# EMPLOYERS REQUIREMENTS

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## Housing

## For the construction of 24 Apartments At Herbert Avenue Poole.

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# 1.0 SECTION 1 – DESIGN BRIEF

## 1.1 INTRODUCTION

The information prepared and issued for contract purposes and encompassed in the Employers Requirements is not intended to be a fully comprehensive set of development information but should be considered as “scope” information. As such, the Contractor will be deemed to have included within the contract sum for all works both specifically detailed and implied by the Employer’s Requirements.

The Contractor is specifically requested to consider the adequacy of the information contained within the Employer’s Requirements and to request in writing, prior to the signing of a contract, any additional information required. Should no request be made it will be deemed that sufficient and adequate information had been provided for the purposes of confirming a fully firm fixed price contract sum.

It will be deemed that the contract sum will be inclusive of all works necessary to provide the quality of building defined in [section 2] and no claim will be entertained for works not shown but which are required to complete the development to the satisfaction of the Employer.

The Contractor’s Proposals are in no way to conflict with the Employer’s Requirements unless written agreement to changes in the requirements have been obtained prior to contract. In the event of a conflict between the Employer’s Requirements and the JCT, the JCT prevails.

### 1.1.1 CONSTRUCTION COMMITMENTS AND AFFORDABLE HOUSING PROVIDERS

The Employer has undertaken to achieve the 2012 construction commitments for affordable housing providers, these commitments have a bearing on our requirements and cover:

- Procurement and integration
- Client leadership
- Design Quality
- Commitment to people
- Sustainability
- Health and Safety

### 1.1.2 EQUALITY AND DIVERSITY

The Employer shall not discriminate directly or indirectly in recruitment, employment, and goods facilities or service provision to our customers, on grounds of age, disability, gender reassignment, marriage and civil partnerships, pregnancy and maternity, race, religion, sex and sexual orientation.

### 1.1.3 APPRENTICES AND LOCAL LABOUR

The Employer is keen to promote Welfare to Work initiatives and the Constructor will be encouraged to employ Modern Apprentices on all developments. The Constructor is encouraged to enter other joint initiatives with the CITB and local TEC for youth training

leading to eventual employment. The Contractors monthly reports should identify apprentices employed on the project and also the total of apprentices employed by the company. The Contractor shall also identify the number of both directly employed workers and workers employed by sub-contractors who live within a five-mile radius of the site.

The Contractor is required in his tender/contractors' proposals to advise the number of apprentices expected to be employed.

Regular toolbox talks will take place on site to ensure that all site workers are kept up to date with health and safety and construction and built environment issues and procedures.

The Contractor shall where practicably provide opportunities for local residents by providing support and training within the local community including:

(i) Training and testing in the Construction Skills Certification Scheme (CSCS) for young people living in the local community;

(ii) Employment opportunities, via the modern apprenticeship route and other training mechanisms.

### 1.1.4 COMMUNICATIONS

The success of any project is dependent upon good communications. We encourage all partners to keep in regular contact with us and each other to ensure that the success of the project is the priority.

Before formal agreements are entered into we encourage direct discussion with the Employer, post agreement all contact must be through the Employer's Agent appointed by the Employer to manage the project.

We encourage communications by email.

### 1.1.5 APPROVED DOCUMENT PART M CATEGORY 1, 2 AND 3

The Employer may require designated apartments to comply fully with Category 2 or 3, where practicable to do so. These will be noted on the planning drawings or noted in the contract.

If any of the requirements cannot be met, the Contractor must state and explain areas of non-compliance within their tender submission

### 1.1.6 LIFE EXPECTANCY

The life span of components shall be deemed to be the life-span of the building, which is 60 years, unless stated otherwise in Appendix B.

### 1.1.7 BUILDING FOR LIFE 12

Building for Life is a scheme led by CABE and the Home Builders Federation. The successful Constructor will be required to produce a self-assessment using the "Building for Life 12" criteria and will be encouraged to seek full accreditation.

The Constructor shall be expected to be familiar with all requirements of "Built for Life" and

shall include these principles in his design process.

All tenderers will be required to provide a provisional BFL assessment as part of the Contractors Proposals and to confirm whether they intend to apply for formal accreditation.

Further detail regarding the Building for Life criteria can be found from the following website:

http://www.builtforlifehomes.org/

The Constructor shall be expected to be familiar with all requirements of “Built for Life” and shall include these principles in his design process.

### 1.1.8 SECURED BY DESIGN ACCREDITATION

The Constructor shall consult with Dorset Police Crime Prevention and Design Officer (Architectural Liaison Officer) and implement and obtain Certification for “Secured by Design” in accordance with the recommendations published by the Association of Chief Police Officers Crime Prevention Project and Design Group. If the recommendations conflict with the Employer’s Requirements then the Constructor will obtain instructions from the Employer about whether any change will be made. Further information can be found at: http://www.securedbydesign.com/

Gold SBD Certification for the development is required; where not possible then as a minimum compliance with Section 2A - Physical Security of New Dwellings shall be achieved, in order to gain Silver SBD Certification.

### 1.1.9 MODERN METHODS OF CONSTRUCTION

The majority of all new homes and buildings that the Employer produces shall utilise modern methods of construction, usually timber frame construction for houses. Modular / closed panel construction and insulated concrete form construction would be considered.

### 1.1.10 ENVIRONMENTALLY EFFICIENT BUILDING

- The aim of this development is to: Deliver thermally efficient homes that are economic to run and comfortable to live in. Use an enhanced fabric specification to create homes that will reduce running costs.
- Create buildings that are sympathetic to their surroundings. Good design should go hand in hand with buildability, allowing straightforward construction while removing features that compromise thermal efficiency and increase maintenance costs. Building grouping and orientation should be at the heart of each scheme design.

- All new houses to achieve a minimum of A Rating on the Energy Performance Certificate when completed (flats to achieve a minimum B Rating). A Predictive Energy Assessment is required as soon as practicable to demonstrate that the chosen building method will achieve the desired score.
- Construct buildings that exceed Building Regulations minimum thermal requirements, adopt a Fabric First approach and achieve U-values that meet Passiv Haus standards (where Passiv Haus is specified).

- Care should be taken to reduce as much thermal bridging as possible to help retain heat within the building.
- Energy efficient components should be used, ensuring that wherever possible, these do not impact on the lifestyle of the resident. New homes should be as easy to use as traditional dwellings and so require as little change in behaviour as possible to achieve the best results.

## 1.2 PROJECT PARTICULARS

The details of the Project are contained within the Project Particulars in Appendix A.

## 1.3 PROJECT DESIGN

### 1.3.1 DESIGN RESPONSIBILITY

The Contractor is to be responsible for the design of the whole of the works including preparing all drawings and other documents necessary for the proper and timeous completion of the works, and all drawings and documents necessary to explain their proposals.

The Contractor is to allow for all costs in connection with the design of the works. Furthermore, the Contractor shall also include for all design costs associated with the development of the design likely to be encountered on a scheme of this type and no additional costs will be admitted.

The detailed design must achieve the criteria set out in this document. The responsibility of the Contractor for the design of the works is absolute and will not be limited by compliance with any comments issued by the Employer's Agent in the inspection of the design or site inspection.

The Contractor should note that all change instructions will be issued in writing by the Employer's Agent. The Contractor will only be reimbursed for additional work if it is instructed in writing by the Employer's Agent. All verbal instructions are to be costed prior to being confirmed in writing.

The Contractor should note that the whole of the works falls within their design responsibility and they will be required to obtain all statutory approvals, including clearing any conditions noted on planning consent, together with paying all associated costs. Similarly, the responsibility for complying with all statutory requirements remains with the Contractor.

The Contractor will not be separately reimbursed for the cost of any design work or for any licencing fees arising out of the tender for the contract. The contract sum must include all design costs and licencing fees.

### 1.3.2 MATERIALS AND WORKMANSHIP

**The Constructor will undertake the works in accordance with current European Norms (EN), British Standards (Codes of Practice), Trade Associations' Codes of Practice, manufacturers' instructions and good building practice.**

The Constructor shall be solely responsible for any material/plant so stored or parked within the site areas.

Materials shall be ordered from the drawings and specification and the Contractors' own calculations and not directly from any document which may contain quantities (if any). Draw the Employer's attention to any discrepancies between the documents prior to ordering. The specified thickness of materials and layers of materials means the finished thickness after compaction or settling.

In relation to proprietary goods:

(i) Handle, store, prepare and use or fix each product in accordance with manufacturers printed or written recommendations/instructions. Inform the Employer, if these conflict with any other specified requirement.

(ii) The recommendations/instructions are those current ten working days before the date of tender. If they change between tender and construction the Constructor must inform the Employer and obtain instructions before ordering materials or starting work.

(iii) Submit copies of manufacturer's instructions to the Employer when requested.

All products shall be new unless otherwise specified. Ensure that the whole quantity of each product and material required to complete the work is of consistent kind, size, quality and overall appearance.

Where a choice of manufacturer or source of supply is allowed for any particular product or material, the whole quantity required to complete the work must be of the same type, manufacture and/or source. Any changes must be approved in advance by the Employer. Produce written evidence of sources of supply when requested by the Employer.

The Constructor shall submit any certificates relating to the goods supplied for the works as required by the Employer.

Where approval of products or materials is specified the Constructor must submit samples or other evidence of suitability and orders must not be confirmed or materials used until approval has been obtained. The Constructor shall retain approved samples on site for comparison with products and materials used in the Works and remove when no longer required.

Timber used for temporary works such as formwork, hoardings etc shall be obtained from sustainably managed sources.

### 1.3.3 SITE INSPECTION FOR TENDERING PURPOSES

The Constructor shall be deemed to have visited the site prior to submitting his tender and to have acquainted himself with means of access, the nature of the work to be executed, the nature of the site and all other circumstances affecting the execution of the works such as

supply of and conditions affecting local labour, carriage, haulage, unloading, scaffolding and the like. No claim will be allowed on account of any omission or error arising from the lack of knowledge of such matters.

### 1.3.4 CDM REQUIREMENTS AND PRE-CONTRACT INFORMATION PACK

The Employer will be responsible for appointing the Principal Designer up to planning stage. The Principal Contractor will be responsible for appointing a suitably qualified individual to take on the role of Principal Design up to and beyond contract completion.

The Constructor will be required to make all allowances for compliance with the Construction (Design & Management) Regulations 2015.

It is anticipated that the Employer will be appointing the Constructor to undertake the role of the Principal Contractor under the Regulations and the Constructor is to include within the Contract Sum, allowances for compliance with the requirements of the Principal Designer during the construction period and also for the preparation and submission of any associated documentation.

The Principal Designer will draw the Constructor's attention to identified hazards in the Pre-tender Health & Safety Pack.

The Construction Phase Health & Safety Plan must be submitted to the Principal Designer at the pre-commencement meeting. The Constructor is not to commence any clearance, demolition or construction work until the Employer or the Employer's Agent has confirmed in writing, either directly or through the Employer's Agent that in his view, the outline Construction Phase Health & Safety Plan includes the procedures and arrangements required by the CDM Regulations.

The Principal Contractor shall be wholly responsible for complying with and updating the Construction Health & Safety Plan during the Contract.

Assistance in preparing a Health and Safety File by the Principal Designer will be required of the Principal Contractor and such assistance by the Principal Contractor, together with all related records, maintenance requirements as required by the Principal Designer shall be provided to ensure that the Health & Safety File is completed prior to the issue of the Certificate of Practical Completion.

If Partial Possession is to apply, the Principal Contractor will be required as a minimum submission to provide a Tenant Manual, with a copy for the File, which will include details of all internal services and instructions clarifying the operation of all equipment. The Constructor shall also provide a drawing marked up to indicate the position of all associated external services.

### 1.3.5 DRAWINGS

The Constructor will be required to provide the following drawings in approved format for the use of the Employer, in addition to any drawings to be submitted in compliance with the Construction (Design & Management) Regulations 2015:

(i) A full set of working drawings for comment by the Employer during the pre-construction and ongoing construction stage of the works, including (but not limited to) landscaping, electrical, heating and kitchen layouts.

(ii) A full set of "as built" drawings for the whole of the works on CD/DVD (in PDF and DWG formats). The Constructor shall also allow for providing 'As Built' drawings for statutory authorities in order to discharge any obligations under sectional agreements.

All copyrights in respect of the drawings issued by the appointed Constructor shall be given to the Employer.

### 1.3.6 CONSTRUCTION AND ENVIRONMENTAL MANAGEMENT PLAN (CEMP)

The Constructor will be responsible for developing a Generic and detailed Site-Specific Construction Environmental Management Plan (CEMP) to avoid, minimise and mitigate any construction effects on:

- The environment
- Existing surrounding communities
- New residents of the development.

The Generic CEMP will define the general approach by which the project will be undertaken and describe the environmental management system for the whole site. It will show how best practice environmental performance will be achieved wherever practicable. Site Specific CEMPs will be prepared for each site of the contract. These will be written in accordance with the Generic CEMP and will detail the specific environmental obligations and constraints (over and above those covered in the Generic CEMP) for that area of the site. Both the Generic and Site-Specific CEMP will be presented in a format that is acceptable to the Planning Authority.

### 1.3.7 PROFESSIONAL INDEMNITY INSURANCE

The Constructor is required to take out and maintain Professional Indemnity Insurance from the date of possession until twelve years from the date of Practical Completion. The minimum limit of indemnity is to be £10,000,000 for each and every claim.

### 1.3.8 FIRE OFFICER'S RECOMMENDATIONS

The Constructor will be deemed to have discussed his proposals with the local Fire Officer or Building Control Officer and to have fully considered and incorporated into the Constructor's Proposals and Tender any requirements and/or recommendations made by the Fire Officer. No claim for additional costs will be considered due to non-compliance. The successful Constructor will be required to demonstrate to the Employer's Agent that he has complied with and included the Fire Officer's requirements and recommendations into his proposals.

### 1.3.9 SECTION 106 AGREEMENTS NOT APPLICABLE TO THIS TENDER

The **Employer** shall pay all fees, commuted sums etc within Section 106 Agreements, unless otherwise identified in the tender documents.

### 1.3.10 KEY PERFORMANCE INDICATORS AND TARGETS

Key Performance Indicators [KPIs] will be used on this project to measure achievement in certain areas and they will be discussed at tender stage and at post-handover review. Further details of the KPIs are available on request.

# 1.4 CONSTRUCTION PROCUREMENT

## 1.4.1 FORM OF CONTRACT

The Employer will procure construction works through use of a JCT 2016 Design & Build Contract.

- **Execution of Contract**

The Contract will be executed as a Deed and the Formal Contract will be completed/amended as follows:

Adhere to the standard form of building contract, with the following exceptions/clarifications:

**Article of Agreement**

**Recitals**

**Whereas**

**First** The works comprise the design and construction of 24 temporary accommodation units with 1 of each 1 bedroom, 2 bedroom and 3 bedroom being fully wheelchair accessible, a communal laundry, storage areas, office with meeting space. The buildings should include, but not limited to the following:

- Buildings to have a future beneficial life of at least 60 years
- Roofing to have guaranteed future life of at least 25 years
- Windows and external entrance doors to be A rated and to have a guaranteed future life of at least 25 years
- Thermal performance of the building is to achieve Low Passive House standards or better
- Electric Heating systems that limit control for residents and reduce costs in use
- Provide digital television, satellite and radio reception and distribution
- Ducted ventilation to be MVHR or HVAC air treatment systems
- Reduced maintenance and cleaning requirements over the remaining building lives

**Third** Delete the whole Third Recital and substitute with the following wording:

"The contractor has examined the Employer's Requirements. The Contractor is satisfied that the Contractor's Proposals and the Contract Sum Analysis meet the Employer's Requirements and the Contractor acknowledges that in the event of any conflict or divergence between the Employer's Requirements and the Contractor's Proposals or the Contract Sum Analysis, the Employer's Requirements shall prevail."

**Fifth** Will be deleted.

**Sixth** Will be deleted.

**Articles**

**Article 2** Contract Sum:

**Article 3** Employers Agent: **TBA**

**Article 4** Unless otherwise agreed to or directed by the employer, the Employers Requirements shall mean Bournemouth Christchurch Poole Council Employers Requirements Revision F May 2021.

**Article 5** Principle Designer:

**Article 6** Principle Contractor:

**Article 7** does not apply

**Article 8** (Arbitration clauses) Apply. Delete the words “do not apply”.

**Article 10** - Schedule 8 Special Conditions

**Contract Particulars**

Fourth Recital The Employer at the base date is a ‘contractor’. Delete the words “is not a contractor”. Check

Fifth Recital Does not apply

Supplemental Provisions

Seventh Recital

Part 1 of Schedule 2 Supplemental Provision 1 – Applies.

Supplemental Provision 2 – Applies.

Supplemental Provision 3 – Applies.

Part 2 of Schedule 2 Supplemental Provision 4 – Does not apply.

Supplemental Provision 5 – Applies.

Supplemental Provision 6 – Applies.

Supplemental Provision 7 – Applies.

Supplemental Provision 8– Applies.

Supplemental Provision 9 – Applies.

Supplemental Provision 10 – Applies.

Employer's nominee:

Contractor's nominee:

| | |
|---|---|
| 1.1 | BIM Protocol does not apply. |
| 1.1 | Date of Completion of the Works: 31 March 2023 |
| 1.1 | 'Sections' do not apply. |
| 2.4 | Clause 2.4 does not apply. Delete the word "applies". |
| 2.17.3 | Not applicable. |
| 2.29.2 | The Employer requires liquidated damages to apply at the rate of £4000 per week or part week. |
| 2.35 | The rectification period is 24 months from the date of practical completion. |
| 4.2, 4.12 and 4.13 | Delete Schedule 7. The fluctuations clauses do not apply. |
| 4.6 | Clause 4.6 (advance payment) does not apply. Delete the word "applies" |
| 4.7 | Alternative B (periodic payments) applies. Delete the words "by stages in accordance with alternative A (clause 4.12)"<br><br>Applications for interim payments shall be at intervals not exceeding 1 month (i.e. the default contract term). |
| 4.15.4 | Not Applicable – Payment for off-site goods excluded. |
| 4.15.5 | Not Applicable. |
| 4.17 | Does not Apply. |
| 4.18.1 | Retention Percentage 5% Reducing to 2.5% on practical completion |
| 5.5 | does not apply |
| 6.4.1 | Level of cover £5,000,000 minimum. |
| 6.5.1 | Level of cover £5,000,000 minimum. |
| 6.5.1 | Insurance – liability of Employer Minimum amount of Indemnity for any one occurrence or series of occurrences arising out of one event £1,000,000 |
| 6.7 & schedule 3 | Insurance Option A will apply. |

6.7 & schedule 3 Insurance to cover professional fees – insert 15%

6.15 Delete the words “is the aggregate amount for any one period of insurance”

Level of cover for Professional Indemnity Insurance to be £10,000,000.00

Expiry of Professional Indemnity Insurance is 12 years. Delete the words “6 years”.

6.17 The Joint Fire Code may apply on projects over £2.5M and will apply on large projects over £20M in value.

6.20 Not applicable.

7.2 Clause 7.2 (employer’s right of assignment) does not apply.

7.3.1 10% Performance Bond is required. Form of Bond at Appendix C.

Delete the words “2 weeks after the date of expiry of the Rectification Period for the Works/” and “the date for issue of the Notice of Completions of Making Good for the Works”

“Reduction in value” does not apply.

7.3.2 Parent Company Guarantee is required. Form of Parent Company Guarantee at Appendix F.

**7.4 Third Party Rights and Collateral Warranties**

Collateral warranties are required from the following sub-contractors (and sub-consultants) using the JCT standard form of collateral.

- The Architect and/or other building designer responsible for the design
- The Civil/Structural Engineer and/or other person/organisation responsible for the design and production of geotechnical reports.
- The Mechanical and Electrical Engineer and/or other person/organisation responsible for the design
- The designer of any specialist elements such as piling, retaining walls, vibro-compaction, underpinning
- The designer of prefabricated/off-site manufactured systems such as timber frame, steel frame, modules etc

The levels of Professional Indemnity Insurance are described in the Employer’s Requirements.

8.9.2 Insert 2 months.

8.11 Insert 2 Months.

9.4.1 The arbitrator shall be the President, Vice President of the Chartered Institute of Arbitrators. Delete the other names that are listed.

## Conditions

**Section 2 Carrying out the Works**

Clause 2.7.4 Insert the words “construction, completion” before the word maintenance. Insert the word “reinstatement” after the “repair” and insert “promotion” after the “advertisement”.

Clause 2.15.1 Delete the words “save as provided in clause 2.15.2”.

Clause 2.15.2.1 Add the word “not” after the words “such alteration or modification shall”. At the end of this clause add the words “and the provisions of clause 2.15.1 shall apply.”

**Section 4 Payment**

Clause 4.9.1 Payment terms to be 30 days from the receipt of the invoice and NOT receipt of the valuation rather than 14.

Add the following new clause:

Clause 4.9.8 “Notwithstanding the provisions of clauses 4.7 to 4.10 the first and subsequent payments of monies which become due to the Contractor will be withheld until a Contract Guarantee Bond has been executed up to a limit of 10% of the Contract Sum. In the event of a failure to execute a Contract Guarantee Bond the monies retained by the Employer will be released following the issue of a Certificate of Practical Completion issued in accordance with the provisions of clause 2.27.”

Clause 4.16.2 Delete this clause.

**Section 6 Injury, Damage and Insurance**

Clause 6.15.1 After the word “policy” insert the following “with insurers approved by the Employer, such approval not to be unreasonably withheld.”

**Section 8 Termination**

Clause 8.9.3 In each place delete “14 days” and insert “21 days”.

### 1.4.2 TENDERING PROCEDURES

- **Acceptance of Tender**

The Employer is not bound to accept the lowest or any tender and will not reimburse Constructors for any expense incurred in preparation of such tenders. The Tender must remain open for 13 weeks from the tender return date.

- **Constructor's Proposals**

Constructors are to note that during the period of tender appraisal, it may be necessary for them to clarify their submission and they may therefore be requested to attend meetings with the Employer's Agent to present their proposals and clarify any queries.

- **Contract Sum Analysis/Tender Sum Analysis**

Included with the tender documents is a copy of the Contract Sum Analysis which is to be fully completed using the prescribed “Excel” spreadsheet and returned with the Tender. The successful Constructor will be required to complete a detailed Contract Sum Analysis to accord with the accepted tender sum. The format will be prepared by the Employer's Agent. The Contract Sum Analysis will be used as a basis of agreeing stage payments and agreeing any variations which may arise during the course of the works. The Constructor will also be required to provide with the Contract Sum Analysis a prediction of the projected cash flow for the duration of the Contract and to amend this prediction on a monthly basis to accord with actual performance and revise to take account of the remaining contract period.

The Standard Form of Contract Sum Analysis is shown in Appendix D.

- **Alterations to Employer's Requirements**

No alterations to the text of these Employer's Requirements are to be made without the prior written approval of the Employer's Agent. Should any alterations, amendments or additions be made without this approval having first been obtained they will not be recognised.

