 'W.C' alongside a picture of a toilet. This enables people to recognise the sign and help them to way-find in the building and in their own apartment. Signs should be fixed to the doors they refer to, rather than to adjacent walls and doors for particular purposes should be colour-coded too, i.e. all public toilet doors should be painted one particular colour.
- 7.3.5. A consistent approach to signage and display of notices should be adopted to prevent them from becoming overwhelming.
- 7.3.6. Appropriate signage delineating disabled parking bays will be designed in accordance with BS 8300:2001.

### **7.4. COLOUR CONTRAST AND MATERIAL SELECTION**

- 7.4.1. Colour schemes shall comply with visual impairment and dementia best practice.
- 7.4.2. Colour contrast between walls, floors, ceilings, doors and architraves, as well as fittings and furniture, assists residents with visual impairment in identifying the different surfaces and edges of their surroundings. Patterns and materials of similar colour should be limited so as not to cause confusion between, for example, the edge of a chair and the carpet. Strong tonal contrasts in floor finishes should be avoided.
- 7.4.3. Colour schemes for each area and at the entrance to each apartment give each group of apartments an individual look. This will assist residents in locating their apartment.
- 7.4.4. Doors and their frames to non-resident areas should be 'visually lost' in the wall colour to detract residents from trying to enter restricted areas and, where possible, handles

should be removed so that staff have no choice but to lock the door to ensure it stays closed.

- 7.4.5. On staircases, a change in material, texture and colour at changes of direction will assist residents with visual impairment in identifying the route through the building. Stair nosings should not be coloured but a matt metal finish which provides a good contrast.
- 7.4.6. Shiny surfaces must be avoided, especially on floors. A satin or matt finish should be used as it reduces glare that can confuse residents with visual impairments.
- 7.4.7. Interior timberwork painted with satin finish as opposed to gloss will reduce glare.
- 7.4.8. Patterned wallpapers should be carefully chosen as they can cause problems in the following ways: ( see Accommodation Schedule and Room data sheets for specific wall finishes)
  - i. bold patterns can be over-stimulating
  - ii. small patterns such as geometric ones can produce blurred vision and eye fatigue
  - iii. vertically striped wallpaper can make some people feel dizzy
  - iv. curved and angled lines on walls can affect balance
  - v. still-life patterned wallpaper can be confused with reality

It may be more appropriate to paper one wall to set the tone for a room, especially where the room is large and then use a tonal colour on the other walls. Use of different papers around the scheme can assist with wayfinding.

## **7.5. LOUNGE AREAS**

- 7.5.1. Lounge areas use a large amount of space and consideration should be given to their location to maximise use by residents. Lounges should be flexible enough to accommodate a range of activities and should incorporate storage for equipment such as a television, music player, games and books, to avoid a cluttered appearance. The ceiling and the light fittings should be domestic in nature to avoid an institutionalised feel.
- 7.5.2. The lounge should have a TV on a wheeled stand that can be taken anywhere in the building.
- 7.5.3. There should be a 'garden room' with a high proportion of glazing, either leading directly from the lounge area or a separate 'summer house' space within the gardens, so that residents can enjoy maximum levels of daylight and sunlight, especially during the winter months. This should be able to accommodate at least 10 seated residents and should have a domestic feel.



## **7.6. RESTAURANT / CAFÉ AREAS**

- 7.6.1. The restaurant/café should be located adjacent to the main foyer of the scheme to enable easy access for both residents and visitors to the scheme. The size should be adequate to cater for residents, staff and visitors and also provide an adequate kitchen area, changing area and office provision. The kitchen will require effective ventilation to maintain a comfortable and safe working area for the catering staff.
- 7.6.2. The restaurant / café shall also be located on an outside wall, with doors leading to the outside.
- 7.6.3. Contractors shall provide a tea bar facility for residents use when the restaurant/café is closed.
- 7.6.4. The restaurant must provide adequate turning points for people using wheelchairs and walking sticks/ frames around the restaurant's furnishings.
- 7.6.5. The restaurant should be directly linked to a generous outdoor dining space. Provision of a barbecue area can be advantageous to encourage social events.
- 7.6.6. Access doors should not be identified as 'fire exit' doors as this may discourage people from venturing outside.
- 7.6.7. The main kitchen should be lockable with access limited to authorised staff only.
- 7.6.8. The kitchen shall also be located to suit ease of deliverables and waste removal, away from residents' apartments and other habitable areas.

## **7.7. WIFI PROVISION**

- 7.7.1. The provision of Wi-Fi in the communal areas of the scheme to be installed and this will encourage digital inclusion and assist both residents and staff to gain access to a wide range of information and services that are provided via the internet, assisting with social engagement, health and wellbeing.
- 7.7.2. Please refer to the 'NewExtraCare-ICT requirements.docx' and its included references.

## **7.8. CARE TEAMS / STAFFING CONSIDERATIONS**

- 7.8.1. The working environment must be pleasant and practical, to enable staff to work within it effectively.
- 7.8.2. The building must be easily accessible to staff with conveniently- located ancillary accommodation that is comfortable and functional.
- 7.8.3. Staff accommodation should include storage areas, changing area, lockers, shower, rest room with small kitchen area and adequate office space.

7.8.4. It is possible that a number of providers will work in the building and therefore careful consideration must be given to access, security and joint working, so that a seamless service can be provided to residents.

7.8.5. The staff rest room will be for all staff to use when taking a break or storing their personal items, irrespective of their employer.

## **7.9. DISABLED ACCESS TOILETS IN COMMUNAL AREAS**

7.9.1. Disabled access toilets must be provided in the communal spaces, preferably close to principal entrances. They should have their own recess so that doors don't open directly onto corridors for privacy and dignity purposes. They should be easily identifiable with automatic lighting which dims as someone leaves the facility. Wash hand basins must be provided in each toilet facility and all toilet facilities must be linked into the telecare system. An alternative to a pull cord fitting for the alarm should be considered to prevent accidental activation.

7.9.2. The basin wall and the one behind the toilet should be fully tiled for hygiene purposes. The dispensers for soap, paper towels etc. should match and be easy to fill and clean. Careful thought should be given to their placement, e.g. paper towels or soap dispensers above the toilet roll holder will mean that it becomes wet.

7.9.3. PIRs (Passive Infrared Sensors) should be fitted in communal toilets but programmed to come on as soon as the door is opened and to stay on for the maximum period so people aren't plunged into the dark if they sit still for a while.

## **7.10. STAFF LAUNDRY**

7.10.1. A staff laundry will be required with a sluice facility so that staff can manage heavily soiled linen. It will need to be ventilated appropriately and have a sink and drainer.

## **7.11. HAIR AND BEAUTY SALON**

7.11.1. This can often be one of the most successful services in an extra care scheme, often well used by the local community as well as residents. It should look like a commercial salon, include a seated waiting area and be located close to the entrance of the scheme.

7.11.2. Good ventilation and lighting should be provided and as much natural daylight as possible. A strong, vibrant colour scheme usually works better in this area.

7.11.3. The salon should include:

- i. comfortable, easy to move seating at a mirrored station with put-down space for equipment and waist-level sockets
- ii. two hair wash basins

- iii. one front and one back-wash

The back-wash must be height and angle-adjustable to make it more comfortable and so that people who have had a stroke in the past don't have undue pressure put on the back of their necks.

## **7.12. TREATMENT ROOMS AND ASSISTED BATHING**

- 7.12.1. The use of the treatment room must be carefully considered. It is likely to provide opportunities for external practitioners to visit to provide services such as:
  - i. chiropody/podiatry
  - ii. beauty/massage
  - iii. optical
  - iv. flu jabs
  - v. bandages/dressings
  - vi. complimentary therapies
- 7.12.2. The assisted bathing room to be designed to allow both assisted and independent use by residents.
- 7.12.3. The assisted bathroom and treatment rooms should be decorated in such a way to promote a 'spa' appearance rather than a clinical appearance. The use of plants and domestic furnishing can give these areas a comfortable and relaxing feel. Include an external window in the assisted bathing room, domestic rather than clinical lighting, carpeting in dry areas, coving and skirting boards. The colour schemes should be warm and vibrant, including feature wall as per the Accommodation Schedule and Room data sheets. The lighting should have dimmer switch control.
- 7.12.4. Space should allow baths to be located in a peninsula position. WCs should be positioned to allow easy access for carers in terms of hoisting to and for the bath.
- 7.12.5. Wash hand basins are to be provided in all treatment rooms. Mixer taps to include an extended water spout over the wash hand basin.
- 7.12.6. Soap dispensers and paper towel dispensers should be provided at each washing facility. Large paper sheet dispensers should be provided in treatment areas. They should be of a practical, but not clinical design.
- 7.12.7. A suitable assisted bath must be fitted which provides thermostatic and computer-controlled filling systems to prevent scalding. A changing area must be provided to respect the privacy and dignity of the individual. This should have door hooks and shelving/storage so the resident can safely store their clothing, shoes and other items whilst they are bathing.

### **7.13. BARIATRIC CARE (Section not used)**

- 7.13.1. Consideration should be given to the level of care and need that the facilities and accommodation can offer and be designed to meet.
- 7.13.2. Any units designated for Bariatric Care (care of residents over 26 stone) if included will need to be located on the ground floor. These require wider door-sets to accommodate larger specialist equipment, wheelchairs, shower chairs etc.
- 7.13.3. The bedroom and bathroom should have the ability to provide a heavy duty XY ceiling track hoist fitted that will lift up to 45 stone. The bathroom, if furnished, will need to accommodate larger residents.

### **7.14. GUEST ROOM WITH EN-SUITE FACILITIES**

- 7.14.1. A wheelchair accessible, comfortable and welcoming guest room with en-suite facilities is required and should have twin beds, a wardrobe, bedside tables and easy chair.
- 7.14.2. It must include a basic kitchen with sink, fridge, floor cupboard, worktop, wall unit, kettle and microwave.
- 7.14.3. A TV and an aerial socket must be provided, as well as the requirements outlined in the 'NewExtraCare-ICT requirements.docx' around TV and entertainment systems as stated in the last paragraph of the Overall Infrastructure Specification.
- 7.14.4. The en-suite will have a wet floor shower, wash hand basin and toilet.
- 7.14.5. Fire alarm sound level to be minimum 75db in guest room with fire action instruction supplied behind guest room door.

### **7.15. APARTMENTS – GENERAL (see indicative floor layouts)**

- 7.15.1. A resident's needs and aspirations may vary according to tenure mix, culture and household mix, property size, location and adaptation due to disability. Residents must be able to express their own personality and lifestyle within their own home regardless of their diverse requirements.
- 7.15.2. Residents must have the opportunity to choose their home and be proud of where they live. The design must create a welcoming place to live.
- 7.15.3. The 1 bed flexi and 2 bed apartments must be designed to take into account that people's lifestyles and care needs may change. It should adapt to, rather than constrain the changing needs of a household. Residents must be able to remain in their apartment for as long as they wish, including the provision of palliative and end of life care which may be required.
- 7.15.4. Natural daylight should be maximised and balanced against overheating from solar gain. Low light levels reduce the ability to read, lip-read and increase the risks of falls and are not suitable for people with visual impairments.

- 7.15.5. Windows must be easily accessible and simple to open, giving consideration to people with mobility and dexterity problems. They should have a night vent position to enable people to sleep securely with them open if they wish.
- 7.15.6. The colour scheme in apartments should be fairly neutral. The resident will make the apartment their own with their furnishings and floor coverings and, of course, they will be able to decorate if they wish to.
- 7.15.7. Apartments must have warm comfortable rooms, space to manoeuvre comfortably and adequate storage. There should be a pleasant outlook; for instance, no apartment windows should overlook a flat roof. A well-designed home should meet the physical and social needs of all residents and be receptive to the needs of specific vulnerable residents.
- 7.15.8. Design for wheelchair users to ensure compliance with Building Regulations M4(2) should be provided throughout the apartment and certain areas such as the kitchen should be designed to permit adaptation for people to use as their needs develop.
- 7.15.9. Floor coverings should be provided, including barrier matting outside the apartment entrance (recessed or flush with main corridor carpet), plus slip resistant vinyl sheet flooring to the bathroom and slip resistant vinyl tiles within the kitchen area.
- 7.15.10. Where a patio door is fitted, a window should also be present so that people can ventilate their lounge without having to have a door open. People often like to have vertical blinds fitted to a patio door and so the sill should be high enough to accommodate the fitting of the blind and still allow the doors to open when the blinds are open.
- 7.15.11. Allow space for a dining table and chairs for residents and their visitors.
- 7.15.12. Residents must be able to control the temperature in each room and thermostats should be easy to read and operate.
- 7.15.13. All door furniture should be chrome (so as to stand out against the background) and of a domestic design, not institutional but still to meet the needs of people who may have difficulty operating locks and handles. Door handles must be easy to grasp and operate.
- 7.15.14. Residents should be able to tune their TV to a channel that enables them to view who is at the scheme's main entrance seeking to visit them.
- 7.15.15. Include a private patio area to ground floor apartments and a balcony to all apartments above ground floor

## **7.16. APARTMENTS – HALLWAY**

- 7.16.1. The apartment hallway should incorporate space to store a wheelchair or mobility scooter, put down bags, take off and hang up coats and store outdoor shoes. There should be space to greet visitors and easy access to the bathroom.

- 7.16.2. The placement of pendant lights in the hallway needs careful consideration to ensure that the front door doesn't knock the light once a shade is fitted.
- 7.16.3. Apartment fire front doors to include a larger door key. The lock should be above the handle so people can see and operate it more easily. A fire proof letter box and collapsible post basket should be fitted to the letterbox so people don't have to bend down to pick up their post. Apartment doors to include two intumescent spy holes, at 125cm and 150cm above finished floor level.
- 7.16.4. The front door must be linked to the fire system and fitted with a door closer so it is not too heavy for a resident to open.
- 7.16.5. A combined call system / door entry phone / speech unit should be provided. This should be either one wireless or two wired units, one installed in the lounge and one in the main bedroom (not in the hallway).
- 7.16.6. Fused spur above door head to suit any future provision of an automatic door opener

#### **7.17. APARTMENTS – KITCHEN**

- 7.17.1. The kitchen area should be delineated from the lounge, i.e. walls at each side that hide the end of cupboards and the fridge/freezer.
- 7.17.2. Vinyl flooring to the kitchen area must be slip resistant. Tiling should be coloured (not white with a contrasting strip). Worktops should provide a contrast to the cupboards (colour/style options for flooring and tiling to be provided for consideration and selection).
- 7.17.3. Any windows between the kitchen and the communal corridor should have blinds fitted and not be directly opposite windows to another apartment.
- 7.17.4. There should be a space for a combined washer/dryer so that residents can often manage their laundry themselves with support from family or care staff where needed.
- 7.17.5. Kitchen design to include a removable base unit and matching end panels which can be removed, allowing for the installation of a separate dryer in the future
- 7.17.6. A lockable cupboard for the storage of medication should be included.
- 7.17.7. Strip lighting above work surfaces, Spot lights to be positioned to highlight specific areas such as the sink but not positioned as to create shadows. Under cupboard strip lighting.

#### **7.18. APARTMENTS – BEDROOM**

- 7.18.1. The bedroom must provide for sleep and relaxation with safe movement and adequate space for storage. The bathroom should be linked directly to the bedroom to enable quick and easy access for those with poor mobility, and the WC should be visible from the bed if possible.

7.18.2. Ceilings within the bathroom and main bedroom to include the infrastructure to support the provision of a single ceiling tracking hoist in the future. Consideration should be provided to ensure no services will impede the installation of a future tracking hoist. Include for all necessary infrastructure to allow the tracking hoist to be installed directly through the suspended ceilings. Include all electrical installations as per manufacturer's instructions, including a fused spur installed at ceiling height to act as the main charging point (proposed location of fused spur to be away from any doors and to be agreed with the NEC Project Manager and Occupational therapist ). These works are to ensure any disruption and disturbance to residents is minimised during any future hoist provision. Contractor to provide fixing details and positions on as-built drawings provided at handover.

### **7.19. APARTMENTS – BATHROOM**

- 7.19.1. There should be a level access shower or, where space allows, a wet room, with toilet facilities connected directly to the bedroom and accessible from the hallway.
- 7.19.2. There should be plenty of space to allow the easy manoeuvring of a wheelchair and the design should allow for later adaptation and/or the inclusion of additional supports and aids.
- 7.19.3. The shower should be level-threshold and thermostatically controlled.
- 7.19.4. Full pattressing should be provided on all walls to allow installation of rails in any location.
- 7.19.5. The wall tiles and slip resistant vinyl flooring should be a good colour contrast to the white sanitary wear.
- 7.19.6. The wash hand basin should be generously proportioned to improve accessibility and help minimise water spillage.
- 7.19.7. There should be a mirror with a light over the basin which has put-down space on or around it, and that accommodates a wheelchair user or someone sitting at the sink rather than standing.
- 7.19.8. There should be ample built in shelving, cupboard space, clothes hooks and towel rails provided.
- 7.19.9. A standard height toilet should be fitted. Additional lighting should be placed over the toilet area. The toilet should be positioned to allow easy lateral transfer from a wheelchair.
- 7.19.10 Ceilings within the bathroom and main bedroom. See above description for bedroom ceiling in relation to future tracking hoist provision and fused spur / charging point. Fused spur / charging point to be installed a ceiling height and away from any door openings. (All as per manufacturer's instructions).

## **7.20. COMMUNAL OUTDOOR SPACE**

- 7.20.1. Green space has a direct impact on quality of life in terms of both physical and mental wellbeing. Garden areas should be visible and very easy to access from communal areas. They should be attractive, functional, stimulating and safe, and should provide the opportunity for relaxation, socialising, games (such as boules or chess) and other activities.
- 7.20.2. Outside space should enable people to undertake activities outside during warmer weather. This should include activities normally undertaken inside, such as craft or yoga.
- 7.20.3. There should be an outdoor dining area as an extension to the restaurant/café activity area, with seamless access between indoors and outdoors.
- 7.20.4. There should be a path circuit for people to move around on foot or in their wheelchair with shelters and seating areas as stop-off points. Landmark features should be used to aid wayfinding and familiarity.
- 7.20.5. Hard and soft landscaping should provide year round colour and interest, biodiversity, shade and sensory stimulation. Water features should be considered and other focal points incorporated. Raised planting areas should be provided to give the opportunity for residents to carry out planting/gardening activities. This also provides the opportunity for the accommodation to grow some of its own food including the use of fruit trees and herbs.
- 7.20.6. Seating areas should be designed to meet the requirements of all residents of all abilities, particularly wheelchair users. It should be included in the design to provide distinct spaces to aid way-finding. Benches should be located at all main entrances for those awaiting transport.
- 7.20.7. Loose gravel surface treatment should be avoided because of disabled or elderly residents. Smooth surfaces such as resin-bound gravel are more appropriate. Avoid unguarded changes in site level with only very gentle ramps acceptable.
- 7.20.8. A minimum path width of 1200mm (1.2m) is adequate if wider wheelchair passing spaces are required. Dead ends should be avoided, short cuts anticipated and paths providing a clear route back to their origin included.
- 7.20.9. Proposals to include a greenhouse, plus potting shed for gardening activities and a garden store. All of sufficient size, located on a level base and all to be robust with suitable SBD compliant security measures.
- 7.20.10. The following items are desirable: allotment space, outdoor exercise park, outdoor BBQ.
- 7.20.11. Views should be maximised.

## **7.21. PRIVATE OUTDOOR SPACE (GARDENS, BALCONIES AND ROOF TERRACES)**



- 7.21.1. There should be some private space for each ground floor apartment, enough for the residents to sit out comfortably, separated from communal garden by a low boundary treatment such as a wall or planting. It should be at least 2000mm deep and not less than 8m<sup>2</sup>.
- 7.21.2. All outdoor spaces should provide a minimum 1500mm clear turning circle, free of any door swing, and suitable for turning a wheelchair. The surface of any paved or other hard ground surface should be reasonably smooth, even and slip resistant under normal weather conditions.
- 7.21.3. Apartments above ground floor shall include a private balcony. This shall be designed to be big enough to accommodate 3 people, seated comfortably at a table.
- 7.21.4. Roof terraces shall be a contractor's consideration and designed to suit the number of apartments

## **7.22. ENTRANCES**

- 7.22.1. All hard surfacing adjacent to buildings shall be designed to carry water away from the buildings to a suitable drain or porous area and shall be laid to prevent ponding. The surface of hard standings should have a "textured" finish to reduce the possibility of slipping in wet conditions.
- 7.22.2. Paved Areas / Patios / terraces adjacent to the building should be designed to have a positive fall away from it. Gradients should be 1 in 60. If site conditions require external areas to fall towards a building then a suitable drainage solution is required to ensure any water does not stand against / adjacent to the building fabric.
- 7.22.3. The entrances to each scheme must be protected with an attractive canopy. Rainwater drainage shall be provided to suit the design and may be omitted where the rainwater does not discharge directly on to paths. Provision should be made for a light to be fitted outside the main entrance. Note lighting should be of a design which casts light horizontally away from the door (as opposed to vertically up and down walls, or placed directly overhead) so as to illuminate faces of visitors and so residents going to open the door can see who is on the other side. Sample canopy details to be provided by the *Contractor* to the *NEC Project Manager, Technical Manager and lead Technical Advisor* for initial consideration and comment prior to acceptance.

## **7.23. CAR PARK AND DROP OFF / PICK UP AREA**

- 7.23.1. Communal parking is to be provided on the site. It must be clearly marked out to show the individual spaces, staff and visitor areas. All should be in accordance with Leeds City Council's Street Design Guide and parking SPD. Contractor to comply with Highways D.C requirements in relation to the number of parking spaces to be provided.
- 7.23.2. Unless defined elsewhere within the Client Scope, car parking bays to be in porous bitumen macadam with parking bays adequately defined.

7.23.3. A minibus and taxi drop-off area should be included.

7.23.4. The car park should allow for the anticipated size and tracking of emergency and service vehicles, turning heads and yellow box hatched area for ambulances.

**7.24. WASTE AND RECYCLING**

7.24.1. Bin storage and collection

<b>Bin storage</b>	<ul style="list-style-type: none"> <li>• LCC Waste Management will only collect bins from a bin store which is accessed externally to the main building or from a supplementary external bin store area.</li> <li>• Segregated areas where possible within bin stores for waste and recycling to reduce contamination.</li> <li>• If security is required to bin stores, gate keys and fobs to be discouraged in favour of coded entry.</li> <li>• External doors to be robust, lockable and size designed to suit ease of access and transportation of large wheelie type bins.</li> </ul>
<b>Access</b>	<ul style="list-style-type: none"> <li>• Access to bin stores must remain free from obstruction i.e. no parked cars. Ideally there should be hatching immediately in front of the bin stores.</li> <li>• The travel route for collection and return of bins to the bin store must have a minimum distance of 2 metres between parked cars.</li> </ul>
<b>Presentation</b>	<ul style="list-style-type: none"> <li>• Commercial kitchen refuse area, Main Refuse store / recycling point(s) shall be no more than 20 metres away from the point of emptying.</li> </ul>

<b>Terrain</b>	<ul style="list-style-type: none"> <li>• Well maintained solid surfaces required e.g. block paving, concrete, tarmacadam. No cobbles, grass, gravel, potholes etc.</li> <li>• Gradients of any ramps must be no steeper than 1:16.</li> <li>• No steps within the travel route for the collection and return of bins.</li> <li>• Where bins are to be moved off a pavement, dropped kerbs are required.</li> </ul>
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7.24.2. Bin dimensions ( Paladin wheelie bins with lids )

Bin size (litres)	Width (mm)	Depth (mm)	Height (mm)
Material - plastic with lids			
1100	1270	1120	1296
Material – metal with lids			
1100	1250	980	1370

7.24.3. All waste and recycling bins (with lids) must be in place at the time of handover / early take over, and are to be purchased by the *Contractor*. Should bins not be provided at handover / early take over, then the *Contractor* must put in place alternative arrangements for collection of rubbish from the day of handover until the bins have been delivered.

*The Contractor* shall design a residents refuse and recycling collection point(s) and a Main refuse store, plus a refuse / recycling area for the commercial kitchen for each scheme. Residents will be responsible for taking their own refuse to an internal refuse and recycling collection point(s) which should contain domestic size black and green dustbins with lids (80L) with easy open lids for both general refuse and recycling. From here all refuse will be moved on a daily basis by Facilities staff to the main refuse store (internal or external) and deposited into the 1100 litre paladin wheelie bins with lids. Consideration should be given to the most unobtrusive route for moving refuse through the building or from the commercial kitchen to the external refuse and recycling area.

The residents refuse and recycling room, plus the Main Refuse store and the external refuse and recycling area from the commercial kitchen shall be designed to accommodate sufficient bins to suit the number of apartments, plus ancillary staff and office accommodation, plus the commercial kitchen. Size of residents refuse storage area shall be based upon 90 litres of waste capacity per week for each apartment, plus

the refuse / recycling requirements to suit the staff / office ancillary facilities. *The Contractor* shall also design the main refuse/recycling storage area(s) and refuse removal for each scheme, plus the external waste and recycling area associated with the commercial kitchen.

- 7.24.4. For regular waste collection arrangement for each scheme, please contact Naomi Swinden on 0113 3786365 (email [naomi.swinden@leeds.gov.uk](mailto:naomi.swinden@leeds.gov.uk)) to confirm number and type of bins required at each site and the dimensions of the bins. This will allow the main refuse store, plus the residents refuse and recycling storage room(s) to be designed and built big enough to house all the bins required and to allow safe manoeuvring the bins in and out of the store. For the commercial kitchen, please contact Mark Lee on 0113 5350265 (email [mark.lee@leeds.gov.uk](mailto:mark.lee@leeds.gov.uk)) in relation to size, number and type of bins contained within an external storage area. For collection and disposal of waste from the commercial kitchen, please contact Rachelle Wilkinson on 0113 273800 (email [Rachelle.wilkinson@leeds.gov.uk](mailto:Rachelle.wilkinson@leeds.gov.uk))
- 7.24.5. Bin storage be designed and located so its visual appearance is minimised, using screening, while retaining ease of access for the refuse collection vehicle/crew. It should be away from any windows of apartments or neighbouring houses.
- 7.24.6. Any Refuse bins stored externally to be a minimum distance of 3m away from the building, using steel jumbo bins with lockable fire resistant lids. Traditional plastic bins may be used if they are stored more than 6m away from the building.
- 7.24.7. Main bin store to be located with easy access from main road and to include level access for moving bins.
- 7.24.8. A tap and drain should be installed in the main refuse store for cleaning bins and the store.
- 7.24.9. **No refuse chutes to be provided internally.**
- 7.24.10. Designs within the building must be innovative and adaptable to meet the increasing demands for effective recycling and refuse collection. Refuse and recycling containers should be placed within each apartment kitchen.
- 7.24.11. Main Refuse store external double doors to be robust, aluminium powder coated and lockable, minimum opening of 1800mm to allow easy access for transportation of large wheelie bins.
- 7.24.12. Solid core 926mm wide fire door sets between corridor and residents refuse and recycling collection point(s) and a second 926mm wide fire door set between residents refuse and recycling collection point(s) and main refuse store

## **7.25. BOUNDARY TREATMENTS**

- 7.25.1. All boundary treatments will be agreed on a location specific basis. Boundary treatments should be of a suitable height to provide both appropriate physical and visual separation, of robust materials and construction to ensure longevity with minimal

maintenance requirements, and of a visually attractive design so as to integrate and compliment the design of both the new development and surrounding existing context. All fence panels and rails etc. must be securely fixed to the posts to minimise the risks associated with theft or vandalism.

- 7.25.2. Boundary walls must be designed to discourage people walking on them by the inclusion of a suitable coping or railing.
- 7.25.3. All timbers forming part of the boundary treatments shall be preservative treated by pressure impregnation. Final colour to be achieved by 2 coats preservative stain finish.
- 7.25.4. Fence posts forming part of boundary treatments shall be in reinforced concrete with concrete base panels.
- 7.25.5. All timber fencing forming part of the proposed boundary treatments shall be close-boarded (space boarded) screw fixed, 1800mm.
- 7.25.6. Walls and Retaining Walls - Generally to have durable coping details. Concrete retaining walls shall be faced in brickwork.
- 7.25.7. Fencing adjacent to any public space shall be 2100mm above ground level and resistant to climbing and theft with no space underneath and be sunk to a minimum depth of 150mm below ground level. Panels shall be manufactured from pre-galvanized wires and an adhesive coating applied to allow a perfect adhesion with a polyester coated with a galvanized substrate in accordance with Euro norm 10147. Panels shall consist of vertical barbs of 30mm on top of the panel. Mesh size to be 200x50mm and 100x50mm for the beam sections. Heavy wires with a diameter of 5mm to guarantee a high level of rigidity. Posts shall be 60x60mm with a matching plastic cap. Panels to be fixed to the front of the posts with fixators and security bolts. All as per manufacturers recommendations. Colour – Standard Green RAL 6005. Min 10 year warranty. *Suitable landscaping / planting to be proposed internally to grow through and up the fencing.*
- 7.25.8. Acoustic fencing shall normally carry a minimum db rating of 55. Fencing shall be heavy duty close boarded with no gaps. 1800mm high. Db rating requirements shall be confirmed to a particular application or scheme.

## **7.26. ROADS AND STREET LIGHTING**

- 7.26.1. Roads and street lighting will be designed and specified in accordance with the relevant Highway Authority's requirements to meet the 2016 Gold standard Secured by Design requirements. New roads will be constructed to adoptable standards, and shall be adopted by the City Council on completion. The usual handover or early take-over and defects process will be adhered to.
- 7.26.2. Traffic calming measures will be incorporated into the road design in agreement with the Council (if required).

7.26.3. Road name signs and dwelling numbers are to be provided in line with Local Authority requirements. All must be in place before handover unless they have not been supplied by the Local Authority then temporary signage must be put in place.

7.26.4. The *Contractor* will note that the provision and maintenance of the majority of street lighting and illuminated traffic signage, located in the Metropolitan District of Leeds, within the extent of the adopted Highway is currently maintained under an existing Street Lighting PFI Contract and is compliant with current standards, albeit, a small number of lighting columns will require replacement as part of a Lifecycle Replacement Programme, but these will be as a result of an on-going structural testing regime by the Street Lighting PFI Service Providers, Operating *Sub-Contractor*, Scottish & Southern Energy - Enterprise.

7.26.5. Any proposals by the *Contractor* to:

- Alter the position of existing street lighting or illuminated signage ;
- Remove existing street lighting or illuminated signage;
- Upgrade the standard street lighting equipment with architectural street lighting equipment; or
- Provide lighting of a higher standard than that of current requirements, in particular The British Standard for Road Lighting, BS 5489

Will require approval through the existing Street Lighting PFI contract procedures. Details of which are set out within the Street Lighting PFI Contract Development Standard Specification (DSS). A copy of the DSS can be obtained from the Street Lighting PFI Operating *Sub Contractor*:

Mr. Mark. Thompson (Operations Manager) Tay Valley Lighting (Leeds) Ltd, C/O SSE Enterprise, Astley Lane Industrial Estate Swillington, LEEDS, LS26 8XT.

Alternatively, you can contact the Leeds City Council, Street Lighting PFI Contract Monitoring Team: [slpfimonitoring@leeds.gov.uk](mailto:slpfimonitoring@leeds.gov.uk) 0113 385 3124

7.26.6. *Contractors* will note that for existing adopted highway, the costs of the Lifecycle Replacement Programme of existing street lighting and illuminated signage (to current standards) and the ongoing maintenance of this street lighting and illuminated signage has been included in the Street Lighting PFI contract and will not be required to be priced within this Contract. Any costs over and above these for improved levels of lighting, equipment or a change of lamp positions on adopted Highway will be borne by the *Contractor* and must be agreed, prior to any works being undertaken, with the Street Lighting PFI Operating *Sub Contractor*.

## **7.27. FOOTPATHS**

7.27.1. Public footpaths must be designed and specified in accordance with the relevant Highway Authority's requirements.

- 7.27.2. Footpaths will generally be provided on both sides of roads. New footpaths will be constructed to adoptable standards, and shall be adopted by the Local Authority on completion. The usual handover and defects process will be adhered to.
- 7.27.3. Paths must comply with general accessibility standards with minimum widths not restricted by obstructions such as meter boxes.
- 7.27.4. Paths are to have a slip resistant finish and laid to a cross fall and to be consistent with surfaces shown in Works Information.
- 7.27.5. Drainage designs shall be considered so that inspection chambers sit square with paving slabs in paths (if applicable) and are not located in grassed areas.
- 7.27.6. Inspection chamber covers and frames will be manufactured of cast iron and be of adequate strength for the anticipated traffic with recessed surface for paving slabs to be installed for consistent finish to surrounding paving.
- 7.27.7. The *Contractor* is to include for crossovers and making good to pavements to the approval of the Council.

## **PART 4                    TECHNICAL SPECIFICATION**

### **8.                    GENERAL REQUIREMENTS**

To be read in conjunction with all other appendix documents

#### **8.1.                TECHNICAL PRINCIPLES - GENERAL**

- 8.1.1. Any materials used in external construction of the building shall be corrosion resistant or be finished with factory applied corrosion resistant finish.
- 8.1.2. Asbestos based products or products incorporating asbestos must not be used on site or included in the building.
- 8.1.3. Harmful Emissions; The Contractor is to ensure that potentially harmful emissions are minimised by ensuring the use of chemical treatments such as formaldehyde is restricted, only using treated timber where specifically required by the Client (and ensuring such treatment is carried out under controlled conditions), using paint which does not include added lead and avoiding the use of any products which incorporate CFCs or HFCs or require the use of them in their manufacture.
- 8.1.4. Samples; or good quality trade literature, of ironmongery, internal and external doors, windows, bathroom and kitchen fittings, decoration schedules, wall and floor finishes, taps, tanks, radiators, boilers, thermostatic valves and electrical equipment shall be submitted for approval prior to ordering.
- 8.1.5. Site Clearance; Generally remove all debris, fly tipping, surplus vegetation, trees, fences, walls, imported hardcore, pavings, surfacings, kerbs etc. and all deleterious or harmful material from both above and below ground from the site and bring the whole of the site to the required levels including breaking out obstructions, foundations etc. and removing surplus excavated material from site and importing hardcore or filling as necessary.
- 8.1.6. Japanese Knotweed; if applicable, the Contractor shall be responsible for investigating the site to establish the presence or otherwise of Japanese Knotweed or other aggressive invasive species. If any of these plants are present the Contractor is to seek specialist advice and carry out all work to ensure that on completion of the project they have been completely eradicated from the site.
- 8.1.7. Protection; the Contractor will adequately protect all trees etc. which are to be retained and prune (with the approval of the Client) and leave in good condition on completion.
- 8.1.8. Contaminated Ground; the Contractor will carry out all work in connection with contaminated ground to the approval of the relevant authorities and carry out all necessary work to prevent dangerous gases entering the building.
- 8.1.9. If the site is currently occupied by buildings, the Contractor shall complete demolition and remain fully responsible for any adjustment of levels, grubbing up of bases/foundations, inspection pits, and the like together with any associated drainage,



capping of drain ends and isolation or termination of all services as may be required, to facilitate the new development.

- 8.1.10. The *Contractor* is to arrange for removing all asbestos.
- 8.1.11. It is necessary to carry out 'Reasonable Avoidance Measures for Building Demolitions' and a copy of REG quotation for carrying out this is included in the tender documents.
- 8.1.12. See lifecycle expectancy details for more specific details on the elemental components.

## **8.2 PARTNERSHIP APPROACH DURING MOBILISATION PERIOD**

- 8.2.1 It shall remain the responsibility of the *Contractor* to ensure that any components manufactured off site as part of any proposed Modern Methods of Construction comply with the requirements of the Contract.
- 8.2.2 However, during the mobilisation period, the *Contractor* and NEC *Project Manager*, Technical Manager and lead Technical Advisor shall develop a strategy for ensuring the quality of works, including any off-site manufacturing of components is managed efficiently and effectively. This strategy shall include Leeds City Council technical and housing representatives, plus lead Technical Advisor having an opportunity to view and comment on sample components or proposed products prior to approvals being granted. Adopting this approach is intended to ensure that any off-site works, plus proposed product selection meet the requirements of the contract, that in-turn should ensure the end product is deemed fit-for-purpose prior to being either mass produced, delivered or installed, connected or erected on site.
- 8.2.3 This process shall include developing detailed designs of the manufacturing process and how M&E services, kitchens or bathrooms for example are installed, which could include the Contractor arranging factory visits at intervals to suit the manufacturing process, where elemental works could be inspected and any issues, concerns or potential problems identified and discussed to minimize any potential disruption to the contract.
- 8.2.4 In addition, the *Contractor* shall develop a table during the mobilization period and prior to the first progress meeting which captures all proposed installations and systems, such as the lift, CCTV, MVHR, Mechanical input/extract ventilation, Heating, controlled entry, all fire safety measures and systems, plus landscaping and grass cutting requirements etc. This table shall form part of the *Contractor's* monthly progress report and shall include installation and commissioning test details, plus future servicing requirements, supplier details and model numbers.
- 8.2.5 The table shall also be included as a standard agenda item at all progress meetings and is intended to ensure the information is being regularly considered, captured and recorded as proposals are firmed up by the *Contractor*.
- 8.2.6 The purpose of this table to ensure Leeds City Council have adequate time to consider, prepare and arrange where necessary any future servicing arrangements beyond hand-over and completion of the defects liability period. The content and format of this

table shall be developed by the *Contractor* and provided to the *Project Manager* for consideration and approval.

### **8.3 ELEMENTAL WORKS IN PROGRESS**

8.3.1 The *Contractor* shall invite the *NEC Project Manager*, *NEC Supervisor*, *Construction Monitor* and *Leeds City Council's* technical and housing management representatives to undertake joint key stage checks of all elemental works in progress and upon proposed completion within the initial apartment, plus the elemental works within the communal areas. Adopting this approach shall ensure standards of workmanship and finish are agreed by all parties at the very outset of the project. It shall then be the responsibility of the *Contractor* to maintain those agreed standards for the remainder of the contract. This process shall assist with developing and maintaining good working relationships and is intended to assist with ensuring the smooth running of the contract. **Full schedule / scope of key stage checks to be agreed between Contractor, NEC Project Manager and NEC Supervisor during the mobilization period.**

### **8.4 STANDARDS OF WORKMANSHIP & FINISH**

- 8.4.1 The *Contractor* must inspect the works carried out and satisfy themselves that they are without defect and conform to all standards of performance and workmanship agreed at the outset, prior to presenting the work to the *NEC Project Manager* and *NEC Supervisor*, plus representatives from *Leeds City Council* for approval and acceptance as per the individual apartment completion check list and hand-over / early take over standards as detailed within the table above.
- 8.4.2 Works that do not achieve the required and agreed standard will not be considered as complete for hand-over or early take-over by the *NEC Project Manager* and *NEC Supervisor*.

## **TYPES OF CONSTRUCTION**

### **8.5 TRADITIONAL OR MODERN METHODS OF CONSTRUCTION (MMC)**

- 8.5.1 The *Contractor* is able to consider utilizing modern methods of construction as well as traditional methods of construction for the proposed programme of works. Any proposed Modern Method of Construction must be sufficiently durable and robust as to provide a minimum life expectancy of 60 years.
- 8.5.2 The *Contractor* shall demonstrate that any proposed methods of construction allows for the external materials to reflect the character, appearance and are sympathetic to the local area.
- 8.5.3 Workmanship
- a) All workmanship must be within the tolerances defined by LABC

- b) All work is to be carried out by a technically competent person in a workmanlike manner.
- c) Certification is required for any work completed by an approved installer.

#### 8.5.4 Materials

- a) All materials should be stored correctly in a manner that will not cause damage or deterioration of the product.
- b) All materials, products and building systems shall be appropriate and suitable for their intended purpose.
- c) The structure shall, unless specifically agreed otherwise with the Warranty provider, have a life of not less than 60 years. Individual components and assemblies, not integral to the structure, may have a lesser durability, but not in any circumstances less than 15 years.
- d) Are materials / products or systems covered by a current approval from an independent third-party technical approval body which is accepted by MDIS. This would be either a UKAS accredited or a European equivalent accredited organisation, such as ILAC (International Laboratory Accreditation Co-operation). Details of the testing body accreditation will need to be supplied, together with the certification document to LABC for approval.
- e) Carry independent third-party testing that recognises UK Building Regulation requirements and additional Warranty standards. Details of the performance and the limitations of use of the material/product or system tested must be provided.
- f) Bear a CE marking in accordance with the Construction Products Directive. This shall be supported by evidence of testing carried out on the product. Construction methods that cannot meet the requirements of this Technical Manual must be approved in advance by the Warranty provider at the design stage, well before commencement on-site.
- g) MMC, products or systems that have third-party approval will still need to be structurally approved on a site-by-site basis depending on the layout and loading of the component. Thermal properties and measures to prevent condensation will also require specific assessment depending on exposure, orientation, etc.

#### 8.5.5 Design

- a) The design and specifications shall provide a clear indication of the design intent and demonstrate a satisfactory level of performance.
- b) Structural elements outside the parameters of regional Approved Documents must be supported by structural calculations provided by a suitably qualified expert.
- c) The construction must meet the relevant Building Regulations, British Standards, Eurocodes and other statutory requirements.
- d) All MMC systems must be assessed and approved by a recognised third-party assessment body.

- e) The *Contractor* shall demonstrate that the proposed design of any proposed modern methods of construction reflect the character, appearance and are sympathetic to the local area.
- f) Any external cladding / SIPS panels to be designed with the appropriate level of fire resistance based upon structural or external fire spread requirements.

## **8.6 SUBSTRUCTURE**

- 8.6.1 Insulated foundations are required with thermal bridge free junctions to the superstructure.
- 8.6.2 This element is to be fully designed by the *Contractor* in accordance with all relevant design codes.
- 8.6.3 Foundations; The foundations are to be constructed to the approval of the Local Authority Building Inspector with the damp proof course being not less than 150mm above ground level (or other method to obtain compliance with Building Regulations as approved by the NEC Project Manager).. The ground floors shall be fully insulated and all sub-floor voids adequately ventilated. Special attention is to be paid to detailing at ramped entrances and to provision of a gas proof membrane if required.
- 8.6.4 Responsibility; Any variations arising from ground conditions or requirements of the Local Authority Building Inspector/ LABC inspector will be the responsibility of the *Contractor*.
- 8.6.5 Ground Conditions; Foundations are to be designed and constructed to suit ground conditions.
- 8.6.6 Foundations shall be concrete as required, designed by the *Contractor* in accordance with British Standards, with the final depth, composition and details approved by the Local Authority / Building Control and in accordance with LABC guidelines.
- 8.6.7 The foundations shall be designed and constructed to support all applied loads from the superstructure frame, cladding, walling, plant/tanks and ground floor construction and any other superstructure. All foundations are to be designed to ensure that foundation movements over the life of the building are within limits that can be tolerated by the proposed structure, cladding, floors and finishes without impairing their serviceability.
- 8.6.8 All excavations are to be planned and executed in accordance with British Standards taking into account all existing structures, foundations and services.
- 8.6.9 The selection of suitably graded granular fill is to be made by a competent and experienced Geotechnical Engineer who is to propose a method statement and control procedure for compaction with due regard to the adverse effects of long term settlements. The compaction of fill is to be in even layers as recommended by the Geotechnical Engineer to achieve the recommended densities. All exposed surfaces are to be suitably protected to the satisfaction of the Geotechnical Engineer.
- 8.6.10 All earth retaining structures, where appropriate, are to be designed and constructed in accordance with BS 8004 / BS EN 1997.
- 8.6.11 Any proposed piling works are to be designed and executed in accordance with the ICE Specification for Piling and Embedded Retaining Walls (SPERW), and an

appropriate pile testing regime planned with results made available to the NEC *Project Manager*.

- 8.6.12 All foundations and embedded retaining structures are to be kept completely within the site boundaries. Contractor to make party wall notifications to any affected parties and resolve any Party Wall Awards prior to commencing work on site.
- 8.6.13 Landfill Gases; The Contractor shall investigate as necessary to ensure the absence of landfill gases, radon or the like. Should any such problems be present he shall ensure the building is constructed to the approval of the Building Inspector who is to be aware of the problem. All appropriate tests shall be carried out by the Contractor at his expense.

## **8.7 DPCS AND TANKING**

- 8.7.1 DPCs built in new construction must comply with the guidance given in British Standards.
- 8.7.2 All DPC installations shall be installed in-accordance with manufacturer's instructions and a warranty provided.
- 8.7.3 Before works commence all detailed DPC drawings and specifications are to be provided to the NEC Project Manager for approval.
- 8.7.4 With regards to provision of tanking, the *Contractor* is required to install an appropriate approved tanking system to meet with the proposed dual tanking system as suggested by forthcoming LABC requirements. Detailed proposals to be provided by the *Contractor* to the NEC *Project Manager* for comment and approval.

## **8.8 GROUND FLOOR SLAB**

- 8.8.1 This element is to be fully designed by the *Contractor* in accordance with all relevant design codes.
- 8.8.2 It is the *Contractor's* responsibility to review all site data and undertake any further investigations and testing regimes to develop and construct the ground floor slab.
- 8.8.3 The ground floor slab shall be designed and constructed to support all dead and imposed loads applied to the slab, including the weight of finishes and partition walling. Design loadings shall be considered to act simultaneously in 'worst case' combinations using appropriate partial action factors in accordance with relevant British Standards / Eurocodes. The slab is to be designed to ensure that deflections / displacements / settlements over the life of the building are within limits that can be tolerated by the proposed structure, cladding, floors and finishes without impairing their serviceability.
- 8.8.4 The ground floor slab is to be designed and detailed by the *Contractor* to meet all Architectural requirements, including those relating to tolerance, finishes, floor-to-ceiling heights, service zones, acoustic and thermal requirements.
- 8.8.5 The construction of the ground floor slab is to be fully compatible with the mechanical heating and ventilation strategy for each building. The design of the slab is to be fully coordinated with requirements for routing and distribution of Mechanical and Electrical (M&E) services, providing ductwork, apertures, risers and external penetrations as required in accordance with the Client's M&E Performance Specification.

- 8.8.6 The foundations and ground slab are to be designed and constructed incorporating all necessary underground ducts, recesses, cableways, storm and foul water drainage etc. as is required for the completed building. The *Contractor* is to ensure the full coordination of suspended and/or ground bearing floor slabs with the requirements of all other relevant parties e.g. service penetrations, below ground drainage.
- 8.8.7 On completion of the floor slab an approved survey is to be carried out by the Contractor to confirm the achieved surface tolerance, prior to any fitting out works taking place.
- 8.8.8 All dwellings, as applicable due to Building Regulations – WC to have floor drainage for an accessible floor level shower with a floor construction that provides either shallow falls to the floor drainage, or (where the drainage is initially capped for use later following installation of a shower) that allows simple and easy installation of a laid-to-fall floor surface in the future.
- 8.8.9 Whether provided from the outset, or by subsequent adaptation, fall gradients in the floor should be the minimum required for efficient drainage of the floor area. Crossfalls should be minimised. The floor drain should be located as far away from the doorway as practicable.

## **8.9 SUPERSTRUCTURE**

- 8.9.1 The superstructure design depends on the method of construction selected by the *Contractor*, in conjunction with all other disciplines.
- 8.9.2 The superstructure is to be fully designed and detailed by the *Contractor*, using construction method/materials which satisfy the requirements of this performance specification.
- 8.9.3 The superstructure shall be designed and constructed to support all vertical dead and imposed applied loads from the superstructure, floors, cladding, walling, plant/tanks and roof construction, and any other relevant loads.
- 8.9.4 The superstructure shall also be designed to resist wind loading and notional horizontal forces to allow for inaccuracies in construction. Vertical and horizontal design loadings shall be considered to act simultaneously in 'worst case' combinations using appropriate partial action factors in accordance with relevant British Standards / Eurocodes.
- 8.9.5 All elements of the superstructure are to be designed to ensure that local and global deflections / displacements / sway over the life of the building are within limits that can be tolerated by the proposed structure, cladding, floors and finishes without impairing their serviceability.
- 8.9.6 Wind loadings used in the design of the overall building(s) and of all structural elements shall be derived using current British Standards using appropriate partial action factors and wind loading combinations.
- 8.9.7 The superstructure is to be designed and detailed by the *Contractor* to meet all Architectural requirements, including those relating to tolerance, finishes, glazing, floor-to-ceiling heights, service zones, acoustic and thermal requirements. Further details of these requirements are provided elsewhere in this document.

- 8.9.8 The construction of the superstructure is to be fully compatible with the mechanical heating and ventilation strategy for the building(s). The design of the superstructure is to be fully coordinated with requirements for routing and distribution of Mechanical and Electrical (M&E) services, providing ductwork, apertures, risers and external penetrations as required.
- 8.9.9 Stancions and bracing systems where required shall be located such that they do not conflict with window or door locations. No bracing is permitted within the glazed facades. Any bracing locations are to be fully coordinated with all affected parties, and are subject to the approval of the NEC *Project Manager*.
- 8.9.10 Wind posts and bed-joint reinforcement shall be used to restrain masonry wall panels where necessary. Wind posts within masonry walls and to parapets to be designed by *Contractor* and to be appropriately detailed to maintain water tightness and prevent cold bridging into the warm areas of the building.
- 8.9.11 The construction shall comply with fire resistance requirements of the Building Regulations and the Local Authority Fire Officer.
- 8.9.12 External exposed steelwork to be hot dip galvanised.
- 8.9.13 It is essential that all junctions are carefully designed and coordinated to ensure that the stringent insulation and air sealing requirements are met. The super insulated walls must be thermal bridge free at all junctions - U-value 0.090W/(m<sup>2</sup>K).

## **8.10 EXTERNAL WALLS**

- 8.10.1 Shall either be factory applied or constructed on site to suit the proposed method of construction.
- 8.10.2 The Contractor shall select external materials which reflect the character, appearance and remain sympathetic to the local area.
- 8.10.3** Proposed system must be capable of supporting satellite dishes, security cameras, intruder alarms, tv aerials, external security and patio, balcony or terrace lighting etc, Fixing of tv aerials, clothes line hooks, intruder alarms, external security lighting and security cameras to be fixed as per manufacturers instructions and suitable for the type of wall construction. ***Elevation drawings including any pattress locations to be provided upon completion of each scheme.***
- 8.10.4 External wall should be detailed in accordance with BS 9991 section 4 - 18 External Fire Spread & Building Separation.
- 8.10.5 Any external cladding / SIPS panels to be designed with the appropriate level of fire resistance based upon structural or external fire spread requirements.

## **8.11 FACTORY APPLIED BRICK SLIP SYSTEM**

- 8.11.1 This shall include a clay brick-slip finish (min 14mm thick) as an option for consideration and shall be fully applied to the external finish. Application to suit any proposed Modern

Method of Construction and to reflect the character, appearance and remain sympathetic to the local area. Applied to external walls as per manufacturer's instructions and shall be BBA certified and must achieve a Category 1 impact assessment. Details of proposed external wall structure to be provided by the *Contractor* to the *NEC Project Manager* for consideration, which shall include consideration by the Technical Manager and lead Technical Advisor. Brick slip finish to fully comply with required lifecycle requirements.

## **8.12 MASONRY**

- 8.12.1 Brickwork to be frost resistant with low soluble salt content quality and all art stone to be wet cast.
- 8.12.2 The colour of bricks and mortar must be approved in accordance with Planning Authority and Building Control. Allowance should be made for at least two sample panels, to be constructed on site and they shall remain in-situ on site until the final dwelling has been accepted as complete. Sample panels shall require *NEC Project Managers* approval prior to works commencing on site.
- 8.12.3 The use of coloured mortars to complement facing and contrasting brickwork is to be allowed for. If natural colour is chosen, it must be the traditional colour of sand and cement. Pointing details to be agreed with the *NEC Project Manager*.
- 8.12.4 Fully pointed face-work must start 150mm below the proposed final ground level, to allow adjustment of levels if required.
- 8.12.5 There must be a plinth in engineering brick from at least two courses below ground level up to DPC level. Where there are two DPCs, to provide a level access threshold, the plinth must extend to the upper one.
- 8.12.6 Restraint straps shall be installed to the requirements of the Building Inspector, the LABC and British Standards.
- 8.12.7 The joint between external walls and window and door frames shall be pointed with a compatible non-setting sealant. The sealant should have a convex exposed face not less than 10mm wide as advised by BRE DAS 68.
- 8.12.8 Expansion joints in external walls shall be provided as required filled with suitable compressible cellular foam filler and pointed with compatible non-setting sealant. Cavity fire barriers and cavity trays shall be provided as required.
- 8.12.9 Lintels to be insulated post galvanised steel above all openings and to have minimum 150mm end bearings or as per manufacturer's instructions if greater. Cavity trays with stop ends are to be provided over all openings and to lintels and these are to allow drainage to the exterior only.
- 8.12.10 Clean all cavities and clean down all facing brickwork to the *NEC Project Manager's* satisfaction prior to handover. Brickwork acid cleaner may only be used if approved by the *Project Manager*.
- 8.12.11 In order to achieve a uniform appearance throughout the building and to avoid the possibility of patches or bands of differing shades, bricks should be randomly selected and used from a minimum of 3 packs at the same time.



- 8.12.12 Where STA approved timber framing or use of SIPs is adopted, external walls are to be loadbearing construction with timber plywood / proprietary board / plasterboard sheathing to form both vertical loadbearing structure and to act as racking panels to resist horizontal loadings. Openings are typically to be framed using double/triple timbers, or using isolated glulam timber as required for larger spans or to support concentrated loads. Insulation will be incorporated into external wall build-ups in addition to an airtight layer to achieve the high level of air sealing.
- 8.12.13 Where external cladding forms part of loadbearing masonry elements, these are to be designed in accordance with the latest revisions of British Standards.
- 8.12.14 The *Contractor* shall submit calculations and any other relevant information to confirm and ensure that the cladding forming the external vertical enclosure will resist all window loads, dead loads and design wind loads.
- 8.12.15 Where applicable, the masonry and roof structure over openings shall be supported over the opening by proprietary cold-formed or purpose-made steel lintels with suitable corrosion protection coatings.
- 8.12.16 All walls are to be tied into and laterally restrained by all floor / roof constructions to ensure their stability and building integrity, and to satisfy the requirements of the Building Regulations.
- 8.12.17 Where appropriate, masonry movement joints must be provided and appropriately located within the walls to prevent cracking in accordance with the requirements of the manufacturers supplying the masonry units and British Standards. Generally, movement joints within brickwork and blockwork must be provided at 12m and 6m maximum centres respectively or at the manufacturers recommended spacing whichever is the lesser dimension.
- 8.12.18 All movement joint locations and details must be approved by the NEC *Project Manager*.
- 8.12.19 Where appropriate, proprietary stainless steel bed-joint reinforcement may be utilised within the masonry walls to control cracking and/or achieve stability of wall panels.
- 8.12.20 Both brick-slip and render systems proposed must ensure compliance with the lifecycle requirements. If a reduced thickness of brick slip is proposed, evidence must be provided to demonstrate how this complies with the lifecycle and impact assessments required.
- 8.12.21 External wall should be detailed in accordance with BS 9991 section 4 - 18 External Fire Spread & Building Separation.
- 8.12.22 Cavity barrier requirements as detailed in BS 9991 section 19.

### **8.13 RENDER**

- 8.13.1 Render is to be a through coloured system to provide excellent durability and be UV stable, fully weather resistant but vapour permeable and highly resistant to impact damage, non-flammable and have a Class 0 classification for surface spread of flame.
- 8.13.2 All beading to be aluminium and colour coordinated to match render colour.
- 8.13.3 Render colour and finish to be approved by the NEC *Project Manager*. Render to be avoided at low-level situations to provide a maintenance free solution.

- 8.13.4 Render system/products to be a minimum 16mm thickness.
- 8.13.5 All weep hole vents and penetrations of the render to be approved by the NEC *Project Manager*.

#### **8.14 WEATHERBOARDING FINISH**

- 8.14.1 Where the use of alternative external finishes are proposed from the use of render and brickwork, the *Contractor* must present these to the NEC *Project Manager* for review (for acceptance or rejection).

#### **8.15 UPPER FLOORS**

- 8.15.1 Upper floors shall be designed to support and transmit loads safely to the supporting structure without undue deflection and in accordance with the relevant warranty provider.
- 8.15.2 Service Access; Access ducts with screwed duct covers shall be provided and marked to facilitate maintenance and repair within the floor zones. The *Contractor* is to provide general arrangement plans with access floor zones identified at handover and included on the as-built drawings.
- 8.15.3 Upper floor to be designed to include fire resistance requirements as detailed in BS 9991 table 3, 4 & 5

#### **8.16 ROOF AND ASSOCIATED COVERINGS AND DRAINAGE**

- 8.16.1 Shall be either be manufactured off-site, or constructed on site to suit the proposed methods of construction.
- 8.16.2 The *Contractor* shall select external roofing materials and finish which reflect the character, appearance and remain sympathetic to the local area. Proposed detailed designs and materials to be provided by the *Contractor* to the NEC *Project Manager*, Technical Manager and lead Technical Advisor for consideration and comment.
- 8.16.3 Generally:
- a) All aspects of the building fabric and installations are to provide resistance to penetration by rain, snow and wind. There must be no visible signs of entry to weather caused by a breakdown in the building fabric or its installations.
  - b) To be water, wind and weather tight and designed to discharge water.
  - c) To be constructed in order to operate to the minimum prescribed energy efficiency standards.
  - d) The noise of rain must be minimised and in particular noise abatement measures must be incorporated in relation to flat roofs and bay windows.
  - e) Roof and eaves design is to deter unauthorised access into the building and vandalism.