### 1.4.3 RETENTION

**The Employer requires a retention sum clause in each contract. The percentage shall be 5% reducing to 2½% following Practical Completion.**

- **If Performance Bond Not in Place**

The payment of any monies which become due to the Constructor will be reduced by an amount equal to ten per cent of the Contract Sum until the Surety Bond has been executed. In the event of a failure to execute a Surety bond, the monies retained by the Employer will be released following Practical Completion.

- **Withholding of retention monies**

The release of retention monies following Partial Possession or Practical Completion will be withheld until the Development Records have been provided to the Employer, subject to agreement between the parties regarding any Records for which it is impractical to provide at Partial Possession or Practical Completion, or prior to the date for payment of the released retention monies.

### 1.4.4 LIQUIDATED DAMAGES

The Employer requires a Liquidated Damages clause in the contract. The rate shall be £4000.00 per week or part week.

## 1.5 WARRANTIES AND INSURANCE

### 1.5.1 CONTRACTUAL INSURANCES

Contractual insurances shall be as set out in the contract documents which shall define the requirements for both the Constructor and the Employer.

Prior to commencement of any works, the Constructor and Employer shall submit to the Employer's Agent copies of correspondence or policies to verify that insurances as detailed within the contract document have been brought into effect.

### 1.5.2 PARENT COMPANY GUARANTEE

Where the Constructor is part of a group of companies or the like and is not the Parent Company he shall insert the name and address of the Parent Company on the Form of Tender. The Constructor will be required to provide a Bond of Surety/Guarantee, from the Parent Company guaranteeing the works will be completed in accordance with the terms and conditions of the Contract. The wording of the Guarantee is to be as Appendix F.

### 1.5.3 PERFORMANCE BONDS

The Constructor shall enter into a Performance Bond as shown in Appendix C for 10% of the Contract Sum which shall be in place prior to the signing of the Contract. If the bond is not in place appropriate deductions in accordance with clause 1.4.3 will be deducted from any payments due to the Constructor.

### 1.5.4 COLLATERAL WARRANTIES

The Employer will require the Constructor to provide Collateral Warranties for works involving any design work undertaken by sub-contractors and directly appointed consultants. £5,000.00 will be retained from Payment Certificates in respect of each warranty required following the Contractors Appointment of the relevant organisation until the Warranty is in place.

### 1.5.5 NHBC OR OTHER APPROVED WARRANTY SUPPLIER

The Constructor must be registered with the National House Building Council (or other approved warranty supplier), construct all dwellings to their prescribed standards and pay all charges in connection with the provision of the following:

(i) Enter into an NHBC Buildmark choice (12 years) Agreement, including optional extensions 1, 2 and 3 and additionally where a scheme contains non-housing elements to provide Buildmark connect cover for these parts.

(ii) Complete and submit an “Application for Inspection of Dwellings” form (NHBC) at least 21 days before the construction begins.

(iii) Provide the Employer with a copy of the forms and an NHBC Invoice/Receipt

which will confirm that the appropriate cover is in place prior to the first interim payment.

(iv) Ensure that NHBC issue the correct documents for each dwelling indicating the plot numbers.

(v) Ensure that the Buildmark or Buildmark Choice documents are made available within one month of commencement on site.

(vi) Present NHBC site inspection record books at the monthly site meetings for observation; copies being included in the Health and Safety File at the end of the contract.

(vii) The Constructor shall indemnify the Employer against and rectify all defects occurring within the initial guarantee period. All documents are to be forwarded, completed as necessary, within the contract period and insurance cover notices soon after practical completion and no later than six months.

(viii) The Constructor will add further insurance options to the core cover as listed below:

- Alternative Accommodation Costs
- Loss of Rent
- Professional Fees

## 1.6 FINANCE

### 1.6.1 PAYMENT CONDITIONS

Applications for payment are to be in accordance with Contract conditions.

A meeting will be held on site between the Employer's Agent and the Constructor to agree the valuation/application. Valuations for each property shall be constructed on the basis of the Stages for Payment template shown in Appendix D.

The Constructor shall obtain from the Employer prior to the commencement of work a purchase order number/contract reference for the project which shall be quoted on all subsequent invoices relating to the project.

The agreed Application for payment will then be submitted in the form of an invoice direct to the Employer with a copy to the Employer's Agent. VAT invoices are to be submitted with each application irrespective of whether VAT is payable or not.

The period for payment (and for serving any associated notices) by the Employer will be as set out in the contract.

The final release of the retention will only be made on receipt of the completed Health and Safety File and completed Section Agreements and the Certificate of making good defects.

The Constructor shall operate a 'Payment on Time' policy with regard to sub-constructors and suppliers in that payment shall be made to them within the same payment period as that specified in the Contract for the Employer to pay to the Constructor. The Constructor is not permitted to operate a 'pay when paid' or 'pay when certified' policy towards sub-

constructors and suppliers.

**No payment will be made in respect of any unfixed materials or goods on or off site.**

Claims for payment of Planning, Building Control, NHBC and Consultants design fees, section agreement fees and bonds, Service Authorities charges and the like will be accepted for inclusion in an application for payment only on production of a receipt confirming that payment of the fee or charge has been made by the Constructor, and will only be paid up to the amount of the receipt, excluding VAT, limited to the amount in the Contract Sum Analysis.

### 1.6.2 CASHFLOW

The Constructor will be required within two weeks of confirmation that his tender is to be accepted, to submit an approximate cash flow statement reflecting anticipated net values of Applications throughout the Contract.

The Constructor shall update the cashflow forecast at each valuation and shall include a prediction of the likely final account figure arising from agreed variations.

### 1.6.3 VALUE ADDED TAX

The Constructor is to include with the Contract Sum Analysis an assessment of Value Added Tax on items of construction work which will be positively rated.

A final Value Added Tax Statement is to be submitted with the Constructor's application for payment at, or before, Practical Completion and no later.

## 1.7 CONSTRUCTOR RESPONSIBILITIES

### 1.7.1 APPOINTMENT OF CONSULTANTS

The Constructor shall appoint all necessary consultants required for design and delivery of the project and pay all fees in connection with these appointments. Typically, the consultant services shall include:

- Architect (including Landscape Design)
- Land Surveyor (topographical surveys)
- Principal Designer (in conjunction with Employer)
- Structural and Civil Engineer (including assessment of flood risk and soil and contamination surveys)
- M & E Consultant
- Ecologist and Arboriculturalist
- Sound and Air Testing
- SAP Assessor (including production of EPCs)
- BREEAM Assessor (where required)

Note: This is not an exhaustive list; other consultants may be required by the Constructor as individual projects dictate.

### 1.7.2 CONSTRUCTOR'S DESIGN DETAILS

The Constructor's design details, specification and all drawings shall be submitted to the

Employer's Agent for comment not less than 28 days before any section of work commences.

The Constructor's design details shall where applicable include the information set out in the remainder of this clause:

**Site Layouts indicating (scale of 1:200):**

- Topographical survey including all utility positions
- Position of all existing trees and the shape of the canopy spread when in proximity to new works and the position and extent of all hedgerows within and adjacent to the site
- Setting out and finished levels
- Drainage and statutory services layout
- Adopted highways and drainage layouts with design levels
- Soft and Hard landscaping areas including parking facilities, public open space a.
- External works including wall, retaining walls, fences, gates, sheds, cycle stores, paths, drying areas, bin stores, patios
- Boundary treatments
- Section through the site from high to low point to show the gradient where gradients exceed 1:20.
- Any other drawing as required by the local planning authority

**Plan of each dwelling type indicating (scale of 1:50):**

- Main dimensions (overall area between the inside faces of the external walls to be stated)
- Details of external and internal wall construction
- Floor joist layout
- Roof truss layout
- Foundation plan and details
- Elevations of each house type including eaves and ridge levels (1:100)
- Typical section through dwelling
- Details of door/window heads, sills, reveals and threshold
- Level access detail and external paved approach
- Details of porches, sheds, cycle stores, bin stores etc
- Furniture layout to all rooms co-ordinated with heating & electrical layouts
- Details of roof eaves, verges and ridges
- Kitchen layout
- Ironmongery schedule
- Service entry layout with meter positions
- Waste Plumbing and Sanitary ware layout
- Electrical layout and schedule of fittings coordinated with Heating, Mechanical and Plumbing layout
- Any other detail drawings necessary to describe the extent of the works.

### 1.7.3 SITE INVESTIGATION AND LEVELS

- **Site survey**

The Constructor shall satisfy himself as to the accuracy of any survey information supplied, the location and condition of the boundaries and ensure that the proposed development fits

on the site.

- **Drawings of Existing Structures** Not applicable to this contract

The Constructor shall satisfy himself as to the accuracy of any information supplied and shall make further enquiries and investigations as necessary to determine the location of any services affected by the works.

It is the responsibility of the Constructor to determine the exact position of all existing and new services in the area affected by the Works and to take all the necessary precautions to ensure that they are not damaged in any way.

Prior to starting work on site the Constructor shall:

(i) Notify all service authorities of proposed works not less than one week before commencing site operations.
(ii) Check the positions of existing services.
(iii) Observe local and/or service authority's recommendations for work adjacent to existing services.
(iv) Adequately protect, uphold, maintain and prevent damage to all services. Do not interfere with their operation without consent of the service authorities or private owners, or the Employer as appropriate.
(v) If any damage to services results from the execution of the works, notify the Employer and appropriate service provider. Make arrangements for the works to be made good at the Constructor's expense without delay to the satisfaction of the service authority or private owner as appropriate.
(vi) Replace any marker tapes or protective covers disturbed during site operations to the service provider's recommendations

- **Ground Conditions and Contamination**

The Constructor shall through a qualified Engineer/Consultant produce a Soil Condition and Contamination Report, a copy of which shall be provided to the Employer. The extent of the contamination investigations must meet the requirements necessary to provide adequate information including a clear risk assessment for the Site/and or Buildings. All laboratory testing must be carried out by an accredited NAMAS (UKAS) facility.

The Constructor is to satisfy himself as to the nature of the ground, bearing pressures and the required foundation design. The Constructor shall include within the Contract Sum, allowance for dealing with any contamination including waste acceptance criteria testing, testing imported soil, tests required by the local authority (Environmental Health) and disposal to a licensed landfill site.

The Engineer shall assess the required number of trial pits, bore holes, depths and locations given the knowledge of the intended use of the site in order to design the foundations, roads etc.

The Engineer shall additionally test the porosity of the ground to ensure the surface water can be drained, by undertaking percolation tests.

The Constructor shall ensure that site setting out is checked by an appropriately qualified engineer who will certify to the Employer, prior to foundations being laid, that the setting out of the building accords with all Planning and Building Regulation drawings.

The Constructor shall be responsible for ascertaining the presence of radon, landfill gas or methane on or adjoining the development and shall include in his design whatever measures are necessary to ensure proper remediation and adequate protection from their effects.

Any sand, gravel or other useful or valuable mineral or any article of value which may be found in excavating on site shall remain the property of the Employer and its discovery is to be reported to the Employer's Agent immediately. No such material may be used in the Works without the prior written consent of the Employer's Agent.

### 1.7.4 SCHEDULE OF SITE CONDITIONS

Agree with the Employer before commencement those existing trees and shrubs which are to be preserved over and above any which may be subject to planning restrictions. (See Report included as Tender Document).

Adequately protect all types of work and all parts of the Works, including work carried out by others, throughout the Contract. Wherever work is of an especially vulnerable nature or is exposed to abnormal risks, provide protection to ensure that damage does not occur.

The Constructor shall carry out a photographic Schedule of Condition and any other appropriate records of the condition of existing roads, fences, hedges, gates, walls, paved areas, grassed areas, trees, adjoining buildings and other site features prior to commencing the works, and supply one copy of the photographs and schedule to the Employer. Prior to commencement on site the Constructor shall write to local residents and advise them of the intended start on site date and including a contact number and name of the site agent.

During the progress of the works the Constructor shall take every care to avoid damage to the Employer's or adjacent property and the Constructor shall be liable for any damage to private roads, paths, fences, etc during the contract.

Protect and preserve existing natural features in accordance with Environment Agency recommendations and any planning conditions and hand them over in good condition as part of the finished Works on completion:

(i) Trees of over 100 mm trunk diameter, and/or designated to be of significant ecological amenity value, are to be protected by barriers. Barriers must prohibit any works or storage in the area between itself and the tree trunk. Minimum distance between the tree trunk and barriers must be either the distance of the branch spread or half the height of the tree, whichever is the greater. In all cases trees shall be protected from direct impact and from severance or asphyxiation of the roots.

(ii) Hedges and natural areas requiring protection must either have barriers erected and be protected, or, when remote from site works or storage areas, be protected with a prohibition of construction activity in their vicinity.

(iii) Watercourses and wetland areas shall be protected by bunds, cut-off ditches and site drainage to prevent run-off to the natural watercourse (as this may cause pollution, silting or erosion). Specialist advice shall be obtained from the Environment Agency, English Nature or specialist ecological consultants.

In all cases the Constructor shall construct ecological protection prior to any preliminary construction or preparation work commencing in the vicinity, e.g. clearing of the site or erection of temporary site facilities.

Minimise the possibility of water (ground and surface water) pollution by following the

previously published best practice guidelines outlined in the following documents:

(i) Former PPG1 - Environment Agency's 'General Guide to the Prevention of Pollution.'

(ii) Former PPG5 - Environment Agency's 'Works in, near or liable to affect Watercourses'

(iii) Former PPG6 – Environment Agency's 'Working at Demolition and Construction Sites.'

The Constructor shall produce a statement to the Employer's Agent prior to commencing on site indicating how these procedures will be disseminated to site operatives.

### 1.7.5 PARTY WALL MATTERS

Where Party Wall Agreements are in place, the Contractor must fully comply with their requirements.

### 1.7.6 Planning, Building Regulation AND OTHER Compliance

- **Planning**

The Constructor will be required to comply fully with the Planning Permission notices and shall discharge any planning conditions imposed (including payment of fees) within the timescales dictated by the Planning Approvals and prior to the handover of the properties. Where, however, a planning condition stipulates a maintenance period in excess of 12 months the Constructor shall be released from that particular obligation once 12 months have elapsed from the date of Practical Completion or from the date on which the work related to that particular condition is completed (whichever is the later), providing that there are no outstanding maintenance issues.

Where matters of design and choice of materials are subject to conditional approval by the Planning Authority then the Employer is to be consulted before any further submission is made.

- **Building Regulations**

The Constructor will be required to obtain full Building Regulation approval and pay all costs involved.

- **Other Statutory Consents and Notices**

The Constructor shall comply with all Bye-Laws and Regulations, give all notices required by the Local Authorities, Water, Gas or Electricity Undertakers or other parties having jurisdiction, and perform at his own expense all work required by them to their satisfaction and pay all fees, if any, legally payable to them.

The Constructor is required to obtain and pay for all necessary charges in connection with Statutory Consents, Obligations, Notices, Permissions and Approvals, including Demolition Consent, Fire Officer Approval, Environment Agency Consent to Discharge, etc, and any such costs in fulfilling these obligations.

### 1.7.7 ASBESTOS

The constructor MUST undertake a refurbishment and demolition asbestos survey prior to demolishing any existing buildings or structures. A qualified specialist must undertake this work with an independent NAMAS (UKAS) Laboratory used to test the samples. The recommendations of the survey report must be strictly adhered to.

Only an approved specialist can remove any asbestos discovered that needs to be stripped. A consignment notice must then be provided to the Employers Agent.

### 1.7.8 PROJECT PROGRAMME/PHASES OF WORK

Immediately after entering into the contract and prior to commencing work on site the Constructor will submit his detailed programme for the execution of the works.

The Constructor shall clearly indicate design periods, site possession date, contractual completion date, any sectional completion dates and proposed partial possession dates. The programme must be sufficiently detailed to enable the progress of each trade in each property to be monitored together with each element of the external works.

There shall be regular site meetings chaired by the Employer's Agent which will review the programme and progress.

If, at any time, the Constructor falls more than 2 weeks behind programme, then a revised programme must be issued to indicate the proposals for recovering time or delayed completion. Where an extension of time has been granted by the Employer's Agent, a revised programme should be issued indicating the extension and the revised completion date.

Three copies of the programme are to be updated on a weekly basis. Two copies for the Employer are to be interchanged at Site Progress Meetings with the third master copy held on site. The programmes are to be marked up in a continuous coloured line on a 'work completed each week' basis.

The Constructor shall have the ability to receive and send electronic mail which shall be used for the sending and receiving of payment applications and the receiving of copies of the Site Progress Meeting Minutes.

The Employer's Agent shall issue Minutes within five working days of the date of the meeting.

### 1.7.9 CONSTRUCTION SKILLS CERTIFICATION SCHEME

The Employer requires every member of the Constructor's workforce together with the project team employed on a new build scheme to hold a relevant CSCS card (www.cscs.uk.com). A record is to be kept on site of all personnel and their CSCS registration numbers. Information to be available for Employer or representative to view. The Employer reserves the right to request any personnel not registered to leave site.

### 1.7.10 CONSIDERATE CONSTRUCTORS SCHEME

The Constructor will register the project with the Considerate Constructors Scheme before any construction work commences and will present the Monitoring Reports for appraisal as part of the regular site meeting. The Constructor shall commit himself to attaining a score of at least 30 and to score at least 5 in every section. Proof of registration shall be provided to the Employer's Agent prior to the first application for payment is made.

The constructor is also to erect the necessary CCS signage.

### 1.7.11 WAYLEAVES

Whilst the Employer (when being the land owner) has the legal responsibility for obtaining any wayleaves that may be required, e.g. where jibs enter neighbours' air space, etc. the Constructor shall act as the Agent of the Employer in this matter and shall assist the Employer in obtaining the necessary permissions. The Constructor shall pay all fees in connection with the procurement of wayleaves.

### 1.7.12 PAYMENTS TO UTILITY COMPANIES

- **Provision of services**

The Constructor is to connect (and/or disconnect if required) all services and pay all diversion costs, connection and infrastructure charges for water, gas, telephone, cable, sewerage and electrical connections, including provision of meters as necessary. (Smart Meters are preferred).

- **Disconnections**

The Constructor is required to provide the Employer with final meter readings and meter serial numbers, meter point reference numbers, MPANs and shipper details.

- **Existing Utility Capacity and New Connections**

**The Constructor shall investigate existing utility capacity levels and make due allowance within his tender for any upgrading of utility infrastructure necessary to deliver the development.**

All new services and meters to be registered under the Constructor's name and where possible using the postal address for the property not the plot number. The Constructor is required to provide the Employer with the handover meter readings and meter serial numbers, meter point reference numbers, MPANs and shipper details.

### 1.7.13 ADOPTIONS AND SECTIONAL AGREEMENTS

The Constructor is required to obtain and enter into Sectional Agreements (S38/S278/S228 including any Advanced Payment Code requirements) for the adoption of the highways and pay all costs involved including inspection and all legal fees and provide a surety sum from a financial institution or by way of a cash bond where applicable to a project.

The Constructor is required to obtain and enter into Section 102/104/185 Agreements (as necessary) for the adoption of the foul and surface water sewers and pay all costs involved

including inspection and legal fees and provide a surety sum from a financial institution or by way of a cash bond.

In connection with such Agreements the Constructor is to inform the relevant authority of the identity of the Principal Designer before commencing the works

The Constructor shall make the Information Pack available to the relevant authority on request. At completion of the work the Constructor shall provide to the relevant authority all as built drawings as required.

The Constructor will be required to liaise with the Adopting Authorities and ensure that formal adoption Agreements are in place prior to Practical Completion. The Constructor will be required by the Employer to be a party to any Agreements as directed by the Employer.

The Constructor shall obtain from the Adopting or Local Authorities a notice or letter confirming that the works have been completed to the Authority's satisfaction and that the maintenance period for the access road and associated works or the drainage works, or the landscaped areas has commenced. Until such notice or letter is forwarded to the Employer's Agent any outstanding retention monies held will not be released.

### 1.7.14 STOPPING UP OF HIGHWAYS

Where applicable the Constructor shall make an application to the relevant Highway Authority for the temporary or permanent Stopping Up of highways affected by the works immediately following receipt of planning approval. Applications should go to:
National Transport Casework Team, Dept. of Transport, Tyneside House, Newcastle Business Park, Newcastle Upon Tyne, NE4 7AH (or any superseding body); following consultation with the Council Highways department. The Constructor shall pay all fees in connection with the Stopping Up process, including all legal fees.

### 1.7.15 STREET NAMING AND NUMBERING

The Constructor will organise the naming of the Development in consultation with the Employer and Local Authority and pay all charges therewith.

All roads shall be clearly signed and the Constructor is to provide suitable name boards and directional signs to identify the development. Provide a minimum of 2 No road signs (to Local Authority standards) per adoptable road and non-adoptable road.

The Constructor will organise and agree the postal numbering at an early stage with the Local and Postal Authorities and will notify the Employer accordingly. The Constructor is to number each dwelling with its approved postal number, in an appropriate colour and style to be agreed.

### 1.7.16 FIRE RISK ASSESSMENT/FIRE REQUIREMENTS

The Employer shall produce a fire risk assessment for all blocks of flats, any schemes with internal communal areas or any non-residential buildings or structures and must be prepared by the Employer in consultation with the Constructor prior to handover. The Contractor will provide information to the Employer and access to the works as required.

The list below outlines areas and items where BCP require the building regulation requirements to be exceeded in the design and construction of their buildings.

Constructors should allow the following enhancements:

- All homes and blocks of flats on any type of development
    - Project design stage fire strategy should be made available to BCP for comment at the commencement of BCPs involvement of the project or as soon as produced, whichever the sooner. Any comments arising from fire consultant plan review to be incorporated into the design
    - Photographic records – the Constructor should record all installations of fire barriers and fire stopping where they will be concealed in the construction as work proceeds. The record should be issued in a report format at each monthly project meeting. BCP may ask for works to be 'opened up' to confirm compliance. Costs for opening-up will be borne by the Constructor if non-compliance is found
    - The wall construction of all flats, irrespective of storey height will be formed using non-combustible materials
    - All flats - Wayfinding signage is required to meet as a minimum ADB May 2020 Amendment or any further amendments to that document as they become known.
    - All flats, irrespective of storey height will require to be handed over with a completed EWS1 form.
    - All flats, irrespective of storey height, will be subject to a final inspection by the BCP fire consultant just prior to handover. Handover will not be accepted until any items on his inspection list are remedied
    - All flats will require sprinklers (BS EN 12845:2015 'Ordinary Hazard 2') installed due to the nature of the temporary nature of the site.
- Buildings over 11m to include the above plus Not applicable to this contract.
    - All buildings with top floor level over 11m above ground level to comply with building regulations for buildings with top floor level over 18m
    - BIM Level 2 to be provided as a tool to demonstrate the Golden Thread through from the design of the scheme to handover. The BIM model should include all sub-contract elements inputted as the works proceed and the final model demonstrate the actual materials used in the construction
    - The fire alarm system should have the capability of alarm sounders throughout the communal corridors, to be activated by Fire Brigade only (to initiate a change in evacuation strategy via an alarm from stay put to a simultaneous evacuation)
    - Sprinklers (BS EN 12845:2015 'Ordinary Hazard 2') to be provided in both open sided and enclosed car parks to protect property, including the fabric of the building
    - Generally – non-combustible materials should be specified against all the exempted elements, where applicable to the design, as listed in Reg 7.2 in Section 9 - B4 of Approved Document B items b) to j)

### 1.7.17 SAP CALCULATIONS AND EPCS

The Constructor shall undertake SAP calculations using the current methodology on each property (not merely each property type) and shall provide such calculations to the Employer prior to Practical Completion.

Predicted Energy Assessments (PEA's) will be provided 6 months prior to completion of each apartment.

The Constructor shall provide an Energy Performance Certificate (EPC) for each property prior to Practical Completion.

### 1.7.18 ENGINEER'S APPROVAL

Where the Constructor engages an independent person, firm or company to carry out any Structural and/or Civil Engineering Services in connection with the development, the Constructor shall arrange for a statement to be issued by the Engineer certifying that the works have been completed in accordance with his design.

### 1.7.19 CONTRACTOR'S PROGRESS REPORT

The Constructor should provide a 'Progress Report' electronically at least 48 hours before a formal project meeting to the Employer and the Employers Agent, to include the following (this list is not exhaustive) -

- Cashflow update
- A progress statement by reference to the master programme for the Works (dropline shown on a Gantt chart)
- Details of any matters materially affecting the regular progress of the Works.
- Designer(s), Subcontractors' and suppliers' progress reports.
- A Tracker to report on the progress and status of the clearance of the Planning Conditions and Building Control Conditions and any section agreements.
- Any requirements for further drawings or details or instructions to fulfil any obligations under the Conditions of Contract.
- A record of inclement weather encountered in the preceding month plus a cumulative total.
- A photographic report recording all fire stopping works carried out in the period
- A record of the health and safety method statements held on site
- A copy of the health and safety site inspection reports.
- A record of any health and safety incidents in the preceding month plus a cumulative record.
- An update of the information required to complete the final building manual
- Details of number of operatives on site, the number of skips and nature of the waste removed.
- A schedule indicating the sub-contractors and suppliers appointed and details of the works they have been appointed to undertake.
- Progress photographs showing work undertaken in the previous month. (This is in addition to the fire reporting requirements previously referred to).

## 1.8 THE CONSTRUCTION SITE

### 1.8.1 SIGNBOARD

The Constructor shall allow for providing and erecting a supporting structure and fixing signboards. The display must also include a brief description of the scheme.

The signboard should be located in a prominent position prior to start of works and shall be cleaned and maintained through the whole period of the Contract. On completion the signboard is to be dismantled and the location reinstated.

A draft specimen must be issued for approval as any errors or omissions will need to be rectified at the constructor's expense.

Where the scheme is partly funded by the Homes England the signboard must be in the format prescribed by HE.

The Constructor and Sub-Constructors will not erect individual name boards and no bill posting or advertising of any kind will be permitted on any portion of the site or buildings without the express permission of the Employer's Agent.

Where the Employer considers that the provision of a site signboard is inappropriate, or where a different sized board is required an exemption or waiver will need to be sought by the Employer.

The Constructor is responsible for obtaining any necessary statutory approvals or consents i.e. Town and Country Planning (Control of Advertisement) Regulations, 1992.

### 1.8.2 SITE SETUP

- **Site Huts, Stores and Welfare Facilities**

The Constructor is to allow for all temporary accommodation, security, hoarding, etc, necessary for the works including paying all rates and charges for same. The Constructor shall provide accommodation suitable for the holding of site progress meetings that is large enough to accommodate a minimum of 10 people. There will be regular site meetings which will be attended by representatives of the Employer. The Constructor shall provide safe access from the site entrance to the accommodation for the holding of meetings.

The constructor is to allow for meetings to be carried out by video conferencing (i.e Microsoft teams) and have the necessary internet capability where member of the meeting are present on site.

The Constructor shall provide, maintain, alter and adapt temporary screens as may be necessary for the proper execution of the works.

The Contractor shall employ the relevant statutory authority to divert any existing services as required and pay all costs.

No advertisements will be permitted on hoardings, fencing or gantries etc without the written permission of the Employer.

- **Safeguarding the Works**

The Constructor shall be responsible for all security measures and shall provide other security precautions necessary during the progress of the works until handover.

- **Maintain Public and Private Roads**

Any damage to roads, footpaths etc caused or claims received in pursuance of the works shall be the Constructor’s responsibility.

Protect or divert as necessary any existing services under temporary crossovers formed as access to the sites.

Prior to the commencement of the works the Constructor in conjunction with the Highway Authority and adjoining owners of private roads, shall carry out and prepare a full survey of

highways where abutting the site and submit one copy to the Employer's Agent together with full photographic evidence.

- **Maintain Adjoining Property**

Prior to the commencement of works the Constructor shall prepare a Schedule of Condition of boundary walls/fences.

- **Protecting the Works**

The Constructor shall cover and protect the whole of the works from damage from adverse weather, or any other cause.

The Constructor shall provide for keeping the works clean and free from damage from any cause during execution thereof and shall reinstate any work so damaged.

- **Existing Features**

Existing fences, gates, walls, roads, paved areas and other site features which are to remain and are in a poor or unsafe condition shall be made good, treated or replaced and left in a good safe condition to the approval of the Employer's Agent.

- **Nuisance/Trespass**

The Constructor shall take all responsible precautions to prevent any trespass on adjoining property by persons, plant or materials and prevent nuisance from water, smoke, noise, dust, rubbish or other elements during the progress of the works.

The Constructor shall indemnify the Employer against any claim or action for damage for such trespass or nuisance.

- **Temporary Lighting, Power, heating, gas, water and telephone for the Works**

The Constructor is to pay the cost of all charges relating to supplies during the contract period.

- **Works by Statutory Authorities undertaking their Statutory Obligations**

The Constructor shall be responsible for the payment of all fees and charges including connection, service and infrastructure charges for gas, water, electricity and telephone services to dwellings and drainage from dwellings, together with any other fees or charges which may arise in connection with the Statutory Authorities including any legal fees arising from the preparation of wayleaves, or easements or other similar documents or agreements which shall be arranged by the constructor but signed by the Employer.

### 1.8.3 SITE RECORDS AND INSPECTION REQUIREMENTS

The Constructor shall keep daily records of the weather, maximum and minimum temperatures, hours lost due to inclement weather, visitors to the site including the Employer and consultants, number of trade operatives including Sub-Contractors working on the site, together with details of materials and goods delivered to the site. Such records are to be summarised weekly in an agreed manner and produced in a format suitable for inclusion in the Employer's Agent's reports.

### 1.8.4 CLERK OF WORKS/TECHNICAL INSPECTOR

A Clerk of Works or Technical Inspector may be engaged by the Employer, although the Employer and/or his authorised representative retains the right to visit the site at any reasonable hour to inspect the works.

### 1.8.5 EMPLOYER INSTRUCTIONS

If the Employer proposes to instigate a Change to the Design Brief and Employer's Requirements for this development, the Constructor will submit a quotation for consideration by the Employer prior to the issue of any instruction by the Employer's Agent. The Constructor shall where possible respond to the requirement to submit a quotation within sufficient time to avoid interruption to the programme of works. It is the Employer's requirement to agree costs of changes prior to the issue of instructions.

### 1.8.6 SITE SUPERVISION

The Constructor shall provide full and adequate supervision during the progress of the works and shall keep a competent Site Agent constantly on the works. They must be able to receive and act upon all instructions, directions and orders issued by the Employer's Agent, which subsequently will be confirmed in writing.

All work will be inspected periodically by the Employer's Agent and if work is found to be unsatisfactory the Constructor will be immediately notified by the Employer's Agent and will be expected to remedy faults and defects as soon as practicable.

### 1.8.7 SITE CLEANLINESS

The Constructor shall keep all existing footpaths and roads clean at all times and ensure roads are unobstructed.

The Constructor shall at all times ensure that all highway drains affected by its works shall be kept clear of any spoil, mud, slurry or other material likely to impede free flow of water in them.

The Constructor shall clear away all rubbish on completion, remove from site all arisings from excavations, leave the site clean and tidy, and clean all dwellings to a standard such that no further cleaning of any surface, fitting or fixture would be required by an incoming occupant.

A wheel wash for vehicles leaving the site is to be provided and used.

Bonfires will not be permitted.

Smoking on site will not be permitted except in properly designated areas.

The Site Waste Management Plans Regulations 2008 were revoked under the Environmental Noise, Site Waste Management Plans and Spreadable Fats etc. (Revocations and Amendments) Regulations 2013. Notwithstanding, the Employer wishes to follow the requirements set out in the 2008 Regulations to deliver their responsibilities in respect of the environment. The Contractor shall allow to prepare a SWMP prior to commencement of works and deliver the plan in executing the Works, as a minimum. The Contractor shall allow in their

price to deliver the minimum requirements of the Local Authority in terms of Waste Management.

A minimum of 75% of waste should be recycled. The Site Waste Management Plan should be managed via the BRE 'Smartwaste' software and consider:

- Responsibility
- Identify waste
- Identify waste management options
- Identify transfer stations
- Plan site handling
- Communication of plan
- Measure waste
- Report results.

### 1.8.8 SUB–CONTRACTORS

The Constructor is to supply for approval a list of sub-contractors that are proposed to be employed on the Works. Such approval will not be unreasonably withheld.

Electrical installation sub-contractors shall be registered with ECA and NAPIT or approved equivalent.

Gas installation sub-contractors shall be registered with the Gas Safe Register.

TV aerial installation sub-contractors shall be registered with the Confederation of Aerial Industries.

**The Employer promotes fair payment within the Supply Chain.**

### 1.8.9 WORKING HOURS

- **Work Time Restrictions**

Working hours are restricted to the lesser of those stated in any Planning Agreement or those stated below:

(i) Weekdays between 0800 - 1800 hours.

(ii) Saturdays between 0800 - 1300 hours.

(iii) Sundays and Bank Holidays all work prohibited.

(iv) Site deliveries restricted to 09.00 to 14.30 during school term times, if the site is within 400m of a school.

- **Nuisance**

The Constructor shall take all necessary precautions to prevent or reduce any nuisance to the occupiers of adjacent properties and shall use every reasonable and practical means to keep any disturbance to a minimum and to maintain the site in as tidy a condition as possible at all times.

The Constructor shall minimise the effect of nuisance by dust pollution by taking the following measures:

(i) Where demolition is involved the Constructor will produce COSHH assessments for individual work activities such as the cutting of timber, bricks, masonry, plaster, thermal insulating blocks and concrete.

(ii) Where demolition is involved the Constructor shall minimise dust by spraying the work being undertaken with water.

(iii) The Constructor shall induct all sub-contractors whose work might involve the production of dust into the most appropriate ways of minimising it.

(iv) Spoil heaps are to be sized and positioned to take into account any potential wind conditions which are likely to lead to some of the constituents becoming airborne.

(v) Accesses on the site shall be constructed using suitable hard material which will be consolidated to form a hard durable surface.

(vi) Open vehicles leaving site with spoil shall be sheeted to prevent the release of dust.

(vii) Public and private roads, footpaths, accesses, and rights of way which are being used by construction traffic shall at all times be kept clean and clear so far as possible of dirt, mud and material dropped from vehicles or from tyres arising from such use. Roadways and traffic routes shall be damped down as necessary during periods of dry weather.

(viii) Where mud is likely to adhere to the wheels of vehicles leaving the site a wheel wash is to be utilised.

The Constructor shall produce a statement to the Employer's Agent prior to commencing on site indicating how these procedures will be disseminated to site operatives.

### 1.8.10 ADJOINING OWNERS AND PROPERTY

The Constructor shall not enter or use land beyond the site boundary without the permission of the owner. If adjacent land is used for any temporary use (including but not limited to permissions for scaffolding or crane oversail), then the Constructor shall pay all costs and shall keep the Employer indemnified against any claims that might arise.

### 1.8.11 CONTINUITY OF WORK

The Constructor will be required to maintain wherever practicable continuity of working and productivity during inclement weather. The Constructor will be expected to avail himself of all reasonable means and aids to building in inclement weather which are currently available in using his best endeavours to prevent or minimise any delays and the extent to which he has done so will be taken into account when assessing any extension of time which may be given under this clause in respect of frost, inclement weather or any other like cause.

The Contractor shall monitor and report inclement weather in the monthly written Contractor's Report. Recorded information shall include: number of days in period, dates of recorded days in period, and cumulative amount since date of possession.

The Contractor shall make due allowance within the programme for inclement weather, a minimum allowance in accordance with the below stated average precipitation for each month (MET office average number of days of precipitation above 10mm 1981 – 2010 average for SW England):

Month & Minimum allowance days

- January 3.5 days
- February 2.5 days
- March 2.5 days
- April 2 days
- May 2 days
- June 2 days
- July 2 days
- August 2 days
- September 2.5 days
- October 4 days
- November 4 days
- December 4 days

Assessment of claims for an extension of time by the Employer's Agent against Clause 2.26.8 shall take into consideration the above stated amounts against the programmed stages of work completed.

### 1.8.12 NOTICE FOR COMPLETION

**The Constructor is required to give 8 week notice and 4 week notice of intended completion dates**. It is essential that the intended dates are achievable, to prevent additional costs to the Employer and the tenants due to cancellation or postponement. The Employer **will not** accept handovers:

(i) In the week preceding the Christmas holiday week

(ii) In the Christmas holiday week

(iii) In the New Year holiday week

(iv) In the Easter week

(v) Weekends or Bank holidays

Note that all work on any properties shall be completed on the day before handover.

- **8 weeks prior to Completion**

The Constructor shall give a Notice of Completion.

- **4 weeks prior to Completion**

The Constructor shall give a Notice of Completion. The Notice will not be accepted unless all services are connected and meters are installed at that point in time. Following receipt of the Notice, the Employer will commence the pre-letting of the dwellings and should the actual handover be subsequently delayed beyond the date stated in the Notice the Constructor shall

indemnify the Employer against any costs incurred in delaying the first letting of properties, including but not limited to removal and storage costs, temporary accommodation costs etc

- **2 weeks prior to Completion**

The Constructor to allow for access for the Employer's staff and prospective tenants approximately 2 weeks prior to Practical Completion, by arrangement, to all properties for the purpose of viewing.

- **Commissioning and drying out**

The Constructor is to ensure that all equipment and plant is fully commissioned and operational, prior to offering the property for inspection. All trades are to carry out their work in an appropriate order and time to allow for the proper drying out process.

- **Pre-inspection check list**

Eight weeks prior to Completion the Employer's Agent will issue a multi-point Pre-inspection Check List which will be used and completed for every unit. No inspection shall take place by the Employer's Agent until the Site Agent has signed the declaration that every item has been checked. The schedule of items on the checklist is not exhaustive as far as indicating the minimum provision is concerned and the Constructor shall ensure that there is full compliance with the Employer's Requirements. Note that neither the Employer nor Employer's Agent will undertake the snagging process as it is the sole responsibility of the Constructor.

### 1.8.13 PARTIAL POSSESSION

The Employer will require a phased handover of units prior to the Completion Date where the total number of units exceed 15 unless in a single block of flats. The Constructor must submit a proposal for the Employer's consideration provided that suitable access provision is made in accordance with the Health and Safety Plan. The maximum number of houses to be handed over on one day is 15 (fifteen).

Where Partial Possession is undertaken possession of the properties will only be accepted if the homes are suitable for immediate occupation. All electrical, gas and water services, including meters, public sewers and drains are to be connected, and the external works completed and street lighting energised to allow complete and safe access to the properties. The Constructor shall notify all Statutory Authorities of the agreed meter reading at partial possession.

The Constructor shall ensure that the balance of the construction site which is not subject to the Partial Possession shall be securely fenced to prevent unauthorised access and maintain safe access to all occupied area.

### 1.8.14 SNAGGING PROCESS

**The Constructor must allow sufficient time in the Construction Programme for the snagging process. Snagging will not be undertaken on the Constructor's behalf. The Constructor shall therefore properly snag/de-snag the works BEFORE inviting the Employer's Agent to inspect.**

The Employer expects that there will be zero defects at handover.

Any subsequent delay to Partial Possession or Practical Completion, as a result of the Constructor's failure to offer the dwelling to an acceptable standard will be deemed to be the Constructor's responsibility.

The Constructor is required to complete the dwellings at least one week prior to the date for handover. At this stage, the Constructor will have snagged the works and offered the dwellings for final inspection by the Employer and Employer's Agent. Any further snagging items recorded by the Employer or Employer's Agent are to be rectified during the week prior to handover.

Leave the dwellings secure with all accesses locked. Account for and adequately label sets of keys for both accommodation and any other building, and hand over to the Employer with itemised schedule retaining duplicate schedule signed by the Employer as receipt.

### 1.8.15 MINIMUM COMPLETION REQUIREMENTS

On the day of handover of the properties (which could occur at Partial Possession or Practical Completion) the Constructor shall arrange for the services sub-contractors to be present to rectify any problems and explain any aspects of the controls of which the occupier should be aware.

The Constructor shall make good all damage consequent upon the dwellings and clean the dwellings thoroughly inside and out, removing all splashes, deposits, rubbish and surplus materials consequent upon execution of the dwellings.

The Constructor shall also properly clean floors, clean out ducts and voids, flush out and rod drains, clean steps, yards, paving, metalwork, glass (inside and out), boilers, cisterns, flushing cisterns, sinks, baths, basins, WCs and other sanitary fittings, kitchens, ironmongery, clear out all gutters and down pipes, touch up paintwork and oil all locks and leave the whole of the works in a sound and perfect condition fit for occupation and use at completion.

See Appendix E Handover Form. This form will need to be presented and completed at handover.

List of documents / items required from Constructor at or before handover:

- At least 3 nr keys to all door locks
- Window keys (1 per window)
- Electrical meter box keys (1 per property)
- Electrical Safety certificate and Part P compliance certificate
- Gas meter box key (1 per property)
- Landlords Gas Safety certificate and Gas Safety certificate in relation to every gas boiler/hob installation
- Landlords electrical test certificate for communal areas/fire alarms
- Energy Performance Certificate in relation to every plot
- Window and Heating Equipment Guarantees
- NHBC (CML) cover note
- Secure by Design Certificate
- Building Control Completion Certificate and supporting documentation
- Copy of Tenants information pack (1 per property + 1 Employer Copy)
- Meter numbers and readings (electric, water, gas)
- Completed and signed Handover Form

- Air Permeability Test certificate
- Lightning test certificate (where installed)
- Sprinkler system test certificate (where installed)
- CCTV survey of foul drainage system (following final cleaning)
- Sound Test certificate
- Health & Safety File & Building Manual, (2 bound A4 hard copies plus electronic copy).
- Design Stage Star Mark assessment (*as a minimum)*
- As Built drawings
- Discharge of Planning Conditions

Details for Building Manual as follows:

**THE BUILDING MANUAL**

The Building Manual (incorporating the Health and Safety File and subtitled accordingly) to be a comprehensive information source and guide for the Employer and end users providing a complete understanding of the building and its systems to be operated and maintained efficiently and safely. The Constructor is required to obtain or prepare all other information to be included in the Manual, produce the required number of copies of the Manual and submit them to the CA for checking by the Employers Agent and for delivery to the Employer.

The Manual is to consist of the following three parts, sub-sectioned as appropriate:

PART 1: GENERAL INFORMATION: Content as below, the information being provided to the Constructor by the CA.

PART 2: BUILDING FABRIC INFORMATION: Content as below, plus certain as-built drawings and other information provided to the Constructor by the CA.

PART 3: BUILDING SERVICES INFORMATION: Content as below.

The presentation of the manual is to be as below.

A complete draft of the Manual must be submitted not less than four weeks before the date for submission of the final copies of the Manual. Amend the draft Manual in the light of any comments and resubmit to the CA. Do not proceed with the production of the final copies of the Manual until authorised to do so by the CA.

Final copies of the Manual: Provide the CA with two copy/copies not less than two weeks before Practical Completion.

As-Built drawings: Provide on CD/DVD.

**THE BUILDING MANUAL PART 1: GENERAL INFORMATION**
Must include:

A description of the buildings;

Details of ownership and all consultants and designers;

Details of all Authorities plus copies of consents and approvals obtained;

Names, addresses, telephone and email addresses of all contractors, subcontractors, suppliers and manufacturers;

Any operational requirements and constraints of a general nature which are not relevant to other parts of the Building Manual;

The fire safety strategy for any flats or non-residential building including drawings showing emergency escape routes, location of emergency and fire fighting systems, services shut-off valves, switches, etc.

A Window Cleaning Strategy.

Façade cleaning and maintenance strategy (for buildings over 18m), Rope access/abseiling will not be acceptable.

**CONTENT OF THE BUILDING MANUAL PART 2: BUILDING FABRIC INFORMATION:**

Provide such information as is reasonably required by the Principal Designer including:

Details of construction methods and materials which may present significant residual hazards with respect to cleaning, maintenance or demolition;

As-built drawings recording details of construction;

Copies of manufacturers current literature for all products including COSHH dated data sheets and manufacturers recommendations for cleaning and maintenance;

Copies of all guarantees, warranties and maintenance agreements offered by subcontractors and manufacturers;

Copies of all test certificates and reports required in the employers requirements.

Lists of Materials used to include colours and references.

**THE BUILDING MANUAL PART 3: BUILDING SERVICES INFORMATION**

Must include:

A full description of each of the systems installed, written to ensure that the Employer's staff fully understands the scope and facilities provided;

A description of the mode of operation of all systems including services capacity and restrictions;

Diagrammatic drawings of each system, indicating principal items of plant, equipment, valves, etc;

Record drawings at A3 size together with an index;

Legend for all colour-coded services;

Schedules (system by system) of plant, equipment, valves, etc:

Stating their locations, duties and performance figures (each item must have a unique number cross-referenced to the record and diagrammatic drawings and schedules);

The name, address and telephone number of the manufacturer of every item of plant and equipment together with catalogue list numbers;

Manufacturers' technical literature for all items of plant and equipment, assembled specifically for the project, excluding irrelevant matter and including detailed drawings, electrical circuit details and operating and maintenance instructions;

A copy of all Test Certificates (including but not limited to electrical circuit tests, corrosion tests, type tests, works tests, start and commissioning tests) for the installations and plant, equipment, valves, etc. used in the installations;

A copy of all manufacturers' guarantees, warranties and maintenance agreements offered by subcontractors and manufacturers;

Starting up, operating and shutting down instructions for all equipment and systems installed.

The Constructor is to arrange for the installation of services and meters and shall remain responsible for any standing charges and all gas, water and electricity consumed prior to formal handover of the completed dwellings to the Employer. The Constructor will also be responsible for payment of all cost of gas power and water consumed prior to Partial Possession of the dwellings, or prior to the issue of the Certificate of Practical Completion, in connection with any un-adopted Landlord's supply serving unadoptable street lights or drainage pumping systems or prior to the Adopting Authority confirming the commencement of the maintenance period for pumped drainage systems.

Where charges for service supplies need to be apportioned, ensure that meter readings are taken by the relevant authority at possession and/or completion as appropriate. Ensure that copies of readings are supplied to the Statutory Supplier or to other interested parties.

### 1.8.16 HOME USER AND/OR END USER GUIDE

The Constructor is to provide a Home User's Guide for every property and separate document for each non-residential building or structure. A draft is to be provided to the Employers Agent 4 weeks prior to practical completion.