- f) The Council has a preference for pitched roofs, however should a flat roof be proposed these would need to be approved by the NEC *Project Manager*

#### 8.16.4 Structure

The roof is to be fully designed and detailed by the *Contractor*, using construction method/materials which satisfy the requirements of this performance specification. Typically, forms of construction include, but are not limited to:

- a) Timber gang-nail truss construction with structural sheathing and bracing and strapping down as required for robustness and stability. Roof trusses must be manufactured from timber with Chain of Custody certification. Open web joists are preferred. Steel or Glulam elements to be used as appropriate considering span and loading arrangements.
- b) Traditional timber framed cut roof construction with timber purlins / ridge beams as necessary to achieve the architectural arrangements.
- c) The roof shall be designed and constructed to support all vertical dead and imposed applied loads from the roof structure, cladding, insulation, ceiling, services, plant/tanks, snow, and any other relevant loads. The roof shall also be designed to resist wind loading and notional horizontal forces to allow for inaccuracies in construction. Vertical and horizontal design loadings shall be considered to act simultaneously in 'worst case' combinations using appropriate partial action factors in accordance with relevant British Standards / Eurocodes. All elements of the roof are to be designed to ensure that local and global deflections/displacements/sway over the life of the building are within limits that can be tolerated by the proposed structure, cladding, ceilings and finishes without impairing their serviceability.
- d) Wind loadings used in the design of the overall building(s) and of all structural elements shall be derived using British Standards using appropriate partial action factors and wind loading combinations.
- e) The roof is to be designed and detailed by the *Contractor* to meet all Architectural requirements, including those relating to tolerance, finishes, glazing, floor-to-ceiling heights, service zones, acoustic and thermal requirements.
- f) Roof rainwater goods and rainwater drainage items are to be designed and fully coordinated with the roof structure and building superstructure to provide adequate penetrations, fixings, drainage routes etc. as is suitable, and in accordance with all proprietary manufacturers guidance & specifications. Rainwater goods for the apartment block shall be calculated to suit the type, size, style and design of the roof structure.
- g) The construction of the roofs are to be fully compatible with the selected methods of construction, plus the mechanical heating and ventilation strategy for the building(s). The design of the roofs are to be fully coordinated with requirements for routing and distribution of Mechanical and Electrical (M&E) services, providing ductwork, apertures, risers and external penetrations as required in accordance with the M&E Performance Specification.

- h) All timber members to be strapped (or otherwise restrained) to all walls against uplift and to provide adequate head restraint to walls in accordance with The Building Regulations.
- i) Allowance shall be made to support specific items of plant as required by the M&E Services Engineer's specification, such as water tanks and boilers. All flashings and hip details to be lead (min code 4). To be treated with 2 coats of patination oil immediately after installation, stepped flashings to incorporate soakers. A lead substitute may be considered by the *Project Manager* for flashings. Cavity trays to be in accordance with Building Control requirements.
- j) Verges, ridges and hips; shall be constructed in suitable 'dry' systems with mechanical fixings, fully compatible with the roof covering.

#### 8.16.5 Coverings

- a) Roof tiles samples must be approved, prior to works commencing, by the Local Planning Officer and NEC *Project Manager*.
- b) Roof tiles – to be in accordance with the approved planning drawings.

### 8.17 ROOF DRAINAGE

- a) The *Contractor* shall provide detailed calculations to the NEC *Project Manager* for roof drainage proposals, highlighting rainwater sizing to in accordance with approved BS EN for rain water installations.
- b) Rainwater goods, unless otherwise stated, shall be BBA approved seamless aluminium deep flow gutters with leaf guards, coloured to be agreed with NEC *Project Manager*). The system shall be installed in-accordance with manufacturer's recommendations and provide a 10 year material guarantee.
- c) Where a covered area or porch is provided, gutters and rainwater pipe-work, discharging into gullies, shall be incorporated. Rainwater drainage shall be provided to suit the appropriate porch design and may be omitted where the rainwater does not discharge directly on to paths.
- d) Any porch or canopy, which might discharge over a pedestrian route, must have gutters and a down pipe. For roof areas over 2m<sup>2</sup>, the down pipe must be taken to a gully.
- e) Down pipes to be provided. All down pipes to be installed in accordance with manufacturers recommendations.
- f) By exception, a doorway drain is to be provided across the front of all entrances and exit to the properties, providing unobtrusive threshold drainage compliant with Part M and Sections 4 building regulations with heel guard and friction fit gratings.

- g) Channel drains to be provided where required with black plastic friction fit gratings certified and CE marked to Load class B125 BS EN 1433:2002 and black colour resin tops specified.

## **8.18 FASCIA AND SOFFITS**

- 8.18.1 Eaves to be colour matching long life, low maintenance free systems, with a minimum 20 year guarantee.

## **8.19 VERGE**

- a) To be a continuous linear dry verge systems fixed in-accordance with manufacturer's recommendations.
- b) To be colour matching long life, low maintenance free systems, with a minimum 20 year guarantee

## **8.20 WALL FLASHINGS**

- a) All aluminium alloys used conform to BS EN standards.
- b) Dormer window roof and side cheeks to be finished with a min 2mm thick single ply roofing membrane finished in a lead colour and including visual standing seam details at min 450 centres. Fixed to suit manufacturer's recommendations with insulation to meet Leeds Standard U-values. All dormer windows shall typically be provided with guttering.

## **8.21 EXTERNAL WINDOWS AND DOORS, INCLUDING PATENT GLAZING AND CURTAIN WALLING**

(UPVC Windows, powder coated aluminium external doors and sidelights to the front entrance lobby, fire exits and all other external doors. **(see Accommodation schedule and room data sheets for more specific details)**)

- 8.21.1 The proposed style of windows shall comply with the attached specification and the window designs for each apartment type, or forming part of the communal areas shall be included within the design proposals submitted to Planning for their consideration.

In addition and prior to commencement, the *Contractor* shall provide the *Project*

*Manager, Technical Manager and lead Technical Advisor* with a schedule of window design proposals for initial review and comment prior to acceptance being confirmed. The proposed designs shall also be considered by housing Contracts and Compliance representatives where deemed necessary prior to acceptance.

- 8.21.2 Proposed window designs shall meet the requirements of BS6375-: 2:2009 with regards to fire escape and shall be included within the schedule of window designs provided by the *Contractor* to the *NEC Project Manager*.

- 8.21.3 The proposed windows shall be so designed to enable safe cleaning of the glass from the inside of the apartment or communal areas.
- 8.21.4 The *Contractor* shall ensure automatic opening vents/windows (AOV's) to all communal areas within lobby floors & adjacent to staircases. AOV's to be activated by automatic smoke detection system on silent alarm (low level tone fire panel) monitored via a web way communication linked to Leeds watch.

#### British Standard references

- 8.21.5 The following references are applicable to this specification are deemed to be included when no reference number is made.
- 8.21.6 Where any product is specified to comply with a British Standard it may be substituted by a product complying with a grade or category within a national standard or another Member State of the European Community or an international standard recognised in the UK specifying equivalent requirements and assurances in respect of materials, safety, reliability, fitness for purpose and where relevant, appearance. The NEC *Project Manager* or his representative must be informed of all such substitutions in advance of ordering and provided with evidence confirming that the products comply with the specified requirements.

#### MATERIALS

- 8.21.7 The output specification is deemed to be included when no reference number is made. All materials, goods and appliances shall be new and accredited as a minimum with the latest relevant BS specification, BRE, etc.

UPVC Windows and powder coated aluminium external doors and frames shall be powder coated and to be fully tested and shown to meet the following standards:

- PAS23 and PAS24
- BS8213
- BS4873 (weather performance)
- BS4873 (enhanced security)

Secure by Design 2016 Gold standards

UPVC windows and powder coated aluminium doors and frames shall comply fully with building regulations in England, Wales and Scotland.

- Part A - Structure (for bay windows)
- Part B - Egress
- Part E - Passage of Sound
- Part F - Ventilation
- Part K - Protection from collision
- Part L - Conservation of fuel and power

- Part M - Disabled access
- Part N - Safety glazing

UPVC windows - Part B should also include for fire resistance based on the requirements in BS 9991 section 4 - 18 External Fire Spread & Building Separation.

External doors to suit controlled entry and intercom system

#### 8.21.8 COLOURS

- Windows and doors to be standard RAL colour
- Window handles should be to suit the client group and located at or below 1400mm above floor level. In the main living space, the handle to at least one window should be at or below 1200mm above floor level.
- All to be FENSA certified

#### 8.21.9 MAIN ENTRY / EXTERNAL DOORS

**POWDER COATED ALUMINIUM DOORS & SIDELIGHTS AND FRAMES TO FRONT ENTRANCE LOBBY, FIRE EXIT DOORS & ALL OTHER EXTERNAL DOORS**

- (U value 1.2 W/m<sup>2</sup>k).

- Colour/ Texture: Samples to be offered to the NEC Project Manager for consideration and selection. In addition, the design proposals shall also be provided for consideration and comment prior to approval.

• Glazing details: Double glazed (28mm) self-draining incorporating low "E" glass. The glass is to be Pilkington 'K' glass to increase the daylight factor. The glazing cavity is to be Argon filled. Clear glass

- Beading: Internal.

• Ironmongery/ Accessories: Stainless steel hinges. Brushed Stainless Steel handles with avocet.

Main Entrance to hall / foyer via draft lobby with automatic sliding doors 2000mm wide. Entrance doors obstruction sensing. Sliding doors to open on walk up between 08.30 – 18.00. Fob entry at all other times.

#### 8.21.10 uPVC FRENCH DOORS

- To be single panel type, incorporating a double glazed panel as previously described. Panel to be internally beaded using chamfered or sculptured beads with EPDM gaskets.
- Door frame to have weather tight self-draining uPVC threshold (max height 75mm) from finished floor level. All joints to door and frame to be welded. Locking mechanism to the door shall comply with BS3621. It shall be fitted flush with the closing stile and shall be housed within the thickness of the door.
- The locking system shall incorporate minimum; 3 point locking with wedge hook bolt's. A 35mm "Back Set". To be Key engaged. Hooks to have a

minimum of 25mm projection. They shall be handed, and incorporate a minimum of 6mm taper. Keeps shall be of boxed construction and be matched to locking mechanism and supplied by the same manufacturer. There shall be individual keeps for each locking point.

- d) Handles shall have a polished cast aluminium or satin chrome plated finish, and shall comply with CEN BS EN 13126 Part 3.
- e) Door sets to meet the requirements of SBD incorporating approved, British Kite marked, TS007:2012 3 star cylinder which has been tested to the British Standard BS EN1303:2015 / Sold Secure Diamond (SS312) standard cylinder.
- f) Hinges shall be manufactured from aluminium with stainless steel bolts and nylon brushes, 1½ pairs per door.
- g) For outward opening doors the hinge shall be so constructed to prevent the removal of pins with the door in the closed position.
- h) Where applicable, any Juliet balconies to all apartments above ground floor shall be 1100mm high x 90mm deep and to be a minimum of 300mm wider than the door opening.

#### **8.21.11 PATENT GLAZING**

The Contractor shall fully design and install any patent glazing fully in accordance with all relevant British Standards and Codes of Practice current at the date of tender. Compliance in accordance with complementary or overarching European legislation. All proposed designs and systems shall be submitted to the NEC Project Manager, Technical Advisor and Leeds City Councils Technical Manager for their consideration and comment.

#### **8.21.12 CURTAIN WALLING**

The Contractor shall fully design and install any curtain walling fully in accordance with all relevant British Standards and Codes of Practice current at the date of tender. Compliance in accordance with complementary or overarching European legislation. All proposed designs and systems shall be submitted to the NEC Project Manager, Technical Advisor and Leeds City Councils Technical Manager for their consideration and comment.

### **8.22 BALCONY & DRAINAGE, FLOORING, HANDRAILS & LIGHTING**

8.22.1 Balcony handrails shall be made from steel conforming to BS EN 10025. All welds to conform to BS EN 1011-2:2001. Hot-dip galvanised to ISO1461:2009 and no gaps greater than 99mm in any design. Loading shall be designed to be capable of resisting a minimum horizontal force of 0.74KN/m applied to the handrail, as outlined in Approved Document K. Design load on each fixing supplied and must perform to the same loading calculations. Fixings are to be stainless steel, corrosion resistant coach screws which are supplied with the handrails

8.22.2 All handrails balcony and all fixed as per manufacturer's instructions. Colour to be standard RAL colour and agreed with the NEC *Project Manager*. Details of



sample balcony details, including fixing details to be provided by the *Contractor* to the *NEC Project Manager* for initial consideration prior to commencement.

- 8.22.3 Balcony floor to be designed to be waterproof, slip resistant, seamless, robust and fit-for-purpose. It shall be designed to provide falls to the rainwater output a to provide minimum life expectancy of 20 years and all installed as per manufacturer's instructions.
- 8.22.4 To be designed to allow for the collection of all rainwater and discharged into the Contractors proposed drainage system.
- 8.22.5 Balcony to include an LED bulkhead light fitting
- 8.22.6 Size of balcony to suit details contained within the Accommodation Schedule

### **8.23 INTERNAL WALLS AND PARTITIONS**

- 8.23.1 All internal walls to be sufficiently robust in order to withstand heavy fixings. All internal walls to have an appropriate level of sound reduction in accordance with good industry practice and in excess of the requirements of Building Regulations. All communal corridors, staircases, landings, W.C's and assisted bathroom walls to include a plaster finish with increased resistance to accidental damage, certified to BES 6001, achieving a rating of 'Excellent'. EN classification B7/20/6. Gross density 1250kg/m<sup>3</sup>. Class of reaction to fire performance A2-S1,do.
- 8.23.2 Wherever possible buildings services pipes and cables should be concealed. Any exposed pipework and cabling to be agreed with the *NEC Project Manager* prior to installation. Internal walls must allow for mounting of fixed items such as shelving and TV brackets and grab rails. Where appropriate, all loadbearing masonry elements are to be designed in accordance with the latest revisions of the Building Regulations. No chases or recesses are permitted in the walls unless due account is taken for the recesses within the structural design.
- 8.23.3 In general, internal walls shall be designed and constructed to support all vertical dead and imposed applied loads from the superstructure, floors, cladding, walling, plant/tanks and roof construction, and any other relevant loads.
- 8.23.4 Where a timber framed or SIP construction is adopted, it is likely to be suitable for fabrication and installation by specialist timber frame contractors, including experienced contractors. This form of construction is likely to be compatible with prefabrication of wall / floor / roof units off site to allow rapid modular installation during the construction phase. These can arrive on site as 'cassettes' with membranes installed both sides, or open-sided with only one membrane installed to facilitate the installation of insulation on site. It is however essential that all junctions in a modular construction are carefully designed and coordinated to ensure that the stringent insulation and air sealing. Any timber frame or SIPs may also require a level of additional fire resistance based on structural or external fire spread requirements and these requirements must be taken into account when designing any specific construction methods
- 8.23.5 Partitions may be load bearing blockwork or timber studs (where timber frame used). Nonload bearing partitions may be timber studs or metal studs. Partition walls must be capable of supporting radiators and future fixing loads.

- 8.23.6 All framed walls (internal or external) require sheathing full height on their internal faces with plywood to support any possible domestic fixing. Any variation to this to be agreed with the NEC *Project Manager*.
- 8.23.7 Party Walls: Load bearing and acoustic sound insulation is required through party wall structures. Where required, the *Contractor* is to allow for the additional installation of Timber sheathing, minimum 9mm thick, or Expanded metal to meet Secured by Design requirements for party walls. All walls shall be designed and constructed to suit method of construction and shall meet current building regulations in terms of fire protection Building Regulations Part B, plus acoustic, thermal and structural requirements.
- 8.23.8 External Escape Routes – Apartment Accommodation. The external egress routes should be designed in a way that provides a safe passage for all occupants to an area of ultimate safety.
- 8.23.9 Means of Escape for Disabled Occupants: The evacuation of disabled persons is the responsibility of the building, its occupants and site warden (if applicable); no reliance can be placed on or assumed from the fire authority.
- 8.23.10 Any timber frame / SIPS construction to be designed to include the required level of fire resistance based on structural or external fire spread requirements.

## **8.24 STAIRS, BALUSTRADE AND HANDRAILS SYSTEM, PLUS ASSOCIATED FLOORING**

- 8.24.1 Communal stairs to be designed and constructed to ensure compliance with Building regulations.
- 8.24.2 Communal stairs to include a combined stainless and glass balustrade system, including safety glass, clips, posts and associated fittings. Include for a matching handrail to the wall side. All fully designed and constructed to meet the requirements of Building Regulations and all as per manufacturer's instructions.
- 8.24.3 Stairs to include
- Slip resistant metal nosing securely fixed as per manufacturer's instructions with contrasting colour
  - Heavy duty wood effect vinyl floor covering as per the Accommodation schedule and Room data sheets
- 8.24.4 Should the contractor wish to pursue the timber frame form of construction, it is the contractor's responsibility to ensure all necessary substitutions are made in relation to the stair construction type and to ensure compliance with all statutory requirements and the performance criteria

## **8.25 ROOF ACCESS LADDERS**

- Contractors Design - Designed to allow ease of access within the loft space for future service, repair and maintenance requirements Standard: To BS EN 14975 Accessories: Telescopic handrail.
- Proprietary Balustrades to Communal Stairs

- Guarding: Low carbon steel - galvanized
- Handrails: as above
- Other requirements: Nylon levelling/ packing washers. Fixing: Anchor fixed to concrete

8.25.1 Should the contractor wish to pursue the timber frame form of construction, it is the contractor's responsibility to ensure all necessary substitutions are made to comply with statutory requirements and the performance criteria.

## **8.26 ROOF EGRESS**

8.26.1 The roof shall have access for cleaning and maintenance, for example of any solar PV equipment, through the large roof void.

8.26.2 The roof void is provided with a compartment floor and that cavity barriers are installed to reduce the spread of fire and smoke

8.26.3 This area is accessed using a ladder and roof hatch from the second floor and therefore must be provided with a door of equal fire resistance as the floor through which it passes.

8.26.4 The access hatch should therefore be FD60S, i.e. 60 minutes fire resistance with intumescent strips and cold smoke seals. This must be kept locked when not in use to prevent unauthorised access to the roof.

8.26.5 Any roof access required for maintenance or inspection purposes will be risk assessed at the time of access requirement and suitable safety provisions employed (such as scaffolding, mobile aerial platform etc.) as may be required from time to time to comply with the Working at Height Regulations.

8.26.6 Depending upon the Contractors design, Mansafe or similar access / egress system to be included within the overall design.

## **8.27 AIRTIGHTNESS**

8.27.1 Airtesting - Requirement: To achieve an overall air tightness better than 3.0m<sup>3</sup> per hour per m<sup>2</sup> @ pressure of 50Pa for the apartments and 5.0m<sup>3</sup> per hour m<sup>2</sup> pressure for the communal areas. This is a fundamental client requirement and must be met at handover.

8.27.2 It is required that the building is tested during construction to make the correction of defects easier and less invasive than if the testing is left until the completion of the project. It is therefore required that the construction sequencing is carefully considered in order to achieve an airtight envelope early in the construction and before the Air Leakage Barrier is covered over. One week notice in writing must be provided to the NEC *Project Manager* of the date of the construction stage 'Blower Door Air Tightness Tests'. If the building fails the final test, all necessary repairs / additional remedial measures must be undertaken to ensure the building passes the final test. The *Contractor* shall notify and invite the NEC *Project Manager*, *Supervisor* and *Construction Monitor* to witness each test.

- 8.27.3 Airtightness test 1 is to be performed once the internal airtightness layer is complete and all the windows installed. Airtightness test 2 is to be performed on completion of all services penetrations. Airtightness test 3 to be performed upon Completion.
- 8.27.4 There is a defined air barrier, “Air/wind-tight vapour permeable layer system”, and all service penetrations through this must use details approved by the manufacturer and the design team, checked and signed off by the on-site contractor’s Airtightness Champion. Typically this person will be on site for the length of the project and interact with the various trades on site at all times. The Airtightness Champion should have direct contact with the designer and the airtight system supplier to clarify any outstanding details over the length of the project.
- 8.27.5 Any additional penetrations to be cleared by the design team. The building will be pressure tested and leakage identified and any non-approved penetrations will be the responsibility of the installer of the service to rectify, and to bear the cost of repeat pressure testing if required.
- 8.27.6 Air tightness testing certification for all properties is to be provided to the *Project Manager* on completion.
- 8.27.7 Any failure of each test shall result in the *Contractor* having to undertake further remedial measures deemed necessary and essential to ensuring re-tests are undertaken and achieve the requirements of the specification. Any dwelling which does meet the requirements of the specification shall not be considered as complete as defined within the hand-over or early take over standards and hand-over / early take over certificate.
- 8.27.8 Air tightness tests associated for different methods of construction, including modern methods of construction and therefore, the above process might differ to suit the proposed construction. The Contractor shall therefore provide the NEC Project Manager with the proposed details of the air tightness procedure prior to commencement of the works. However, achieving an airtightness of 3.0m<sup>3</sup> per (hm<sup>2</sup>) or 5.0m<sup>3</sup> at 50pa for communal areas remains the overall requirement of the output specification.

## **8.28 FIRE SAFETY REQUIREMENTS**

- 8.28.1 The *Contractor* shall provide all detailed design proposals to the NEC *Project Manager*, *Technical Manager* and *lead Technical Advisor*, plus *LCC Contract and Compliant officers* for initial consideration and comment. The proposed designs shall also be sent to Leeds City Council’s fire safety officer prior to acceptance. The *Contractor* must ensure the proposed designs are fully compliant with the contract specification and all statutory fire safety requirements.

The *Contractor* shall provide the NEC Project Manager with the detailed designs for consideration and comment no later than 10 weeks prior to commencement of the works.

- 8.28.2 The schemes must be designed to ensure the safety and wellbeing of residents, staff and visitors to the scheme. The fire strategy for the building and means of escape needs to be fully considered as part of the overall design. There must be a fully documented fire strategy for the building and the means of escape needs to be fully considered as part of the overall design, to be completed at design stage and reviewed

continuously throughout the construction right through to completion stage. Escape routes shall be defined in accordance with an RRFFSO egress management plan and BS EN 1838 indicating the routes to be illuminated & BS5266 in relation to emergency lighting and levels on the routes. In particular the phased evacuation procedure and how the building's structural fire precautions and the Fire Management Plan work together.

Design to include;

- 8.28.3 Fire alarm sound levels throughout the scheme to comply with BS5839 2017. Each area / room within the Extra Care scheme should achieve the minimum fire alarm levels. Contractor to design fire alarm sound levels accordingly.
- 8.28.4 Fire strategy to include a sprinkler system to BS 9251:2014, covering all common areas and apartments, dedicated telephone line for fire alarm and sprinkler system. Monitored off-site 24hour monitoring provided via the Webway and GSM card to LCC Alarm Receiving Centre (Leedswatch). Sprinkler panel to be linked to fire alarm panel
- 8.28.5 Fire alarm system to BS5839 Pt1 L1 dependency Cause & Effect with software or similar. The fire alarm shall be design, installed and commissioned by a Third Party Approved Contractor e.g. BAFE approved contractor or equal and approved The fire alarm shall be integrated to the communal areas and all apartments with the communal area and apartments fire alarm with pre-agreed time delay prior of full site activation to common areas. The fire alarm shall be Fully Open Protocol and a Data / Ethernet point supplied at each fire alarm panel.
- 8.28.6 Notification of apartment fire alarm activation to staff/site mobile/dect telephone to let staff know of operation of apartment alarm as well as the fire alarm panel, this shall take priority above all calls providing instant text and voice message identifying the apartment number and room location within the apartment. Monitored off-site 24hour monitoring provided via the Webway and GSM card to LCC Alarm Receiving Centre (Leedswatch), local arrangements to be agreed by Housing Leeds Extra Care manager and Leedswatch.
- 8.28.7 Multi-loop analogue addressable fire alarm system that provides automatic detection and individual indication within all areas. System to consist of Analogue addressable (open protocol) minimum of two loop control and indicator panel, automatic smoke and/or heat and/or multi sensor detectors, flashing beacons, sounders and interface to auxiliary equipment e.g. vibrating pillows.
- 8.28.8 Notification of apartment fire alarm activation to staff/site mobile/dect phone to let staff know of operation of apartment alarm as well as the fire alarm panel, this shall take priority above calls providing instant text and voice message identifying the apartment number and room location within scheme.
- 8.28.9 Multi-loop analogue addressable fire alarm system that provides automatic detection and individual indication within all areas. System to consist of Analogue addressable ( open protocol ) minimum of two loop control and indicator panel, automatic smoke and/or heat and/or multi sensor detectors, flashing beacons, sounders and interface to

auxiliary equipment e.g. vibrating pillows Any built in time delays to be agreed with client and West Yorkshire Fire & Rescue Service.

- 8.28.10 Portable fire fighting equipment to be supplied and fitted by approved contractors before site is occupied. Extinguishers shall be wall mounted throughout the site and installed to all risk communal areas:- these shall include the kitchen, lounge, offices, electric rooms, salons, plant rooms, staff rooms, treatment rooms and mobility scooter storage room. Contractors design
- 8.28.11 Contractor to provide fire safety strategy to consideration at detailed design stage.
- 8.28.12 All extra care schemes are fitted with a sprinkler system. Although this is not strictly necessary under Planning Guidance for extra care housing, the client group will be the same as that in residential or nursing care and it is therefore considered to be the best provision that will contain any fire giving maximum opportunity for life-saving and to ensure minimum damage to the building.
- 8.28.13 sprinklers are to be designed in accordance with relevant British Standards and LRC Guidelines. Monitored off-site 24hour monitoring provided via the Webway and GSM card to LCC Alarm Receiving Centre (Leedswatch). Sprinkler panel to be linked to fire alarm panel
- 8.28.14 Fire responses need to be carefully managed with the assistive technology put in place within the building.
- 8.28.15 Careful consideration must be given to using fittings that blend in as much as possible, for instance, fire sounders in apartments should be white and not red. Where possible (and in agreement with the Fire Service), signage should be minimised and fire extinguishers removed. This is possible if a fire sprinkler system is installed. Fire safety must take priority and this will be agreed with the local Fire Safety Team. Monitored off-site 24hour monitoring provided via the Webway and GSM card to LCC Alarm Receiving Centre (Leedswatch).

### **Fire Safety - general**

#### **8.28.16 GENERAL**

- a) Fire resistance to floors (apartment) minimum 120minutes.
- b) Fire resistance to walls around apartment minimum 60 minute.
- c) Fire resistance to apartment door to communal the area minimum 60 minute.
- d) Fire resistance to plant room / boiler room doors & electrical services room doors etc. minimum 60 minute.
- e) Fire resistance communal doors minimum 30 minutes.
- f) Automatic opening vents/windows (AOV's) fully activated by automatic smoke detection system on to all common areas, lobby floors & staircases,

- g) Emergency lighting to all communal areas, plant rooms and externally over final exit routes and route away from building, including any assembly areas for fire evacuation.
- h) All communal equipment servicing apartments / communal areas to be easily accessible and fire resistant construction minimum 60 minute.
- i) All fire stopping to be carried out by 3<sup>rd</sup> party accredited organisation with full photographic evidence to before and after installation to confirm and support completion, tagged accompanied with certification.
- j) Key management to be Housing Leeds requirements.
- k) No low level plastic air vents to be used in external walls.
- l) Safe condition fire safety signage to be as per the details as suggested in the Specialist Housing Guide and as per the fire safety policy and comply with relevant British Standard.
- m) A Matrix of responsibilities must be completed for the site and included in the fire strategy see page 234 of the Specialised Housing Guide
- n) The fire alarm & sprinkler panel locations shall be positioned in the fire fighters entrance to the building in the event of an emergency.
  - o) Fire Alarm Zone plan (minimum 2xA3) required, clearly identify all areas covered by alarm, AOV's, instructions on how to use and all contact details in the event of activation / emergency, i.e. contractor details / Leedswatch contact details. Monitored off-site 24hour monitoring provided via the Webway and GSM card to LCC Alarm Receiving Centre (Leedswatch).
- p) Monitored via a web way communication linked to Leedswatch, AOV's opening on fire floor only and staircase. All internal circulation I communal doors to be held open devices and to automatically close on activation of alarm.
- q) Red fire information box to be fitted next to fire alarm panel (must be able to accommodate two A4 ring binder folders) containing the following information:
- r) Plan, floor layout with numbered apartments rooms and room locations (office, laundry, kitchen etc.) marked on, together with shut offs any isolation valves, sprinkler valves clearly identified location of stored cylinders and rooms where medical gases are used or located.
- s) information should be collated in respect of any resident with particular cognitive, mobility or other issues affecting their ability to respond to fire alarm signals this can be marked on plan by using red amber green stickers, red unable to evacuate, amber can be used to indicate can evacuate with assistance or hard of hearing (VAD's throughout site) and green can be used to indicate all's well and can self-evacuate if required.
- t) Self-closer to communal and apartment doors to be approved closer equaling the performance of Dormer TS92.

- u) Any fire alarm activation must take priority over any other calls on dect phones and show at the head of any list or voicemail
- v) Evacuation lifts to be fitted, must be in lobbied to prevent spread of smoke from floor to floor. Please note, any building with a floor higher than 18m above the fire and rescue service access level, then a fire fighting shaft containing a fire fighting lift must be provided in accordance with BS 9999
- w) Gaps at base of any fire door (communal) should not exceed 10mm+/-1mm. Gaps at tops and sides should not exceed 3mm+/-1mm.
- x) No facility to be made for mobility scooter charging within the apartments.
- y) Sprinkler system shall be designed and fitted to BS9251:2014 and monitored off-site 24hour monitoring provided via the Webway and GSM card to LCC Alarm Receiving Centre (Leedswatch).
- z) Any ventilation on site must have fire dampers in place when passing through compartment walls/ceilings or entering common shafts and whole flat ventilation systems shall be fitted with dampers or collars to prevent spread between rooms within the apartments.
- aa) Fire compartmentation in the roof void should consist of a solid fire compartmentation walls (may be stud partition with double layer of 12.5 mm plasterboard, staggered joints taped and skimmed or fire board joints taped and skimmed with 3mm plaster coating) giving a minimum standard of 60 minutes fire resistance should follow the entire lines of the compartment walls of the apartment below and the corridor and staircase lobby, lift lobby etc. Fire curtains/barriers are not acceptable the fire detection in these voids must be accessible for testing and maintenance any hatch through the ceiling must be 60 minutes fire resistant.
- bb) Contractor to design and construct fire protected lobbies and egress routes from the stairs to the final building exit are specified in accordance with BS 9999.
- cc) Contractor to design and install back up power supplies to the lifts
- dd) Contractor to design and install control facilities as detailed in BS 9991 section 14.2.2.4
- ee) Contractor to design and install all new UPVC windows in accordance with Part B in relation to fire resistance based on the requirements in BS 9991 section 4-18 External Spread of fire.
- ff) Contractor to design and install dry risers / wet risers and fire / smoke damper and AOV's requirements to suit the overall design.
- gg) Contractor to design and construct walls, floors and ceilings to ensure compliance in relation fire resistance in accordance with BS 9991 section 4 tables 3, 4 & 5.



- hh) Contractor to design and install all necessary back up power supplies to suit the overall design
- ii) Contractor to design and install appropriate smoke dampers as part of the requirements for ventilation ductwork passing through compartments walls.
- jj) Contractor to design and construct fire resistant compartmentation within the roof voids to mirror the resistance for the walls on the floor below
- kk) Contractor to design a Fire Assembly Location point within the overall design, which must be illuminated to comply with BS5266 & BSEN 1838

**8.29 MECHANICAL AND ELECTRICAL – GENERAL - (see Accommodation Schedule and Room data sheets for more specific details)**

**8.30 ELECTRICAL**

8.30.1 The project shall consist of the following:

- **Engage an Electrical designer during the Tender Stage to assess the Electrical design load, produce an outline design for submission as part of the tender and include for all electrical costs within the Tender.**
- New electrical requirements for the schemes including apartments, offices and communal rooms / areas.
- New lighting/emergency lighting to the whole buildings.
- New Fire alarm system to the whole building.
- New Security system to the whole building including intruder alarm to external door within communal kitchen.
- New Intercom and Access control system.
- New Communications system for both Tenants & Landlords.
- New Electrical supplies associated with the mechanical installation.
- New lightning protection system.
- New CCTV system.
- New external lighting and car park lighting.
- New incoming supplies for electric and communications.
- New TV/satellite/radio system to the required locations.
- New lifts.
- New Solar PV system.
- Electric vehicle charging
- Ceiling tracking hoist system

- Mobility Scooter charging
- Back up power supplies
- Sprinklers
- Dry risers
- Wet risers
- AOV's
- Webway
- Metering and billing
- Home Users Guide (HUG).

8.30.2 Include for the all necessary labour in order to produce electrical specifications, drawings and schedules and to provide installations that are complete, safe and in working order.

- The *Contractor* must submit their outline design for tender and then Electrical Design for comment within 10 weeks of the Contract been let.
- The Electrical works shall not start on site without their design being agreed by the NEC *Project Manager* in writing.
- The associated electrical installations associated with the project may consist of, but not restricted to, the following elements works:
  - i. To determine the electricity supply requirements for the new equipment and implement the necessary requirements to facilitate the site. **It is the Contractor's responsibility to assess the required landlords supply and ensure the electricity board enquiry matches the sites requirements).** Order, implement, liaise, co-ordinate and facilitate a new incoming NPG service.
  - ii. Distribution equipment and cables,
  - iii. General low energy lighting, emergency and external lighting circuits and associated luminaires,
  - iv. Back up power supplies to General purposes power circuits and equipment,
  - v. Fire alarm,
  - vi. Security alarm, including intruder alarm to communal kitchen
  - vii. Induction loop system,
  - viii. Electric Heating.
  - ix. Solar PV system.
  - x. Intercom and Access control system,
  - xi. Lightning Protection system,

- xii. Apartment Digital TV/Satellite/Radio system,
- xiii. Circuits associated with the Mechanical Services Installation,
- xiv. Earthing and bonding,
- xv. CCTV system,
- xvi. Lift systems,
- xvii. External lighting including patio, balcony or terrace and car park lighting
- xviii. Electric Vehicle Charging,
- xix. Ceiling tracking hoists
- xx. Connections to LCC manned stations for Lifts, BMS, fire alarm & security systems, all to be monitored off-site 24hour monitoring provided via the Webway and GSM card to LCC Alarm Receiving Centre (Leedswatch).
- xxi. SBEM information for the Main Contractor submission,
- xxii. Testing and Commissioning,
- xxiii. 12 months maintenance,
- xxiv. The production and provision of project manuals and “as fitted” drawings,
- xxv. The provision of training to on site staff of the various included electrical systems,
- xxvi. Home Users Guide (HUG),

All support calculations for all areas of the electrical installation including mains supplies and cables shall be presented for comments prior to commencement of the project installation work.

Where there is a discrepancy between numbers the Contractor shall allow for the greater number, all other discrepancies shall be reported back for clarification during the tender process otherwise the discrepancy shall be deemed as included within the

Tender costs due to the contractor engaging a designer as part of the tender process under design and build.

### **8.31 ELECTRICAL CONTRACTOR.**

8.31.1 The *Contractor* shall engage their Electrical Sub Contractor & Electrical Designer during the Tender process to undertake the Outline Electrical Design to be submitted with the tender, then the full design within 10 weeks of the Contract been signed. An Electrical Contractors/sub-Contractors (all) list shall be submitted for comment at Tender Submission. Once comment has been made this Electrical & Electrical Sub Contractors list shall form part of the Electrical specification for the project.

8.31.2 The list shall also include any Specialist Contractors/Designers, especially in relation to one Electrical Designer who shall be responsible for the whole Electrical Project.

Verification of the contractor roles and responsibilities shall be submitted to the NEC Project Manager at Tender Submission.

### **8.32 ELECTRICAL DESIGNER.**

8.32.1 All works associated with the Electrical design and specification on this project shall be undertaken by a competent Design Engineer and they shall be a Member of the IET Chartered

Institute and be registered with “The Engineering Council” as an Incorporated engineer or above (preference is for a Chartered Engineer). The Electrical Designer shall sign and date all the Electrical Design documents with their Membership registration No. All alterations/modifications shall be re-signed and dated to show that the designer has undertaken the works.

8.32.2 Verification of membership to be given to the NEC Project Manager at Tender Submission as part of outline design submission.

8.32.3 The Designer shall allow within their costs for following the RIBA stages with their design works.

### **8.33 CO-ORDINATION & CIBSE TM31 Logbook**

8.33.1 The Contractor shall be responsible for ensuring full co-ordination of the Design & Works of all trades employed in the completion of this project through all the stages.

8.33.2 Contractor to coordinate and provide a CIBSE TM31 logbook and to include all design strategies

### **8.34 ELECTRICAL - COMPLIANCE WITH REGULATIONS, SPECIFICATION AND BRITISH STANDARDS**

8.34.1 The installation shall comply with all of the following:-

- The current edition of the IET Wiring Regulations; BSEN 7671, including Guidance Notes. The CIBSE Codes for Lighting, surge protection and cascading of devices and ventilation.
- The requirements of the Local Supply Authority and any relevant British Standard. Any specified manufacturer’s particular recommendations.
- The Health and Safety at Work Act 1974. The Electricity at Work Regulations 1989.
- Electromagnetic Compatibility Regulations 1992.
- HS (G) 85 Electricity at Work: Safe Working Practices.
- HS(R) 25 Memorandum of Guidance on the Electricity at Work Regulations 1989. HS (9)141 Electrical Safety on Construction Sites.
- Construction Design and Management Regulations 1994. HS (G) 47

Avoiding Danger from Underground Services.

- HS (G) 107 Maintaining Portable and Transportable Electrical Equipment.  
GS38 Electrical Test Equipment for use by Electricians.

### **Regulatory Reform Order Fire Safety (RRfsO).**

- All British Standards.
- Building Regulations
- Disabled Discrimination act.
- Electricity Supply regulations.
- The Earthing Code of Practice.
- NJUG guidelines on the positioning and colour coding of utilities apparatus. Any other relevant rules or regulations.

## **8.35 ELECTRICAL - MATERIALS AND MANUFACTURER'S INSTRUCTIONS**

- 8.35.1 All materials supplied and installed necessary for the completion of the works shall be new, unused and from the manufacturers current range of equipment, unless specified otherwise.

**All materials and equipment installed shall be owned outright by Leeds City Council.**

## **8.36 ELECTRICAL - PROGRAMME OF WORKS**

- 8.36.1 Include for carrying out the electrical installation in accordance with the construction programme.

## **8.37 ELECTRICAL - PROJECT DESIGN PROPOSALS.**

- 8.37.1 Include for the design, supply, installation, testing and commissioning of the electrical installations associated with this project, and in accordance with this design brief.
- 8.37.2 The *Contractor* and Designer shall make themselves aware of the contents of this document and site conditions prior to producing an electrical design, including Planning and Building Regulations requirements associated with this project.
- 8.37.3 The *Contractor* shall ensure that design takes into account and fully co-ordinates the works associated with each of the trades employed in the completion of the Project.
- 8.37.4 The *Contractor* shall note that this Performance Specification and is intended to be used as a guide to the electrical requirements and shall not to be used as the Electrical Specification. The *Contractor* shall engage an Electrical Designer to prepare the whole of the electrical design and drawings.

- 8.37.5 Completed design & specification documentation shall be provided for comments to the NEC Project Manager 10 weeks from the contract being let. The NEC *Project Manager* shall produce and issue to the Contractor any comments within 2 week of receipt. All relevant comments regarding the design documentation shall include within final proposals that shall be issued 2 weeks prior to commencement on site.
- 8.37.6 No works shall start on site before the final design documentation has been issued to the satisfaction of the NEC Project Manager.**
- 8.37.7 All drawings shall be submitted on A1 sized drawing sheet at a maximum scale of 1:50 for building plans and 1:200 for site plans unless otherwise instructed.
- 8.37.8 Final design drawings shall be issued in both hard and electronic format (pdf). The Specification shall be issued in both hard and electronic methods (pdf). Information required shall include the following:-
- i. Complete Electrical Specifications,
  - ii Drawings, indicating the location of all items of equipment,
  - iii Schedules of proposed equipment and luminaires, including manufacturers names, and reference numbers,
  - iv. Distribution schedules,
  - v. Proposed cables sizes and illumination levels, along with copies of support calculations,
  - vi. As generally indicated in clause 1001.
  - vii. Building Regulation requirements,
    - a. SBEM,
    - b. SAP forapartments,
    - c. EPCforapartments andwholebuilding,
  - viii. Solar PV G59 compliance,
- 8.37.9 The *Contractor* shall include for the production of project working drawings for the electrical installation, detailing any and all works required to be carried out by non-electrical trades on behalf of the Electrical *Contractor*. They shall be fully co-ordinated with all other trades.
- 8.37.10 Upon receiving the Comments on any proposals, the *Contractor* shall modify their documentation in accordance with the comments and re-issue it for finalcomment.
- 8.37.11 The contractor shall note that on NO ACCOUNT must any work commence on site until the NEC *Project Manager* has commented on these calculations and drawings and until any amendments which may be required are completed and re-submitted for comment to the NEC *Project Manager* for comment.
- 8.37.12 The *Contractor* shall take into account the lead in periods for all equipment specified to ensure delays are minimised.
- 8.37.13 The Contractor shall note MCB protective devices supplying MCB final protection does not meet the BSEN 7671 discrimination calculations.

- 8.37.14 All wiring shall be designed so that it is withdraw-able and replaceable without damage to the building fabric and decorations.
- 8.37.15 **The Contractor shall allow for a minimum of 25% spare capacity throughout the distribution design.**
- 8.37.16 Contractor to design system in relation to types cables to suit application - i.e. zero halogens and low smoke. LSZH

### **8.38 ELECTRICAL - CALCULATIONS FOR BUILDING REGULATION COMPLIANCE.**

- 8.38.1 The *Contractor* shall be responsible for providing all necessary calculations and information and issuing them to the NEC *Project Manager*.
- 8.38.2 The Electrical Sub Contractor shall be aware that the Building Regulations submission (Main Contractor) will require technical information from their design. They shall be aware that the submission of the appropriate calculations shall not be made until the M&E designs have been completed to the satisfaction of the NEC *Project Manager* which shall include any comments/queries regarding the proposed design from the Technical Adviser (TA). The *Contractor/Designer* shall produce the following documentation SBEM (for the whole building), SAP (apartments only) EPC (for the whole building), & DEC (for the whole building), calculations/certification.
- 8.38.3 The *Contractor* shall allow for **ALL COSTS** in providing the above including any amendments.

### **8.39 ELECTRICAL - GENERAL DESIGN CALCULATIONS**

- 8.39.1 Calculations required to accompany design documentation include the following:-
- i. Main and final circuit protection equipment including discrimination.
  - ii. Sub-main and final circuit cables.
  - iii. General lighting, emergency lighting and external lighting installations.

Allow for the general lighting design calculations to be based on the following Maintenance Factors:

**(1) Room environment:**

- (a) Normal,
- (b) Maintenance interval 5 years,
- (c) External lighting interval 10 years,

**(2) Reflectance's:**

- (a) Floor 10%,
- (b) Walls 30%,
- (c) Ceiling 70%,

**(3) Luminaire maintenance:**

- (a) Maintenance interval 3 years,
- (b) External lighting interval 10 years,

**(4) Lamp maintenance:**

- (a) Maintenance interval 5 years,
- (b) Operating hours minimum of 5000hours for landlords communal areas i.e. corridors, main office, staff room, lounge etc., 2000hours for operational rooms i.e. bathroom, bin areas and 3000 hours for external landlords lighting.

iv. Fire alarm sound levels for each of the rooms check door types as most FD30's will reduce the sound to a level below that required by British Standards, check the apartments as the bed rooms may need additional sounders.

v. Emergency lighting, lighting levels including route to fire assembly location. To undertake this the Designer will require details of the site firefighting equipment locations.

vi. Emergency lighting to the Landlords kitchens to conform to BS5266 part 7

vii. Lightning Protection including Surge Protection. Together with all the appropriate Drawings

## **8.40 ELECTRICAL - OPERATING AND MAINTENANCE MANUAL**

8.40.1 Operating and Maintenance Manuals shall be provided, at hand-over, as detailed in the Preliminaries.

The *Contractor* shall produce and forward to the *NEC Project Manager*, for his comments, 6 weeks prior to handover, a draft copy of electrical section of the O&M manual which shall include the following:-

- i. Index O&M Manual.
- ii. A description of the installation of each element of the installation.
- iii. Contact details of all *Contractors*/Sub-Contractors
- iv. Details of any recommended routine and/or periodic maintenance especially those laid down in British Standards.
- v. A schedule listing of all installed products, accessories and luminaires, their manufacturer and reference details, referenced to drawing references.
- vi. Manufacturer's instruction leaflets for all equipment installed.
- vii. Wiring diagrams for all control circuits and how each operates.
- viii. Installation and each specialist section of the installation including where applicable:-
  - a. Lighting.



- b. Fire alarm including sound levels in each room.
  - c. Emergency lighting average levels per room and externally to Fire Assembly point (defined as place of safety).
  - d. Power.
  - e. Metering details.
  - f. Communications (IT/Voice for whole building including BT & Virgin).
  - g. Security system.
  - h. Induction loop system.
  - i. Assistance/Warden call system.
  - j. Lightning Protection system.
  - k. Lift systems.
  - l. Incoming NPG distribution.
  - m. Incoming Communications distribution.
  - n. TV aerial system.
  - o. Back up power supplies to Power
  - p. Refuse System
  - q. Home users guide.
- ix. Copies of Test Reports, log books and Commissioning Certificates for the general electrical installation and each specialist section of the installation including where applicable:-
- a. Emergency lighting.
  - b. Fire alarm.
  - c. Communications (IT/Voice for whole building including BT & Virgin).
  - d. Lightning protection system.
  - e. Assistance/Warden call system.
  - f. CCTV system.
  - g. TV/Satellite/Radio system including signal testing results.
  - h. Lift systems.
  - i. Refuse System
  - j. Ceiling tracking hoist systems
- x. Distribution circuit charts.
- xi. Recommended spares list and spare parts
- xii. A signed (by building user) document listing spares and tools handed over

to the building user.

xiii. A signed (by building user) document listing Operatives trained at hand over and at 6 months in defects period.

xiv. Recommended maintenance schedules.

xv. "As fitted" drawings.

## **8.41 MECHANICAL - THE DESIGN**

8.41.1 All works associated with the Heating, hot and cold water design and specification on this project shall be undertaken by a competent Design Engineer and they shall be a Member of an appropriate organisation or chartered Institute and be registered. The Mechanical Designer shall sign and date all the mechanical design documents with their Membership registration Number. All alterations/modifications shall be re-signed and dated to show that the designer has undertaken the works.

8.41.2 All works associated with the Mechanical Design and specification on this project shall be undertaken by a competent Design Engineer and they shall be a Member of the IMechE Chartered Institute and be registered with "The Engineering Council" as an Incorporated engineer or above (preference is for a Chartered Engineer). The Mechanical Designer shall sign and date all the Mechanical Design documents with their Membership registration No. All alterations/modifications shall be re-signed and dated to show that the designer has undertaken the works.

8.41.3 Verification of membership to be given to the NEC Project Manager at Tender Submission as part of outline design submission.

8.41.4 The Designer shall allow within their costs for following the RIBA stages with their design works.

8.41.5 Verification of membership to be given to the NEC Project Manager at Tender Submission as part of outline design submission.

8.41.6 The Designer shall allow within their costs for following the RIBA stages with their design works.

8.41.7 The *Contractor* shall be responsible for the design requirement associated with developing this brief to produce a fully designed scheme. The *Contractor* shall price and carry out installation of the works based on the fully designed scheme.

8.41.8 Heating, hot and cold water system must be designed to be compliant with the Accommodation Schedule and Room Data sheets, with the expectation that the heating and hot water provision will be provided by gas boilers to serve the entire building including apartments and communal areas.

8.41.9 The *Contractors* design submission shall include calculations of radiator outputs and pipe sizes and a plan drawing of each apartment type and the communal areas showing the positions of the radiators and pipework and ductwork routes at a scale of 1:50 or 1:100.

**8.41.10 The *Contractor* shall submit their detailed design proposals to the NEC Project Manager for consideration and comment at least ten weeks prior to starting the works.**

## 8.42 MECHANICAL - DESIGN STANDARDS

8.42.1 The *Contractors* Design shall be in accordance with the current requirements of the following:

a) British Standards

All relevant British Standards and Codes of Practice.

b) Building Regulations

All relevant Building Regulations, particularly Part L2A and the Building Control Officers requirements.

c) Domestic Building Services Compliance Guide 2013 published by HM Government.

d) Health and Safety

When carrying out the Design the *Contractor* shall pay particular attention to the possible dangers of working at height and working with hazardous substances.

The relevant Health and Safety Executives Guidelines shall be followed at all times. Please pay particular attention to the prevention of Legionella and compliance with HSE Guidance L8 Fourth Edition 2013 – The control of Legionella Bacteria in water systems.

e) Yorkshire Water Authority

Water Regulations

f) HSE

Gas Safety (Installation and Use) Regulations 1998 including relevant guidance notes and BSI 6891: 2005 + A2: 2008.

g) Construction (Design & Management) Regulations 2015

h) Gas Safe Register

'Gas Safe Register' guidelines and recommendations.

i) CIBSE Guides

## 8.43 MECHANICAL - DESIGN PARAMETERS

a) Temperatures

External: Winter -4°C External: Winter

(see Accommodation Schedule and Room Data Sheets for more specific details)

## 8.44 MECHANICAL - INSPECTION AND TESTING

- 8.44.1 The *Contractor* shall carry out tests on all installations and complete test certificates and forward a copy of the results to the NEC *Project Manager*. A proportion of the tests will be witnessed by the NEC *Project Manager* on a random basis.
- 8.44.2 Upon completion of the heating and hot water installation within each apartment and within the communal areas / rooms, the *Contractor* must undertake their own physical heat-up test and provide evidence that the required room/zone temperatures as detailed above have been achieved in a 45 minute period from commencement of the testing process. The NEC Supervisor shall be invited to witness the heat-up test within the first of each unit type. Test results must be supplied via a Room Temperature Recording Proforma (Profoma to be provided by the Contractor) and shall include accurate records of the individual room/area temperatures. *Contractor's Site Manager to supply a copy as part of the hand-over process for each unit.* The *Contractor* shall also repeat the tests to each apartment type and to the communal areas in the following January. Any failure in terms of meeting the heat-up test within the required timescales shall result in the *Contractor* being responsible for undertaking any further remedial works to ensure the requirements are achieved, with repeat tests undertaken and results provided.

#### **8.45 MECHANICAL - COMMISSIONING OF HEATING, HOT WATER AND VENTILATION SYSTEMS**

- 8.45.1 The *Contractor* shall commission heating and hot water systems in accordance with part L1A of the Building Regulations 2013. Commissioning of heating and hot water systems must also be carried out in accordance with the approved procedures set out in the Governments Domestic Building Services Compliance guide.
- 8.45.2 The *Contractor* shall include for completing the benchmark logbook supplied as part of the boiler installation instructions, the logbook shall be included in the scheme hand over pack.
- 8.45.3 Commissioning of ventilation systems must be carried out in accordance with the approved procedures set out in the Governments Domestic Ventilation: Installation and Commissioning Compliance Guide.
- 8.45.4 An appropriate way of documenting the commissioning is to use the templates in the Model Commissioning Plan (BSRIA BG 8/2009).
- 8.45.5 The notice of completion of commissioning must be given to the Local Authorities Building Control Body within 5 days of completion, where work is carried out by a person registered with a competent person scheme the completion notification period is 30 days.

#### **8.46 MECHANICAL - OPERATING AND MAINTENANCE INSTRUCTIONS**

- 8.46.1 The *Contractor* shall comply with Part L1A of the Building Regulations 2013 include for the provision of operating and maintenance instructions aimed at achieving efficiency in the use of fuel and power in a way that the householder can understand. These shall take the form of a set of written instructions describing the operation of heating, room thermostat, programmer, hot water controls and mechanical ventilation. These shall be

presented in a durable format as part of the hand over pack that can be referred to over the whole life of the systems.

- 8.46.2 The *Contractor* shall also include two radiator vent keys to be included with the instructions.
- 8.46.3 The *Contractor* shall include for a responsible member of his staff to instruct each resident and Housing Management representatives in the operation of the systems and its individual components in order that the tenant can operate the system in the most efficient way.
- 8.46.4 Please note, the programmer and all user controls shall be carefully considered and suitable for Extra Care Provision

#### **8.47 FIRE STOPPING OF TRUNKING/DUCTING:**

- 8.47.1 Where trunking or ducting pass through fire resisting floors, ceilings, cavity barriers, etc., seal internally with packed rock fibre or proprietary intumescent material. All fire stopping to be carried out by 3<sup>rd</sup> party accredited organisation with full photographic evidence to before and after installation to confirm and support completion, tagged accompanied with certification and witnessed by the contract fire safety officer before being concealed.
- 8.47.2 Details on fire / smoke damper requirements in accordance with BS 9991 section 6

#### **8.48 INSULATED CABLES:**

- 8.48.1 Type: - LSZH insulated and sheathed, single and multi-core. Application:
  - All fixed wiring. All cabling shall be BASEC certified.

#### **8.49 FIRE RESISTIVE WIRING AND POWER CABLES:**

- 8.49.1 *Type:* - Having a LSZH overall sheath over copper cable sheath and conductors.  
*Application:* - Fire Alarm installation (Red).  
Fire Alarm installation in wood framed buildings (MICV). Emergency Lighting - static inverter wiring (White).  
Emergency Lighting - static inverter (MICV).  
External lighting surface mounted (Black MICV).  
*Manufacturer and reference:-*
  - 1. FP200 GOLD.
  - 2. MICV.Alternatives will not be accepted.

## **8.50 COAXIAL CABLES:**

8.50.1 *Type:* - Double screened, low loss as CT100/CT200 or above.

*Application:* - To interconnect aerial array and outlet point.

## **8.51 INFORMATION TECHNOLOGY - CABLES:**

### **NEW COUNCIL HOUSING ELECTRICAL INSTALLATION.**

## **8.52 INFORMATION TECHNOLOGY**

8.52.1 Reference should be made to the 'NewExtraCare-ICT requirements.docx' for ICT installations.

8.52.2 NOTE THAT THE CABLING AND CONNECTIONS WILL BE SUPPLIED AND INSTALLED BY A SPECIALIST IT/DATA INSTALLER UNDER THIS CONTRACT AND ALL TEST RESULTS & DRAWINGS SHALL BE INCLUDED WITHIN THE O&M MANUAL.

## **8.53 EMERGENCY LIGHTING SYSTEM: GENERAL SPECIFICATION.**

8.53.1 *Type:* M3 self-contained either within LED luminaires or LED bulkheads (IP65). The designer shall include for static inverters.

8.53.2 *Application:* To provide illumination in the event of a failure of the normal electricity supply.

8.53.3 Provide key operated test switch that when operated will simulate a failure of the normal supply to the appropriate circuit as the BS5266.

8.53.4 Designer to allow for emergency lighting to lift shaft, roof void and service riser for firefighting equipment etc.

8.53.5 Designer/*contractor* shall allow for emergency lighting to the Fire Assembly location (indicated as the place of safety for the site). Nb. This will be within the next revision of the RRfsO, BS9999, BS9991 & BS5266.

8.53.6 The Designer/*Contractor* shall be responsible for coordinating and the installation of the escape signage in-conjunction with the Fire Strategy, in addition to this the designer/contractor shall allow for additional low level signage to replicate the general escape signage.

8.53.7 The Designer shall discuss and agree their Emergency Lighting design with the clients Fire officer contact Mr. Patrick Gibbons on Mob: 07891 272407 email: patrick.gibbons@leeds.gov.uk, all correspondence shall be through Project Manager.

8.53.8 All test certification and lighting levels shall be asked to be sample checked and witnessed by the NEC *Project Managers* Supervisors representative (Electrical Clerk

of Works). If however the results are not satisfactory the Contractor shall be asked to retest the whole installation.

Recommendation is to ensure the test instruments used to undertake the testing are used for the checking/witness testing to ensure the figures match.

- 8.53.9 The designer to include emergency lighting within the apartment hallways, under the RRfsO, BS5266, BS9999 and BS9991 and discuss with the Fire Officers. All decisions must be documented, included within the fire strategy, documented within the O&M Manual if different to the British Standards. Any changes to the British Standards should be noted within the Emergency lighting test certificates. Emergency lighting within the apartments shall be self-contained off the tenants supply.
- 8.53.10 All emergency lighting to be designed to provide the required lighting levels to comply with BS5266. All relevant details to be contained within the O&M manual

#### **MAINTENANCE:**

- 8.53.11 Allow for maintenance/testing within the first 12 months (minimum of four visits).

Prepare 3/5/7 year maintenance/testing agreement and Submit for user acceptance at the end of the 12 month period.

Implement until Final Certificate issued. Emergency maintenance response time 8 hours.

#### **8.54 DOOR ACCESS AND INTERCOM SYSTEM**

- 8.54.1 The Designer/contractor shall design, develop, coordinate, supply, install, test and commission a door access and intercom system.
- 8.54.2 The Door Access & Intercom System shall be network PC based and be accessible off site. Equipment located at Care Managers Office area (with variable ring volume).
- 8.54.3 Contractor to provide the proposed details to the NEC Project Manager, Technical Advisor and Leeds City Councils Technical Manager for consideration and comment.
- 8.54.4 All relevant details to be contained within the O&M manual

#### **8.55 DOOR ENTRY SYSTEM**

##### **8.55.1 Equipment Location**

SI Digital Door Panel (Tyntec or equivalent and approved) Main Entrance Door

Tyntec Entel Ultra or equivalent and approved Telephone Apartments with 2 way

Controller. To Be Agreed

Panel Mount Reader key management system enabled External to Main Entrance

Access Fobs 250 pack (based upon a 65 unit scheme) including programming equipment - Residents & Housing dept.