### 1.8.17 LANDSCAPE MAINTENANCE

The Constructor shall maintain communal landscaped areas for the duration of the defects liability period. This work shall include regular watering of turf and/or seed beds when necessary to establish initial growth, grass cutting and tree/shrub bed maintenance. The Contractor shall confirm a maintenance programme for the landscaped areas, including frequency of items such as grass cutting and hedge trimming. The Employer reserves the right to employ another contractor to undertake this maintenance should the Constructor fail to observe this requirement and the costs will be charged to the Constructor and paid out of monies remaining due to the Constructor.

**The Constructor is responsible for replacing dead plants, trees and grass (the latter to communal areas only unless the grass was defective) at the end of the period of 24 months from handover of planting.**

### 1.8.18 END USER TRAINING

The Constructor shall demonstrate and provide training on the efficient use of new heating systems and technologies to all residents and the Employer's management and maintenance teams. For the residents and Employer's management teams this training shall take place one week before occupation. For the Employer's Maintenance teams this training shall take place prior to the end of the Defects Liability Period.

## 1.9 THE DEFECTS LIABILITY PERIOD

### 1.9.1 DEFECT REPORTING PROCEDURE

Residents of new homes will be directed via the Home User Guide information to contact the Employer's Call Centre to report any defects with their new home. The Employer will screen these calls and forward to the Constructor details of repairs that require his attention during the defects period. Repair Reports will be in electronic format and will detail the nature of the defect, contact details, access arrangements and a timescale for completion of the work. The Constructor will be required to provide acknowledgement of receipt of repair request and also a confirmation of the work being completed.

The Employer is committed to provide an excellent service under the Tenants Guarantee which includes response times for defects and repairs. The Constructor will be expected to respond to requests for rectification of defects in accordance with the following criteria:

(i) 24 hour works include emergency repairs that present an immediate threat to health and safety/security or to the fabric of the property. For such works an initial visit to make safe is required within 2 hours of notification at any time of the day and night, 7 days a week.

(ii) 7 day works include urgent repairs to problems that cause severe disruption to the comfort of residents, or that present the danger of further deterioration to the building fabric.

(iii) 28 day works include routine repairs that do not unduly affect the comfort of the resident or the building fabric.

The designation of the category of defect will be the sole prerogative of the Employer's Officer.

The Constructor is to provide a suitable contact list and procedure for monitoring defects including details of dealing with any complaints for failure of service.

Minor defects can be left to the end of the Defects Period. (e.g. shrinkage cracking).

### 1.9.2 END OF DEFECTS PERIOD INSPECTION PROCESS

- **Defects Period inspection**

The End of Defects inspection will take place on or immediately following the expiry of the

Defects Liability Period, and any defects found shall be rectified within 1 month of the end of that period. The Constructor shall make arrangements with the residents, and give reasonable notice of the dates, for access to the various parts of the works for purposes of making good defects. Shrinkage cracking (as defined by NHBC) will be made good and whole panels decorated where necessary to avoid patchy appearance. The Constructor shall inform the Employer when the remedial works are completed.

- **Failure to meet targets**

Failure to meet any of the above targets may result in the Employer employing others to carry out the work, the cost of which will be deducted from monies due to the Constructor under this Contract or shall be treated as a debt.

Where more than one visit is required by the Employer and/or his agent to inspect remedial work to defects not previously completed then the Employer and/or his agent will charge therefore and the Employer will deduct those costs from monies due or to become due under the Contract or treat same as a debt.

### 1.9.3 POST COMPLETION REVIEW

A post-handover review shall be held within three months following Practical Completion attended by the Constructor, all consultants, the frame manufacturer (if appropriate) and the Employer when the KPIs achieved will be discussed. The object of the review will be to establish if there are any lessons to be learned for the future to enable similar contracts to be operated more efficiently, more cost effectively, in a shorter time period and with fewer defects.

# 2.0 SECTION 2 - FUNCTIONAL REQUIREMENTS & SPECIFICATION

## 2.1 GENERAL CONDITIONS

### 2.1.1 MATERIALS AND WORKMANSHIP

All materials and workmanship shall comply with BS8000.

All materials used in the following areas should meet the Green Guide to Specification criteria to achieve a Green Guide rating of between A+ to C.:

- Ground Floor Construction
- Upper Floor Construction
- Internal Wall and Partitions
- External Wall
- External doors
- Domestic Windows
- Insulation
- Roof Construction
- Landscaping

- Floor Finishes

Details of those materials to be used to achieve the ratings above can be found at:

https://www.bre.co.uk/greenguide/podpage.jsp?id=2126

### 2.1.2 ENVIRONMENTAL MANAGEMENT SYSTEMS [EMS]

All basic element building materials (including metals, concrete, brick, stone, glass, composites, timber and plastic) shall be responsibly sourced and this shall cover the following elements:

(i) Frame
(ii) Ground floor
(iii) Upper floors (including any loft boarding)
(iv) Roof (structure and cladding)
(v) External walls (including external cladding)
(vi) Internal walls (including internal partitions)
(vii) Foundations/substructure
(viii) Staircase (includes the tread, risers and stringers).

All finishing element building materials (including metals, concrete, brick, stone, glass, composites, timber and plastic) shall be responsibly sourced and this shall cover the following elements:

(i) Stairs including handrails, balustrades, banisters and other guarding rails.
(ii) Windows including sub-frames, frames, boards and sills.
(iii) External and internal doors including sub-frames, frames, linings and doors.
(iv) Skirtings, architraves, skirting boards, and curtain battens.
(v) Panelling, including any trim.
(vi) Furniture, including kitchen, bedroom and bathroom fittings.
(vii) Fascias boards, barge boards, soffits, etc.
(viii) Any other significant elements.

Timber shall only be sourced legally and that means that harvesting and all relevant activities should be carried out in accordance with relevant forest management laws and codes of practice in the product's country of origin and throughout its subsequent supply chain. The Constructor shall provide the Employer with a letter from the supplier stating that they will only supply legally sourced materials as defined above. Relevant documentation demonstrating compliance which should be held by the supplier, and should be provided if requested, are as per the following examples of country dependent documentation:

(i) Bill of Lading (export – import of goods), and
(ii) Rights and permits, payment of taxes and dues, and
(iii) Relevant transportation certificate indicating law compliance
(iv) Certificate of origin
(v) Contracts of sale (legally owned and traded goods)
(vi) UK FC documents for legal harvesting and sale
(vii) Certification from any of the schemes identified as follows:
    (a) Canadian Standard's Association (CSA)
    (b) Forestry Stewardship Council Certification Scheme (FSC)
    (c) Malaysian Timber Certification Council (MTCC)
    (d) Programme for the Endorsement of Forestry Certification

(PEFC)

For all timber used the Constructor shall provide the Employer with a signed CITES (Convention of International Trade in Endangered Species of wild fauna and flora) statement from the supplier in the following form:

"I confirm that none of the timber species used within with development are identified on the CITES list (Appendices I, II and III)."

Before any work commences on Site the Constructor shall provide a letter of intent to the Employer that he will only use suppliers who can provide an Environmental Management System [EMS] Certificate.

### 2.1.3 INSULANTS GENERALLY

All insulants used, including in the fabric, (such as roof, walls and floors), and any embodied in products such as roof access hatches, lintels, boilers, hot water cylinders, cold water tanks and external doors, in either manufacture or composition shall have a global warming potential (GWP) of less than 5 and an Ozone Depleting Potential (ODP) of zero. Note, blowing agents deemed to have a GWP of less than 5 are air, carbon dioxide, pentane (including iso-pentane, cyclopentane, n-pentane) and isobutane.

During the contract period the Constructor shall produce a Checklist showing the actual insulants used for each element and whether they are foamed, use blowing agents or are un-foamed and shall state the GWP in every case. The Checklist shall follow the following format and shall be supported by manufacturer's/installer's literature, where appropriate, confirming that all blowing agents are deemed to satisfy by having a GWP of less than 5.

### 2.1.4 PRECLUDED MATERIALS AND AVOIDANCE OF HARMFUL EMISSIONS

The Constructor must not include in the design any materials which include the following:

(i) High alumina cement
(ii) Materials or products containing asbestos
(iii) Woodwool slabs (including the use as permanent formwork).
(iv) Calcium chloride in admixtures for use in reinforced concrete

(v) Vermiculite
(vi) Clinker concrete
(vii) Urea formaldehyde
(viii) Wood preservatives and paints containing pentachlorophenol (PCP)
(ix) Insulation materials foamed with chlorofluorocarbons (CFCs) including polyurethane foam, aerosol sprayed foam, extruded expanded polystyrene, phenolic foam and polyisocyanurates
(x) Materials incorporating hydrofluourocarbons (HFC's)
(xi) Materials incorporating cadmium
(xii) Materials incorporating Calcium Chloride or Sodium Chloride
(xiii) Materials incorporating coal tar
(xiv) Use of Lead (except for use in roofing)
(xv) Materials incorporating Polychlorinated Biphenyls (PCB)
(xvi) Materials incorporating mercury
(xvii) Materials with machine made fibres (MMMF) if fibres diameter are <3 microns or <200 microns in length

(xviii) Calcium silicate bricks and Sandlime brickwork in the substructures and superstructures of dwellings; and
(xix) Naturally occurring aggregates for use in reinforced concrete which do not comply with British Standard Specification 882: 1983, and/ or naturally occurring aggregates for use in concrete which do not comply with the provisions of British Standard Specification 8110: 1985; or are sea dredged.
(xx) Materials which have a zero Ozone-Depletion Potential or a less than 5 Global Warming Potential (GWP), both in their manufacture or in their composition.
(xxi) Avoiding treatment of timber other than that which is necessary to comply with other provisions herein, such as life expectancy and location of member.
(xxii) Where treatment is required it should be undertaken industrially prior to use.

On Practical Completion the Employer must be provided with a written undertaking that none of the above materials have been used in the works.

## 2.2 SOUND AND AIR PERMEABILITY TESTING

### 2.2.1 DESIGN AIR PERMEABILITY RATE

The design air permeability rate shall not exceed the rate stated in the Design Stage SAP Worksheet for each dwelling type.

### 2.2.2 SOUND TESTING

Sound testing is the Employers required route for confirming sound insulation compliance.

Where significant external noise sources are likely to cause disturbance a sound survey shall be carried out by a specialist and recommendations incorporated.

Where dwellings are likely to be subjected to external noise level (L10) greater than 68 dB(A), they shall be insulated so as to reduce the internal noise level (L10) within the dwelling with windows closed to less than 50 dB(A). The method of insulation is to be in accordance with DIG 338 Insulation against external noise which gives performance values and ventilation criteria. Reference should also be made to the former Planning Policy Guidance Note PPG24 “Planning and Noise” and the Noise Exposure Categories (NEC’s).

Note: The noise level index (L10) may be established by reference to BRE Digest 185 and 186 which describe prediction methods for traffic noise.

Care must be given to the location of rooms to minimise interference from noise:

(i) Handing of dwelling plane should be considered to minimise shared walls and floors.
(ii) Ensure that any noise emitting rooms do not back onto habitable rooms.
(iii) Avoid electrical socket outlets and light switches in party walls. If unavoidable, the design should offset the positions of sockets/ switches to minimise sound transfer.

Pre-completion sound testing based on ‘Normal programme of testing’, described in Building

Regulations Approved Document 'E', shall be carried out by a UKAS (or a European equivalent) accredited acoustic consultant paid for by the Constructor to achieve the following related to the Approved Document E:

(i) Airborne sound insulation values that are at least 5dB higher and impact sound insulation that are at least 5dB lower than the Performance Standard in the Approved Document.

In the event that testing to the required standard is carried out and the tests fail then the Constructor shall, at his own cost, take remedial action and obtain re-tests until the required level is met.

Testing on detached dwellings is not required.

Testing shall be carried out between habitable rooms (i.e. bedroom to bedroom, living room to living room, living room to bedroom etc). In houses, if there are no habitable rooms with separating walls no testing is needed, and the dwellings may be treated as detached homes. If habitable rooms only share separating walls or floors with spaces that cannot be tested, such as halls, stairways or small bathrooms, alternative evidence of performance shall be provided.

Where all the available separating walls have been tested this shall be considered to be equivalent to the requirements in Approved Document Part E.

No more than two airborne and two impact sound insulation tests shall be undertaken between a pair of houses i.e. a maximum of two airborne sound insulation tests shall be carried out on any separating wall.

## 2.3 SPACE STANDARDS NOT APPLICABLE TO THIS CONTRACT

### 2.3.1 SPACE STANDARDS AND GENERAL ARRANGEMENTS

Unless specifically stated to the contrary by the Employer, the minimum space standards (including storage, internal walls, but excluding party and external walls and any floor area where the ceiling height is less than 1.5 m, refuse stores, balconies or any area open to the external air) to be achieved are as follows in accordance with the approved planning drawings and in accordance with Nationally Described Space Standards 27th March 2015:

| Dwelling type | Minimum GIFA | Built-in Storage |
|---|---|---|
| 1B 2P (Flat) | 50m$^2$ | 1.5m$^2$ |
| 2B 3P (Flat) | 61m$^2$ | 2.0m$^2$ |
| 2B 4P (Flat) | 70m$^2$ | 2.0m$^2$ |
| 2B 4P (House) 2 storey | 79m$^2$ | 2.0m$^2$ |
| 3B 5P (House) 2 storey | 93m$^2$ | 2.5m$^2$ |
| 4B 6P (House) 2 storey | 106m$^2$ | 3.0m$^2$ |
| 4B 6P (House) 3 storey | 112m$^2$ | 3.0m$^2$ |

There shall be general built-in storage provision included in the minimum GIFA area, which shall not include cupboards used for heating/hot water equipment. Within houses at least 1.5m$^2$ of which shall be on the ground floor.

When assessing spatial and other features associated with achieving comfort and convenience, including necessary provisions for furniture, fittings, equipment, services and controls, refer to the Internal Environment section of the National Housing Federation's publication 'Housing Standards Handbook 2016'.

The room layouts shall:

(i) Minimise noise transmission.

(ii) Ensure a convenient relationship between rooms.

All dwellings must be completely self-contained and it is preferable that entry to all rooms should be from a hall or lobby, without having to pass through another room.

Small changes in floor level should be eliminated and there shall be no changes in finished floor levels throughout the dwelling. Raised thresholds between rooms will not be acceptable even if less than 15mm in height.

Rooms should be kept in a regular shape.

The clear height of all rooms is to be a minimum of 2340 mm. Lower ceiling levels may only be determined by planning requirements.

Dwelling design generally shall take into account the guidance of the Child Accident Prevention Trust and RoSPA.

### 2.3.2 ACCESSIBILITY

- **All Dwellings**

External front entrances shall:

**(i)** Have an adjacent nominally level landing area of 1200 mm x 1200 mm minimum size in front of all front entrance doors.

**(ii)** Be sited so that they are visible from the public thoroughfare and provide a secure approach. Doors in recesses of more than 600 mm shall be avoided.

**(iii)** Be protected by an externally lit open porch or canopy.

**(iv)** Open into a hallway or lobby and not directly into the living area.

**(v)** Be lit adequately during darkness.

Other entrance doors:

(i) All houses shall have a rear entrance door.

## 2.4 INTERNAL LAYOUT

### 2.4.1 GENERAL NOTE – NOT ALL SECTIONS ARE APPLICABLE TO THIS CONTRACT

Design Criteria wheelchair users and elderly persons dwellings will be a separate appended document where required.

Room layouts shall indicate furniture provisions and access zones as set out in NHF 'Housing Standards Handbook 2016'.

### 2.4.2 COMMUNAL HALLS AND LANDINGS

All communal halls and landings are to be designed using low maintenance, vandal resistant materials, coatings and finishes.

### 2.4.3 HALLS AND LANDINGS TO DWELLINGS

- **Internal Lobby**

All dwellings are to have an internal lobby between the front entrance and any internal living area.

Entrance hall/lobby/landing in individual dwellings shall:

(i) Comply with the building regulations part M1 - M3 in terms of corridor / hallway width to door clear opening door sizes and be a minimum of 900mm wide in all occasions. 900mm shall be maintained between the nosing of the bottom (first) tread of the staircase and opposite wall. Where hallways have a 90° turn, the protruding corner is to be splayed or one passageway is to be 1200mm wide.

(ii) Internal passageways/corridors to be 1200mm minimum clear width and doors into all rooms to have 750mm minimum unobstructed opening width.
(iii) Provided with natural lighting.
(iv) Shall have sufficient space for the storage of a pram or pushchair without impeding circulation in houses containing two or more bedrooms.
(v) Not be located over bedrooms of another unit. The amount of circulation space must be kept to a minimum.
(vi) Give access to the bedrooms, bathroom, WC and airing cupboard.
(vii) In one dwelling shall be located next to similar area in an attached dwelling.

- **Position of Glazed Panels Adjacent to Doors**

Where glazed panels are provided adjacent to doors they are to be on the hinged side only unless on approved planning drawing.

- **Width of Doors and Access by Wheelchair Users**

To facilitate accessibility by wheelchair users doors and corridors shall comply to Lifetime Homes requirements if designated.

- **Design of Staircase**

Staircases should preferably be straight and designed in terms of width and top and bottom landings to allow possible future installation of a British Standard stair lift and in full compliance with current mobility regulations. They are to be off a hallway with the bottom close to an external entrance door to facilitate escape in the event of a fire.

Stairs are not to have more than 16 risers or less than 2 risers in any flight.

Winders and single steps will not be permitted in communal areas, such as serving flats.

### 2.4.4 LIVING ROOMS

- **Location of living rooms:**

  (i) Shall be located at entrance level.

  (ii) Shall not be situated above the bedroom of another dwelling.

Living rooms should not serve as a main access to other rooms except dining areas.

### 2.4.5 DINING ROOMS

If no separate dining room is provided, a dining area must be included in the kitchen.

Where a kitchen/diner is not provided, a door between the kitchen and dining area must be provided.

The dining area should provide for circulation and for at least all the occupants of the dwelling to sit comfortably around a table having a meal.

### 2.4.6 KITCHENS

- **Location of kitchens:**
  (i) Shall be accessible from the circulation areas and preferably not directly from living rooms.
  (ii) Internal kitchens shall be avoided where possible.
  (iii) Shall have direct access to the dining area.

Kitchens are to be provided wherever possible with natural light and ventilation.

There shall be adequate space for food preparation, cooking, washing up and clothes washing. Travel distances between the sink, cooker and refrigerator shall be between 3.3 m and 6.6 m measured from the centre front of the units.

There shall be a minimum of 1200 mm clear in front of kitchen equipment.

In individual dwellings a 610 mm wide x 600 mm deep space clear of services and/or skirtings shall be for the following:

(i) Cooker (which shall be placed at least 300 mm away from a window)
(ii) Upright combined refrigerator/freezer. The space shall be on the end of a run and not be located next to cooker/boiler unless there is adequate circulation.

(iii) Washing machine located next to the sink unless there is a separate utility area (650 mm wide space) provided with cold water supplies, power and waste.

(iv) Dishwasher space located next to the sink unless there is a separate utility area (650 mm wide space) provided with hot and cold water supplies, power and waste adjacent. The space should be provided with a removable cupboard.

(v)

No cooker shall be placed adjacent to a fridge freezer space.

A 500 mm minimum space shall be maintained between the cooker and sink bowl.

A 150 mm wide tray space must be incorporated within the kitchen design between or at the end of the base units.

- **Kitchen units**

**The Employer's preferred supplier of kitchen units and worktops shall be as follows:**

Kitchen units generally shall be to colours selected by the Employer and shall be obtained from Howdens Joinery or equivalent approved by the Employer.
Kitchen units generally shall be 18mm thick and to colours selected by the Employer. Colour coded end panels will be required.

Base units to be drawer line 600 mm modules.

Each kitchen must include at least one larder unit.

Doors to kitchen base units and wall units:

(i) Shall be fitted with 170° hinges
(ii) Shall be fitted with metal 'D' handles.
(iii) Where positioned either side of cooker space must open away from the space.

Wall units:

(i) Shall be 300 deep and shall be mounted within easy reach.

(ii) Shall be set back a minimum of 150 mm from cooker position.

Holes shall be cut in the side of the base unit adjacent to the position of any potential equipment requiring hot and cold water supplies and/or waste outlets to enable occupants to make connections to such equipment. Silicone to be used to seal base units to the vinyl floor.

- **Worktops**

Worktops generally shall be to colours selected by the Employer.

Worktops shall be 40 mm thick and 600 mm deep with post formed edge and mason mitres to all joints and set 860mm to underside thereof above finished floor level.

A total worktop length shall not be less than 2000 mm long with at least one continuous section being a minimum of 800 mm long.

A continuous worktop should be provided on each side of the cooker (minimum 300 mm wide) and on each side of the sink and drainer. The sequence shall not be interrupted by doors.

Worktops shall not be positioned in front of windows where sills are below worktop height. Special care must be taken to ensure where worktops or sinks/drawers are located in front of windows, that the windows can be opened easily.

Where possible sink bowls/drainers/and cookers shall not be located within 500 mm of worktop internal corners.

Minimum storage space provision within the kitchen shall be appropriate for the designed occupation of the unit and shall comply with the National Housing Federation's publication 'Housing Standards Handbook 2016':

(i) 2 person dwelling: 1.5 $m^3$ capacity

(ii) 3 person dwelling: 2.0 $m^3$ capacity

(iii) 4 person dwelling: 2.1 $m^3$ capacity

(iv) 5 person dwelling: 2.2 $m^3$ capacity

(v) 6 person dwelling: 2.4 $m^3$ capacity

(vi) In addition storage space shall be provided for brooms and vacuum cleaner if there is no other suitable space in the dwelling (e.g. under the stairs).

Provide a 30 litre internal recycling bin and install in a dedicated non-obstructive position within a base kitchen cupboard adjacent to the sink base.

- **Kitchen Fitments and Working Surfaces**

Kitchen fitments and working surfaces are to be provided for the keeping, preparing and serving of food, washing up and laundering. The design is to include the following:

(i) A single bowl stainless steel sink gauge 20 manufactured to BS EN 13310: with the drainer not less than 1.0 m in length and including a minimum draining area of 0.28 $m^2$; the sink should be located in front of the window and the drainer shall not overlap a return;

(ii) a dishwasher space which is separate to the washing machine space 625mm x 600mm provided in dwellings for 5 or more persons with cold water supply and waste.

- **Secure Storage**

A secure storage area for cleaning products and potentially hazardous materials is to be provided. The provision of a safety catch, such as the Hafele Child Safety Catch, to the sink base unit could achieve this requirement.

A secure storage area for medicines etc is to be provided. The provision of a lock to a suitable kitchen wall unit could achieve this essential requirement. The cupboard should preferably be 300 mm wide and not located next to the cooker space.

### 2.4.7 BEDROOMS

- **Location of bedrooms:**

  (i) Shall not be adjacent to communal halls and staircases or over external circulation areas.

  (ii) In houses of two or more storeys there shall be space on the ground floor that could be used as a convenient bed space.