Heavy duty mag locks Various Around Scheme

Green Domed Exit Button Various Around Scheme

Green Emergency Exit Release Various Around Scheme

Staff Training Handover & 6 months after Handover

- 8.55.2 Access control/intercom as the main doors, allow for spare capacity within the system for these future elements, so the apartments can release the correct doors.
- 8.55.3 All secured doors to release under fire activation.
- 8.55.4 The access system shall be fully programmable to enable operational changes in the future.
- 8.55.5 All fire doors with Mag. Locks shall require the doors to be tested with the equipment to ensure fire certification, please talk to the project Fire Engineer.
- 8.55.6 Emergency release latched units shall be installed with polycarbonate lift up covers.
- 8.55.7 The system shall be expandable to incorporate the following in the future:
- a) Additional 10 No. Manual emergency door release break glasses (green) with polycarbonate covers.
  - b) Additional 5 No. External Flush fob readers.
  - c) Additional 10 No. heavy duty surface mounted magnetic locks.
  - d) Additional 50 No fobs.
- 8.55.8 Employ the specialist to design, develop, co-ordinate, supply, installation, testing and commissioning of door access & intercom installation.
- 8.55.9 All test certification shall be asked to be sample checked and witnessed by the NEC Project Managers Supervisors representative (Electrical Clerk of Works). If however the results are not satisfactory the Contractor shall be asked to retest the whole installation.
- 8.55.10 Recommendation is to ensure the test instruments used to undertake the testing are used for the checking/witness testing to ensure the figures match.
- 8.55.11 Documentation - provide full documentation to comply with the standards indicated above and relevant details to be contained within the O&M manual.
- 8.55.12 Maintenance - allow for maintenance within the first 12 months (minimum of two visits for training and O&M Manual).

Prepare 3/5/7 year maintenance agreement and Submit for user acceptance at the end of the 12 month period.

Implement until Final Certificate issued.

Emergency maintenance response to time 4 hours.

Resetting after alarm.

From remote control centre.



## **8.56 CCTV**

8.56.1 Design, supply, install, test and commission a complete CCTV installation as per the following:

8.56.2 CCTV system to cover the perimeter of the building, car park and secure entrance hallway. System will store data for a minimum of 31 days and after this period be automatically deleted. The system is to be housed within a secure cabinet located within the Comms Room. One monitor is to be installed within this office to allow viewing of the site. A second monitor for out-of- hours care team to be positioned within the general care/staff office. The system is to be monitored by LeedsWatch via WAN.

8.56.3 System to include a DPIA and to include control measures such as a code of practice and individual user logins with the appropriate access rights.

8.56.3 Include a minimum specification for the CCTV and recording equipment

### LCC CCTV Specific Requirements

8.56.4 CCTV system to be designed, installed and linked to Leeds Watch via WAN connection. This will require coordination with Leeds City Councils ICT. Xtralis Adpro IFT / FT2 are typical examples of compatible hardware.

### CCTV MONITORED SYSTEM.

8.56.5 The Designer/Contractor shall design, develop, supply, co-ordinate, install, test and commission a locally recorded but remotely monitored system which comprised of anti-vandal fixed domes and fully functional PTZ. The system shall be able to be accessed off site. System to be linked to Leeds Watch via WAN

### DESIGN PARAMETERS

#### Objectives of the CCTV System:-

- a) To deter and create a safe environment for the tenants and staff around the whole site.
- b) To reduce any vandalism that may take place and identify offenders.
- c) To reduce any thefts that may take place and identify offenders.
- d) Monitor any illegal entry.
- e) Provide a visible deterrent.
- f) Provide evidential quality multiplexed/duplexed digital recording on and off site for any of the above incidents that do occur.
- g) Provide all signage and notifications necessary to complete the works internally and externally.
- h) All recording, storage, images and process shall be to police prosecution standards.
- i) Shall comply with secured by design principles for housing.

j) Design to follow ICO recommendations: <https://ico.org.uk/media/1542/cctv-code-of-practice.pdf>

- 8.56.6 Supply and install a perimeter detection system that allows for efficient monitoring of the site. This can be achieved by PTZ and external detection and/or video analytics. Areas of importance are all entry/exit points of the building and carpark.
- 8.56.7 Fixed cameras shall be Anti vandal IK10 dome type, with 2MP minimum resolution.
- 8.56.8 Supply and install a NVR / Transmission unit, digital recording/storage/writer and associated monitors. Monitors to be sufficient to display the required images selected by the client.
- 8.56.9 CCTV NVR, duplex digital recording/storage/writer to be located within site manager's office. Contractor to submit detailed designs for consideration and comment
- 8.56.10 The proposed equipment shall not be of a type solely manufactured for or by the tendering company. All equipment must be freely available. It should be without a licence or the licence shall be included for the life of the installation and to other reputable specialist CCTV installers directly from the manufacturers or distributor.
- 8.56.11 The CCTV installation shall be carried out using suitable Network cabling enclosed in galvanized trunking/ flush conduit down walls and on basket within ceilings. No cabling from the existing installations shall be re-used, Ethernet over coax adapters are not acceptable. Cabling shall be utilised as specified by the CCTV equipment manufacture, typically CAT5's and CAT6, cabling shall be to EN50575:2014+A1:2016 compliant, no Copper Clad Aluminium (CCA) will be permitted. Where copper cabling distances reach the manufacturers specified limitations, fibre optic cabling is the acceptable alternative.
- 8.56.12 All the camera housings shall be vandal resistant to IK10, suitable for prolonged use in exposed conditions, security type resistant to seizure or corrosion to fastenings or hinges and be alarmed. All exposed equipment shall have tamper proof stainless steel fixings and have a tamper alarm. Cable to be aluminium copper clad. No joints are permitted. No coax or Ethernet over coax adaptors.

#### GENERAL SPECIFICATION.

- 8.56.13 To provide off site CCTV monitored recording and assistance in the event of an incident occurring by LCC Monitoring Station The system shall be armed as per the agreed time schedule or auxiliary equipment, with detection or analytics pick up movement within the armed zones, which in-turn triggers an alarm at LeedsWatch. . Any alarms generated by the perimeter detection system must also alert on-site.
- 8.56.14 Due to the potential closeness of public housing the CCTV shall be masked to prevent the CCTV system over looking adjacent properties. The system shall be configured and commissioned with respect to GPR requirements and the written and approved DPIA. Governance is to remain locally and therefore, it will be necessary to install privacy zones on the system to avoid misuse.
- 8.56.15 Fixed cameras shall provide 24/7 surveillance of the desired areas and fully functional cameras will enable remote operators to locate and track intruders when the system is armed. Please note, detectors / analytics should not be used in locations which routinely cause false alarms.

8.56.16 The CCTV system shall be remotely monitored by LCC Monitoring Station when the system is to be armed, usually outside operational hours. Operation of the CCTV system during operational hours.

8.56.17 The philosophy of the CCTV is to provide surveillance of the site to prevent anti-social behaviour of those visiting/attending the site and to provide a deterrent/protection of those on the site from undesirables, especially with there being several entrances/exits. To ensure that all incidents are captured it has been necessary to increase the number of cameras to ensure coverage of priority areas during the buildings operation. All surveillance shall be to police surveillance prosecution standards.

8.56.18 The primary surveillance areas for the site, all other areas are classed as secondary surveillance areas shall be developed with the NEC Project Manager, building user and client.

8.56.19 LCC MONITORING STATION DETAILS.

LCC REMOTE MONITORING CENTRE:

Leeds City Council

Security Service Section

Contact: Martin Clark Tel: 0113 214 4156

8.56.20 ELECTROMAGNETIC COMPATIBILITY:

Ensure all equipment and systems are designed and installed to provide electromagnetic

compatibility within the system and with any other systems installed in the same locations, and comply with BS 905 and BS EN 55020 where applicable.

8.56.21 **PRODUCTS/MATERIALS**

**CAMERAS:**

*Application:*- Design supply and install a fully functional system complete, integration with LeedsWatch hardware/software is essential for remote monitoring of CCTV systems, see contacts listed for advice.

*Image:*- Minimum of 2 Mega pixel IP cameras.

*System:*- IP Mega pixel IP Cat 6 network.

cameras:

- Cameras shall be IP at source, the encoding of analogue cameras is not acceptable.
- Camera which use megapixel technology over coax such as TVI are not acceptable.
- Minimum of 2 independently configurable stream (minimum 1920x1080 and 25fps)
- Supports PoE or PoE Plus

- Dehumidifying ability (if appropriate for form factor)
- PTZ cameras shall have continuous rotation
- Day/night capabilities with removable IR cut filter
- ONVIF S compliant
- Compression options including a minimum of H.264
- Robust impact resistant design, IK10 impact-resistant aluminium/steel/alloy
- All OSD text shall be in English

#### **8.56.22 CCTV CAMERA MOUNTING:**

*Supports:-* AV fixed domes and PTZ to utilise manufacturer compatible bracketry and junction boxes, external cabling to PTZ location to be steel flexible conduit from termination point to the camera (max length 0.5m)

Enclosure protected to BS EN 60529. Dust protected.

Smoked appearance. All camera housing to be IK10.

#### **8.56.23 CAMERA CONTROL EQUIPMENT:**

*Application:-* specialist to design

Control facilities

Focus. Aperture.

Focal length.

#### **GENERAL SPECIFICATION.**

#### **8.56.24 RECORDING UNIT.**

*System:-* PC Based CCTV System (to be compatible with Leedswatch systems)

*Application:-* 01. on site via NVR duplex digital recording/storage/writer.

02. off-site viewing and review. No. Cameras serving

*Storage capacity:-* 31 days storage capacity with 25 IPS recording.

*Cabling:-* Suitable and sufficient network cabling to suit the application

And for the recording:

- All cameras should have the ability to seamlessly integrate with 'Monitor, Sentinel plus'.
- Any assistance, technical support, SDK's and associated licencing should be included and free for the lifetime of the installation.
- The ability to record all streams simultaneously at a minimum of 1920x1080 pixels at 25fps

- Have sufficient storage to hold all recordings for a minimum of 31 days plus an additional 25% capacity for future expansion
- The ability to restrict user access by password protection both locally and remotely
- The ability to export video locally and remotely in a native format
- Offer codec and compression of a recording quality that is fit for purpose and utilisation by law enforcement agencies as evidence in UK courts
- All OSD text shall be in English

**8.56.25 CLOCK**

The system should have the ability to be linked to a master clock to ensure that recorders are all displaying the identical corrected time. An NTP system should be used to make sure all recorded images are displaying the correct time for evidential purposes, where possible the LeedsWatch clock should be utilised.

**8.56.26 LAN:**

The existing buildings LAN shall not be used. There shall be a redundant bandwidth of 25% on any transmission media to allow for the future expansion of the CCTV installation.

The use of radio for the transmission of images and data is not permitted

**8.56.27 WORKMANSHIP / INSTALLATION:**

Install the system and its elements in accordance with the manufacturer's recommendations and BS7671 (electrical regulations), BS 6259 and BS 6330 where applicable.

**8.56.28 SYSTEM DEMONSTRATION:**

Demonstrate that the system meets all specified requirements and provides quality and impairment of sound or vision reproduction as required.

**8.56.29 DOCUMENTATION & HANDOVER:**

Provide full documentation to comply with the standards indicated above.

**8.56.30 HANDOVER**

The tenderer shall make a back-up of all equipment that has the ability to do so upon handover. The back-ups shall be given to WYCA in duplicate and will be fully accessible

The appointed Supplier shall provide a fully documented handover of the solution including:

- A complete set of as installed drawings for each location.
- A completed set of maintenance manuals.

- List of Makes, Models and Serial numbers of all new equipment
- IP address usage
- Usernames and Passwords (both user and administrator/engineer)

#### 8.56.31 **MAINTENANCE:**

Allow for maintenance/testing within the first 12 months (minimum of four visits).

Prepare 3/5/7 year maintenance/testing agreement and Submit for user acceptance at the end of the 12 month period.

Implement until Final Certificate issued.

Emergency maintenance response time 8 hours.

#### 8.56.32 **OPERATING AND MAINTENANCE MANUAL**

All information shall be contained within the Operating and Maintenance Manuals provided at hand-over, as detailed in the Preliminaries and within the electrical section.

#### 8.56.33 **CONTACT POINT FOR ASSISTANCE**

For any assistance, direction or advice, please contact: Martin Clark at Leeds City Council on Tel: 0113 214 4156

### 8.57 **ELECTRIC VEHICLE CHARGING**

8.57.1 All installations shall comply with the current edition of the IET Code of Practice for Electrical Vehicle Charging Equipment Installation guide and the current edition of the Wiring Regulations, BS7671

8.57.2 This Code of Practice aims to provide expert guidance on EV charging equipment installations. It provides detailed on-site guidance and recommendations on all aspects of the installation from the origin of the electrical supply, through distribution and final circuits, installation of the charging equipment itself to the cable between the charging equipment and vehicle's electrical inlet. Also included are related issues of site layout and planning and subsequent inspection, testing, certification and maintenance of installations.

8.57.3 The Code of Practice includes an overview of all types of equipment, connectors and cables that an installer is likely to encounter and provides detailed references to all relevant standards and regulatory requirements in the UK – including, in Section 5, the latest guidance based on advice from the HSE on the Code of Practice Inc.;

8.57.4 Electric vehicle charging provision shall be designed, installed and commissioned as above and in accordance with Leeds Parking Supplementary Planning Document (**Parking SPD, Additional Guidance on Electric Vehicle Charging Points** - Updated October 2018). Charging points shall be based upon a 65 unit scheme and the actual number of charging units shall be agreed in-line with planning requirements. Please note, these units will not provide free charging and therefore, the design of the units must include a suitable, secure and robust mechanism for paying for the electric.

#### **8.57.6 MAINTENANCE/TESTING:**

*Carry out maintenance & testing as required by manufacturer for the defects liability period and provide proposal for continuing maintenance to NEC Project Manager.*

*Building user.*

*Within Project Manual.*

*Allow for maintenance & testing within the first 12 months (minimum of two visits).*

Include all necessary and essential service and maintenance requirements within the O&M Manual.

- 8.57.7 Prepare 3/5/7 year maintenance agreement and submit for user acceptance at the end of the 12 month defects liability period. Implement until Final Certificate issued. Emergency maintenance response time - 4 hours.
- 8.57.8 The *Contractor* shall submit their detailed design proposals to the NEC Project Manager for consideration and comment at least ten weeks prior to commencing the works.

#### **8.58 MVHR AND MECHANICAL EXTRACT VENTILATION**

- 8.58.1 Contractor to design, install, commission and test a ventilation strategy for the entire building, including calculating extract rates as recommended within the CIBSE guidance and part F of the Building Regulations.
- 8.58.2 For the apartments, the design shall include for Mechanical Ventilation with Heat Recovery System (MVHR). Please note, no cooker hoods are required and therefore, the Contractor must ensure the system is designed accordingly to take into account extract requirements and how the system can be easily serviced and maintained in the future.
- 8.58.3 For the communal toilets, the design shall include for an extract ventilation system only.
- 8.58.4 For the communal areas such as the lounge, dining room, corridors, landings and assisted bathrooms etc, the design shall include for a commercial extract ventilation with heat recovery system
- 8.58.5 For the commercial kitchen, a commercial kitchen ventilation and extract system to DW172
- 8.58.6 For all other ancillary rooms, offices, meeting rooms, storage rooms, comms rooms and the like, the design shall be based upon the provision of suitable ventilation systems to suit the environment, location and use of the room.
- 8.58.7 All ducting shall be designed and located (terminated) so as to avoid any nuisance effect such as drafts locations that residents are likely to remain static for prolonged periods (e.g. where seating is likely to be located).
- 8.58.8 The design engineers shall consider a proposed strategy for the supply and extract ventilation or a combination of ventilation with heat recovery to (a) Retain the fresh air

within an airtight building. (b) Reduce the amount of energy lost enable the system / building to achieve Building Regulations approvals and (c) To reduce incoming cool air/drafts (d)

8.58.9 The *Contractor* shall submit their detailed design proposals to the NEC Project Manager for consideration and comment a minimum of 10 weeks prior to commencing the works on site.

**8.59 ICT REQUIREMENTS (see ICT appendix document ('NewExtraCare-ICT requirements.docx') for specific details )**

8.59.1 The Contractor shall engage a Specialist Comm's Contractor to design and build the required ICT infrastructure; with all supplies and containment for the project to make it work.

8.59.2 The Specialist Contractor shall order, implement, liaise, co-ordinate and facilitate new incoming communications services as agreed with the Council and with reference to the 'NewExtraCare-ICT requirements.docx'

8.59.3 The Specialist Contractor shall be responsible for all outlets, wiring between outlet, cabinet, comm's racks and supplies for the communications system. The Contractor will work with reference to the 'NewExtraCare-ICT requirements.docx' and shall terminate all cabling and test all the circuits, providing test results within the O&M Manual.

8.59.4 Supply, install, test and commission by a Specialist Comm's Contractor a communications system for the Extra Care Schemes as indicated below back to a new landlords comm's cabinet location to be determined by the Designer .

8.59.5 The Contractor shall allow for liaison, co-ordination, builders work, supplies and containment for the Specialist Comm's Contractor.

**PERFORMANCE OBJECTIVES**

8.59.6 The Specialist Comm's Contractor shall supply and install a fully functional Ethernet network throughout the building with reference to the 'NewExtraCare-ICT requirements.docx'

8.59.7 The Contractor shall supply and install a complete containment system of galvanized trunking, Galvanized Conduit drops to individual accessories and dado trunking were necessary to meet these requirements for the Specialist COMM'S Contractor.

8.59.8 All accessory boxes shall be a minimum of 38mm deep to allow connection of cat 7A cables. The Specialist COMM'S Contractor shall liaise with the Contractor to develop the design to ensure that the accessories are located correctly and are co-ordinated.

**DESIGN PARAMETERS**

8.59.9 Design, supply, and install a full and complete containment system of trunking/conduits wall boxes for accessories including Cat 7A and fibre optic flood wiring and equipment. Supply and install dual IT socket outlet boxes as shown on the drawings including all cabling.



- 8.59.10 The Specialist COMM'S Contractor shall liaise with the LCC ICT/Voice team regarding their design to ensure it complies with the LCC corporate ICT plan and systems.
- 8.59.11 Notwithstanding the compliance to BS6701 and the issues of segregation, Contractors shall take additional care to ensure cables are not routed adjacent to other services where Electro Magnetic emissions may be being generated.
- 8.59.12 Contractors shall confirm the minimum segregation distances from other services as specified by the cable manufacturer.
- 8.59.13 The Contractor shall allow for full liaison with the specialist ICT/Data installer to ensure that the installation meets all requirements.
- 8.59.14 All containment shall comply with BSEN7671 and BS6701.
- 8.59.15 All multiple cables shall be installed on tray or basket within ceiling voids and service risers.

## **8.60 EMERGENCY CALL SYSTEM**

### **8.60.1 Emergency Call**

The Contractor shall design, install, test and commission a proposed system which must be IP ready for the digital switchover planned in 2025

The type of system to be installed must be considered to reflect how the residents can maintain independence with an appropriate level of assistance without intrusion on their rights. A telecare overlay allows the implementation and use of telecare sensors, combined with communications technology and tailored support, it helps to manage the risks associated with independent living including, falls, and fire. It enables care staff to receive alarm calls from a variety of identifiable telecare sensors. Alarm calls received by the Contact Centre off site can provide details of the sensor type and location. The telecare system must provide the ability to configure telecare on a per-resident basis enabling telecare to be utilised to provide tailored care services.

- 8.60.2 It is Leeds City Council's preference that pull cords are not generally fitted in all rooms in an apartment. Each resident should be offered a pendant and/or wristband (they should be given the choice) with the main speech module located in the apartment's hallway and a pull cord fitted in the bathroom between the shower and the toilet (which is where the majority of calls are generated from). It would be useful to have the pull cord fitting above the bed in the main bedroom so that a cord can be attached if a resident is bed-bound due to illness. The cord should be supplied to the Scheme Manager so it can be fitted as required.

## **8.61 TELECARE**

The Contractor shall design, install, commission and test a Telecare solution suitable for Extra Care provision and should include the following as a minimum:

- Provide a system programmer situated in the care staff facility to enable 24hrs access for programming

- Provide a Palm Pilot with BlueTooth access
- Be able to support the use of up to 16 handsets, where the scheme is over 40 units, fewer handsets may be required if the scheme is smaller. The basic system usually accommodates up to 6 handsets
- Incorporate a Wanderguard system on all external doors as part of the overlay system.
- (Fire doors are to be alarmed independently of this system – Contractor to design)
- Incorporating a zoning feature, which will identify specific areas of the building, should an alarm be raised and the caller is not in their apartment
- Pull cords in apartments are only required in the bathroom. A speech module will be included in the hall way. In addition a pull cord connector should be installed in the main bedroom to allow for the fitting of a pull cord if necessary.
- Choice should be given to people regarding the availability and use of a pendant or Minuet Watch
- Be designed with sufficient relays to ensure there is signal coverage throughout the building and not have any 'black spots'
- Be designed to include an proportionate number of pager units to suit the . potential number of apartments, residents and for staff with hearing impairments, as well as the usual handsets
- Be designed to incorporate handsets that have the facility to make emergency calls
- Have the ability to utilise as many 'add on 'sensors as possible – this will ensure that people have a wide choice of support options available to them
- Be consistent with equipment widely used in the telecare community
- overlay system to be IP ready for the digital switchover in 2025
- It will be expected that the provider will manage the installation and on-going management and maintenance of the add-on equipment.
- Enable monitoring of pendant calls and response times

8.61.1 Apartments within an extra care housing scheme will have as standard:-

- A speech module
- A pendant or wristband available for each resident
- Flood Detectors (to be provided by LCC inc battery replacements)
- LCC will be responsible for the replacements of batteries in all of its sensors

## **8.62 LIFTS**

- 8.62.1 Consideration should be carefully applied within the design to the location of the lift, shaft and the plant room and how these relate to the apartments, specifically in relation to noise nuisance and heat gain from the equipment. Contractor to apply additional sound and thermal insulation within their design to any neighbouring apartments
- 8.62.2 Lifts should be located adjacent to central facilities and have a clear 'waiting' space in front of them. If the lifts are intended to be used for evacuation they will require hold open devices.
- 8.62.3 Sizing of lifts must be in relation to the transportation of wheelchair users and stretchers. Mirrors should not be provided in lifts as these can cause confusion to people living with dementia. Each lift's interior should be a different colour to assist people to recognise the one that suits them most for the location of their apartment.
- 8.62.4 Two lifts must be provided in case of breakdown with 1x8 person 630kg load capacity wheelchair lift and 1x13 person 1000kg load capacity stretcher lift.
- 8.62.5 Firefighter control passenger lifts shall be provided.
- 8.62.6 All passenger lifts doors on each floor shall have separate lobbies.
- 8.62.7 One evacuation passenger lift required in fire resistant lobbies, programme to be discussed with client, fire safety team and WYFRS.
- 8.62.8 A pull-down seat should be included as well as emergency call buttons in the main control panel and at floor level.
- 8.62.9 Floor identification – both visual and verbal – should be clear and consistent, especially where there may be an upper and lower ground floor and there must be clear labelling.
- 8.62.10 Lift drapes should be provided for each lift.
- 8.62.11 Please note if a building with a floor higher than 18m above the fire and rescue service access level then a fire fighting shaft containing a fire fighting lift should be provided in accordance with BS 9999.
- 8.62.12 Fire protected lobbies and egress routes from the stairs to the final building exit are specified in accordance with BS 9999.
- 8.62.13 Include for a lift back up power supply.
- 8.62.14 Include for heavy duty doors and door casings to prevent damage from scooters and wheelchairs

### **8.62.15 General Requirements shall include:**

BS EN 81-21: 2009 +41: 2012; Safety rules for the construction and installation of lifts – Lifts for the transport of persons and goods - Part 21: New passenger and goods passenger lifts in existing buildings

BS EN 81-28: 2003; Safety rules for the construction and installation of lifts - Lifts for the transport of persons and goods - Part 28: Remote alarm on passenger and goods passenger lifts

BS EN 81-50:2014; Safety rules for the construction and installation of lifts - Examinations and tests Part 50: Design rules, calculations, examinations and tests of lift components

BS EN 81-58: 2003; Safety rules for the construction and installation of lifts - Examination and tests - Part 5B: Landing doors fire resistance test

BS EN 81-70: 2003; Safety rules for the construction and installation of lifts – Particular applications for passenger and goods passenger lifts- Part 70: Accessibility to lifts for persons including persons with disability

BS EN 81-71: 2005+41:2006; Safety rules for the construction and installation of lifts - Particular applications to passenger lifts and goods passenger lifts - Part 71: Vandal resistant lifts

BS EN 81-72:2015 incorporating corrigendum July 2015; Safety rules for the construction and installation of lifts - Particular applications for passenger and goods passenger lifts - Part 72: Firefighters lifts

BS EN 81-73:2016 Safety rules for the construction and installation of lifts – Particular applications for passenger and goods passenger lifts - Part 73: Behaviour of lifts in the event of fire

BS EN ISO 9001: 2015; Quality management systems. Requirements 70

BS 8486-3 Examination and test of new lifts before putting into service - Specification for means of determining compliance with BS EN 81 Part 3: Passenger and goods passenger lifts conforming to BS EN 81-20

BS EN 12015: 2014; Electromagnetic compatibility - Product family standard for lifts, escalators and moving walks - Emission

BS EN 12016: 2013; Electromagnetic compatibility - Product family standard for lifts, escalators and passenger conveyors - Immunity

BS EN 12385 -52 2002; Steel wire ropes - Safety - Part 5: Stranded ropes for lifts

BS EN 50264: 2006; Flat polyvinyl chloride sheathed flexible cables

BS 7255: 2002. Safe working on lifts

BS 7671:2008 IEE Wiring Regulations

BS 9999: 2008; Code of practice for fire safety in the design, management and use of buildings EN60204 Machinery directive.

Where this specification differs from those standards and codes, the provision of this specification shall prevail. Reference to British Standards Codes of Practice and Regulations shall be deemed to include all amendments, if any. The specialist shall bring any subsequent changes in the relevant British Standards Codes of Practice and Regulations to the attention of the NEC Project Manager.

8.62.16 Please note, any building with a floor higher than 18m above the fire and rescue service access level, then a fire fighting shaft containing a fire fighting lift must be provided in accordance with BS 9999

8.62.17 Contractor to provide the proposed designs for the lift installations a minimum 10 weeks prior to commencement

### **8.63 INTERNAL APARTMENT DOORS**

(See Accommodation Schedule and Room Data Sheets for more specific details)

- 8.63.1 Internal doors should be solid core, pre-finished veneer finish 850mm clear opening. Min 926mm door sets
- 8.63.2 Internal ironmongery to be heavy duty and bolt through lever furniture, in polished or stainless steel.
- 8.63.3 Lever furniture to internal door latches must be formed from 20mm cylindrical bar section aluminium or chrome bent in to a 'D' shape, returning to the face of the door. The handles must have circular roses, with concealed bolt-through fixings and be suitable for client group in terms of ease of operation.
- 8.63.4 The latch mechanism itself must be 75mm deep, rectangular in section, and sprung sufficiently to return the lever handles in to position. Latches must be pierced to allow the bolt through fixings of lever furniture. Bathroom / WC furniture is to be from the same range as other lever furniture.
- 8.63.5 Bathroom and cloaks shall have locking mortice latches operable from the outside in an emergency.
- 8.63.6 Latches and lever handle furniture to be provided on all internal doors including cupboards etc.
- 8.63.7 All built in cupboards are to be provided with adequate ventilation. Ventilators are to be provided to all store doors and to under stairs void areas (if applicable).
- 8.63.8 Where fire doors are required they must meet fire resistance and escape requirements that are specified by Building Regulations.
- 8.63.9 A comprehensive sample board shall be provided for approval prior to commencement of fixing.

### **8.64 FINISHES AND FITTINGS**

#### **8.64.1 WALL FINISHES ( see Accommodation Schedule and Room Data Sheets for more specific details )**

- Bathroom walls shall be robust and ply-lined to allow the fitting of adaptations equipment.
- All painting materials shall be in accordance with the manufacturer's recommendations. Paint finish to communal walls to ensure compliance with Building Regulations in terms of fire protection. All in accordance with manufacturer's instructions
- The *Contractor* is recommended to consider the use of water based materials if appropriate.

- A full specification, including preparation, must be provided, for approval, for all paint finishes to metalwork and masonry with an undercoat, primer and minimum of two coats.
- Glazed wall tiling splash backs:
  - a) Tiling - £16 per square metre PC sum for supply to be allowed for within the tender. *Contractor* to allow for all cost associated with the installation of the tiling.
  - b) A range of tile samples to be provided to the NEC *Project Manager* for selection. All tiling layouts or similar splashback patterns to be approved by the NEC *Project Manager* before works commence for consideration and selection.

## **8.65 KITCHENS - TILING**

- 8.65.1 Full height tiling to be provided between the worktop and underside of the wall units. Full height tiling or splashbacks to be provided behind the fridge freezer location from skirting level to the same height as the underside of the wall units.

## **8.66 WALL FINISH WITHIN COMMERCIAL KITCHEN**

- 8.66.1 Hygienic wall system which is impact resistant, grout free and easy to clean.
- 8.66.2 System must be Hazard Analysis and Critical Control Points (HACCP) approved and made from high-quality, food safe PVCu polymer that can handle temperatures up to 60°C. It must meet all current European Union (EU) Directives on health and hygiene. Minimum 20 year guarantee.

## **8.67 FLOOR FINISHES ( see Accommodation schedule and room data sheets and FF&E document for more specific details )**

- 8.67.1 Skirtings to be provided throughout, (except where vinyl floor covering with pre-formed coving is specified) and to be 19 x 94mm (or similar) with pencil round profile. Any alternative size or profile to be with the approval of the NEC *Project Manager*. Softwood architraves to be of a similar moulding. Cove skirting to be provided to assisted bathrooms, commercial kitchen, disabled W.C. etc and other locations as required.
- 8.67.2 Kitchens, kitchen/dining areas, utility rooms, bathrooms and WCs (cloakrooms) and associated cupboards within the apartments are to include slip resistant vinyl sheet flooring or slip resistant vinyl tile flooring as described below. Vinyl to be fitted under the removable base unit and all appliances in the kitchen. All fitted as per manufacturer's instructions. Include for pre-formed coving within the bathroom.
- 8.67.3 All bathrooms and accessible WC to all properties to be designed and installed must have adequate falls to floor drains. Detailed proposals to be submitted to the NEC *Project Manager, Technical Manager and Lead Technical Advisor* for consideration

and comment. Proposals to include the associated calculations to prove adequate drainage and flow rate of shower compatibility. Easy clean drain outlet to be included.

**8.67.4 VINYL SHEET SAFETY FLOORING WITH ENHANCED SLIP RESISTANCE– WET FLOOR SHOWERS, ASSISTED BATHROOMS, CHANGING ROOMS, GUEST ROOM & EN-SUITE, ETC**

8.67.5 The flooring shall be flexible PVC sheet flooring in 2.0mm thickness and will contain a selection of the following safety aggregates to impart enhanced slip resistance: silicon carbide, coloured quartz, natural recycled aggregates and aluminium oxide granules.

8.67.6 The flooring material shall fully conform with the European Norm for safety flooring - EN 13845.

8.67.7 In respect of flamespread, the flooring shall be categorised as Class Bfl-S1 according to EN 13501-1. The flooring shall have been fully tested to ASTM E648 by an independent test house and have a Class 1 rating, making it suitable for use in institutional, commercial and public buildings.

8.67.8 The flooring must have been fully tested by an independent test house to the RRL Pendulum Test (Slider 55/96 Rubber) and have results of  $\geq 36$  in the wet, with a surface roughness of  $R_z \geq 20\mu\text{m}$ , making it suitable for use in areas where enhanced slip resistance is required in barefoot or shod conditions. A result of Class B to AS 4586 Part C & DIN 51097 should be achieved. The product should be certified as R10 to DIN 51130.

8.67.9 The flooring shall meet the water tightness requirements in EN 13553, meaning suitability for installation in special wet areas.

8.67.10 The product must have been fully tested for abrasion resistance to EN 13845, passing the 50,000 cycles test and also meeting EN 660-2 Abrasion Group P.

8.67.11 This product should not accumulate static charges above 2kV and is classified as 'antistatic' when tested to EN 1815. For specialist applications where there is a requirement to dissipate the electrostatic charge

8.67.12 The flooring shall possess a valid Agrément certificate when laid in accordance with the manufacturers, with coved skirtings and welded joints or timber skirting as specified.

8.67.13 The flooring must be available in 2.0 metre width, to minimise the number of joints.

8.67.14 The flooring must be suitable for Use Area Classification 23/34/43, as defined in EN ISO 10874 (EN 685).

8.67.15 In respect of light fastness, the flooring shall have been fully tested to ISO 105-B02 Method 3 and obtain  $\geq 6$ .

8.67.16 The flooring will achieve a BRE Global Environmental A+ rating ENP 472 in the Green Guide to Specification in major use areas such as education and healthcare. Refer to BRE Global Ratings on [www.greenbooklive.com](http://www.greenbooklive.com)

- 8.67.17 Generic EN 15804 Environmental Product Declaration (EPD) available on request.
- 8.67.18 The flooring shall be tested to and pass key independent, international standards for low VOC emissions.
- 8.67.19 The product will achieve BES 6001 certification for responsible sourcing, obtaining a Very Good rating.
- 8.67.20 The manufacturer of the floorcovering must be in possession of a valid quality systems certificate, showing compliance with BS EN ISO 9001.
- 8.67.21 The manufacturer of the floorcovering must be in possession of a valid environmental certificate, showing compliance with ISO 14001.
- 8.67.22 A moisture test must be carried out to ensure that the subfloor has dried out to a level consistent with the application of vinyl flooring. The test should be carried out using a hygrometer, in accordance with the instructions in BS 8203. The result should not exceed 75%RH, once equilibrium has been achieved.
- 8.67.23 The adhesive used must be approved by manufacturer, to ensure full product compatibility.
- 8.67.24 Products must be fully conditioned to the environment in which they are to be installed, as outlined by the manufacturer
- 8.67.25 Installation must be carried out in accordance with BS 8203 and the instructions of the manufacturer.
- 8.67.26 All joints must be welded to produce hygienic, continuous floors.
- 8.67.27 Safety flooring must have good resistance to dilute acids and alkalis, are compatible for use with the most commonly used alco-based hand gels and are suitable for steam cleaning on a periodic basis. Chemical resistance charts available on request. For information regarding handling and installation, adhesives, maintenance, applications, chemical resistance and product warranty, consult with the flooring manufacturer.
- 8.67.28 The slip resistance across the flooring products must be assured throughout the guaranteed life of the product, with strict adherence to HSE Guidelines.
- 8.67.29 All fitted and installed in accordance with manufacturer's instructions, including adhesives, trims and floor screeds etc

Colour / patterns: to be selected by Client from a range of samples provided by Contractor .

**8.67.30 HEAVY DUTY VINYL, SLIP RESISTANT SAFETY FLOORING – WOOD EFFECT FINISH- SUITABLE FOR COMMUNAL AREAS SUCH AS CIRCULATION AREAS, MEETING ROOMS, HOBBY ROOMS, DINING ROOMS, GARDEN ROOM / ORANGARY & MOBILITY SCOOTER STORE ETC**

- 8.67.31 The flooring shall be flexible PVC sheet flooring in 2.0mm thickness, with the following construction: circa 0.7mm clear PVC wear layer with aluminium oxide granules



incorporated throughout the full thickness - to impart enhanced slip resistance, a fibreglass reinforced integral print layer and circa

- 8.67.32 1.30mm of PVC backing.
- 8.67.33 The flooring shall feature a high quality, cross-linked polyurethane reinforcement to provide superior cleaning benefits, life cycle maintenance savings and optimum appearance retention.
- 8.67.34 The flooring material shall fully conform with the European Norm for safety flooring - EN 13845.
- 8.67.35 In respect of flamespread, the flooring shall be categorised as Class Bfl-S1 according to EN 13501-1. The flooring shall have been fully tested to ASTM E648 by an independent test house and have a Class 1 rating, making it suitable for use in institutional, commercial and public buildings.
- 8.67.36 The flooring must have been fully tested by an independent test house to the RRL Pendulum Test (4S Rubber/Slider 96) and have results of  $\geq 36$  in the wet, with a surface roughness of  $R_z \geq 20\mu\text{m}$ , making it suitable for use in areas where enhanced slip resistance is required.
- 8.67.37 The product must have been fully tested for abrasion resistance to EN 13845, passing the 50,000 cycles test and also meeting EN 660-2 Abrasion Group T.
- 8.67.38 The flooring shall possess a valid Agrément certificate when laid in accordance with the manufacturers instructions, with coved or timber skirtings and welded joints as per the accommodation schedule and room data sheets.
- 8.67.39 This product does not accumulate static charges above 2kV and is classified as 'antistatic' when tested to EN 1815.
- 8.67.40 The flooring must be available in 2.01 metre width, including a 0.01 metre salvage for on-site trimming, to minimise the number of joints.
- 8.67.41 The flooring is suitable for Use Area Classification 23/34/43, as defined in EN ISO 10874 (EN 685).
- 8.67.42 In respect of light fastness, the flooring shall have been fully tested to ISO 105-B02 Method 3 and obtain  $\geq 6$
- 8.67.43 The flooring will achieve BRE Global Environmental A+ rating ENP 415 in major use areas such as education and healthcare. Refer to BRE Global Ratings on [www.greenbooklive.com](http://www.greenbooklive.com)
- 8.67.44 Generic EN 15804 Environmental Product Declaration (EPD) available on request.
- 8.67.45 The flooring shall be tested to and pass key independent, international standards for low VOC emissions.
- 8.67.46 The product will achieve BES 6001 certification for responsible sourcing, obtaining an Excellent rating.

- 8.67.47 The manufacturer of the floorcovering must be in possession of a valid quality systems certificate, showing compliance with BS EN ISO 9001.
- 8.67.48 The manufacturer of the floorcovering must be in possession of a valid environmental certificate, showing compliance with ISO 14001.
- 8.67.49 A moisture test must be carried out to ensure that the subfloor has dried out to a level consistent with the application of vinyl flooring. The test should be carried out using a hygrometer, in accordance with the instructions in BS 8203. The result should not exceed 75%RH, once equilibrium has been achieved.
- 8.67.50 The adhesive used must be approved by the manufacturer to ensure full product compatibility.
- 8.67.51 Products must be fully conditioned to the environment in which they are to be installed, as outlined by the manufacturer.
- 8.67.52 Installation must be carried out in accordance with BS 8203 and the instructions of the manufacturer
- 8.67.53 All joints must be welded to produce hygienic, continuous floors.
- 8.67.54 Safety flooring ranges must have good resistance to dilute acids and alkalis, are compatible for use with the most commonly used alco-based hand gels and are suitable for steam cleaning on a periodic basis.
- 8.67.55 The slip resistance across the product must be assured throughout the guaranteed life of the product, with strict adherence to HSE Guidelines.
- 8.67.56 All fitted and installed in accordance with manufacturer's instructions, including adhesives, trims and floor screeds
- Colour / patterns: to be selected by Client from a range of samples provided by Contractor.
- 8.67.57 HEAVY DUTY, SLIP RESISTANT SAFETY FLOORING – SUITABLE FOR WASH ROOMS, W.C.s, LAUNDRY AND SLUICE ROOMS ECT**
- 8.67.58 The flooring shall be flexible PVC sheet flooring in 2.0mm thickness, containing silicon carbide and coloured quartz to impart enhanced slip resistance.
- 8.67.59 The flooring shall be constructed as a solid layer with embedded aggregates.
- 8.67.60 The flooring material shall fully conform with the European Norm for safety flooring - EN 13845.
- 8.67.61 In respect of flamespread, the flooring shall be certified as Class Bfl-S1 according to EN 13501-1. The flooring shall have been fully tested to ASTM E648 by an independent test house and have a Class 1 rating, making it suitable for use in institutional, commercial and public buildings.
- 8.67.62 The flooring must have been fully tested by an independent test house to the RRL Pendulum Test (4S Rubber/Slider 96) and have typical results of  $\geq 36$  in the wet, with a

- surface roughness of  $Rz \geq 20\mu\text{m}$ , making it suitable for areas where enhanced slip resistance is required.
- 8.67.63 The product must have been fully tested for abrasion resistance to EN 13845, passing the 50,000 cycles test.
- 8.67.64 The flooring shall possess a valid Agrément certificate when laid in accordance with the instructions of the manufacturer, with coved or timber skirting's and welded joints as per the Accommodation Schedule and Room data sheets.
- 8.67.65 This product does not accumulate static charges above 2kV and is classified as 'antistatic' when tested to EN 1815.
- 8.67.66 The flooring must be available in 2.0 metre width, to minimise the number of joints.
- 8.67.67 The flooring must be suitable for Use Area Classification 23/34/43, as defined in EN ISO 10874 (EN 685).
- 8.67.68 In respect of light fastness, the flooring shall have been fully tested to ISO 105-B02 Method 3 and obtain  $\geq 6$ .
- 8.67.69 The flooring will achieve a BRE Global Environmental A+ rating ENP 472 in the Green Guide to Specification in major use areas such as education and Healthcare. Refer to BRE Global Ratings on [www.greenbooklive.com](http://www.greenbooklive.com)
- 8.67.70 Generic EN 15804 Environmental Product Declaration (EPD) available on request.
- 8.67.71 The flooring shall be tested to and pass key independent, international standards for low VOC emissions.
- 8.67.72 The manufacturer of the floorcovering must be in possession of a valid quality systems certificate, showing compliance with BS EN ISO 9001.
- 8.67.73 The manufacturer of the floorcovering must be in possession of a valid environmental certificate, showing compliance with ISO 14001.
- 8.67.74 A moisture test must be carried out to ensure that the subfloor has dried out to a level consistent with the application of vinyl flooring. The test should be carried out using a hygrometer, in accordance with the instructions in BS 8203. The result should not exceed 75%RH, once equilibrium has been achieved.
- 8.67.75 The adhesive used must be approved by the manufacturer to ensure full product compatibility.
- 8.67.76 Products must be fully conditioned to the environment in which they are to be installed, as outlined by the manufacturer.
- 8.67.77 Installation must be carried out in accordance with BS 8203 and the instructions of the manufacturer.
- 8.67.78 All joints must be welded to produce hygienic, continuous floors.

8.67.79 Safety flooring ranges must have good resistance to dilute acids and alkalis, are compatible for use with the most commonly used alco-based hand gels and are suitable for steam cleaning on a periodic basis. Chemical resistance charts available on request.

8.67.80 The slip resistance across the safety products must be assured throughout the guaranteed life of the product, with strict adherence to HSE Guidelines.

8.67.81 All fitted and installed in accordance with manufacturer's instructions, including adhesives, trims and floor screeds

Colour / patterns: to be selected by Client from a range of samples provided by Contractor

**8.67.82 HEAVY DUTY, ENHANCED SLIP RESISTANT VINYL SHEET FLOORING – SUITABLE FOR THE COMMERCIAL KITCHEN**

8.67.83 The flooring shall be flexible PVC sheet flooring in 2.5mm thickness and will contain a selection of the following safety aggregates to impart enhanced slip resistance: silicon carbide, coloured quartz, natural recycled aggregates and aluminium oxide granules.

8.67.84 The flooring material shall fully conform with the European Norm for safety flooring - EN 13845.

8.67.85 In respect of flamespread, the flooring shall be categorised as Class Bfl-S1 according to EN 13501-1. The flooring shall have been fully tested to ASTM E648 by an independent test house and have a Class 1 rating, making it suitable for use in institutional, commercial and public buildings.

8.67.86 The flooring must have been fully tested by an independent test house to the RRL Pendulum Test and have results of  $\geq 40$  in the wet (using 4S Rubber/Slider 96) and  $\geq 36$  in the wet (using TRL Rubber/Slider 55), making it suitable for use in areas where enhanced slip resistance is required in barefoot or shod conditions. A result of Class B to DIN 51097 should be achieved and the product should be certified as R11 to AS 4586 & DIN 51130.

8.67.87 The flooring shall meet the water tightness requirements in EN 13553, meaning suitability for installation in special wet areas.

8.67.88 The product must have been fully tested for abrasion resistance to EN 13845, passing the 50,000 cycles test and also meeting EN 660-2 Abrasion Group T.

8.67.89 This product does not accumulate static charges above 2kV and is classified as 'antistatic' when tested to EN 1815.

8.67.90 The flooring shall possess a valid Agrément certificate when laid in accordance with the manufacturer's instructions, with coved skirtings and welded joints.

8.67.91 The flooring must be available in 2.0 metre width, to minimise the number of joints.

8.67.92 The flooring is suitable for Use Area Classification 23/34/43, as defined in EN ISO 10874 (EN 685).

- 8.67.93 In respect of light fastness, the flooring shall have been fully tested to ISO 105-B02 Method 3 and obtain  $\geq 6$
- 8.67.94 The flooring will achieve BRE Global Environmental A+ rating ENP 472 in major use areas such as education and healthcare. Refer to BRE Global Ratings on [www.greenbooklive.com](http://www.greenbooklive.com)
- 8.67.95 Generic EN 15804 Environmental Product Declaration (EPD) available on request.
- 8.67.96 The flooring shall be tested to and pass key independent, international standards for low VOC emissions.
- 8.67.97 The product will achieve BES 6001 certification for responsible sourcing, obtaining a Very Good rating.
- 8.67.98 The manufacturer of the floorcovering must be in possession of a valid quality systems certificate, showing compliance with BS EN ISO 9001.
- 8.67.99 The manufacturer of the floorcovering must be in possession of a valid environmental certificate, showing compliance with ISO 14001.
- 8.67.100 A moisture test must be carried out to ensure that the subfloor has dried out to a level consistent with the application of vinyl flooring. The test should be carried out using a hygrometer, in accordance with the instructions in BS 8203. The result should not exceed 75%RH, once equilibrium has been achieved.
- 8.67.101 The adhesive used must be approved by the manufacturer to ensure full product compatibility.
- 8.67.102 Products must be fully conditioned to the environment in which they are to be installed, as outlined by the manufacturer.
- 8.67.103 Installation must be carried out in accordance with BS 8203 and the instructions of the manufacturer.
- 8.67.104 All joints must be welded to produce hygienic, continuous floors.
- 8.67.105 Safety flooring must good resistance to dilute acids and alkalis, are compatible for use with the most commonly used alco-based hand gels and are suitable for steam cleaning on a periodic basis. Chemical resistance charts available on request.
- 8.67.106 The slip resistance across the product must be assured throughout the guaranteed life of the product, with strict adherence to HSE Guidelines.
- 8.67.107 All fitted and installed in accordance with manufacturer's instructions, including adhesives, trims and floor screeds
- Colour / patterns: to be selected by Client from a range of samples provided by Contractor.
- 8.67.108 CARPET TILES ( HEAVY DUTY CONTACT) – STAFF & ANCILARRY ACCOMMODATION ETC**

### Specification

The specification of all carpet tiles must meet the following minimum standards

- 8.67.109 Grading: Heavy Duty
- 8.67.110 Gauge: 1/10
- 8.67.111 Fibre Content: 100% Solution Dyed Nylon
- 8.67.112 Pile Weight ; 500g/m<sup>2</sup>
- 8.67.113 Total Weight: 4300g/me
- 8.67.114 Tile Size 50cm x 50cm
- 8.67.115 Performance ; BS EN 1307 N 33 – LC1
- 8.67.116 Static ; Stroll Test
- 8.67.117 Electrical Resistance: IBM/ICL
- 8.67.118 Flammability: Radiant Panel: BS EN ISO9239 – Assessed to BS EN 13501 – 1 C class
- 8.67.119 Dimensional Stability: DIN 54318
- 8.67.120 Castor Chair: BS EN 985
- 8.67.121 Colour Fastness: EN ISO 105 B02 to light, EN ISO 105 to water and EN ISO 105 X 12 to wet and dry rubbing.

Colour / patterns: to be selected by Client from a range of samples provided by Contractor.

- 8.67.122 **CARPET – IMPERVIOUS CUSHIONED BACKED (HEAVY DUTY CONTRACT & HARD WEARING), DURABLE, WATERPROOF & SLIP RESISTANT - COMMUNAL LOUNGE, CORRIDORS AND COMMUNAL LANDINGS (ADJACENT TO LIFTS/STAIRS ), BEDROOM WITHIN GUEST ROOM ETC**

### Specification

The specification of all carpets must meet the following minimum standards:

- 8.67.123 Construction: Cut Pile Graphics
- 8.67.124 Pile Content: 100% Stain Proof Polypropylene
- 8.67.125 Backing: Total Impervious and cushioned, tested by B.C.T.C
- 8.67.126 Width: 4m
- 8.67.127 Roll Length: 25m approx.
- 8.67.128 Total weight: 2000gm m<sup>2</sup>

- 8.67.129 Flammability: BS4790 (Hot metal Nut Test) low radius of ignition EN13501-1
- 8.67.130 Guarantee: 10 YEAR General Wear
- 8.67.131 Guarantee: 10 year impervious cushioned backing
- 8.67.132 Guarantee: 10 year bleach proof
- 8.67.133 Guarantee: 10 year Anti-stain
- 8.67.134 Guarantee: 10 year Anti-shock (ISO 6356)
- 8.67.135 Colours / patterns: to be selected by Client from a range of samples provided by Contractor

8.67.136 **BARRIER MATTING – ( HARD WEARING ) TO MAIN ENTRANCE, PLUS WITHIN APARTMENT DOOR RECESS AREA, AND TO EXTERNAL ENTRANCE OF GARDEN / ORANGERY ROOM & WITHIN IMMEDIATE ENTRY INTO MOBILITY SCOOTER STORE ETC ( RECESSED OR FLUSH FITTING TO PREVENT TRIP HAZARDS)**

**Entrance flooring to comply with BS 7953 Part 5.1**

- 8.67.137 Tile Size: 500 x 500mm ( Main Entrance ) barrier matting roll or carpet to suit apartment door recess and main door entrances to garden room / orangery and mobility store. All to be installed as per manufacturer's instructions and include all trims, grips and frames to suit recessed matting.
- 8.67.138 Yarn Type: 100% Nylon Polyamide
- 8.67.139 Pile Construction: Air entangled mono & multifilaments
- 8.67.140 Primary Backing: Polyester/Nylon Polyamide
- 8.67.141 Secondary Backing: Bitumen
- 8.67.142 Pile Weight: 1200g/m<sup>2</sup>
- 8.67.143 Pile Height (ISO 1766:1986)(2005) 6mm
- 8.67.144 Total Height (ISO 1765:1986) 10mm
- 8.67.145 Total Weight (ISO 1766:8543:1986)(1998) 5kgs/m<sup>2</sup>
- 8.67.146 Slip Resistance (EN 13893:2002) Technical Class DS
- 8.67.147 **Wear:** Lisson Tretrad

EN 1963:TEST A:2007 5 EN 1307:2008 Class 33 Heavy Contract

Hexapod

ISO 10361:Method B:2000 (4,000revs) 4

ISO 10361:Method B:2000 (12,000revs) 3.5

#### 8.67.148 **Comfort**

Electrical Resistance (ISO 10965:1998)(2005) 1.4x10<sup>11</sup> OHMS

Anti-static (ISO 6356:2000)(2005) \_0.2Kv

#### 8.67.149 **Fire resistance**

Radiant Panel Test (ANSI/ASTM E 648 97/NFPA 253 1995) Category 1

Hot Metal Nut Test (BS 4790:1987:1996) Low Radius

(ISO 11925-2:2002) Class EFL

(ISO 9239-1:2002) Class BFL-S1

(ISO 13501-1) Class BFL-S1

#### 8.67.150 **Colour Fastness**

- Light (ISO 105-B02:1999 Method 2) >6
- Weathering (ISO 105-B04:1997 Method 2) >7
- Rubbing (ISO 105-X12:2002) 5
- Organic Solvents (ISO 105-D02:1996) 5
- Water (ISO 105-E01:1996) 5
- Chlorinated Water (ISO 105-E03:2010) 5
- Inorganic Salt Water (BS 1006:UK-TI:1990) 5
- Shampoo (BS 1006:UK-TB:1991) 5
- Bleach (CAMRASO E6-2:2002) 5
- Frames, grips and trims to suit recessed or flush fitted matting, all as per manufacturer's instructions and to suit applications
- Client to select colour / pattern from a range of samples provided by Contractor

#### 8.67.151 **Floor sealer / paint**

Floor sealer / paint to be provided to all exposed concrete / screed floor areas (using a proprietary sealer and light grey floor paint finish).

#### 8.67.152 **Levelling Compound**

##### **Specification**

8.67.153 Must have a setting time of approximately 30 minutes and can be laid from 2 to 15mm. The levelling compound must be suitable for use on all common building substrates



including concrete, sand/cement screeds; floor graded asphalt and correctly prepared tiles and also be usable on floors with under floor heating. The compound must have the following characteristics:-

- SCREED CLASSIFICATION BS EN 13813
- Working Time: 5-10 Minutes
- Time to Foot Traffic: 30 Minutes @ 20°C
- Protein Free: Yes
- Coverage @ 3mm: 5.2m<sup>2</sup>
- Compressive Strength
- (to BS EN 13892-2)
- Flexural Strength
- (to BS EN 13892-2)

#### 8.67.154 Two Part Latex Levelling Compound

##### **Specification**

8.67.155 Two part self-levelling floor compound that must combine excellent flow characteristics with strong adhesion properties through the inclusion of a synthetic latex liquid component. Must be suitable for use over cementitious floor substrates, hard adhesives residues, asphalt and timber. The compound must have the following characteristics:-

- SCREED CLASSIFICATION BS EN 13813
- Working Time: 20-30 Minutes @ 20°C
- Time to Foot Traffic: 2.5 Hours @ 20°C
- Time to Cover: 1 Day up to 6mm
- Days up to 10mm
- Application Thickness: 2-10mm
- Protein Free: Yes
- Coverage @ 3mm: 5.2m<sup>2</sup>
- Compressive Strength (to BS EN 13892-2)
- Flexural Strength (to BS EN 13892-2)

## 8.67.156 VINYL FLOORING ADHESIVES

### SPECIFICATION

8.67.157 Must be solvent free acrylic emulsion adhesive, which must give a high bond strength, strong initial tack and a long open time. It must be protected against bio-degradation. The adhesive must be capable of securing vinyl sheet and tile floor coverings to EN654, EN649 and EN651; rubber floor coverings and some textile floor coverings with PVC and polyurethane foam backings.

- Coverage Rate (Approx.) 4m<sup>2</sup> per litre using a 1.5mm x 5mm trowel
- Open Time Up to 60 minutes
- All as per manufacturer's instructions and to suit selected vinyl floor coverings

## 8.67.158 ADHESIVE – TACKIFIER – CARPET TILES

### SPECIFICATION

8.67.159 Must be solvent free adhesive which is inflammable and which must give a permanent strength tack with long open time. It must be protected against bio-degradation and is suitable for use over normal underfloor heating installations. The adhesive should be suitable for the fixing of bitumen/pvc and other standard carpet tile backings.

- The tackifier should be an easy release product which permits simple removal and replacement of carpet tiles.
- All as per the carpet tile manufacturer's instructions to suit selected carpet tiles.

## 8.68 CEILING FINISHES (See Accommodation Schedule and Room Data Sheets for specific types of ceiling finishes)

8.68.1 Suspended ceilings shall be to BS EN 13964:2014

8.68.2 The MF ceilings are to be finished with minimum 15mm plasterboard and skim, or demountable grid ceiling systems to suit the selected method of construction and application in terms of the room / space.

8.68.3 Moisture resistant board to moisture prone areas (bathrooms/shower-rooms, toilets, kitchens, WCs etc.) supported at all edges in accordance with the manufacturer's instructions and finished with skim coat plaster.

8.68.4 All plastered ceilings shall be a brilliant white paint finish. All painting materials shall be in accordance with the manufacturer's recommendations.

8.68.5 Kitchens, WCs, cloakrooms and bathrooms within the apartments to be a white silk finish. Bathroom paint to be appropriate to suit high humidity rooms.