- **Size of bedroom:**

| | | | |
|---|---|---|---|
| (i) | Single | 7.5 $m^2$ min area | 2.15 m minimum width |
| (ii) | Double | 11.5 $m^2$ min area | 2.75 m minimum width |
| (iii) | Twin | 11.5 $m^2$ min area | 2.75 m minimum width |

- **Layout**

  (i) Beds shall not be permitted under windows.

  (ii) A single bedroom should be designed to accept a single bed in more than one position.

  (iii) All double bedrooms must be able to accommodate 2 single beds and have a designated space for a child's cot.

  (iv) Radiator/heater positions should be such that flexibility is provided for alternative furniture layouts.

  (v) For the main bedroom in one bed units or the second bedroom in larger units there shall be a minimum size of 1.8 m wall space to allow a desk, chair and filing cabinet or bookshelf to be installed with space to move around the front and side of the desk, to use the chair appropriately and to operate the filing cabinet safely. The 1.8 m wall requirement can be altered if it can be shown that a desk can be fitted in any other arrangement such as an alcove.

If built in wardrobes are required to meet the minimum internal storage requirement such wardrobes shall be provided in each of the principle bedrooms with a minimum of 1200mm long hanging rail and a minimum 600mm deep internally and:

(i) Shall be adequately ventilated.

(ii) Shall not be located against external walls.

(iii) Shall have a high level shelf with hanging rail beneath.

(iv) There shall be no centre post in the front part of the unit. Clothes rail are to be at a height of 1.5 m above floor level. There shall be a minimum of 1500 mm clear space between the wardrobe and any item of furniture or obstruction opposite.

(v) There shall be a clear space of at least 1000 mm between the side of the bed and adjacent wall.

(vi) Doors to be hinged internal flush doors 38mm.

### 2.4.8 WCS AND BATHROOMS

- **Location of WCs and Bathrooms**

Generally internal bathrooms shall not be acceptable. Where bathrooms are sited against an external wall, windows must always be provided including in gable walls.

Bathrooms shall be large enough to allow people adequately to dry and dress themselves and the layout shall be such that there is easy access to bath WC and lavatory basin for future wheelchair use.

An entrance level WC shall be provided in all dwellings.

In dwellings with 3 bedrooms or more there shall be a clear space of 1100 mm in front of the WC with the facility to side transfer to the WC from a wheelchair to at least one side of the WC.

In dwellings for six or more people provide an entrance level shower area within the WC.

Shower rooms, where required, shall include a dished floor of minimum size 1200 mm x 900 mm with floor drain.

- **Economic Plumbing Arrangements**

Where possible the bathroom shall be sited above, or in the vicinity of the kitchens and close to the hot water cylinder (where fitted) to ensure the most convenient and economic plumbing arrangement and installations. WC's should not be located next to or over the living room or bedrooms.

- **Colour**

All fitments shall be white.

- **Baths**

**The Employer's preferred supplier of baths and product will be as follows:**

Where developments are grant funded baths shall be at least 1700 mm long with a maximum capacity of 135 litres to overflow (with grips and slip resist) and with matching front and end plastic panels and shall be ***Twyford Shallow Steel bath*** or equivalent.

Where the room is slightly longer than the bath then the space at the non-valve end shall be boxed in and shall be finished with tiling to match the adjacent walls. The tiling shall be provided full height to three sides of the bath.

Bath panels shall be flat and capable of being removed without compromising the tiled skirting detail. Pressed/curved/moulded bath panels will not be accepted.

Baths should not be located under windows.

Infill bulkheads/shelves shall not be located at the tap end of baths.

- **Showers**

**The Employer's preferred supplier of showers and product will be as follows:**

Showers above baths in main bathrooms shall be Mira Advance **or equivalent** thermostatic bath shower complete with hose, head and slide rail kit.

Showers are not to be fitted to walls where a window encroaches into the bath area.

Water shield to be "Iflo Shower Curtain" **or equivalent** approved with "Iflo Shower Rail" or equivalent approved together with a 300mm glass fixed stub screen at the tap end of the bath.

Shower standing area to be at tap end of bath where anti-slip surface is located.

- **Hand Wash basin**

**The Employer's preferred supplier of Hand Wash basin and product will be as follows:**

Hand Wash basins shall be Twyford Bathrooms (Options Range) **or equivalent**.

Basins shall be of the pedestal type unless it is a small basin which is located in cloakrooms

- **WC pans and cisterns**

The Employer's preferred supplier of WC cisterns/pans and product will be as follows:

WC pans, seats and covers shall be Twyford Bathrooms (Options Range) **or equivalent**.

WC cisterns shall be close coupled push button dual flush Twyford Bathrooms (Options Range) or equivalent.

- **Valves and cocks**

**The Employer's preferred supplier of valves/cocks and product will be as follows:**

Valves and cocks to the cold and hot water draw-off points of lavatory basins, sinks, and baths:

(i) Chromium plated to comply with BS1010.
(ii) Shall be Eurobath International Ltd (trading as Vado) **or equivalent** and approved by water utility company.

Draw off points shall be:

(iii) H2/ECO Astra or equivalent lever basin mixer with a maximum flow rate of 1.7 litres per minute for lavatory basins.

(iv) H2/ECO Astra or equivalent lever single hole kitchen mixer with a maximum flow rate of 2.5 litres per minute for sinks.
(v) H2/ECO Astra or equivalent lever 2 hole mixer for baths.
(vi) Hot-water draw-off points to baths shall have a thermostatically controlled supply.

Provide chromium plated hot and cold isolating valves in individual dwelling.

Thermostatically controlled valves to showers shall comply with BS EN 1111 and BS EN 1287 (formerly BS1415 part 2). They shall incorporate an anti-scalding device and have independent selection of water flow rate and temperature. They shall have a maximum temperature stop and an automatic shut-down to seepage flow if the cold water supply fails. The valve shall be suitable for surface fixing.

Thermostatically controlled valves to electric instantaneous showers shall comply with BS EN 60335-1. They shall incorporate an anti-scalding device and have separate control of temperature and have three power settings (full, half and cold).

### 2.4.9 ADAPTED BATHROOM AND TOILET

*NOTE: Where applicable, the Occupational Therapist will specify for individual service user: specialist bath or shower, shower screens or curtains, shower seat, standard or raised height WC or washer drier unit, specific washbasin requirements and grab rails.*

- **Level Access Shower (including Shower Seat)**

Level access shower AKW Tuff Form wet room former (or equivalent approved): minimum size 1200mm x 1200mm, 900mm x 1400mm if restricted width on one side. Gravity AKW waste drainage or pumped Whale gulper with Bluetooth link to MIRA electric shower (or equivalent approved).
Slip resistant flooring with coved skirting to whole bathroom area - Polyflor Polysafe Quattro PUR (or equivalent approved).
Two no. heavy weighted shower curtains (set 200mm inside tray area) to enclose the shower area. AKW curtain rail (or equivalent approved). Shower Curtain length 2000mm to 2100mm or 2135mm if needed to clear window opening. Half height shower screens to be used as alternative to shower curtains where specified by Occupational Therapist.
Thermostatically controlled shower unit with anti-scald device fitted – electric MIRA Advance (Flex for gravity waste or Extra if pumped waste) or MIRA Element SLT mixer (or equivalent approved) if adequate and reliable hot water supplies in the property. Water temperature to be set to not exceed 43 degrees centigrade.
Height adjustable MIRA shower head with flexible hose on wall mounted riser bar (or equivalent approved). Riser bar to be 1m and hose to be 2m.
Shower control unit and riser bar position as per Occupational Therapist sketch or in accordance with Approved Document M and manufacturer's instructions where service user is unknown.
Tiling to shower area and splashbacks – Johnson bumpy white 200mm x 250mm (or equivalent approved).
Wall mounted shower seat AKW 02230P (blue). Height from floor to seat adjustable 482mm to 607mm (or equivalent approved).
Plastic grab rails, 450mm and 600mm length, in blue or white to provide contrast to wall colours.

- **WC**

Twyfords Options close coupled push button flush (**or equivalent approved**).

- **Washbasin**

Twyfords Options with pedestal and Bristan ¼ turn ceramic disc basin taps with 3" (76mm) Levers (**or equivalent approved**).

- **Electrics:**

Envirovent Infinity extractor fan with humidistat (or equivalent approved), trickle and boost functions.
Moisture proof LED low profile ceiling light fitting x 2. Switch outside room or pull cord inside.
Wall mounted fan heater in addition to central heating radiator.
Provide fused spur adjacent to WC for possible washer toilet.

### 2.4.10 STORAGE

- **Linen cupboards**

Linen cupboards shall be provided with a minimum of two slatted shelves, neither lower than 300mm nor higher than 1500mm. Slatted shelving shall be sealed.

Where a hot water cylinder is not installed within the Linen cupboard an electric tubular heater such as a Creda CECOT or equivalent thermostatic tubular heater complete with protective guard should be provided and installed in accordance with manufacturer's instructions. The switch (with indicator light) for the tubular heater is to be located outside the cupboard.

Linen cupboards shall be located off circulation areas wherever possible.

- **Storage in Roof Space**

Storage space shall not be permitted and the Constructor shall provide and fix a notice to the roof access trap stating that storage is not permitted.

## 2.5 SUBSTRUCTURES

### 2.5.1 GENERAL REQUIREMENT

Adequate damp-proofing is to be provided under ground floor slabs and to all walls and openings.

- **Damp Proof Course**

Polyethylene damp proof courses are not permitted.

Where timber frame construction is used in conjunction with concrete beam and block floors, damp-proof courses are to be dressed over the upstand beneath the sole plate and never taken beneath it.

- **Damp Proof and Radon and Gas Membranes**

Polythene sheeting, where used as a damp proof membrane on or underground floor slabs,

is to be at least 1200 gauge, all joints to be twice folded to form 100mm welts.

Radon and any other gas prevention measures will be determined by the soil investigation and the Constructor shall comply with all necessary Building Regulation/NHBC requirements.

Where radon and gas membranes are to be provided, detailing must be so that level access is maintained throughout the building without any raised threshold strips.

- **Watertight Joints**

Adequate detailing is to ensure that a watertight joint is achieved between horizontal damp-proof courses in walls and floor slab damp-proof membranes. Details of locations of damp-proof courses and membranes are to be submitted prior to commencement of construction.

### 2.5.2 GROUND FLOORS

- **Ground Floor Slabs**

Ground floor slabs shall comprise of precast reinforced concrete beam and block construction designed to structural engineers requirements. Slabs are to be insulated in accordance with the measures stated in the Design Stage SAP 2012 Worksheet for each dwelling type. All slabs are to be finished in a minimum 65mm cement/sand screed. Where insulation thicknesses dictate a thinner screed the use of a fibre reinforced screed will be required. Where required, screed designs shall take account of any under-floor heating requirements.

- **Underground structures**

To be adequately tanked/waterproofed as per the waterproofing grade required for its intended use.

- **Cold Bridging**

Cold bridging in the structural form, especially the edges to concrete floors, is to be avoided.

## 2.6 SUPERSTRUCTURES

### 2.6.1 EXTERNAL WALLS

The Employers preferred method of construction is closed panel timber frame for houses; and traditional construction for flats.

Traditional Construction may be used as an alternative. The Constructor will be required to submit proposals as part of the tender submission with more detailed designs prior to the award of any contract. **In cavity wall situations battens must be used in the cavity when raising the external skin to ensure both the cavity and the wall ties are kept clean.**

On apartments, all the materials used in the external wall and specified attachments are to meet the requirements of A2/s1d0 or better irrespective of height. This also includes the construction of any balconies.

### 2.6.2 EXTERNAL WALL FINISHES

- **Cills**

Brick-on-edge weathered cills will not be permitted unless Planning Conditions dictate. The preference is for reconstituted stone cills.

- **Facing Bricks and Reconstructed Stone**

The colour and manufacture of facing bricks/reconstructed stone is to be approved by the Employer prior to submission to the Planning Authority. When selecting the brick, consideration shall be given to the site exposure and they shall be of a quality to provide good frost resistance and low soluble salt content and have a designation as in BS EN 771-1 for the following locations:

(i) FN external screen or boundary walls
(ii) MN cavity walls

A sample panel shall be provided if so requested by the Planner and/or Employer.

- **Brickwork**

Brickwork is to be of good quality, care must be taken to ensure facings are free of chipping or staining and batches are to be mixed to prevent banding. All perpends are to align and joints to be of an even width. Single frogged bricks shall be laid frog upmost on a full bed of mortar. Exposed brick perforations are to be filled and tinted to match or specials to be used.

Frogs and perforations are not to be exposed on face brickwork instead specials must be used for end copings etc.

Air bricks are to be clay or terracotta to match the surrounding brickwork. Plastic air bricks will not be accepted.

- **Jointing**

Jointing may be flush, bucket handle or weather-struck, but not recessed.

- **Cladding**

Tile hanging and rendered surfaces are acceptable as dictated by Planning Conditions. Special attention should be paid to weathering at abutments. All battens to be treated with preservative before fixing.

Where render is used, facing brickwork will be required up to DPC level. Render thickness and water repellent protection must be used to comply with the warranty providers requirements in respect of exposure rating.

Through render finishes will not normally be allowable.

Timber style cladding (although only if non-combustible) and cementitious boarding generally is acceptable. PVCu cladding is not permitted.

All cladding systems shall fully comply with Building Regulations Approved Document B and notwithstanding the height of the building shall be non-combustible to euro class A2 – s1 d0 or Class A1 and any insulation shall be of limited combustibility or better. Test certification for the entire system (including any insulated core) showing the fire rating of the cladding must be provided before any cladding is installed. Any composite panels must be certified by the loss prevention certification board as complying with the requirements identified in LPS 1181 or LPS 1208. The contractor will be required at handover a completed and signed EWS1 Form as produced by the RICS.

- **Corbelled Brickwork**

Where planning requirements dictate, corbelled brickwork or reconstituted stone may be provided to protect the ends of fascia's and designed to reflect the timber frame construction.

- **Brickwork Reveals**

Generally windows and external door frames are to be set into reveals of at least 50mm. Window sills shall project beyond the face of the wall below and be suitably throated to ensure the water is directed from the face of the building.

- **External Door Openings**

At front and rear external door openings, a second damp proof course and/or cavity tray is to be provided to facilitate the raising of external paving levels.

- **Vertical Damp Proof Courses**

Vertical damp-proof courses to all openings in external walls are to be suitably positioned and wide enough to allow adequate weather-resistant joints with the frame; details are to be provided prior to construction and are to allow for the damp proof courses to be fixed to, or tucked into, the recess or groove at the rear of the window or door frame.

- **Vertical Movement Joints**

Vertical movement joints should be provided in the outer leaf to minimise the risk of major cracking, as shown in the table below:

| Material | Joint Width (mm) | Normal Spacing |
|---|---|---|
| Clay brick | 16 | 12 m (15 m maximum) |
| Concrete block and brick | 10 | 6 m |
| Any masonry in a parapet wall | 10 | Half the above spacings and 1.5 m<br><br>From corners (double the frequency) |

The spacing of the first movement joint from a return should not be more than half of the above dimension.

Where different materials are used together, consideration should be given to potential differential movement. Wall ties are needed on either side of movement joints.

Movement joints should run the full height of the masonry wall. Any movement joints provided in the substructure must be carried up into the superstructure. Movement joints may be required in the superstructure where none are required in the substructure – however allowance should be made for relative movement.

Expansion joints in clay brick walls should be filled with an easily compressible resilient material and be sealed with an appropriately coloured silicone sealant to prevent water penetration. Acceptable materials are:

- Flexible cellular polyethylene
- Cellular polyurethane
- Foam rubber

The following materials should not be used for expansion joints in fired clay brickwork:

- Hemp
- Fibreboard
- Cork

Where movement joints are provided to control shrinkage in concrete blockwork, they may be simple vertical joints filled with mortar and sealed with an appropriately coloured silicone sealant to prevent water penetration.

To ensure the sealant is effective, there should be a good bond with the masonry. The sealant should be at least 10 mm deep or in accordance with manufacturer's instructions.

- **Allowance for Differential Movement**

The designer should detail how the differential movement is allowed for at openings.

At eaves and verges a gap should be left above the masonry which can close as the timber shrinks. Sealing the gap is not required if it is protected by the eaves overhang, unless required by Building Control.

At sills of openings there should be a gap left, sealed with a compressible sealant such as Compriband Timber Max.

At heads of openings allowance should be made for a gap to open. This should be filled with an expandable sealant or well weathered. Lintels supporting outer leaf masonry should not be fixed rigidly to the timber frame. A space should be left between the lintel and its clips to allow for differential movement.

At jambs of openings allowance should be made for shear movement between masonry and joinery.

A gap should be left at horizontal junctions between lightweight cladding and masonry claddings. It should be protected against rain penetration.

Allowance should be made for shear movement at vertical junctions between masonry and lightweight cladding.

- **Provision Of Cavity Trays**

Cavity trays are to be provided above all openings within external walls including windows, external doors, vent ducts, meter boxes and at other locations where required by good building practice and they are to be adequately supported.

- **Building In Of Cavity Tray**

A cavity tray is to be inserted, and adequately supported, beneath window openings wherever cavities are closed or jointed material is used for sills, both secured to the underside of the sill and of sufficient width to extend and be built into one course of brickwork below the external window sill.

- **Junctions Between Horizontal And Vertical Damp Proof Courses**

The junction between all horizontal and vertical damp-proof courses around openings in external walls are to be detailed to prevent moisture penetration.

- **Weep-holes**

Weep-holes with insect restrictors, colour to match adjacent finishing, shall be provided in the external skin of hollow walls at cavity tray positions. Spacing of weep-holes are to meet minimum Building Regulation requirements.

Lintels used in timber frame construction must have stop ends.

- **External Cavity Walls**

External cavity walls shall provide a 50mm clear cavity from the outer face of the structural timber frame. A particularly high standard of workmanship is demanded and to be achieved so that the cavities are kept clear of mortar droppings and other debris during construction, and all openings, vents, pipes etc., through walls are to be adequately sealed to prevent leakage of the material during or after installation.

In traditional build full fill cavity wall insulation will not be permitted except by express agreement.

All wall ties to be stainless steel. Provide proprietary insulated cavity closers to all reveals, sills and soffits in traditional build.

Ancon (or similar approved) steel wind posts to be fitted where specified by engineer, tied to wall, floor and ceiling.

Bed joint reinforcement to two courses, above and below openings in brickwork, Bricktor SBT60CCR (or similar approved) and in render Brickforce SBF35W60 (or similar approved).

- **Jointing To Party Wall Blockwork**

Particular attention is to be given to the jointing of party wall blockwork. All joints including areas within roof voids, are to be fully filled and finished flush with the face of the blockwork.

### 2.6.3 UPPER FLOORS

Upper floors shall be provided as part of the timber frame package. Where traditional construction is used, suggest it should ask for the use of TJI or lattice beam joists with waterproof chipboard, glued continuously to the top of the joists and to joints all in accordance with manufacturer's instructions. A minimum of 100mm thick of insulation shall be provided between floor joists.

### 2.6.4 ROOFS AND FASCIAS

- **Flat roofs**

Flat roofs are not acceptable unless shown on the planning drawings. In such instances all such roofs shall be covered with a high performance single ply membrane providing a 30 year 3rd party insurance backed guarantee

- **Pitched roofs**

Unless otherwise dictated by planning constraints, the pitch of the roof shall be 35° normally but 45° where there are rooms in the roof space.

The use of fibre cement or polymer resin bonded slates or Marley "Modern" tiles will not be permitted.

Underlays to roof coverings:

(i) Shall be vapour permeable underlay to comply with BS5250.

(ii) Shall have a continuous fillet at eaves to prevent sagging.

Eaves are to project from the wall a minimum of 150mm. Fascia's, barge boards, soffits and rainwater gutters shall generally be uPVC and fixed with rust-proof screws. Where Planning Conditions dictate timber shall be used.

Unless planning requirements dictate otherwise dry ridges and verges only will be allowed.

Valley gutters should be lead or preformed.

- **Rooflights**

Rooflights shall be Velux and installed in accordance with the manufacturer's instructions.

- **Flashings**

All flashings shall be lead to BS1178 and shall be finished with patination oil.

No flashing details shall be adopted where the use of adhesive bonding is required.

- **Rainwater gutters**

In domestic situations, rainwater gutters shall be 110 x 75 PVCu Deepflow manufactured by Marley Plumbing and Drainage **or equivalent**

- **Rainwater downpipes**

In domestic situations, rainwater pipes shall be 68mm PVCu manufactured by Marley Plumbing and Drainage or **equivalent.**

- **Timber**

All timber, including roof trusses, is to be industrially vacuum or pressure impregnated with preservative to BS 8417 (2011).

- **Softwood Trussed Rafters**

Softwood trussed rafters are to be included in the frame manufacturer's package including all design works.

Trusses shall also be designed to carry the additional loads which may be imposed by the future installation of hoists and tracks within the main bedrooms and bathrooms.

The Constructor shall provide all necessary structural calculations for Building Regulation approval.

- **Fire Stops**

Fire stops must be taken to the underside of the roof covering at party or compartmenting walls, both below and above the underlay.

- **Colour, Pattern And Manufacture Of Roof Tiles/Slates**

The colour pattern and manufacture of the roof tiles/slates is to be submitted to the Employer prior to approval by the Planner.

Please note that "Marley Modern" and similar thick profile slate appearance tiles are unlikely to be acceptable to the local planning authority and the Constructor is deemed to have included within his tender, materials which are acceptable to the planners.

- **Manufacturer's Recommendations**

Roof tiles/slates including all detailing to eaves, valleys, verges and ridges are to be fixed strictly in accordance with the manufacturer's recommendations taking into account the exposure of the site.

- **Vent Pipes Through Roof**

Where possible soil and vent pipes should be taken to a ridge terminal tile or pitched tile vent. Where vent pipes penetrate the roofing underfelt, the felt is to be carefully cut and folded back so as to avoid water ingress at this point.

- **Trap Door Access To Roof Voids**

Roof voids are to be provided with insulated downward hinged trap door access not less than 520 x 580 mm clear with a turning locking device. If the trap door is located in the primary escape route, then it must be fire rated. Suitable signage shall be provided advising

the occupant that the roof space is not to be used for storage.

Generally, the trap door is to be located over the landing and in a position to allow safe use away from the head of the stair. It shall also not be so close to the eaves so as to restrict headroom above. To comply with Lifetime Homes it may be necessary to locate the trap door in a bedroom or bathroom to permit the installation of a ceiling mounted track hoist at a future date.

- **Roof Insulation**

Roof insulation preference is for glass-fibre quilt laid between and across ceiling joists to a depth as stated in the Design Stage SAP 2012 Worksheet for each dwelling type.

Ceiling hatches are to be insulated to the same level as the ceiling and hatch openings sealed. Roof voids are to be adequately ventilated. Vapour barriers are to be incorporated where necessary.

### 2.6.5 STAIRS Not applicable to this contract

- **Generally**

All staircases must be suitable for future BS stair-lift provision in terms of width and top and bottom landings.

Stairs and steps shall be designed to be safely negotiated and winders should be avoided if at all possible.

## 2.7 INTERNAL WALLS

Where the method of construction is timber frame, internal walls shall be designed and provided by the frame manufacturer.

- **Steel used in internal walls**

Steel studs used in internal partitions, when required, shall be a minimum of 70 mm wide.