- 8.68.6 To future proof the apartments, provision of single ceiling tracking hoist fixed directly through the finished ceilings will be undertaken within the bathroom and main bedroom (see indicative floor layouts for more specific details in relation to the tracking hoist zone). The Infrastructure to be pre-installed prior to installing new ceilings within the apartments and guest en-suite. For the communal / assisted bathroom the infrastructure shall cover the entire ceiling area. Include a fused spur / charging point installed at ceiling height and away from any door openings. All as per manufacturer's instructions bot within the apartments and within the communal / assisted bathroom.
- 8.68.7 Contractor to note specific clear ceiling voids shall be required when designing the various suspended ceiling systems to allow for the provision and access to services, systems and ductwork etc.**
- 8.68.8 Include for panels / hatches to allow for future access to services above, including isolation valves etc. Access panels / hatches to be designed and installed to suit application and to ensure resistance to fire, moisture and sound are maintained. Ensure location of panels / hatches are designed to suit services above. Colour- to match ceiling finish and to include a locking mechanism as deemed appropriate – triangular key or similar
- 8.68.9 Metal Frame (MF) Ceiling System (within the apartments)
- 8.68.10 Suspended MF ceilings systems to be designed and installed to provide a structurally sound and adaptable ceiling to suit the size, location and use of the room or space.
- 8.68.11 Suspended MF ceilings to be designed to drop from a height to suit the services above and insulation as deemed necessary to suit the design.
- 8.68.12 Depending on the specific location and room / space requirements, Suspended MF ceiling system to include plasterboard and skim finish and to be designed and installed to provide the necessary resistant to sound, fire and moisture.
- 8.68.13 Plasterboard to suit application –As per Contractors design.
- 8.68.14 Suitable sound, fire, moisture proof access panels to be installed where ever access to services etc is likely to be required in the future.
- 8.68.15 Suspended demountable grid system (Communal areas such as corridors, atrium, lounge, dining room, salon, multi-use room, offices, staff rooms, assisted bathrooms, W.C's, staircases, landing and stores etc)**
- 6.68.16 Grid system to be designed and installed to suit application and location in relation to sound, fire and moisture, including a minimum sound absorption class 'C' and absorption aw rating of 0.75(H). Sound attenuation Dnfw (db) up to 40 and sound reduction index RW (db0) of 18. Sound absorption NRC up to 0.75. Tiles to be reinforced scratch resistant. Must provide a 30 year system guarantee. Board, Size: 600x600mm, Colour: White.
- 6.68.17 Non-corrosive grid system designed and installed to suit application and location in relation to sound, fire and moisture. Adopt for higher humidity levels up to 100% RH. Tiles to resist permanent RH upto 95% and temporary considerations of up to 100%. Sound absorption – class A – ceiling tiles 600x600mm, Colour: White

- 6.68.18 **For the commercial kitchen and adjacent stores, office, changing areas etc,** Design, supply and install a suspended ceiling grid system to suit application in relation to sound, fire and moisture. System such British Gypsum, Gyprex Bio or equivalent. Vinyl faced ceiling tiles with antibacterial performance which prevents fungal and bacterial growth. System must provide class 0 fire resistance. Must confirm to BS EN 14190:2014. Tile size: 600x600mm, Colour - White
- 6.68.19 For the main Refuse store and the residents refuse and recycling collection point(s), , Contractor, to design, supply and install a demountable suspended grid ceiling system to suit the application in relation to sound, fire and moisture.
- 6.68.20 For the laundry room, design, supply and install a suitable system for the application and location in relation to sound, fire and moisture resistance. Include for non-corrosive grid system for higher humidity levels up to 100% RH. Tiles to resist permanent RH up to 95% and temporary considerations of up to 100%. Sound absorption – class A – ceiling tiles 600x600mm, Colour: White

**8.69 WALL FINISHES (see Accommodation schedule and Room data sheets for specific details)**

- 8.69.1 All internal joinery to be prepared, knotted, stopped, primed and painted with a minimum of two undercoat and one white satin paint finish to achieve an even high quality finish. Interiors water based paint to be used.
- 8.69.2 All internal walls to include a mist coat and minimum of 2 coats of water based matt emulsion to provide an even high quality finish, with the exception of feature walls. Designs to include colour contrasts as per clause 7.4 Colour Contrast and material selection. Colour schemes to be proposed by Contractor to Client for consideration and selection.
- 8.69.3 Feature walls as described within the Accommodation Schedule and Room data sheets.
- 8.69.4 Offices, staff rooms, stores, cupboards etc to be finished with a mist coat and min 2 coats of matt emulsion to provide a high quality finish. Colour Magnolia to BS08B15
- 8.69.5 All painting and decorations to BS EN 234 and BS6150 – Latest edition
- 8.69.6 Interiors are to be finished to a high standard with low VOC products throughout.

**8.70 OTHER FIXTURES AND FITTINGS, INCLUDING THE INFRASTRUCTURE TO SUIT A FUTURE INSTALLATION OF A CEILING TRACKING HOIST**

- 8.70.1 The *Contractor* shall provide 5 no. shelves to each store and cupboard within the apartments along a single internal wall or full depths within airing cupboards. These shelves shall be appropriately supported along 3 sides, and be constructed using dimensionally stable, structurally sufficient pine block board products. The usual depth of shelves shall be 300mm.

- 8.70.2 Within the hallway / store the *Contractor* is to provide 6 No. coat hooks on a timber batten.
- 8.70.3 Design, supply and install the necessary infrastructure to the ceiling void within the apartments and guest en-suite (bedroom and bathroom only) to suit the direct installation through the finished ceiling of a single tracking hoist. Adopting this approach is intended to minimise the amount of disruption and disturbance to residents and their homes during any subsequent tracking hoist provision. Route from main bedroom to bathroom in every apartment, including guest en-suite to be through the dividing doors in a straight line from end wall to end wall. Hoist zone to min 750mm wide. Include for all necessary electrical installations including fused spur / charging point at ceiling height and away from any door openings. All as per manufacturer's instructions.

See indicative floor layouts for more specific details.

- 8.70.4 Design, supply, install the necessary infrastructure to the entire ceiling within the communal assisted bathroom to suit the direct installation through the finished ceiling of a 'H' frame (XY) ceiling tracking hoist. Adopting this approach is intended to minimise the amount of disruption and disturbance to residents, their homes and the communal / assisted bathroom. Include for all necessary electrical installations including a fused spur / charging point at ceiling height and well away from any door openings. All as per manufacturer's instructions. System to be designed to take load of 200kg including user.

**8.71 KITCHEN UNITS AND WORKTOPS ( see indicative floor layouts, plus Accommodation Schedule and Room Data Sheets for more specific details)**

- 8.71.1 Kitchen specification shall consist of the following:

- The volume of enclosed unit storage space for food and equipment must be a minimum of 1.7 m<sup>3</sup> (combination of both base and wall units, plus a drawer line base unit). Top of wall units to suit the top of any tall larder units
- Total work surface length to be a minimum of 1900mm for one bedroom dwellings and 2100 mm for two or more bedroom dwellings (clear worktop lengths excluding any holes for sink tops etc.)
- The kitchen design should maximise the useable space and should not wherever possible include 300mm wide base or wall units, unless approved by the *NEC Project Manager*.
- Kitchen to include a single 600mm wide removable base unit to allow the future installation of a separate dryer. This shall include matching 18mm end panels at either side and trimmed to match profile of neighbouring base units. All plumbing, electrics and waste connections to be installed behind removable base unit.
- Kitchen to include side opening oven and electric hob with control nobs at front

- 8.71.2 *Contractor* to provide the *NEC Project Manager, Technical Manager and Lead Technical Advisor* with proposed kitchen designs for each apartment type and the staff Kitchenette for initial consideration and comment prior to any acceptance being confirmed. The *Contractor* must ensure all kitchen designs are fully compliant with the

requirements of the contract specification prior to submitting any detailed designs for consideration. Designs shall also include 3D CAD drawings. The NEC *Project Manager* shall where deemed required send the details to Leeds City Council's and housing management representatives for their consideration and comment prior to any designs being accepted. (Leeds City Council technical and housing management representatives to be confirmed during the NEC *Project Managers* review).

8.71.3 The proposed kitchens, worktops and associated fittings shall be fully designed and installed so that they can be repaired or replaced as and when the need arises.

8.71.4 Kitchen design to take into account allowing access to M&E installations for future repairs, servicing or maintenance requirements.

8.71.5 The *Contractor* shall offer the first completed kitchen installation to the first apartment for joint inspection by the NEC *Project Manager*, *Supervisor* and *Construction Monitor* to ensure the standards of workmanship and finish, combined with ensuring the installation meets the agreed design details. Once the works have been agreed within the initial unit it shall be the responsibility of the *Contractor* to ensure those same agreed standards are achieved for all remaining kitchen installations to all subsequent units. For all different property types, the *Contractor* shall liaise closely with the NEC *Project Manager* and *Supervisor* to ensure the details designs remain suitable prior to commencement and that the standards of workmanship and finish agreed at the first unit continue to be achieved.

8.71.6 Choices

The *Contractor* shall provide the NEC *Project Manager* with a wide selection of initial choices and the *Contractor* must ensure the choices are fully compliant with the output specification and to suit the client base in terms of Extra Care provision. Samples will be offered and a final selection of which specific range will be made by the NEC *Project Manager* and Housing Management representatives and these shall include worktops, taps and handles etc to ensure they are suitable for the specific client group.

#### Kitchen general

- Kitchen units to include transparent doors as a design feature in all apartments as standard where practicable in order to accommodate people with visual impairment/Dementia
- Non-snag 'D' shaped handles
- A minimum of 10% of all apartments should have adjustable kitchen units/worktops.

#### a) Base Units

- i. All base units shall be 600mm deep 'box on legs' with a rear inserted panel to form the back Minimum 18mm carcass. Care must be taken to ensure that the panel is not damaged as stapled on panels will not be accepted. All wall units to have fully adjustable wall hanging brackets to comply with BS6222

part 2 Level "H"

- ii. Kitchen base units to be manufactured to BS6222: Part 2 level "H" for the specification for the structural performance and methods of testing for fitted kitchen units. Standard shall be level H for domestic kitchen equipment.
- iii. Three-sided metal drawer box system incorporating 15mm M.F.C.Type P2 drawer base and smooth action metal roller system with parallel guides and built in drawer stop. Drawer front to be adjustable horizontally and vertically. Drawer system to be independently tested by F.I.R.A. and meet requirements of BS 6222 Part 2 level "H".
- iv. All units to have inset back panels providing service duct. All base units to have adjustable feet. All plinths to be removable to BS EN 312 – P2 core board removable to allow access for services and cleaning. Continuous plinths with the exception of the 1 removable base unit ( to suit a dryer if purchased by the tenant ). Colour co-ordinated to suit suppliers range. All doors to be hung on adjustable minimum 170 ° opening fully concealed rust proof hinges. Shelves To be adjustable for height and retained in position using self-retaining bearers / plastic injection moulded shelf clips. Adjustable feet to be fitted to assist in installation on uneven floors and/or replacement of end panels in the event of damage. End panels to base units and wall units to be colour coordinated with the door frontals.
- v. Single larder units to be a standard 500 or 600mm wide x 2150mm high, or 1970mm high with the approval of the NEC *Project Manager*. (Wall units to be fixed in-line with top of larder units with a minimum space of 400mm between underside of wall units and top of worktops).

#### **b) Kitchen Worktops**

- i. Worktops shall be minimum 40 mm thick, post-formed worktops with double bull nose all edges to be lipped with balancing laminate. Cut all holes for services and inset sink where required, all cut edges to be sealed with white poly-sulphide sealant. High pressure performing laminate to BS EN 438. High heat resistant adhesive to be used on both ends. The chipboard core shall be manufactured to BS 7916: 1988 type P3 with moisture resistant laminated backing to underside. Include for wrought softwood bearers and bright steel angle brackets for underside fixings. Form angle junctions with anodised aluminium jointing strips tightly fitted and screwed. Form fair ends with edgings in matching laminate or aluminium end trims. Aluminium end trims must be used adjacent to cooker openings. 600mm wide work tops to be used. Minimum 4 choices.

#### **c) Kitchen Sinks**

- i. New stainless steel sink tops for domestic use must comply with BS 1244 Part 2: 1988. Sinks shall match existing and be austenitic steel complying with the appropriate grades of BS 1449 Part 2. New inset sinks to be type B/1 single bowl single drainer left or right hand. If required, for example for

cultural reasons, a space for a double sink will be considered by the NEC *Project Manager*.

- ii. Stainless steel sinks shall be provided with tap holes to accommodate pillar taps. All stainless steel sinks shall be provided with an earth terminal.
- iii. *Contractor* will install an emergency stop remote valve. Switch to be located in an easily accessible location.

**d) Kitchen Infill panels, end panels and plinths**

- i. To be constructed from moisture resistant chipboard. All edges of infill panels butting up to unit sides and exposed edges to end panels to be factory machined edges. All joints between unit sides/infill panels must be tight with no visible gaps. All plinths must be fully removable; all infill panels to concealed services must be accessible by the means of countersunk screws covered with plastic screw caps, colour to match carcass/panel. Plinths to be continuous and clip-on type to allow for easy removal/refixing.
- ii. Plinths shall only be fixed upon completion of the installation of the floor covering. All floor coverings shall extend under the units beyond the plinth line by a minimum of 100mm.

**e) General kitchen installation**

- i. All components are to be fixed in accordance with the manufacturer's instructions using the fixings provided. Adjoining kitchen units are to be secured by the means of stainless steel connection bolts, minimum 4 per abutment, fixed in the configuration 2 to the front of the carcass and 2 to the rear. Care must be taken to ensure that no damage is caused when drilling the units and that the position of the bolts in no way coincides with hinge positions, pre-drilled holes for shelves etc.
- ii. All exposed fixings to units to be covered with a suitable plastic capping as supplied by manufacturer, colour to match surface.
- iii. Kitchen base units are to be plumbed / levelled by the means of adjusting the legs; legs are to be adjusted accordingly ensuring contact with the floor is achieved on each leg.

**f) Installation of 720mm Wall Units**

- i. Kitchen wall cupboards are to be secured as per the manufacturer's instructions ensuring a minimum of 4 fixings per unit. Fixings to hollow walls are to be achieved by a suitable method as agreed by the NEC *Project Manager*. Any temporary bearers required for the fixing of wall cupboards shall be removed upon completion of fixing and all disturbances to the wall surface made good.



- ii. Wall units should terminate at a minimum 150mm away from the cooker space or as specified by current regulations.
- iii. 900mm high tall wall units to be installed with the approval of the NEC *Project Manager*
- iv. Space between bottom of wall unit and top of worktop to be a minimum of 400mm.

**g) Installation of 40mm thick Worktops**

- i. Softwood bearers to support worktops are to be secured to walls by the means of 63mm screws at maximum 600mm centres and not exceeding 150mm from the end of each bearer. Fixing to solid walls is to be by expanding plugs, fixings to hollow walls are to be achieved by a suitable method as agreed by the NEC Project Manager. Include all bearers and to be cut back at approximately 45° on all exposed ends.
- ii. Kitchen worktops are to be fixed using the manufacturers fixings supplied with the units, fixings to bearers are to be achieved by the means of bright steel table plates fixed at maximum 600mm centres and maximum 150mm from the end of each bearer using appropriately sized screws to fix to both the bearer and the worktop. Removal of plaster work from wall to facilitate the installation of work tops will not be permitted as a method of fitting worktops. Installations will include and allow for a minimum 300mm of clear worktop either side of the cooker space or as required as specified by current regulations.

**h) Scribing**

- i. All scribing etc. is to be carried out to ensure units & work tops finish flush to the wall leaving a maximum gap of 5mm. Any exposed edges following scribing are to be sealed prior to fixing by the means of a white acrylic sealant. When scribing, the position of surrounding units must be considered to ensure unit runs are straight and parallel to wall surfaces. Scribing to infill panels, end panels and plinths will ensure no gaps between floor/plinth exceed 2mm.

**i) Adjustments**

- i. All adjustment to doors, drawers, shelves etc. to be carried out upon complete installation of units, worktops etc. All doors & drawers to be level and plumb with attention paid to ensuring continuity of levels/straight lines through adjoining units.
- ii. The *Contractor* must allow within their cost for the fitting of all units, sinks taps, trims, aluminium edging strips, tiling strips, soft close hinges, sink base unit liner.

- iii. Units must be tested for heavy domestic use (Grade H) to BS 6222. Laminates and other surface finishes used must comply with the current relevant British Standard. Particle board used for carcass and worktops must comply with the current relevant British Standard, and have a minimum density of 650kg/m<sup>3</sup> and 18mm thickness.
- iv. Base units are to be 900mm high with 610mm wide worktops. All base units are to be fitted with solid 18mm backs, leaving a 100mm service void behind. Gables and fronts must have clip on plinth sections 100mm deep. All base units must have adjustable legs. At least one base unit should have a drawer pack of varying depth. Drawers must have metal sides with a plywood or particleboard back and bottom and have metal runners. Unit doors must open 170 degrees.
- v. All wall units are to have backs and shall be provided wherever possible to maximise storage space. Fixings must be by metal corner brackets. Wall units near the cooker must be set back a minimum of 150mm from the cooker space. All units are to be fitted with bolt-fixed handles.
- vi. Unit doors at internal corners must be hinged in the corner. Units adjacent to the cooker must be hinged to swing away from the cooker position. All doors and drawer fronts are to have a minimum 1mm PVC protective lipping.
- vii. Worktops shall be minimum 40 mm thick, post-formed worktops with double bull nose all edges to be lipped with balancing laminate. Cut all holes for services and inset sink where required, all cut edges to be sealed with white poly-sulphide sealant. High pressure performing laminate to BS EN 438. High heat resistant adhesive to be used on both ends. The chipboard core shall be manufactured to BS 7916: 1988 type P3 with moisture resistant laminated backing to underside. Include for wrought softwood bearers and bright steel angle brackets for underside fixings. Form angle junctions with anodised aluminium jointing strips tightly fitted and screwed. Form fair ends with edgings in matching laminate or aluminium end trims. Aluminium end trims must be used adjacent to cooker openings.
- viii. All exposed edges of worktops are to be finished with laminated edging strips except for the cooker space which will be finished with a metal edging strip to suit the worktop.
- ix. All carcasses fronts must be in 'decor' finish to match door and drawer fronts.
- x. Minimum 500mm of worktop to be provided to either side of cooker and sink.
- xi. Sinks to be positioned under a window where possible.
- xii. Draining boards to be supported on reinforcing battens.
- xiii. Provision shall be made for a tall refrigerator/ freezer space, located at the end of a run of units. This space shall not be adjacent to the cooker space.
- xiv. End units to have colour matching end panels

- xv.5 3no. x 50mm pre drilled holes are required in side base units, close to the wall, 100mm below the worktop for services where adjacent to washing machine or dishwasher spaces.
- xvi. Kitchen sink to be formed in minimum of 0.9 gauge stainless steel and braced underneath for additional support. The drainer must have its own integral support, to prevent buckling, or have a supportive batten fitted. A choice of a mixer, mono block adjustable mixer tap and lever taps are to be provided within the sink unit and all are to have sure stops provided for mains isolation.
- xvii. Sink base unit liner to be provided to ward against damage from chemical spills / water ingress.
- xviii. All taps will be chrome plated brass with lever arm. Lever are to suit client group.

**8.72 SANITARY APPLIANCES ( See Accommodation Schedule and Room Data Sheets for more specific requirements )**

- 8.72.1 The *Contractor* must allow within their cost for the fitting of all sanitary appliances, plumbing and wastes, all completed and ready for use.
- 8.72.2 The *Contractor* shall provide detailed layouts of the shower rooms for each apartment type to the NEC *Project Manager, Technical Manager and Lead Technical Advisor* for initial review and comment prior to being accepted and confirmed. The *Contractor* shall ensure all designs are fully compliant with the contract specification and to suit the client requirements in terms of Extra Care provision. The NEC *Project Manager* shall then provide Leeds City Council's housing management representatives with proposed designs for their consideration and comment prior to any acceptance. This shall include the provision of 3D CAD drawings, (Leeds City Council's housing management representatives to be confirmed at the time of the NEC *Project Managers* review)
- 8.72.3 The *Contractor* shall offer the first completed bathroom installation to the first unit for joint inspection by the NEC *Project Manager, Supervisor and Construction Monitor* to ensure the standards of workmanship and finish, combined with ensuring the installation meets the agreed design details. Once the works have been agreed within the initial unit it shall be the responsibility of the *Contractor* to ensure those same agreed standards are achieved for all remaining bathroom installations to all subsequent units. For all different property types, the *Contractor* shall liaise closely with the NEC *Project Manager and Supervisor* to ensure the details designs remain suitable prior to commencement and that the standards of workmanship and finish agreed at the first unit continue to be achieved.
- 8.72.4 The *Contractor* shall provide details of the assisted bathroom, including all fittings and Malibu specialist bath, plus specific details of the communal / assisted W.C's. Details to be provided a minimum of 10 weeks prior to commencement for consideration and comment.
- 8.72.5 Bathroom fittings within the actual apartments to include a wall mounted wash hand basin to BS 1188 ( lever taps with extended spout. Vitreous close coupled W.C. to BS 3402. W.C to include dual flush 4 or 6 litre flush and lever operated handle ( retained from Lifetime Homes ) Matching W.C with good quality self-closer seat and cover. All

boxing-in to be waterproof. Include for all necessary valves, call expose pipework and clips to be polished chrome finish.

### **8.73 LANDSCAPE DESIGN - KEY PRINCIPLES**

- 8.73.1 Biodiversity is to be incorporated into the design to encourage wildlife into the garden space and to maximise the potential of the plants i.e. fruit trees, herbs for the kitchen and craft use. Plants for sensory enhancement, areas to encourage fitness and social activities.
- 8.73.2 A balance of robust lower maintenance planting and seasonal foliage / flowering interest shall be incorporated to ensure year round colour and scent, including a mixture of bulbs and perennials
- 8.73.3 In order to ensure the successful establishment of wildflowers, it is essential that the soil is nutrient poor. Soil testing and soil stripping may therefore be required prior to seeding. Suitable wildflower mixes can be found here: <https://wildseed.co.uk/page/sowing-and-aftercare>
- 8.73.4 Spaces shall be designed to be legible, interesting and user friendly. Spaces shall offer a platform for interaction or quiet reflection.
- 8.73.5 Landscaping designs shall include the creation of defensible space with secure boundaries, including 'secure by design' surveillance principle will be important when determining the proposed layout and specification
- 8.73.6 Wildflower strips / meadow to be considered instead of only amenity grassland mixes (which have little biodiversity value).
- 8.73.7 Grass land areas to be planted with a native seed mix.
- 8.73.8 Raised planters to include for a variety of growing purposes are to be included. These shall be used for planting of herbs, vegetables and flowers, including bulbs and annuals.
- 8.73.9 Raised planters to include for a variety of growing purposes are to be included. These shall be used for planting of herbs, vegetables and flowers, including bulbs and annuals.
- 8.73.10 Roosting and nesting structures to be installed in new buildings for bats and birds. To be installed into brickwork of structures to ensure their long term installation at the site. Swift boxes and sparrow terraces are preferred in order to provide greater nature conservation benefits.

### **8.74 SOFT LANDSCAPING**

#### **Generally**

- 8.74.1 The *Contractor* shall provide a detailed landscaping plan which must receive approval from the *NEC Project Manager*. All proposals must be agreed with the client prior to

starting on site. ***The contractor must allow in their designs appropriate access for appropriate mowing equipment.***

- 8.74.2 Soft landscape and turf to any public open space. Seeding is not acceptable. Proposed landscaping details may include planting hedges, specimen trees and woodland planting, plus fencing and gates. All turfed areas to be cut at regular intervals (see Landscaping Maintenance section below for more details), including being cut a maximum of up to three days before handover at completion and again a maximum of 3 days prior the end of the Defects Liability Period.
- 8.74.3 When dealing with developments close to trees, special attention should be paid to related legislation ensuring that the Wildlife and Countryside Act (1994), Conservation of Habitats and Species Regulations (2010), the Countryside Rights of Way Act (2000) and LCC C policy document "Guideline Distances from Development to Trees" are adhered to. It must be ensured that nesting birds and protected species such as bats and reptiles are considered and protected.
- 8.74.4 Temporary ground protection will be laid down where construction related works require access within the RPA of retained trees.
- 8.74.5 Topsoil should be of good quality and min 300mm thick to planted areas subject to GI requirements. Turf shall be laid on min mm 150mm thick top soil subject to GI requirements with tree pits provided as requested. All Turf must be supplied by a Turf grass Growers Association (TGA) member, to TGA quality standards.
- 8.74.6 All landscaping must be completed prior to handover / early take over including trees. The *Contractor* should know when the projected handover date is and should price accordingly for trees grown in pots for planting between April and October.
- 8.74.7 All build up and bases to be specified by engineers, and to be in accordance with any remediation works that may be applicable.
- 8.74.8 Where soft landscaping is proposed the areas must be covered with a weed membrane (except in areas where ground cover planting is agreed) and a woodchip mulch.
- 8.74.9 Lawns / grass should generally be laid to maximise useable outdoor space for ease of mowing. Falls on grass areas should, where possible be less than 1 in 25 (4%) although a maximum of 1 in 20 (5%) could be considered if site conditions dictate.
- 8.74.10 Areas of amenity grass in public areas **must not** be steeper than 1 in 6 (16%) subject to maintenance requirements and in particular the requirements for machine / ride on grass cutting and ideally ending in a level plateau before any buildings/fences etc. It is that steep areas of amenity grass will require a different maintenance regime and / or less frequent maintenance. Steep grass areas might require slope stabilisation technics used in the construction depending on site / soil conditions and would be susceptible to erosion during grass establishment.
- 8.74.11 Amenity shrub planting should have maximum 1 in 4 (25%) slopes subject to the consideration of ease of maintenance access and particularly the health and safety requirement for maintenance operatives working on steep slopes. Steep slopes might require slope stabilisation technics used in the construction depending of site / soil conditions and would be susceptible to erosion during plant establishment. Any beds on slopes to have a level area at the top and bottom where possible, with pedestrian access from the level area so arisings can be stockpiled and removed safely. For steeper slopes low growing dense ground cover and a bed width no greater than the reach of long handled pruning and litter picking equipment – again with a level or gently sloped area

to use as a working platform. Any beds on sloped areas should not directly abut neighbouring property boundaries (fences etc.) as it may be difficult to safely manage nuisance vegetation.

#### 8.74.12 Outline Tree Planting Specification

i. Soil Conditions

Soil for cultivating and planting: Moist, friable and (except in aquatic/ marginal planting) not waterlogged.

ii. Frozen or snow covered soil: Give notice before planting. Provide additional root protection. Prevent planting pit sides and bases and backfill materials from freezing.

iii. Climatic Conditions

General: Carry out the work while soil and weather conditions are suitable.

Strong winds: Do not plant.

#### 8.74.13 Times of Year For Planting

i Deciduous trees and shrubs: Late October to late March.

ii Evergreens: September/ October or April/ May.

lii Watering and weed control: Provide as necessary.

#### 8.74.14 Watering

i Quantity: Wet full depth of topsoil.

ii Application: Even and without damaging or displacing plants or soil.

lii Frequency: As necessary to ensure establishment and continued thriving of planting

#### 8.74.15 Trees – General

i Condition: Materially undamaged, sturdy, healthy and vigorous.

ii Appearance: Of good shape and without elongated shoots.

iii Hardiness: Grown in a suitable environment and hardened off.

iv Health: Free from pests, diseases, discoloration, weeds and physiological disorders.

v Budded or grafted plants: Bottom worked.

vi Root system and condition: Balanced with branch system.

vii Standard: The National Plant Specification.

viii Species: True to name.

- ix Origin/ Provenance: Grown in the United Kingdom for at least one growing season, unless otherwise approved.
- x Definition: Origin and Provenance have the meaning given in the National Plant Specification.
- xi Locations: Tree pits.
- xii General: Prevent weeds from seeding and perennial weeds from becoming established, in accordance with the Environment Agency 'Managing Japanese knotweed on development sites. The knotweed code of practice'.

#### 8.74.16 Cultivation

- i Compacted topsoil: Break up to full depth.
- ii Cultivation: Loosen, aerate and break up soil into particles of 2 - 8mm.
- iii Depth: 150mm.
- iv Timing: Within a few days before planting.
- v Weather and ground conditions: Suitably dry.
- vi Surface: Leave regular and even.
- vii Undesirable material brought to the surface: Remove visible weeds, roots and large stones with any dimension exceeding 50mm.
- viii Soil within root spread of trees and shrubs to be retained: Do not dig or cultivate.

#### 8.74.17 After Planting

- i Watering: Immediately after planting, thoroughly and without damaging or displacing plants or soil.
- ii Firming: Lightly firm soil around plants and fork and/or rake soil, without damaging roots, to a fine tilth with gentle cambers and no hollows.

#### 8.74.18 Tree Pits

- i Sizes: 75mm deeper than root system and wide enough to accommodate roots when fully spread.
- ii Sloping ground: Maintain horizontal bases and vertical sides with no less than minimum depth throughout.
- iii Pit bottoms: With slightly raised centre. Break up to a depth of 150mm.
- iv Treatment: Soil amelioration worked into pit bottoms.
- v Pit sides: Scarify.
- vi Backfilling material: Reuse excavated material.

#### 8.74.19 Staking Generally

- i Stakes: Softwood, peeled chestnut, larch or oak, straight, free from projections and large or edge knots and with pointed lower end.
- ii Preservative treatment: Contractor's choice.
- iii Nails: To BS 1202-1, galvanised, minimum 25mm long and with 10mm diameter heads.
- iv Stake size (min): 50mm diameter.

#### 8.74.20 Short single staking for all trees

- i Staking: Position stake close to tree on windward side and before planting drive stake at least 300mm into bottom of pit at a sufficient angle to ensure that root ball is not compressed against stake (angle not to exceed 15 degrees from vertical).
- ii Backfilling: Consolidate material around stake.
- iii Height of stakes: max 1/3 height of tree as supplied.
- iv Ties: Expanding ties.
- v Tying: Secure tree firmly but not rigidly to stake with at least two ties. Use three ties if necessary to prevent tree touching stake.
- vi Position: Top tie within 25mm of top of stake and lower tie approx. halfway down.