- **Bathrooms and WCs**

Internal walls of bathrooms and WCs shall be designed to take support aids and shower seats which are suitable for persons up to 150kg in weight. Any partition between a room containing a WC and any other area shall have a weighted sound reduction index of not less than 38dB(A) over a frequency range 100-3150Hz when tested in accordance with BS EN ISO 16283-1:2014. Guidelines of suitable partitioning are given in the NHBC Practice Note 7.

## 2.8 WINDOWS & DOORS

### 2.8.1 WINDOWS

The Employer's preferred supplier of PVCu windows will be as follows: Spectus A+ rated **or equivalent approved**, Secure by Design to PAS 24:2016.

Where timber windows are required a performance specification can be provided by the Employer.

Windows where required under Building Regulations to act as a fire escape route and are also on a ground floor or upper floor that is easily accessible shall be glazed with 6.4mm minimum thick laminated glass.

Maximum solar factor ('g' factor) on ground floor flat and bungalow windows shall be as stated in the Design Stage SAP 2012 Worksheet for each dwelling type.

Maximum whole window U-value shall be: *As required to meet the SAP necessary*

Windows shall be fitted with trickle vents to give a ventilated area equal to at least 8000 $mm^2$ in habitable rooms and 4000 $mm^2$ in kitchens, bathrooms and separate sanitary accommodation. These are to be kept in the open position during the construction period to aid in the drying out process. The trickle vents shall be installed at a height to suit the intended occupants of the dwelling without causing a nuisance.

Opening fittings must be accessible and no higher than 1200 mm above floor level (this applies to at least one window in each room with the exception of the kitchen/bathroom/WC). Opening fittings for kitchen/bathroom/WC windows are to be at a suitable position for ease of opening.

Windows shall be fitted with child-proof hinges with integral restrictors so that the external faces of windows are capable of being cleaned from the inside of the dwelling.

Windows shall be fitted with locks capable of securing the window in the night vent position. Locks (with or without removable keys) and stays may be fitted to egress windows, subject to the stay being fitted with a release catch, which may be child resistant. Windows should be designed such that they will remain in the open position without needing to be held by a person making their escape. Window furniture is to be a chrome finish to match door furniture.

Windows shall be fitted with child proof integral restrictors and with hinges so that the external faces of windows are capable of being cleaned from the inside of the dwelling.

Windows shall be securely fixed to the surrounding structure at a maximum of 600 mm centres with a minimum of two fixing points per side and sealed externally with silicone.

Casement windows in ground floor situations shall not open externally over footpaths or parking areas.

Where habitable rooms are provided under sloping roofs they shall be provided with dormer windows.

Where practicable, windows shall not be sited over baths.

The height above floor level shall be no more than:

| | | |
|---|---|---|
| (i) | Living rooms/living area | 800 mm to glazing line (at least one window) |
| (ii) | Kitchen | 150 mm minimum above worktop to top of sill |
| (iii) | Bathroom/WCs | 950 mm to top of sill |

(iv) All other windows 950 mm to top of sill

25 x 75 mm softwood curtain batten are to be fitted above all windows and extend beyond the opening (where possible) 200 mm.

Where not tiled, window boards shall be provided of water resistant grade Medium Density Fibreboard with a rounded edge and shall extend 25mm beyond each reveal and 30mm in front of finished wall face with all cut edges suitably sealed prior to installation.

All timber windows are to be delivered to site with a base protection coat compatible with the proposed final finish coat, and in accordance with the approved final finish coat manufacturer's recommendations. All cuts made on site are to be treated with a suitable protection coat immediately and prior to building in.

### 2.8.2 WINDOW GLAZING

Windows to bathrooms and toilets are to be glazed with Cotswold pattern obscured glass.

Ten year written insurance backed guarantees are to be provided for sealed double glazed units.

All glazing is to be internally installed (to enable replacement of glass from within the building).

Toughened or laminated glazing to be installed where directed by Secured By Design and Building Regulation requirements.

All glazing to be fire rated in buildings over 11m high or 6 storeys whichever is met first.

### 2.8.3 EXTERNAL DOORS

Outward opening doors shall be designed in such a way as to not come in to contact with cills projections and the like whilst maintaining the minimum specified opening widths.

The Employer's preferred supplier of external doors and product will be as follows:

External doors shall be Secure by Design approved and to PAS24:2016 and shall be from IG Doors or Gerda Security Product Ltd or Endurance front door (Urban range) or be approved by the Employer.

Minimum clear opening widths:

(i) All main entrance doors: 800 mm with nominally flat (15 mm maximum upstand with a minimum of 12mm to allow for mat/carpet internally). There shall be a 300 mm nib to the side of the leading edge.

(ii) Other external doors : 750mm with nominally flat (15mm maximum upstand)

Models used:

Generally, and subject to Planning requirements house front doors shall be white IG Weatherbeater 'XD04 glazed' metal faced solid core units or equivalent and rear/side doors to be white 'XD06' or equivalent. All door furniture shall be chrome effect finish.

Tubular chrome skirting or chrome/rubber floor mounted doorstops shall be fitted where damage to walls or fittings may occur.

Front entrance doors to have a vision panel, or spy hole, if a side window does not provide a view of callers.

Fire exit doors shall not have any external door furniture.

Heights of door furniture above floor level:

| | | |
|---|---|---|
| (i) | Door handles | 1040 mm |
| (ii) | Letter plates with internal security covers | 900 mm |

- **Locks to Main Entrance Doors**

The main entrance doors of individual dwellings should be fitted with one (or more) securely fixed lock and keep which complies with Secured By Design Standards and is openable on the inside by a single simple manual operation not requiring the use of a key or a thumb-turn.

To avoid the possibility of the door becoming locked during a fire while one of the occupants is outside the dwelling the lock should not have a self-locking latch.

Main entrance doors to have door chain.

- **Numerals**

Chrome numerals to a style appropriate to the development shall be provided for all dwellings.

- **Door Glazing**

Sealed double glazing to be used. Glazed panels in entrance doors and adjoining glazed panels shall be obscure 6.4 mm laminated (outer pane).

- **Door frames**

Shall be securely fixed to the structure at maximum 600 mm centres and 300 mm from each corner.

Shall have an integral rebated stop.

Shall be sealed externally with silicone.

Patio doors are not permitted, unless approved by the Employer and in such circumstances the door and installation shall be Secured By Design compliant.

Single leaf doors are preferred. Where double doors are fitted they shall overlap and open outwards. Flush bolts shall be used in lieu of being surface mounted.

Doors shall not be obstructive or hazardous when opened.

Doors shall not open into driveways except in the case of wheelchair users housing.

Where Juliette balconies are fitted the gap between the bottom horizontal rail and the floor level shall not exceed 50mm.

- **Silicone Sealant**

The perimeter of all windows and external doors shall be pointed inside and out with a silicone sealant compatible with the frame material used.

- **Combined Door/Window**

When the door is combined with a window the frame is to be detailed to be compatible with the window system.

### 2.8.4 INTERNAL DOORS

Construction shall be six panelled moulded smooth solid-core with painted finish and minimum clear opening widths of 800 mm (900 mm where turning from a 900 mm passage). There shall be a 300 mm nib or wall space to the side of the leading edge of the doors on the entrance level).

The construction of the door shall be suitable for the fixing of pulls and other fittings.

Stops to the head and hinge side of doors to wardrobes and cupboards shall be omitted with a hardwood threshold being provided with a 7mm gap at the bottom and a 3mm gap at the top.

Doors shall not be obstructive or hazardous when opened.

Bathroom and WC doors shall open outwards.

Doors to be set 15mm above finished floor level.

All fire doors should have displayed the correct fire identification label. For the avoidance of doubt, this includes service riser cupboards, store cupboard and the like.

Fire rated flat front doors are to be Gerda Security Product Ltd or equivalent approved FD30S (or 60 minute equivalent if required by Building Control) Solid Safer Homes Range 30SHR-S doorset or equivalent complete with 2300 surface mounted cam action door closer; with TS008 letterbox, door knocker, numerals and chain or limiter on flat front entrance doors. **Flat entrance fire doors must have test evidence demonstrating they meet the performance requirement in the Building Regulation Guidance for fire resistance and smoke control from both sides. All fire door installation is to be undertaken by a competent person; this party certificated as such by a UKAS accredited certification body. Photographic evidence should be provided at each progress meeting for each unit in the form of a report. Photographs should be dated and referenced to demonstrate compliance with the fire requirements.**

Cross Corridor (and lobby doors) to apartment blocks are to be supplied as a complete doorset with suitable primary test evidence covering testing criteria for the specific installation arrangement including any vision panel and fan lights. Certification is to be made available at handover.

- **Furniture**

Door furniture is to be chrome finish and the selected range is to be indicated in the Constructor's Proposals. Ironmongery shall be good quality, robust and without sharp angles, edges or protuberances. Samples to be submitted to the Employer/ Employer's Agent for approval.

The following ironmongery shall be fitted:

(i) 3 no. stainless steel hinges to each leaf to prevent warping of the doors.

(ii) Mortice latches with lever handle furniture to both sides of doors shall be provided. Lever handles need only to be provided to the outside of an airing cupboard door if the space is not sufficient for an individual to enter.

(iii) Doors to cloakrooms, toilets and bathrooms shall have bolts that can be released from outside of the room in the event of an emergency.

(iv) Tubular chrome skirting or chrome/rubber floor mounted doorstops shall be fitted where damage to walls or fittings may occur.

(v) Incorporate measures to minimise the effect of door slamming.

Where door closers are required to communal areas they shall be of the hydraulic type.

Height of door handles above floor level shall be 1040 mm.

- **Safety Glazing**

Glazing to all internal doors and any other glazed areas required by Part N of the Building Regulations shall be laminated safety glass to BS 6262-4:2005, and kite marked accordingly.

Other than in exceptional circumstances, glazed internal doors are not allowed.

### 2.8.5 FLAT BLOCK COMMUNAL ENTRANCE AND REAR DOORS

Shall be aluminium such as those provided by Bamford Doors (www.bamforddoors.com) **or equivalent** approved by the Employer and be fitted and compatible with the door entry system as described at 2.19. Communal Entrance Doors to be glazed aluminium with “D” type handle.

## 2.9 SURFACE FINISHES

### 2.9.1 FLOOR FINISHES

- **Concrete/Screeded Floors**

Kitchens, WCs and interconnecting lobbies are to have an applied slip-resistant finish such as Gerflor Agrippa or Polyflor Polysafe or equivalent (colour to be approved by employer), laid

in accordance with manufacturer's instructions and to cover the complete floor including under base units and the like.

Bathrooms and en-suites are to have an applied slip-resistant finish such as Gerflor Agrippa or Polyflor Polysafe **or equivalent** (colour to be approved by employer), laid in accordance with manufacturer's instructions and to cover the complete floor including under baths and all other fittings. Skirtings to bathrooms are to be 100mm tiled upstand with glazed edges face upwards.

Wet rooms such as ground floor shower rooms are to have an applied finish such as Altro Marine 20 or Polyflor Polysafe Hydro or equivalent (colour to be approved by Employer), laid in accordance with manufacturer's instructions. Vinyl sheet flooring to wet rooms shall be taken 75 mm up the perimeter wall forming a skirting cove, all joints to be welded seams forming a waterproof finish. The floor finish is to be properly sealed into the floor gulley.

The Constructor shall allow for applying a thin latex screed to each bathroom, WC and kitchen to provide a smooth substrate for applied floor coverings.

Exposed edges of thin flexible floor finishes, such as to the kitchen area of kitchen/diners and in doorways shall be finished with a hardwearing protective strip.

White Mastic sealant is to be provided at all perimeters of vinyl flooring within kitchens including plinths to kitchen units, WCs and bathrooms and at junctions of vinyl and sanitary-ware.

All other concrete floors to have vinyl tile finish with alternating grain direction of tiles to avoid the highlighting of tile joints.

The floor to refuse stores and boiler rooms shall be a cement and sand screed with a trowelled finish incorporating a dust sealer/hardener.

Ribbed mat in matwell to dwelling front doors are to be provided.

- **Timber used in floors**

Timber used in floors and trimmings (e.g. skirtings) shall be Certified to a recognised industry standard such as FSC.

- **Timber floors**

Where suspended timber or floating floors are used, decking is to be of a tongue and grooved material, screwed not nailed with continuous glued joints.

Timber floors, other than using plywood (WBP) decking, shall not be used in any areas where vinyl flooring is to be the finish.

- **Communal area floors to landings, halls and staircases**

Commercial grade non-slip vinyl flooring with contrasting stair nosing.

### 2.9.2 INTERNAL WALL FINISHES

- **Dry Lining Systems**

The installation of dry-lining shall adhere strictly to the manufacturer's installation details. Joints to be either taped and jointed or walls finished with setting coat. There must be a continuous strip of adhesive to wall perimeter and around all openings.

Foil-backed plasterboard shall not be used other than as part of the linings to the underside of roofs.

Water resistant plasterboard is to be used in kitchens and bathrooms. Fire lined or sound bloc plasterboard to be used as required by Building Regulations.
18mm ply panels to be used to all bathroom and WC walls and kitchen walls behind kitchen units under dry lining and to stud partitions.

- **Painting**

Walls & ceiling shall be painted with one mist and two full coats of emulsion generally. Emulsion to be washable. Walls that are to be tiled should not be mist coated.

- **Colours**

The colour range shall be submitted to the Employer for its approval at the initial design stage.

- **Tiling**

White glazed ceramic tiling shall be provided as follows:

(i) 150 mm x 150 mm white tiles of uniform colour, shade and surface finish.

(ii) 450 mm high above worktops for full length of work surface/sink-top.

(iii) The space behind cookers up to underside of wall unit level or cooker hood, if applicable.

(iv) 300 mm high above (and to the side where appropriate) of lavatory basins.

(v) Tiling shall be provided to window cills and reveals one course high to bathrooms, en-suites, WCs and kitchens.

(vi) Tiling shall be provided to the full height and to the full perimeter of walls enclosing the bath with any horizontal areas within the enclosure also being tiled.

Silicone sealant shall be applied to the junction between all tiling and worktops, kitchen units including the underside of wall units and sanitary fitments.

Proprietary flexible L shape sealer strip shall be installed under the lower course to seal to bath, lavatory basin and worktops.

- **Internal Joinery**

Knot, prime, stop in and rub down then apply two undercoats and one satin wood from BS 4800 range. The back of all joinery should be primed before fixing.

- **Ironmongery**

Ironmongery is to be removed prior to final painting, and subsequently replaced.

- **Pipework and Radiators**

Pipework in linen cupboards, if kept clean, need not be painted. All radiators and other exposed pipework must be finished with a suitable, approved, paint system.

**Where the Employer has agreed to the use of traditional construction the following shall apply.**

- **Substrate**

Masonry walls can either be hard plastered, sand and cement and skim coat or dry lined with setting coat or tape and jointed. (No type of Carlite plaster to be used).

- **Preparation**

Areas of bare plaster and porous surfaces shall receive a sealer prior to the application of wall tiles.

### 2.9.3 CEILING FINISHES

- **Ceilings generally**

All ceilings shall be finished with plasterboard, taped and jointed or set as part of the dry- lining system. Water resistant plasterboard to be used in kitchen and bathroom locations and fire lined or sound bloc plasterboard where required by Building Regulations.

### 2.9.4 PAINTING AND DECORATING

Paints, stains and similar finishes shall only be used from approved manufacturers.

The paint specification used in each instance shall have a guaranteed life before re-application becomes necessary:

| | | |
|---|---|---|
| (i) | Internal doors | Six years |
| (ii) | Internal wall finishes | Four years |

There shall be no added lead in paint.

Joinery where painted shall be knotted, primed all round, stopped and painted with two undercoats, and one coat satin wood or one undercoat and two satin wood finish, depending on the manufacturer's specification.

Joinery where stained shall have one base coat and one stain coat applied all round and one finishing coat of stain.

Metalwork to be painted shall be primed all round, stopped and painted with two undercoats, and one coat gloss finish or one undercoat and two coats gloss finish, depending on the manufacturer's specification. Any galvanised metal work to be properly degreased prior to

decoration.

Ironmongery shall be removed prior to painting and refixed subsequently.

## 2.10 BUILDING FABRIC SUNDRIES

- **Skirtings**

Provide and fix 19 mm x 100 mm MDF Bullnose pre-primed skirtings to all rooms where required.

- **Architraves**

Provide and fix 19 mm x 75 mm (14.5x69 FIN) MDF Bullnose pre-primed architraves to all internal door linings.

- **Hat and coat rails**

Provide a painted timber rail with chrome hat and coat hooks in a recessed area within the lobby, or in a separate cloakroom where provided. The understairs cupboard may be used if there is no suitable recess or cloakroom. The number of hooks provided shall equate to two more than the expected occupancy of the dwelling.

- **Bathroom accessories**

Provide a 600 mm x 450 mm mirror above the bathroom basin fixed with chrome cups and screws.

Standard radiator to bathroom (not heated towel rail) within rented properties. Chrome towel rail to be provided and fixed above the radiator to bathroom and cloakroom.

- **Pipe casings**

All pipework should be concealed where possible, with joints in concealed pipework being kept to a minimum.

All internal soil pipework shall be insulated with 25 mm thick mineral wool and encased with two layers of plasterboard. Access panels shall be provided at rodding points, being fixed with chrome cups and screws or be patent access panels.

- **Toilet Roll Holders**

Chrome toilet roll holders shall be provided adjacent to all WC suites.

## 2.11 EXTERNAL WORKS

### 2.11.1 CAR PARKING

The number of car parking spaces per dwelling including those required for visitors shall be as determined by the Local Planning Authority, typically 2.5x5.0m.

Car parking spaces, wherever possible, shall be provided within the curtilage of the individual dwellings. Where parking spaces are between dwellings, the minimum width of

spaces shall be 2.80 metres. Parking, whenever possible, shall not be in front of windows.

Where parking is within the curtilage, one space is to have an adjoining firm even surface of 900 mm wide to achieve an overall parking area of 3.3 m x 5.0m.

Where this cannot be achieved and where car parking is provided for flats it shall be:

(i) off the street in private areas having good surveillance.

(ii) divided into small groups located as close as possible to and under natural surveillance from the car owners dwelling.

iii) kept well lit by the street or external communal lighting.

(iii) car parking spaces shall be a minimum 2.5 m wide x 5.0 m long.

Where parking is at right angles to the point of entry a space of 6 m is to be provided in front of the hard standing.

Where parking is grouped it shall be:

(i) 10% of spaces provided are to be a minimum of 3.3 m x 5.0 m.

Parking spaces dedicated to the use of disabled shall be marked and signed.

(ii) identifiable to suit Secured by Design requirements

(iii) within 30 m of intended dwelling entrances

(iv) not be within 4.5 m of windows to any dwelling

Car parking spaces and non-adoptable access paving to the car parking spaces will normally be constructed in tarmac, though the Employer may direct that alternative materials such as coloured macadam or block paving is to be incorporated. Grasscrete or similar paving can only be used by agreement with the Employer. Any screening shall be designed as not to impede the opening of vehicle doors.

Where Active provision of electric vehicle charging is required for planning compliance or shown on the drawings, provision shall be 7kW Mode 3 with type 2 Connector from landlords' supply (for apartments) or individual dwelling supply (for houses where parking is within curtilage). Where Passive Provision of electric vehicle charging is required for planning compliance or shown on the drawings, provision shall be defined as the network of cables and power supply necessary so that at a future date a socket can be added easily. All connections should comply with BS 61851 and BS 7671.

### 2.11.2 PRIVATE GARDENS NOT APPLICIBLE TO THIS CONTRACT

- **Rear Garden Access and Size**

Each rear garden is to be provided with lockable external access without having to go through the dwelling. A gate with a key operated lock, operable from both sides, is to be

provided. The gate must be placed at the entrance to the footpath, as near to the front building line as possible, so that attempts to climb them will be in full view of the street. Where possible the street lighting scheme should be designed to ensure that the gates are well illuminated. The gates must not be easy to climb or remove from their hinges.

Gates will generally be constructed of timber and be matchboard ledged framed and braced.

Individual houses are to be provided with a rear garden of adequate size for the recreational purposes of the occupants of the dwelling and is to have a minimum depth of 10 metres and shall not exceed a gradient of 1:12 when measured along the length and width. Retaining structures shall be allowed where necessary to achieve the maximum gradients.

- **Minimum Rear Garden Depth in Unusual Circumstances**

In certain circumstances the Employer may consider a reduced rear garden dimension of 8 metres. Any garden that does not comply must be agreed and approved at Design Stage with the Employer.

- **Front Garden Area**

The front garden area is to be of a depth to provide privacy and avoidance of nuisance from public areas and shall not exceed a gradient of 1:12 when measured along its length and width.

- **Requirement for Private Garden Areas**

Private garden areas within the curtilage of individual dwellings both front and rear are to be graded and where not planted within an overall landscape planting scheme topsoil to a minimum depth of 150 mm together with turf shall be provided. The turf shall be maintained and watered by the Constructor until occupation. A patio area constructed, on an appropriate sub-base to an area of 2.70 m x 1.80 m shall be provided within all rear gardens.

Where car parking areas are provided at the side or rear of dwellings, paving is to be provided linking the rear gate and the rear door. A 900 mm wide path linking the patio area and the door to the garden shed shall be provided.

Rear doors are to open into a secure rear garden, not onto parking spaces at the side of dwellings. External access doorways are not permitted in bedrooms.

Timber decking will not be permitted.

Private gardens shall be positioned to gain maximum benefit from sunlight.

### 2.11.3 PAVED AREAS

- **Finishes generally**

All paving shall have a slip-resistant and un-contoured smooth finish. External surfaces must be selected with due regard to the requirement to minimise maintenance costs.

A change of material or inconspicuous physical demarcation line must distinguish between adopted and non-adopted areas.

- **Footpaths**

Footpaths shall be constructed to the following criteria:

(i) Gradients: maximum 1:20

(ii) Maximum cross-fall 1:40

(iii) Shallow crossings

(iv) Minimum 900 mm wide generally, but minimum 1200 mm wide where serving more than one dwelling. Where the footpath is from a car parking space to the main entrance there shall be top and bottom landings (plus an intermediate landing if necessary) which shall be 1200 mm wide.

(v) Provide a 50 mm high safety kerb of contrasting material where higher than adjacent levels

(vi) From pre-cast concrete paving slabs or tarmac

(vii) Self-draining

Where steps cannot be avoided and the gradient allows, an alternative ramped path for use by wheelchairs must be provided.

Contrasting textures or kerbs are to be used to distinguish between pedestrian and vehicular areas.

Where paving abuts a dropped kerb it shall consist of coloured tactile concrete paving slabs.

A timber edging mowing strip is to be provided 225 mm off the external walls of buildings in grassed areas with the void filled with approved chippings.

- **Approach to Doorways**

The first 1.2 metre length of path outside all entrance doorways shall be virtually level but slightly falling away from the building with a 15 mm drainage gap between the path and the threshold. The ground to the sides of the path is to gently slope away to general ground level. Where it is necessary for a path or paved area to run adjacent to a building and to be at a level which is less than 150 mm below damp proof course level i.e. not in compliance with the Building Regulations, these areas shall be separated from the building by a granular material fill strip 100 mm wide and to finish level with the paving.

- **Steps**

Steps shall not be permitted at gateways.

Where steps cannot be avoided the treads shall be 300 mm minimum wide and the risers shall be a minimum of 75 mm and maximum of 150 mm high with all risers being of the same height. Where level change requires barrier protection, it should be provided as 2.11.9 below.

### 2.11.4 EXTERNAL STAIRS AND WALKWAYS

Refer to drawings SK20.005 & SK20.006. Walkways to be constructed generally in hot dipped galvanised steel. Balustrading to comprise of stainless steel uprights and handrail with glazed infill panels. Stair treads and walkway surfaces to be non-slip. Walkways are to be laid to falls. Provide drainage to from the walkway to the surface water system. Provide surface water drainage, to be connected to the surface waste drainage system as per the drainage strategy in appendix A1. Walkways and stairs are to be connected via a thermally broken and anti-vibration mounting. Roofing over walkways and stairs to match the main building.

### 2.11.5 COMMUNAL CYCLE STORES

Where required, such provision shall match that specified by the Local Planning Authority

Refer to approved planning drawings.

### 2.11.6 PRIVACY

The need for privacy (both visual and acoustic) and security is an important factor. Where possible gardens, living room and bedroom should not be overlooked.

Pedestrian routes must not be in the proximity to bedroom and living room windows, unless there is adequate screening.

In larger schemes the layout must provide for small groupings of up to 20 dwellings to form identifiable communities. Services and facilities (e.g. open space, play areas, parking) must be related to each of the dwelling groups.

Orientation and dwelling grouping should enhance the occupant privacy and provide noise protection. This should permit good views from principal rooms and take best advantage of daylight and sunlight. Living rooms ideally should face south/south west.

Incompatible adjacent use on site must be avoided. Full account must be taken of neighbouring site uses, which may have a beneficial or detrimental effect on the subject site.

The planning of the scheme must aim to maximise the benefit of any existing natural features, e.g. existing protected trees or hedges, contours, etc.

Public open spaces and parking areas must be clearly visible from some of the dwellings.

The layout of roads, footpaths, street-lighting and car parking must be designed to encourage logical access routes, and must wherever possible be adopted.

Road, footpath and landscaping layouts must reinforce the separate community aspect of the overall design and should discourage through traffic with access ways only serving residents of a particular community group.

## 2.11.7 REFUSE DISPOSAL

- **Local Authority Requirements**

Provision is to be made for the storage and removal of refuse by the Local Authority. Early consultation is to be made with the Local Authority to establish their method of collection and required volume and means of storage and removal.

The collection policies of the local authority shall be adhered to. Compliance with the former Code for Sustainable Homes Was 1 Storage of Non-Recyclable and Recyclable Waste must be achieved in all cases.

The Constructor shall liaise with and order from the Local Authority, the required bins and ensure that they are delivered and located appropriate on site before Practical Completion, including paying of any charges due.

- **Housing with Access to the Rear**

Where housing has access to the rear or at the side of the dwelling it is accepted that a bin can be located in the rear garden area. A suitable paved area is to be provided. A temporary storage area adjacent to the highway may be necessary to allow local authority collection.

Bin positions should comply with Building Regulation Approved Document H section H6 in respect of travel distances from bin position to dwelling and also from bin position to collection point.

## 2.11.8 CLOTHES DRYING

Dwellings with private rear gardens shall be provided with a Hills 4-arm rotary clothes drier cast in concrete in a concrete pad base or be provided with a drying line minimum 40 m long for up to 2 bed units and 60 m long for 3+ bed units.

All dwellings must have an external drying area serviced from a level hard paved area and connected to the footpath.

Flats are to have a Leifheit Telegant 72 or equivalent approved by the Employer wall mounted clothes dryer, located above the bath.

Communal drying areas for flats are to be located in a protected space, with a Hill 4-arm rotary clothes drier or equivalent approved by the Employer as noted above.

## 2.11.9 ROADS AND FOOTPATHS

- **Movement - vehicular access**

Vehicular access shall be convenient for deliveries and public services and disabled users to all dwellings.

Turning space for service vehicles is to be clearly defined allowing them to manoeuvre freely without encroaching on parking space.

Road designs and layouts shall be planned to restrict vehicle speeds.

Roads including turning areas and footpaths are to be constructed to highway standards and adopted, where appropriate, by the Local Authority. They will normally be constructed in tarmac, although block paving may be considered where required to fit in with the local environment, landscape consideration or the Planning and Highway Authority requirements.

Un-adopted roads shall be built to adoptable standard.

All areas to be laid to falls and adequately drained.

Shared driveways are not to serve more than 5 houses.

- **Movement - pedestrian access**

RNIB design requirements shall be included where possible. If they conflict with other requirements in this document then the Constructor shall consult the Employer.

http://dementia.stir.ac.uk/design/good-practice-design-dementia-and-sight-loss

The external works design should take into account the necessity to exclude avoidable trip hazards.

Public open spaces shall be connected via clear, well lit, paved routes.

Public access pathways:

(i) Unsecured rear access pathways that are not overlooked shall be avoided.

(ii) Dropped kerb crossings with clear sightlines shall be provided at all junctions with roads and car parking areas to enable easier access.

(iii) Pathways shall be constructed to avoid residents having to walk on roads.

In dwellings access shall be provided from all entrance doors:

(i) To public and private/common paths.

(ii) To meter positions.

(iii) To external storage sheds and rear access paths.

(iv) To clothes drying facilities.

(v) To refuse and recycling bin storage areas.

Where footpaths are part of a shared access for vehicles, the part designated as footpath shall either be finished in a contrasting paving or be identified by the provision of a flush precast concrete edge or contrasting linear paviors or setts.

Steps in footpaths are to be avoided but where necessary an alternative ramped access route shall be provided. Ramped footpaths are ideally to have a gradient of 1:20 but shall not exceed 1:12. On long ramps a 1.8m level rest platform is to be provided to each 5m length at 1:12 or 10m at 1:15. Unavoidable steps are to have maximum 150mm riser and a minimum

going of 280mm.

Inclined paths are to be surfaced with a material offering good grip; in-situ concrete or macadam. Elsewhere where paving slabs are used they shall have a ribbed non-slip finish. Gravel will not be acceptable as a paving surface.

Where the drop in level from the path to the adjoining levels exceeds 380mm a welded tubular handrail shall be provided.

Access for the public through an estate is to be restricted to as few routes as are necessary and the layout shall discourage 'cutting corners' across landscaping and/or private space.

- **Safety barriers**

Safety barriers consisting of a handrail and a knee rail (as a minimum) shall be situated at:

(i) Junctions of footpaths and highways.

(ii) Changes in levels generally in excess of 450mm of two adjacent areas.

(iii) Changes in levels adjacent to footpaths in excess of 380mm.

(iv) Where two or more steps are provided (one side only).

Un-adopted roads shall be built to adoptable standard. The appointed civil engineer shall certify compliance with the requirement at Practical Completion.

### 2.11.10 LANDSCAPING

- **Recreation – amenity space, soft landscaping**

Landscape design is of vital importance to the success of any new housing scheme and both soft and hard landscaping shall be suitable and sustainable.

The design and location of planted and grass areas shall be integrated with the overall site layout to maximise visual impact and to avoid high maintenance costs and reduce the likelihood of vandalism or accidental damage.

Soft landscaping shall not be incorporated in areas that will prove difficult to establish or maintain, e.g. narrow strips, awkward small slopes etc. Hard landscape solutions shall be used in these situations.

Planted areas shall be designed to provide good ground cover within two years to suppress weed growth.

Extensive shrub and tree planting is encouraged, with species selected to give an 'all year round' interest. Large nursery stock trees should be included within the design. Soft landscaping should be designed to suit the site location taking full consideration of exposure, climate, slope shade, and the use of the site. Slow growing shrubs and trees will be preferred unless specific plant types are required to comply with planning conditions or "Secured by Design".

Communal planting areas shall be designed to maximise their visual impact.

Tree planting shall be located and specified to minimise the risk of vandalism.

Boundaries:

(i) Where not clearly defined, suitable permanent boundary markers must be provided.

(ii) Existing boundaries, whether walls, fences or hedges, which are the responsibility of the Employer must be repaired, renewed or managed as appropriate.

- **Curtilage of Each Dwelling to be Identifiable**

On general housing developments, communal areas are to be avoided and full use of the site used to maximise private front and rear garden areas. The curtilage of each dwelling is to be easily identifiable and protected so as to encourage maintenance by the occupant.

- **Approval of Planting Schemes**

All landscape schemes shall be designed by a landscape architect and are to be submitted to the Council for agreement and in advance of forwarding to the Planning Authority for approval. The Constructor will be required to complete the soft landscaping to the approval of the Planning Authority. The Constructor will be responsible for replacing all diseased or dead plants, shrubs, trees etc, identified at the EDLP inspection, other than where it is agreed by the Employer that defects are due to vandalism.

- **General Planted Areas**

Care is to be taken to avoid excessive gradients and retaining walls provided where necessary. For general planted areas BS4428:1989 recommends a maximum gradient of 1 in 1.5 (35º). In grassed areas the change from level to slope should be very gentle curves to facilitate mowing.

In general, shrubs should have a mature growth height no higher than 1m, and trees should have no foliage below 2m in order to provide a 1m clear field of vision. There may be some areas, particularly on some boundaries where this may not apply. Small narrow areas adjacent to car parks should be avoided.

- **Materials**

Top dressing mulch: to be shredded bark consisting of mature conifer bark with even particle size distribution 1-45mm. Mulch to contain less than 10% wood and a minimum of oversize pieces. Bark to be free from pests, disease and weeds and free from methyl bromide contamination.

- **Workmanship generally**

The Constructor shall ensure that adequate protection is given to all the plants and their root systems to preclude failure.

- **Preparatory works**

Provide imported topsoil as necessary to make up any deficiency existing on site and to

complete the work:

(i) To BS 3882, medium texture, soil reaction: 6.0 to 7.5 pH.
(ii) Free of stones with a size of 50 mm or more in any dimension.
(iii) Free of weed seeds, roots or perennial weeds, sticks, subsoil and foreign matter.

Spread topsoil, when reasonably dry to the following minimum depths after firming and settlement in layers not exceeding 150 and firm each layer before spreading the next:

| | | |
|---|---|---|
| (i) | Areas to be seeded or turfed | 150mm |
| (ii) | Herbaceous planting areas | 250 mm |
| (iii) | Shrub Areas | 400 mm |
| (iv) | Tree Areas (Pits) | pit size, relating to tree size |

Small planting beds located in general landscape areas may be excavated separately and at a later date than the general top-soiling operations.

Finished levels of topsoil after settlement:

(i) Manholes - 30 mm above for planted or seeded areas; level for turf.

(ii) Kerbs and pavings - 10mm above for planted or seeded areas; 25 mm below for turf.

(iii) Adjoining buildings - not less than 150mm below DPC.

(iv) Adjoining grass - 30mm higher for shrub areas.

(v) Married-in with adjoining soil areas.

(vi) No undulations or depressions.

(vii) Where bark mulch is to be used, feather edge of soil to 50mm below adjoining hard surface, and to not more than 1m inside shrub beds.

- **Seeding, turf laying and planting**

Maintenance cutting of grass:

(i) Pre-Practical Completion - Between the first cut and Practical Completion the height of growth must not exceed the 35mm.

(ii) Post-Practical Completion - see section on “Maintenance” below.

During establishment of planting ensure that sufficient water is regularly applied to maintain healthy growth.

- **Maintenance**

To protect the Employer's interests against defects, failures or poor establishment, the date for Practical Completion of the landscaping will be the last Practical Completion issued on the scheme.

During the pre-Practical Completion maintenance period, the Constructor will be obliged to keep the site in a clean and tidy weed-free condition. At completion all edges must be trimmed if necessary, grass areas to be clean, evenly graded and free of stones or debris and cut. Shrub beds must be mulched to the specified depth and all planting shall be as specified. The Constructor is therefore to maintain and water the site as necessary to ensure satisfactory Practical Completion.

Allow for keeping weed free and tidy, any areas which cannot be landscaped owing to climatic/seasonal conditions, until such time as the specified works can be carried out.

- **Post-completion maintenance**

The constructor shall include in his contract sum an allowance for maintaining all communal landscaped areas for a period of 12 months following Practical Completion. The Employer is to be provided with a copy of the landscape maintenance agreement at Practical Completion.

Any trees/shrubs/plants which are dead, dying or otherwise defective at the end of the Defects Liability period will be regarded as defects due to materials or workmanship not in accordance with the Contract. They must be replaced at the Constructor's expense by approved equivalent trees/ shrubs/plants at the next suitable planting season unless otherwise instructed. Allow for pruning, tidying, keeping site completely litter and weed free, and brushing up and keeping bark mulch topped up to specified depths.

All grassed areas are to be maintained by the Constructor, to the height of not exceeding 35mm, and/or not exceeding a cycle of ten working days, whichever occurs first. Remove mowings, soil and debris from adjacent surfaces and shrub beds and leave works in a clean and tidy condition after each grass cut. The conclusion of mowing maintenance is to coincide with the conclusion of maintenance of the planting.

### 2.11.11 BOUNDARY TREATMENTS

As follows, or as required by approved Planning Drawings. Where there is a conflict the Constructor must bring the conflict to the attention of the Employer at the earliest opportunity.

- **Erection and/or Repair of Boundary Fences or Walls**

The erection and/or repair of boundary fences or walls are to be strictly in accordance with the provisions of the land conveyance. All boundaries are to be defined with fencing in accordance with the following specifications.

- **Protective Fencing**

Boundaries are to be suitably fenced. Communal planting areas shall have protective fencing installed.

The extent of fencing is to be indicated on drawings forming part of the tender documents or where contracts are negotiated, the Constructor shall allow for the provision of such fencing and shall clarify the extent of fencing when submitting landscaping proposals.

- **Standards for Screen Fencing**

All screen fencing shall comply with the requirements of BS1722 – 5:2006 Close Boarding

Fencing reference type BCm 1.8m high and shall consist of rebated concrete posts, concrete gravel boards and timbers to durability grades D or VC

- **Gates**

All gates other than those referred to in section 2.11 must be lockable with a pad bolt provided. Gates to be provided with 50 x 50 mm treated timber stop affixed to the concrete post if not latched.

- **Standards for Walls**

Where walls are provided they are to be constructed in a facing brick with an FN designation as referred to in BS3921 (1985) Table 3 (No longer current but cited in building regulations), with three courses of Class B engineering bricks in waterproof mortar as a dpc 150mm above ground level and protected at the top with an engineering quality brick on edge or a weathered pre-cast concrete coping extending a minimum of 25mm both sides of the wall.

The walls shall be constructed in compliance with the BRE “Good Building Guide” GBG14 for brick or block freestanding walls or GBG19 for reinforced diaphragm and wide plan freestanding walls.

End bricks in brick coping courses should be secured with stainless steel brackets as per the manufacturer’s instructions.

- **Walls Not Exceeding 1m in Height**

Walls not exceeding 1 m in height are to be constructed with half brick thick walls and 215 mm (nominal) piers provided at centres not exceeding 3.0 m.

- **Screen Walls**

Screen walls not exceeding 1.8 m in height are to be constructed with one brick thick wall and 324 mm (nominal) piers provided at centre not exceeding 3.0m.

- **Walls Exceeding 12m in Length**

Walls exceeding 12.0m in length are to be provided with vertical movement joints the full height of any masonry including foundations masonry. Where the walls are rendered, the vertical movement joints should be provided where walls exceed 6 metres in length.

- **Dwarf Retaining Walls**

Dwarf retaining walls shall be built of Engineering bricks Class B and finished fair on exposed surfaces with brick-on-edge copings, treated against water penetration on the retaining side and founded on concrete strip foundations of adequate size. Perforated drain pipes in suitable filter media shall be run at the base of retaining walls with sufficient weep-holes in the walls to allow drainage.

Where the maximum retained height does not exceed 1.725 metres and the wall has not been signed by a professional qualified engineer, the walls shall be constructed in compliance with the BRE "Good Building Guide" GBG27.

- **Large Retaining Walls**

Larger retaining walls, exceeding 1.725 metres in height, are to be constructed in durable materials and designed for their purpose by a professional qualified engineer. Where there is access to the area above a retaining wall and there is a vertical drop exceeding 1.0m in height on the other side then an adequate non-climbable safety barrier is to be provided.

- **Metal Railings**

Metal railings and all fixtures and fittings are to be galvanized mild steel conforming to BS1722 – 9:2006 or powder coated

- **General**

Private areas must be screened from public areas to a minimum height of 1.8m. The design of such fencing shall be close-boarded with concrete post and concrete gravel boards.

Retaining walls shall be faced with a good quality facing brick or natural stone with brick-on-edge or weathered precast concrete copings, treated against water penetration on the retaining side. Perforated drainpipes in suitable filter media shall be run at the base of retaining walls with sufficient weep holes in the walls to allow drainage.

Exposed walls shall be built of facing bricks, block with render finish or reconstructed stone as directed by the planning approval.

Fences must be designed so that young children find them difficult to climb or open.

Where timber fences have a stained finish it shall only be applied by a total immersion process. No site staining will be permitted.

- **Perimeter of site**

Site boundary definition shall be provided by an 1800 mm high treated timber close-boarded fence.

- **Front gardens**

All front gardens shall be soft landscaped with boundary work as required by the Planning Approval.

- **Rear gardens**

All rear gardens shall be fully enclosed by an 1800 mm high close-boarded fence. Where the garden fence forms the perimeter of the site the boundary fencing definition shall prevail. One privacy panel size 1800 x 1800 mm shall be provided between the rear of each adjacent dwelling.

Fences dividing dwellings shall comprise of a timber close-boarded fence 1200 high on 100 x 100 pressure impregnated timber posts.

Each garden shall have a gateway comprising of an 850 clear opening with a match boarded gate ledge braced and framed including the following items:

(i) Must be designed so that young children find them difficult to climb or open.
(ii) Shall be the same height as adjacent fencing.
(iii) Rear garden gates must be lockable.

### 2.11.12 EXTERNAL TAP

Outside tap to be provided in a secure area such as the rear garden or side access complete with isolating stopcock

## 2.12 DRAINAGE

### 2.12.1 EXTERNAL DRAINAGE

- **Main Sewer Runs**

Main sewer runs shall be constructed to adoptable standards and where possible adopted by the Water Authority. Adoptable sewers will be required to be positioned to facilitate a 3 metre wide area to both sides of the sewer to facilitate future maintenance or such wider area as required by the adopting authority.

- **Access for Inspection and Cleaning**

All drains and sewers, foul and surface water, should be provided with means of access for inspection and cleaning at every junction with another drain and at every change in direction or gradient.

- **Foul and Surface Water Disposal**

Foul and Surface water disposal shall discharge into adopted public sewers.

Refer to appendix ? Drainage strategy and floor risk assessment.

- **Soakaways**

On site disposal to soakaways will only be considered where land is free draining and with the approval of the Local Authority. Soakaways shall be of adequate size for the water load and provided with an access cover to allow inspection and cleaning.

- **Planning Conditions**

All drainage work to comply with Planning Conditions and Building Regulations which will supersede the requirements of this clause if applicable.

### 2.12.2 SURFACE WATER RUN OFF

- **Care to Avoid Flooding**

Care is to be taken to avoid areas where surface water during heavy storms is likely to get trapped and cause flooding to dwellings. Particular attention is to be given to sites where there is a clay sub-soil and proposals to discharge surface or ground water shall be submitted for comment.

- **Generally**

The internal drainage shall be designed and installed to comply with BS5572.

Drainage from roofs and from paved areas shall be designed to the former mandatory requirements of the Code for Sustainable Homes. This may be possible through infiltration or rainwater harvesting or a combination of the two. Where attenuation is required to restrict flows to existing sewers any such attenuation shall be designed in conjunction with the Water Authority.

All manhole and inspection covers located within the curtilage of dwellings are to be of the bolt or screw down type and the frames are to be suitably mechanically fixed to the manhole or inspection chamber. Manhole and inspection covers outside the curtilage of dwellings shall be either BS497 Class A or Class B. Manhole and inspection covers and gulley grids shall be of a strength suitable for the traffic conditions. Manhole tops shall be consistent with adjacent surface level and secured to the manhole or inspection chamber.

G.R.P. gullies and domestic inspection chambers, where used, are to be bedded on and surrounded in concrete minimum 150mm thick and where in grassed areas or planted areas to include extending the concrete surround to support the cover and frame.

Provide an Aco-Drain as part of the front door threshold detail where the paving slopes toward the dwelling.

Where gardens slope towards dwellings then a land drain shall be laid between the garden and hard paved areas.

Provide a filtration chamber between the gully outlet of communal refuse storage areas and the drainage system.

Provide adequate rodding access in order to be able to keep the drainage system free-flowing.

Soakaways, where permitted, shall have a geo-textile wrap around them to prevent clogging and the backfill shall be inert and shall not include limestone

- **Completion**

All drains to be jetted upon completion and a CCTV survey to be conducted and the results forwarded to the Water Authority along with a copy of the As-Built drawings indicating the location of manholes and pipe runs.

### 2.12.3 RAINWATER RECYCLING (WATER BUTTS)

Only provide water butts if required by the LPA provide a rainwater collector on a stand on paving to the rear of the property which meets the following criteria:

(i) For houses having a capacity of 150 litres for properties with less than three bedrooms and 200 litres otherwise.
(ii) For communal areas the capacity shall be 1 litre for every $1m^2$ of land allocated to the dwellings which is either grass/planted or left as unplanted soil (up to 30 litres per dwelling allocated to the area). The minimum size shall be 200 litres capacity.
(iii) Has a removable top for cleaning the interior.
(iv) Provided with a tap for drawing off water.
(v) Connected to the rainwater down pipe with automatic overflow into the

conventional rainwater drainage system.

(vi) Detachable from the rainwater down pipe.

### 2.12.4 INTERNAL DRAINAGE

- **Soil and vent pipes**

Soil and vent pipes shall be provided with an access 900 mm above floor level.

Soil and vent pipes shall not pass through any habitable room.

Access needs to be made available to any Air Admittance Valve or Durgo which should also be designed to allow for air admittance.

- **Waste pipes**

Pipework shall be uPVC or muPVC and pipes and fittings shall be white where exposed internally.

All waste pipes shall be provided with rodding access points.

Provision for washing machines and dishwashers (where space provided) shall include a combined waste with kitchen sink.

- **Design Of Pipes And Systems**

Pipes and systems must be designed in such a manner that unsightly runs are avoided. No external plumbing permitted. The design of all soil and waste pipe systems must be in accordance with the relevant Codes of Practice.

## 2.13 UTILITIES

- **Consultation with Service Organisations**

Early consultation is to be made and agreement sought with the Electricity Authority, Gas Authority where appropriate, Water Authority and Telephone Services provider and Local Authorities for the provision of services to the development.

The Constructor shall submit to the Employer's Agent for prior information, his proposals for siting any required sub-station, its enclosure, and cable route if on or covering the Employer’s land, before entering into any agreement.

- **To Be Provided Underground**

All services, where possible, are to be provided underground.