#### 8.74.21 Tree Backfilling Material

- i Composition: Previously prepared mixture of topsoil excavated from pit and additional topsoil as required.
- ii Ameliorant/ Conditioner: Well rotted leaf mould or locally sourced composted plant materials.
- iii Application rate: 1m<sup>3</sup> per 10m<sup>3</sup> of topsoil.
- iv Fertiliser: Organic.
- v Application rate: To manufacturer's / supplier's recommendations.

#### 8.74.22 Mulching Trees

- i Material: Coarse grade bark mulch 75mm depth.
- ii Purity: Free of pests, disease, fungus and weeds.
- iii Recycled content: *Contractor's* choice.
- iv Preparation: Clear all weeds. Water soil thoroughly.
- v Coverage: In a circular area of 500mm radius measured from the tree stem.



- vi Finished level of mulch: 30mm below adjacent grassed areas.

#### 8.74.23 Protecting/ Maintaining/ Making Good Defects

- i Maintenance.
- ii Duration: Carry out the operations in the following clauses from completion of planning until the end of the rectification period.
- iii Frequency of maintenance visits: submit proposals / schedule of visits to NEC PM for consideration.

#### 8.74.24 Failures of Planting

- i Defects due to materials or workmanship not in accordance with the Contract: Plants/ trees/ shrubs that have failed to thrive.
- ii Exclusions: Theft or malicious damage after completion.
- lii Rectification: Replace with equivalent plants/ trees/ shrubs.
- Iv Replacements: To match size of adjacent or nearby plants of same species or match original specification, whichever is greater.
- v. Timing of making good: During the next suitable planting season.

#### 8.74.25 Cleanliness

- i. Soil and arisings: Remove from hard surfaces and grassed areas.
- ii. General: Leave the works in a clean and tidy condition at completion and after any maintenance operations.

#### 8.74.26 Final Mulching

- i. Timing: At end of the maintenance period
- ii. Watering: Ensure that the soil is thoroughly moistened prior to re-mulching, applying water where necessary
- iii. Trees: Re-mulch
- iv. Depth: (min) 75mm

### **8.75 LANDSCAPING MAINTENANCE REGIME**

The contractor must allow for undertaking a 12 months maintenance regime for all public open spaces as follows:

- 8.75.1 The Contractor must provide the NEC Project Manager with Landscaping Maintenance Regime proposals for consideration and comment prior to completion and handover the scheme. The proposals shall include all the elemental activities as described below, including planned dates of each activity. All to be undertaken during the 12 month period following completion and handover.

8.75.2 At the time of handover, both at initial completion and again at the end of the 12 month Landscape Maintenance period, the beds must be free of weeds and litter, and a guarantee that the site is free of pernicious must be provided (eg, Horsetail, couch grass etc) or invasive/non-native weed species (primarily Himalayan Balsam, Japanese Knotweed or Giant Hogweed).

8.75.3 Grass shall be cut a maximum of 3 days prior to completion and handover of the scheme and then shall be cut again, a maximum of 3 days prior to the end of the defects liability period

**8.75.4 SHRUBS AND TREES:**

Maintenance visits to be made every 4 weeks through the growing season (March to October) and once during winter. Total of a minimum 9 visits per annum (except for watering requirements to trees and planters)

**8.75.5 SHRUBS AND TREES - Maintenance operations to include:**

- a) Watering after planting and periodically through the first growing season dependent upon weather conditions
- b) Watering of trees a minimum of every 14 day intervals from April – October, and on 30 day intervals from November-March, approximately 30 litres per tree per occasion.
- c) Weeding to shrubs and base of trees by either hand weeding or application of herbicide. Planting to be kept weed free.
- d) Pruning to keep shrubs from encroaching onto pathways and removal of any dead or diseased wood. Trees may require sucker growth removing from base of trees and lower branches pruned back to maintain head height
- e) Tree stakes and ties to be checked and adjusted on every maintenance visit

**8.75.6 TURF AND SEEDED AREAS:**

Maintenance visits to be made every 2 weeks through the growing season (March – October). All to a height of 25mm and all grass arisings removed at the time of the visit. Total maximum number of visits 18 per annum

**8.75.7 TURF AND SEEDED AREAS: Maintenance operations to include**

- a) Watering turfed areas on completion of laying and periodically through the first 2 weeks after laying, depending on weather conditions. If turf is laid in December, watering will not be required. Seeded areas are not to be watered, seeding must not be carried out in spells of dry weather
- b) Grass to be cut with a suitable cylinder or rotary mower, all arisings and clippings to be removed at the time of the visit. All edges of the grass to be cut with shears or a strimmer

- c) Grass to be monitored for signs of fungal or insect attack and where necessary, treated with fungicide or insecticide
- d) On completion of each maintenance visit, all areas to be swept clear of any arising's and all areas left in a tidy state.

#### **8.75.8 HEDGE MAINTENANCE:**

Hedge Maintenance must be undertaken outside bird nesting season. It shall be undertaken on three occasions per annum. Hedges are to be maintained to a maximum of 1.5m in height. Therefore, species choice for hedge plantings should reflect the final maintenance height and definitely not to include conifers

#### **8.76 DRAINAGE**

- 8.76.1 All designs to comply with current Building Regulations and satisfy Environment Agency requirements.
- 8.76.2 The drainage system shall be clayware or PVC with flexible joints, installed to the approval of the Council.
- 8.76.3 All drainage shall be designed to adoptable standards, and adopted on a scheme-by-scheme basis.
- 8.76.4 The finished site levels and design of the external works, drainage etc. shall prevent areas of standing water and ensure that grassed and planted areas naturally drain quickly. If normal site conditions and design do not allow this, a suitable land drainage system shall be installed. (Compliance shall be established during the defects liability period).The *Contractor* is to divert sewers (section 185) and drainage as required.
- 8.76.5 Rainwater harvesting is not desirable, however if required by the Council, it shall be a direct system, complete with landlords metered water, electric supply and controls, sited within an insulated and heated cabinet.
- 8.76.6 Attenuation drainage proposals are to be to greenfield run off rates of 4.7l/s to adoptable standards in accordance with Yorkshire Water requirements and should not be located in rear gardens. Any variation from this approach by the *Contractor* shall require approval by the NEC *Project Manager*.
- 8.76.7 A full CCTV drainage survey (foul and surface water) to be undertaken prior to handover for the drainage network associated with the development, including private and adopted network.

#### **8.77 EXTERNAL STORAGE**

- 8.77.1 External storage as per the FF&E appendix and Accommodation Schedule and Room Data Sheets appendix

8.77.2 All external storage / potting sheds and the like to be wheelchair accessible and located on and secured to a level base. All to be robust. Allow for fitting a 49mm weatherproof padlock with hasp and staple to garden store. Roof covering to garden store to be EPDM.

### **8.78 CLOTHES DRYING**

8.78.1 Clothes drying as per FF&E appendix and Accommodation Schedule and Room Date sheets appendix.

8.78.2 To include easy button operation, adjustable height and line tension, galvanised steel construction. (60 metres). Rotary airers to be ground fixing with cap, all set in concrete. Location of airers to be included on design proposals.

### **8.79 CYCLE STORAGE**

8.79.1 Supply and securely install Sheffield cycle hoops. Location to be agreed and to provide good visibility from the main building. All as per Leeds City Council's planning guidance

## **PART 5 REQUIREMENTS APPROACHING & BEYOND HANDOVER**

### **9.1 HOME USER GUIDE (HUG)**

- 9.1.1 The *Contractor* shall design a Home Users Guide (HUG) for all the works including the M&E, Mechanical extract ventilation including MVHR, fire safety measures, CCTV, Intercom and lift installations etc. within the apartments and communal areas. This shall be co-ordinated across the trades to ensure that any resident or staff member can easily understand the technology installed and operate it in a satisfactory manner. The HUG shall be started as soon as the designs have been finalised, this document shall be agreed with the NEC *Project Manager* and the LCC housing representative before issue to the residents. This booklet shall be purpose made for the apartments and be hard bound.
- 9.1.2 The *Contractor* shall identify in the site meetings their progress with the HUG until it has been agreed and signed off by the client (housing) and their housing legal team.
- 9.1.3 The document shall be in Simple Plain English and be User Friendly, have colour pictures to identify specific parts, be indexed, be page numbered, have 4 plane pages at the back for tenant's notes, cross referenced and have housing help lines.
- 9.1.4 The contractor shall provide hard bound booklets and electronic printable versions for printing and for re-publishing. **Nb** This document will take a lot of time to compile, agree and complete with the client, so allow sufficient time necessary to undertake this task.
- 9.1.5 A sample Home User Guide developed by Leeds City Council for general needs housing is attached as an appendix to provide a basic starting point

### **9.2 HAND-OVER OR PROPOSED EARLY TAKE OVER OF THE INDIVIDUAL SITES, PLUS INSPECTIONS OF THE COMPLETED APARTMENTS**

- 9.2.1 The *Contractor* shall invite the NEC *Project Manager*, Supervisor, Construction Monitor, plus Leeds City Council's technical and housing management representatives to jointly inspect the first completed apartment of each type. These joint inspections shall only take place when the *Contractor* deems that the works within the actual apartments achieve the benchmark standards agreed at the outset by all. The *Contractor* shall ensure all further apartments achieve the same level of standards of workmanship and finish agreed within the initial apartment types before offering any further apartments to the Client as complete.
- 9.2.2 The *Contractor* shall invite the NEC *Project Manager*, NEC Supervisor, Construction Monitor, plus Leeds City Council's NEC Project Manager, Technical Monitoring, housing management representatives and representatives from the Contracts and Compliance team jointly inspect the completed works to each of the entire Extra Care sites as deemed complete by the *Contractor*. These joint inspections shall only take place when the Contractor deems that the works are complete and are in accordance with the Works Information.
- 9.2.3 The combined Completion check-list for individual apartments and a separate Handover / early take over certificate for each site must be signed by the *Contractor's* Site

Manager or representative and countersigned by the NEC Supervisor and dated when they deem that each site is fully complete in accordance with the Works Information.

9.2.4 Once all the individual apartments and the sites are accepted by the NEC Project Manager as complete, the *Contractor* shall scan and provide electronic copies of each fully signed individual completion check-list / handover certificates (apartments and the entire sites) and all associated paperwork, user guides, warranties, certificates etc. within 7 days of acceptance.

9.2.5 All works carried out by the *Contractor* will be required to conform to the combined Completion check-list, handover / early a takeover standards, **see the table below**. Failure to successfully meet take over or completion check-list standards, including the provision of all necessary documents will result in the individual dwellings, apartment building, or site not being accepted as complete.

Item	Standard	Completion check-list for each individual apartment and a Hand-over / early take over certificate for each site
1.	All works completed as per the specification and to required and agreed standards of workmanship and finish as established at the outset and detailed within the Output specifications.	Completion check-list and Hand-over / early take over certificate for each individual apartment or overall site  (see Part 3, Appendix 2 and 3) completed and signed by <i>Contractor's</i> site manager or deputy to show individual apartments and the individual site environments meet requirements with no faults, defects or outstanding works, with all necessary documents etc. provided.
2.	Systems, fixtures and fittings meet specifications and fully tested and commissioned.	All manufacturer warranties, guarantees, tests and commissioning details etc
3.	Residents are able to use new systems, fixtures, fittings etc. safely. Contractor to provide on-site training to tenant, Supervisor and local Housing Office and on-site staff.	Tenant 'Welcome Pack' to include: Home User Guide (HUG - Contractor to input the required information and develop the HUG to suit the proposed method of construction and systems installed – see Part 3, Appendix 4), copies of all user guides, operating and maintenance instructions. HUG to include link to video demonstration re how to operate fixtures, fittings and systems. Video demonstration to be provided by <i>Contractor</i> . <i>Contractor</i> to provide

		signed proof that residents have received appropriate levels of training and that they fully understand how to operate the systems and controls. This process shall be repeated for any subsequent training provided
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## Handover

- 9.2.6 LCC will not accept handover one week before or one week after Easter, or two weeks before and two weeks after the Christmas period. Individual apartments deemed as complete by the *Contractor* shall be offered in manageable batches (max 10) on any particular day and once deemed as complete by the Client, the *Contractor* shall lock and secure each apartment until the day of actual handover of the entire site.
- 9.2.7 The *Contractor* shall also ensure each apartment is re-inspected prior to handover of the entire site, ensuring the apartment is clean and tidy and all power, hot and cold water, drainage, plumbing, lighting, heating, ventilation, fire detection, windows and doors etc all work correctly and each apartment is ready for occupation. This same process shall also apply to all elemental works, systems and services within the communal areas to ensure the building users can safely occupy the building.**

## 9.3 HANDOVER PROCESS LEADING UP TO HANDOVER

### Six Months before Handover

- 9.3.1 Where applicable, the NEC *Project Manager* will ensure that the *Contractor* has applied for full postal addresses for the scheme with the LCC Street Naming Team.
- 9.3.2 Where applicable, the NEC *Project Manager* will ensure that the postal addresses are passed onto Housing representatives in order to register the properties on the Council's internal systems.
- 9.3.3 The NEC *Project Manager* will provide Leeds City Councils Project Manager with copies of the approved floor plans and elevations to allow Housing Leeds to finalise the rent and service charge information.
- 9.3.4 The *Contractor* must provide the NEC *Project Manager* with a draft Tenant Welcome Pack (including Home User Guide) which will clearly set out to residents how they can operate their home efficiently and make the best use of the local amenities.

### Three Months before Handover

- 9.3.5 At this stage the NEC *Project Manager* will ensure that the information required for the Health and Safety and Operation and Maintenance manual, together with the Welcome Pack (inc. Home User Guide) –is well under development by the *Contractor*.

- 9.3.6 The *Contractor* will provide the NEC *Project Manager* with emergency contact details and the procedure for reporting defects during the 12 months defect liability period.

**Six Weeks before Handover:**

- 9.3.7 The *Contractor* will provide a draft copy of the Operation and Maintenance manual and Health and Safety file to the NEC *Project Manager* for initial comment.
- 9.3.8 Notwithstanding the contractual completion date, the *Contractor* will notify the NEC *Project Manager* in writing 6 weeks before the proposed handover date. The NEC *Project Manager* will subsequently notify Leeds City Councils Project Manager of the proposed handover date and request representation from Leeds City Council to accept the keys and all of the relevant documentation.
- 9.3.9 Leeds City Councils Project Manager shall ensure all apartments are registered on Leeds City Council's customer service system.

**One Month before Handover:**

- 9.3.10 The NEC *Project Manager* will provide Leeds City Councils Project Manager with confirmation whether handover is still on course for the dates agreed for each individual apartment and the entire site.

All services will be connected 4 weeks before the handover dates for each apartment and the entire site.

- 9.3.11 Four weeks prior to handover, the NEC Site Supervisor will carry out a full inspection of each apartment and/or the site and compile a comprehensive list of defects, which will be shared with the *Contractor* and the NEC Project Manager, plus Leeds City Councils Project Manager and Technical monitoring Officer. The *Contractor* will be required to rectify all defects identified within 3 weeks of the snagging list being issued.
- 9.3.12 A Pre-Handover Checklist, confirming the correct installation and functioning of all components and services, will be completed by the Contractor's Site Supervisor.
- 9.3.13 Housing Leeds will organise and commence undertaking joint viewings one month before handover. The *Contractor* will arrange for safe access to be provided.
- The Contractor will submit a draft key schedule for client approval.
- 9.3.14 Housing Leeds will add UDC's onto Orchard or any new replacement system outlining the process for reporting defects to the *contractor* and *Project Manager/NEC Supervisor* during the defect liability period.
- 9.3.15 Housing Leeds will notify the LCC corporate contact centre about the process for reporting defects during the defect liability period.

**Fourteen Days before Handover:**

- 9.3.16 The *Contractor* will provide the NEC *Project Manager* with Electrical test certificates and meter reference numbers. The contractor will also supply all required documents, including schematics and test certificates for the network and ICT infrastructure.



- 9.3.17 The Site Supervisor and NEC Supervisor will jointly inspect all defects which were identified one month before handover and ensure they have been successfully completed.
- 9.3.18 The *Contractor* will provide Leeds City Councils Project Manager and Housing Management representatives with the contact details of the Contractors representative who will be attending the New Tenancy Visits (NTV) with Housing Leeds staff approximately 1 month after handover. The Housing Officer will be responsible for arranging a convenient time and date for the NTV with the contractor's representative.
- 9.3.19 The *Contractor* will carry out a client demonstration with the NEC Project Manager, NEC Supervisor, Leeds City Councils Project Manager, Technical Monitoring Officer and Housing Management representatives in the initial 'show home'.
- 9.3.20 This approach will enable the *Contractor* to carry out first occupier demonstrations with the residents, plus Leeds City Council representatives and the NEC Project Manager and NEC Supervisor on handover.

**Seven Days before Handover:**

- 9.3.21 The Site Supervisor and NEC Supervisor will jointly inspect each of the defects which were identified one month before handover. The Contractor shall also invite Leeds City Councils Technical Officer to attend
- 9.3.22 A joint pre-handover inspection is to be arranged by the *Contractor* with the NEC Supervisor. In addition, the Contractor shall also invite the NEC Project Manager and Leeds City Councils Project Manager, Technical Monitoring Officer, housing management representatives, plus representatives from within Leeds City Council's contracts and compliance team to jointly inspect the works in advance of proposed completion of each apartment or overall handover of the entire site.
- 9.3.23 The Pre-Handover Checklist will be reviewed by the Contractor and updated as necessary.
- 9.3.24 Leeds City Councils Project Manager shall ensure Royal Mail have been contacted on 08456 011110 (option 3) to confirm that the properties will shortly be occupied to enable the addresses to appear on the Royal Mail's database.
- 9.3.25 The *Contractor* will make sure that the Mechanical Ventilation System filters within the MVHR units for each apartment are cleaned thoroughly before handover.

**The Day of Handover:**

- 9.3.26 The Contractor, plus the NEC *Project Manager and* NEC Site Supervisor will meet on site at least 30 minutes before proposed inspection of each apartment to check that all outstanding matters have been attended to. Handover must be before 12 noon. The *Project Manager* will only accept apartments as complete if the properties are free from defects. In relation to handover of the entire site, the Contractor shall repeat the exercise and handover must be before 3pm. The Contractor shall also invite Leeds City Councils Project Manager, Technical Monitoring Housing Management

representatives, plus representatives from the Contracts and Compliance team to attend.

9.3.27 All outstanding works will be noted and the *Contractor* instructed as to when this work must be completed by. After which time the *NEC Supervisor and Site Supervisor* will jointly re-inspect the defects to ensure that all works have been completed satisfactory. The *Contractor* shall also invite NEC Project Manager, plus Leeds City Councils Project Manager, Technical Monitoring Officer and representatives from Housing Management and the Contracts and Compliance team shall also be invited to attend any pre-arranged joint inspections following the completion of any defects.

9.3.28 The *Contractor* will invite the NEC *Project Manager*, NEC Site Supervisor and Technical Monitoring Officer to jointly inspect the entire site when deemed as complete. The Contractor shall also invite Leeds City Councils Project Manager, Housing Management representatives, plus representatives from the Contract and Compliance team to attend. With regards to any identified defects, or outstanding works, the above process shall again be repeated until the Contractor deems the works to be complete and defects free and all outstanding works have been completed.

9.3.29 Keys (as listed in the key schedule) will be officially handed over to the Housing Growth Team/Housing Leeds.

**9.3.30 Housing Growth Team/Housing Leeds will be provided with the following on handover by the Contractor:**

- house keys per property adequately labelled
- communal entrance fobs for each property
- communal entrance fobs (per scheme ) for the housing office and site staff
- master fobs for the housing office and site staff
- meter cupboard keys
- Health and Safety File provided as a separate document and distinct from Operation & Maintenance Manual
- Operation and Maintenance Manual
- Gas Safety Certificate
- Electrical NICEIC Certificate
- EPC Certificate
- Welcome Packs (Inc. Home User Guides)
- LABC Warranty Certificate of Insurance
- Electric Meter Number
- Gas Meter Number

- Notice of Building Control Approval
- Secured By Design Certificate
- As built drawings
- Details about any warranties
- The Health and Safety file must be provided to the *Project Manager* as both a hard copy and in an electronic format. All electric drawings must be presented in CAD/.DWG format. It should provide sufficient information to enable the client to successfully carry out construction maintenance, cleaning and ultimately demolition.
- Handovers will not be able to take place without a completed Health and Safety file.
- On the day of handover Housing Leeds will register the properties with Council Tax.

Housing Leeds to write to tenants to notify them of their tenant responsibilities during the defect liability period and what alterations to the property would invalidate the warranty.

- 9.3.31 Subsequent and additional training for tenants with differing or individual needs could be required and the *Contractor* shall provide further training as part of adopting a pro-active customer care approach. The *Contractor* shall again invite the NEC Supervisor and nominated housing management officer(s) to attend any subsequent training.

### **Security on Completion**

- 9.3.32 The *Contractor* must ensure each apartment and the overall scheme is secure, with all access points locked and secured. The *Contractor* will also label all keys provided to the NEC Project Manager or NEC Supervisor and retain a duplicated schedule signed by either the NEC Project Manager or NEC Supervisor as a receipt.

- 9.3.33 All site fencing and hoarding must be removed as soon as possible to coincide with handover taking place. Contractor to advise NEC Supervisor when this will take place.

### **One Month after Handover**

- 9.3.34 1 month after handover, a representative from the *Contractor's* Customer Care Team will jointly carry out New Tenancy Visits with the NEC *Supervisor* and Housing Management representatives to resolve any issues which the resident has identified since moving into the apartment. A first occupation demonstration will also be offered on the day by the Contractor.

9.3.35 In addition and 1 month after handover of the scheme, a representative from the Contractor's Customer Care Team will jointly carry out a site visit with representatives from Housing Leeds to resolve any issues which have been identified by either residents or on-site management staff. Further occupation demonstrations shall also be offered on the day as requested.

9.3.36 Leeds City Councils Housing Management will issue a satisfaction questionnaire to new residents. The results of which will be shared with the *Contractor*.

#### **9.4 OPERATING AND MAINTENANCE MANUAL (1 copy)**

9.4.1 The Operation and Maintenance information will be a comprehensive information source which provides both Leeds City Council and residents with a complete understanding of the building and its systems so they can be operated and maintained both efficiently and safely.

9.4.2 A complete draft of the Operation and Maintenance information will be provided for inspection by the *Contractor* no less than six weeks before the date of completion.

9.4.3 The *Contractor* shall produce and forward a draft copy to the NEC *Project Manager*, for his comments, 6 weeks prior to handover.

9.4.4 A draft copy shall include the following as a basic starting point and shall be specific to the overall Contractors design

- i. Index O&M Manual.
- ii. A description of the installation of each element of the installation.
- iii. Contact details of all *Contractors*/Sub-Contractors
- iv. Details of any recommended routine and/or periodic maintenance especially those laid down in British Standards.
- v. A schedule listing of all installed products, accessories and luminaires etc, their manufacturer and reference details, referenced to drawing references.
- vi. Manufacturer's instruction leaflets for all equipment installed.
- vii. Wiring diagrams for all control circuits and how each operates.
- viii. Installation and each specialist section of the installation including where applicable:-
  - a. Lighting.
  - b. Fire alarm including sound levels in each room.
  - c. Emergency lighting average levels per room / communal areas and externally to Fire Assembly point (defined as place of safety).
  - d. Power.

- e. Metering details.
  - f. Communications (IT/Voice for whole building including BT & Virgin).
  - g. Security system.
  - h. Induction loop system.
  - i. Assistance/Warden call system.
  - j. Lightning Protection system.
  - k. Lift systems.
  - l. Incoming NPG distribution.
  - m. Incoming Communications distribution.
  - n. TV aerial system.
  - o. CCTV
  - p. MVHR
  - q. Mechanical input/extract ventilation
  - r. back up power supplies
  - s. sprinkler systems
  - t. dry risers
  - u. wet risers
  - v. AOV's
  - x. fire fighting documentation in accordance with Regulation 38 of the Building Regulations and Appendix G of Approved Document B
  - y. Refuse Systems
  - z. Ceiling tracking hoist systems
  - zz. Home users guide.
- ix. Copies of Test Reports, log books and Commissioning Certificates for the general electrical installation and each specialist section of the installation including where applicable:-
- a. Emergency lighting.
  - b. Fire alarm.
  - c. Communications (IT/Voice for whole building including BT & Virgin).
  - d. Lightning protection system.

- e. Assistance/Warden call system.
- f. CCTV system.
- g. TV/Satellite/Radio system including signal testing results.
- h. Lift systems.
- i. Ceiling tracking hoists
- x. Distribution circuit charts.
- xi. Recommended spares list and spare parts
- xii. A signed (by building user) document listing spares and tools handed over to the building user.
- xiii. A signed (by building user) document listing Operatives trained at hand over and at 6 months in defects period.
- xiv. Recommended maintenance schedules.
- xv. "As fitted" drawings.

9.4.5 Additional to the above the *Contractor* shall provide and put together a Home Users Guide (HUG). The documents shall be contained within clear PVC pockets sealed on three sides, open at the top and punched at 80 mm centres which are enclosed within a blue welded PVC stiff-backed ring binder with 2 No" pull open" ring fittings at 80 mm centres. (As Byrex Sliplock NLA/A4),

9.4.6 Upon receiving the returned document, the *Contractor* shall modify it in accordance with any comments and re-issue it for final comment.

9.4.7 At Practical Completion, regardless of the requirements detailed above, the *Contractor* shall issue the following:

1 No hard copy of the agreed final document including copies of all associated drawings.

1 No hard copy of the "as fitted" drawings in AutoCAD 2007 format on compact disc.

2 No copies of the whole document indexed, book marked and treed, including drawings, in PDF format fully compatible with "Adobe Acrobat" on a dedicated CD's/DVD's.

## 9.5 TRAINING OF OPERATORS

9.5.1 Provide training to the Client's staff the purpose, function and operation of the installations including all items and procedures listed in the Building/O&M Manual by an engineer fully conversant with the installations as:

- The training sessions on each scheme shall comprise of 5 hour sessions, every day over a 2 week period (10 working days). Each session shall focus on an individual element or specialist system. The Contractor must ensure that any specialist suppliers or installers are in attendance to provide demonstrations and training..

- A further training session of [2x8] hours shall be given to the building user at each location 6 months into the defects period to instruct any new users or as a refresher for existing staff. **Nb.** All attendees shall be identified within the O&M Manual.
- Provide a VIDEO OF TRAINING which is a requirement of the completion/hand-over process. A further 2x8 hour training session shall be required at the end of the Defects Liability Period

9.5.2 The *Contractor* shall include a signed list of all trained operatives which shall be included within the O&M Manual under 'Operatives trained'.

## **9.6 SERVICE AND MAINTENANCE:**

9.6.1 Allow for all necessary service and maintenance within the first 12 months following completion and handover of the schemes. Include all necessary and essential service and maintenance requirements as detailed within the O&M Manual.

9.6.2 Prepare 3/5/7 year maintenance agreement and submit for user acceptance at the end of the 12 month defects liability period. Implement until Final Certificate issued. Emergency maintenance response time – 4-8 hours as specified within the various descriptions / sections.

## **9.7 HEALTH & SAFETY FILE (2 copies)**

9.7.1 The *Contractor* is required to obtain or prepare all the information relating to the Health and Safety file which will be produced to the Employer's Agent (EA).

9.7.2 A complete draft Health and Safety file will be provided no less than two weeks before the date from completion of the works.

9.7.3 The *Contractor* must provide Leeds City Council (LCC) with two copies of the Health and Safety file before practical completion, together with an electronic version.

## **9.8 MANAGING DEFECTS DURING THE DEFECTS LIABILITY PERIOD**

9.8.1 The Contractor is required to develop a defects tracker log to record all reported defects or faults and to update the log at regular intervals (weekly) with accurate updates on progress and issues, concerns or problems.

9.8.2 The *Contractors* proposed defects tracker log shall be provided to the NEC Project Manager 10 weeks in advance of the scheme completion date for consideration and approval prior to acceptance.

9.8.3 Standard reporting forms shall be agreed and a detailed process for reporting and recording progress shall be agreed between the Contractor, the NEC Project Manager and representatives from Leeds City Councils housing department.

## **9.9 QUARTERLY REVIEW MEETINGS DURING THE DEFECTS LIABILITY PERIOD**

- 9.9.1 Quarterly review meetings will be undertaken during the Defects Liability Period and these shall be arranged by the NEC Project Manager or NEC Supervisor. These meetings are intended to review the defects log/tracker with the Contractor and Client (draft defects log/tracker to be developed by the Contractor) and to discuss any lessons learnt, patterns of defects or faults and any specific issues, concerns or problems.

## **9.10 FINAL INSPECTIONS AND RELEASE OF RETENTIONS**

- 9.10.1 Access to be arranged by Housing Management, with Contractor and NEC Supervisor to inspect every apartment (LCC technical officers must be given the opportunity to attend these visits) and the overall scheme in general prior to completion of the DLP. Any defects or faults to be rectified within agreed timescales and inspected / agreed as complete by the NEC Supervisor prior to any final retentions are released.