- **Individual Meters**

All dwellings are to be individually metered for electricity, gas and water supplies. These are to be installed in accordance with the Employer’s recommendations and in a position where they can be read externally. GRP cupboards provided by the Authorities are acceptable to

the Employer. The position of meter boxes should be carefully considered to avoid being over prominent and detracting from the overall dwelling appearance and shall be capable of accepting non-credit meters and shall not encroach on footpaths.

If ground level meter boxes are to be provided, the Constructor shall establish with the Gas Authority that if required by the Tenant, a key meter can be installed within such ground level boxes.

## 2.14 SPACE AND WATER HEATING

- **Performance**

The heating system shall be economical to install and easy to operate and shall maintain the following room temperatures when the outside temperature is minus 3ºC:

| | | |
|---|---|---|
| (i) | Hall, landing and stairs | 18ºC |
| (ii) | Living rooms and dining areas | 21ºC |
| (iii) | Kitchens | 18ºC |
| (iv) | Bedrooms | 18ºC |
| (v) | Bathroom | 22ºC |
| (vi) | WC (not part of bathroom) | 18ºC |

The heating source shall also provide hot water for the dwelling linked if required to a solar hot water system.

### 2.14.1 SPACE AND WATER HEATING VARIANTS

The preference is for non-Gas central heating installation.

All alternatives to gas central heating are to be considered. The proposed system needs to have comparable or lower operating costs to gas central heating whilst not compromising on the performance. BCP Council housing may be allocated to those on low incomes and the cost to the end user needs to be accounted for and minimised.

Below are examples of heating that will be deemed to be acceptable to BCP Council, in order of preference. Note this is not an exhaustive list and BCP Council will accept other systems for consideration:

- Ground source heat pumps
- Electric Heating
- Wet electric boilers
- Air source heat pumps
- Gas Central Heating (up until 2025)

Where properties are built to Passiv Haus Standards, the heating and hot water provision should comply with the Passiv Haus performance requirements.

- **Ground Source Heat Pumps (GSHP)**

Kensa Shoebox or **similar approved** solution using a network of communal piles.

> **Flats**; 3kW Shoebox Ground source heat pump (ErP A+ rated) complete with unvented hot water cylinder or equivalent approved by the Employer. Flats to have radiators rather than underfloor heating.
>
> **Houses/Bungalows upto and including 3**-bedrooms; 6kW Shoebox Ground source heat pump (ErP+ A rated) complete with unvented hot water cylinder or equivalent approved by the Employer. Houses to have underfloor heating to ground floor and radiators to upper floor(s).

- **Electric Heating**

Dimplex Quantum heaters or similar approved.

Dimplex QRads

Electric underfloor

- **Wet Electric Boilers**

SUGGESTION or similar approved.

SPEC? Slim Jim Electric boiler

- **Gas Heating (GCH)**

Gas fired boilers shall be condensing wall mounted balanced flue type and have electronic ignition and be fitted with a gas saver.

> **Flats**; a 25KW Worcester i combi or Glowworm Energy 25KW combination boiler (ErP A rated) or equivalent approved by the Employer
>
> **Houses/Bungalows upto and including 3**-bedrooms; Worcester i-combi 30kW or Glowworm Energy 30KW or equivalent approved by the Employer
>
> **Houses/Bungalows 4-bed and larger**; a Worcester Greenstar 15 Ri or Glow worm Energy 15R with hot water cylinder (unvented) or equivalent approved by the Employer

If the property has a wet room; a 30KW Worcester i combi or Glowworm 30KW combination boiler (ErP A rated) or equivalent approved by the Employer is required.

Easy access is required to the heating unit in the kitchen or in a separate enclosure.

Flues are to be fitted in accordance with the manufacturer's instructions and comply with the Building Regulations and Gas Safe regulations. Where the flue terminations are below 2 meters from ground or other accessible level they shall be fitted with a suitable guard.

- **Solar heating**

**The Employer's preferred supplier of solar thermal panels will be as follows:**

Solar heating panels shall be installed to the requisite designed minimum aperture area for the dwelling and shall be:

(i) Glazed flat plate collector type.
(ii) Be Microgeneration Certification Scheme (MCS) accredited for grant purposes.
(iii) Manufactured by:

(a) Worcester Bosch Ltd (Greenskies FKC-1S) or equivalent approved by the Employer
(b) Worcester Bosch Ltd (Greenskies FKT-1S) or equivalent approved by the Employer
(c) Genersys Ltd (model 1000-10) **or equivalent** approved by the Employer

- **Pipework**

Pipework may be in copper to comply with BS2871 or in polybutylene to comply with BS7291 Class S. However, polybutylene will not be permitted within 1000 mm of the boiler.

Fernox or Camco rust inhibitor shall be mixed with the water circulating in the heating system. A Fernox or equivalent Certificate is to be provided by the Constructor at Practical Completion.

The line of pipework under timber suspended floors shall be marked indelibly on the surface of the floor.

All exposed pipework shall be painted.

All primary pipework shall be insulated.

- **Heaters**

**The Employer's preferred supplier of radiators will be as follows:**

Radiators shall be obtained from Ideal Standard Ltd (Stelrad division) or equivalent approved by the Employer.

Heaters are to be sited to take into account the likely position of furniture.

Radiators shall be located below windows where practicable.

- **Controls**

**The Employer's preferred supplier of boiler controls and valves will be as follows**:

Boiler controls shall be obtained from Horstmann controls.

(i) Horstmann S27 Service Plus Twin Channel (standard systems) or equivalent approved by the Employer

(ii) Horstmann Centaurplus C17-ZW (for combi coilers) or equivalent approved by the Employer

Room thermostats shall be obtained from Honeywell

(i) T6360B 230V or equivalent approved by the Employer
(ii) Hive **or equivalent** central heating and hot water controls will be considered where appropriate.

Thermostatic radiator valves shall be obtained from Drayton

(iii) TRV4 or equivalent approved by the Employer

Lockshield valves shall be obtained from Sunvic Controls Ltd.

(i) 717 without drain-off or equivalent approved by the Employer

(ii) 717 with drain-off or equivalent approved by the Employer

Motorised vales and other miscellaneous controls shall be obtained from Honeywell.

(i) Honeywell V4073A Mid position Valve or equivalent approved by the Employer

Honeywell V4043 2-Port Zone Valve (S-plan) or equivalent approved by the Employer

Circulating pumps shall be manufactured by Grundfos Pumps Ltd

15/50 or equivalent approved by the Employer

15/60 dependant on property size or equivalent approved by the Employer

- **Pipework Insulation**

Pipes in roof spaces should where possible be laid under the roof insulation, those that are not must be insulated with all corners and joints taped.

- **Commissioning**

Prior to handover the heating systems are to be fully tested, commissioned, balanced and operational in all intended functions.

The installer shall demonstrate the operation of the selected space heating and hot water systems to the tenants/ Housing Officer on the date of handover. In addition the Constructor's heating engineer shall return approximately two weeks after Practical Completion to check on the correct operation of the space heating and hot water systems and demonstrate any items outstanding and to any residents not available at handover.

Please also see separate requirements for the training of the Employer's maintenance operatives.

## 2.15 WATER SUPPLY AND INTERNAL DOMESTIC PLUMBING

- **Generally**

The installation of water services shall comply with BS 8558:2015 and BS EN 806-5:2012 to

ensure:

(i) Adequate cold water supplies.

(ii) Adequate support to tanks.

(iii) Protected floors to showers.

(iv) Correct location of overflow outlets to avoid damage to the property and annoyance to the neighbours.

(v) The risk of microbial contamination will be avoided by designing in line with best practice.

**Incoming mains and metering**

Communal services, where provided, are to be on the landlords metered supply.

Water Meters:

(i) Each individual dwelling is to be separately metered.

(ii) Shall be located in the adjacent public footpath to be accessible to the statutory authorities.

(iii) Shall be installed and tested prior to the Certificate of Practical Completion being issued.

(iv) Shall be identified by house number to indicate to dwelling to which it refers.

(v) Shall be provided with a key.

Each self-contained dwelling is to have an easily accessible and distinguishable stop-valve for the water supply. It shall be turned easily by individuals who may have difficulty with gripping objects.

- **Pipework**

Pipework may be in copper to comply with BS EN 12449:2016 or in polybutylene to comply with BS7291 Class S.

Pipework:

- Shall be fixed as follows:
  - (i) 15mm pipe — 1.2m centres horizontally, 1.8m centres vertically
  - (ii) 22mm pipe — 1.8m centres horizontally, 2.4m centres vertically
  - (iii) 28mm pipe — 1.8m centres horizontally, 2.4m centres vertically
- Shall be laid to slight falls to assist draining and venting of the system.
- Shall be concealed where possible with joints being kept to a minimum.
- Shall have drain cocks at lowest points and vents at highest points which are not capable of natural venting.

- The line of pipework under timber suspended floors shall be marked indelibly on the surface of the floor.
- Where laid in ducts shall be laid in a duct with continuous access.
- Exposed pipework to showers shall be chromium plated.
- Other exposed pipework to be painted.

Wherever a pipe pass through the structure a copper sleeve shall be fitted.

The rising main shall be covered with insulation 19mm thick. Pipes in unheated area shall also be insulated.

- **Water Conditioners**

A proprietary in-line electrolytic scale inhibitor shall be provided.

- **Cold water storage tanks**

Cold water storage tanks (where required) shall be:

(i) Moulded polypropylene, rectangular in shape, complying with BS 4213.
(ii) Complete with a Byelaw 30 kit.
(iii) Supplied with a ball-valve complying to BS1212 with a plastic float.
(iv) Provided with an insulation jacket.
(v) Minimum capacity of 225 litres.

Overflows shall discharge externally.

- **Hot water storage cylinders**

Hot water storage cylinders shall be:

**(i)** Where air source heat pumps are specified as the heating source then the hot water cylinders shall be obtained through the heat pump Supplier.
**(ii)** Indirect type.
**(iii)** OSO or equivalent approved combination tanks.
**(iv)** Pre-insulated with the covering applied by the cylinder manufacturer with the insulation having a GWP of less than 5.
**(v)** Fitted with a 3kW Maxistore immersion heater or equivalent approved by the Employer.
(vi) Shall have the following capacity: 180 litres

The manufacturer will give a minimum 25 year transferable guarantee.

**Valves and controls**

Provide a chromium plated isolating cock/adaptor to the cold and hot water services for:

(i) Washing machines.
(ii) Dishwashers, where space provided.
(iii) Future shower in ground floor WCs (cold water only).

All control switches, stopcocks etc, are to be positioned between 600 mm and 1200 mm above floor level.

All valves shall have a cross-top and cocks shall have a lever action.

- **Incoming Main to Kitchen Sink**

At least the kitchen sink is to be supplied from the incoming main and water entry shall not obstruct shelf space in the kitchen units.

- **Easy Access to Ball Valves**

All tanks and cisterns are to be located providing easy access for attending the ball valves.

- **Standard of Installation**

All pipes are to be installed neatly, particularly where visible.

- **Draining Down**

Every installation shall be capable of being drained down. Isolating valves shall be provided at all sanitary appliances. Installations in individual flats shall be capable of being separately drained down. Each self-contained dwelling is to have an easily accessible Surestop stopcock (or similar approved) with remote switch sited below the kitchen sink.

## 2.16 VENTILATION

- **Mechanical extract ventilation**

Where mechanical extract ventilation is used the following criteria shall apply:

(i) EnviroVent Filterless Infinity Extract Fan in
   a. kitchens to be humidistat activated (shared ownership dwellings to have extract hoods rather than extract fans),
   b. bathrooms and en-suites to be humidistat activated; and
   c. WCs to be PIR activated.

(ii) External shutters to be fixed louvre type.

(iii) SELV units to be installed in bathrooms.

(iv) Remote isolation of the mechanical extract ventilation shall be required.

(v) All ducting shall be rigid type.

Where extract fan ducting passes through cold voids, such as roof spaces, it shall be insulated. In addition a condensation trap shall be fitted to the lowest point nearest to the extract unit.

- **Mechanical ventilation with heat recovery** *[Where dictated by SAP calculation]*

The system shall be BRE approved and included in their SAP Appendix 'Q' list and shall be suitable for the size of dwelling and the 'wet-room' configuration.

Ductwork shall be rigid and insulated.

The system shall be manufactured by:

(i) Ventaxia Ltd (tel: 01293 441520) [Relative SAP efficiency = 3.98, Energy Savings Trust best performance compliant]

(ii) Nuaire Ltd tel: 02920 858200) [Relative SAP efficiency = 2.09, not Energy Savings Trust best performance compliant]
(iii) Villavent Ltd (tel: 01993 778481) [Relative SAP efficiency = 2.47, not Energy Savings Trust best performance compliant]
(iv) or equivalent approved by the Employer

MVHR unit not to be located in loft space or other inaccessible area and shall be easily accessible for filter changing and maintenance.

- **Passive Ventilation**

Passive ventilation installations will be considered by the Employer as an alternative.

## 2.17 ELECTRICAL POWER/LIGHTING SYSTEMS

### 2.17.1 ELECTRIC POWER

- **Incoming mains and metering**

Meters:

(i) Each self-contained dwelling is to be separately metered. Meter tails to the consumer unit shall be 25 mm $^2$ minimum.
(ii) Meters shall be located in meter boxes which shall be located in an unobtrusive place to the front and outside of the building, where possible (in cupboards inside each flat for flat blocks with separate landlords' meter inside each block located in cupboards within the communal area).
(iii) All meters must be installed and tested prior to the Certificate of Practical Completion being issued.
(iv) All meters must be identified by house no to indicate, which dwelling to it refers.
(v) All meter boxes shall be provided with a key.

Consumer units and distribution boards shall be Crabtree Starbreaker Metal Clad range or equivalent approved by the Employer fitted 1500mm from floor to the underside of the unit with each circuit fitted with RCBO circuit breaker, providing 30mA RCBO protection. Each unit will be sized to provide a minimum of 25% spare capacity for future use. Individual RCBOs to be provided for each circuit.

Two spare unused ways in the consumer unit will be blanked off and each circuit shall be clearly marked to identify its use. Appropriate warning labels shall be attached to the unit to identify how to test and operate RCBO devices.

The complete installation shall comply with the latest edition of BS7671 IET Wiring Regulations and all cables shall be BASEC approved.

- **Certification**

On completion of each installation an Electrical Installation Certificate shall be issued to the client in accordance with BS 7671 (IET Wiring Regulations) latest edition for each dwelling.

The Electrical Constructor shall be on the roll of the National Inspection Council for Electrical Installation Contracting or a member of the Electrical Contractors Association, NAPIT or approved equivalent.

- **Power supplies**

The minimum provision for switched socket outlets shall be as follows:

| | | |
|---|---|---|
| (i) | Kitchen | 4 Nr double + 1 Nr unswitched single socket with switched spur for each appliance shown in the kitchen layout (fridge/freezer, washing machine and dishwasher (where appropriate) etc.) Switched spurs to be provided to cooker extract hood and hobs (where provided, i.e. to Shared Ownership properties); 1 Nr Cooker circuit with 45 Amp DP switch and outlet plate finished 500mm above floor level directly behind cooker position. |
| (ii) | Living room area | 4 Nr double |
| (iii) | Dining room area | 2 Nr double |
| (iv) | Hall | 1 Nr double + 2 Nr unswitched spurs for possible future security alarm and stairlift |
| (v) | GF WC | 1 Unswitched spur for possible future installation of electric shower |
| (vi) | Landing | 1 Nr double |
| (vii) | Bedroom | 3 Nr doubles |
| (viii) | Rear GF Lobby | 1 Nr double |

- **Power supplies to heating systems**

(i) Solar Water Heating
(ii) Electric Heating System

Provide and install as per manufacturer's instructions to the heating system selected from the list above all necessary electrical wiring to operate the heating system including (where appropriate) supplies to boiler, individual room heaters, immersions, pumps, valves, thermostats, programmers etc.

Manufacturers and ranges shall be:

(i) Crabtree Electrical Industries Ltd (Capital range) **or equivalent** approved by the Employer

Socket outlets are to be rocker switched.

The location of power sockets shall reflect the likely furniture positions and give maximum flexibility to possible layouts. Except in kitchens sockets shall not be located in the party wall.

Heights of socket outlets:

(i) 600 (top of socket) above floor level generally.

*(ii)* 150 (bottom of socket) above worktop in kitchens.

Sockets outlets for appliances in the kitchen shall be controlled from a switched spur above using a multipanel with name of appliance engraved.

Switches with a neon indicator for water heaters shall be engraved "Off Peak" or "On Peak" as appropriate and shall be installed in the adjacent circulation space.

A splash-proof combined above-mirror light and shaver point shall be provided in each bathroom.

Height of power controls (other than socket outlets) shall comply with the current requirements of Lifetime Homes as required.

### 2.17.2 PHOTOVOLTAIC ELECTRICITY GENERATION

A photovoltaic roof tiling system shall be provided on all housing schemes:

(i) Minimum power requirement per dwelling [to be specified by M+E consultant] kWp.

(ii) If roof tile compatible use an integrated solar electric roof tile solution, otherwise use a flat glass panel system in lieu of tiling and make waterproof with flashings.

(iii) Manufactured by Solar Century (C21e tile system or Sunstation panels) (tel: 02078 030100) or Panels to be 'Canadian Solar' (**or equivalent approved**).

(iv) Inverters to be SMA 'Sunny Boy 3000' range (**or equivalent approved**), located externally for ease of isolation by DWFS/fire service.

A tray mounted system should not be used for the panels to prevent birds nesting under the panels. PV panels should be designed to provide power to top up electrically heated hot water and surplus to battery storage (if specified).

### 2.17.3 LIGHTING

- **Internal Lighting**

Lighting shall comply with BS5489 and be adequate for safety.

Emergency escape lighting shall comply with BS5266 part 1, BS4533 and BS5499 parts 1 and 3.

Dwelling front and rear entrance external lighting to individual dwellings shall be provided using dedicated compact fluorescent low energy lamps (CFL) having a luminous efficacy greater than 40 lumens per circuit-Watt in bulkhead fittings that will only accept that type of light and shall to be controllable from within the dwelling, as follows:

(i) Front Entrance – Ansell ADSILED1 8w & ADSILED 14w Fittings Wall Mounted bulkhead light to be controlled by a daylight sensor and manual override switch or **equivalent approved** by the Employer.

(ii) Rear Entrance – Ansell ADSILED1 8w & ADSILED 14w Fittings Wall Mounted bulkhead light to be controlled by manual override switch only Internal lighting to individual units or equivalent approved by the Employer:

(iii) Shall be easily accessible.

(iv) 75% of all internal light fittings shall only take lamps having a luminous efficacy greater than 40 lumens per circuit-Watt. The lamp holders shall be capable of taking a standard UK size lamp shade which requires no adjustment, such as Memlite BC3 or Osram Dulux Low Energy Range or equivalent approved by the Employer.

(v) Kitchens shall not contribute to the 75% of internal light fittings and in this

location an Ansell ATLLED4 27w Batten Fitting 1220mm/Ansell ATLLED5 35w Batten Fitting 1525mm/Ansell ATLLED6 43w Batten Fitting 1745mm (as appropriate) or equivalent approved by the Employer shall be provided.

(vi) Lighting switching to hall/landing and living/dining room shall be two-way or three-way as required.

(vii) To Bathrooms and cloakrooms shall be provided with a Ansell ATLLED4 27w Batten Fitting 1220mm or Ansell ATLLED5 35w Batten Fitting 1525mm (as appropriate) or equivalent approved by the Employer.

(viii) Under stairs cupboards shall be provided with a Ansell ADSILED1 8w & ADSILED 14w Fittings Wall Mounted bulkhead light to be controlled by manual override switch only or equivalent approved by the Employer

(ix) Shaver Lights shall be Eterna SH1844DVO dual voltage light fitting or equivalent approved by the Employer.

(x) All other lamp holders and batten holders shall automatically shield the contacts by means of a shutter when the lamp is inserted or removed from the holder.

(xi) 15W energy efficient bulbs shall be provided everywhere within the dwelling, except for living rooms where the rating shall be 20W. NB: Kitchens excluded see above

Light switches:

(i) To be of the broad pattern (extra wide) type 15/20 amp rating with cover plate. Switches to bathrooms, WCs and under stairs cupboards to be positioned external to the room.

(ii) To be Crabtree Capital range or equivalent approved by the Employer.

(iii) Height of switches shall be 1100mm from floor to underside of switch.

(iv) Light switches shall incorporate neon indicators when they are positioned in a different room from the lighting point.

- **External Lighting**

Street lighting to both adoptable and non-adoptable roads, paths and parking areas shall comply with BS5489. Where conflict with statutory provisions occurs, such as developments within conservation areas the requirements should be discussed with the Police Authority and the local authority lighting engineer.

Street lighting standards and heads shall be appropriate to the scheme environment.

Adoptable street lighting shall be designed by the highway authority and the constructor shall comply with the authority's material specification.

Non-adoptable lighting shall consist of:

Luminaire: Decorative sphere luminaire, 450/500mm diameter, with integral control gear base in black polycarbonate, high temperature acrylic symmetric / asymmetric refractor and opal / clear / anti-light pollution black top sphere in acrylic / polycarbonate, sealed to IP54.

Columns and brackets: 4/5mm galvanised steel root mounted column, 140mm base, 76mm shaft, grub screw for fixing bracket, bitumen coated root and single base compartment with treated wood backboard and access door, uniform bracket / column interface and geometrically designed brackets.

Columns shall be hinged where access is restricted.

Controls: 70 lux PEC mounted on building controlling contractor for external lighting supply with override switch for testing.

External lighting to the external stair and walkways and general site lighting using robust and weatherproof fittings of attractive design. External lighting to walkways to be controlled by PIR and auto dims to 10% when no movement detected. All fittings to have LED bulbs fitted. All common amenity space lighting to be controlled by photocells linked to timers in the site office.

Walkway light fittings are to be wall-mounted and within easy reach of deck level, to enable trades persons to change bulbs without the need for access equipment.

No light fitting shall provide a ledge for birds to perch on, tapered or rounded edges to fittings only.

All communal lighting is to be supplied from the landlords supply.

- **Communal lighting**

Internal communal lighting shall consist of LED fittings, polycarbonate opal diffuser incorporating emergency lighting as required and fitted with individual motion and Daylight sensor.

### 2.17.4 EARTHING

Allow for the Earthing and Bonding of the whole electrical system in accordance with the latest edition of the I.E.T Wiring Regulations BS7671.

### 2.17.5 FIRE DETECTION AND CARBON MONOXIDE DETECTION

- **Dwellings**

On each separate floor of the property generally at ceiling level in hallways and landing areas provide and install a hard-wired smoke and/or heat detector complete with 10 year lithium battery back-up as follows:

(i) Hallway & Landing – Aico Ei3024(RF) Multi-Sensor with Hush and Mounting Plate **or equivalent** approved by the Employer

(ii) Kitchen – Aico Ei3028(RF) Heat Detector and CO with Hush and Mounting Plate or equivalent approved by the Employer

Detectors shall be connected to an adjacent lighting circuit and interconnected so that all detectors sound on activation of a single detector with use of a Radio Link Ei100mrf or equivalent approved by the Employer.

Smoke detectors shall comply with BS5446 and shall be kite-marked and installed in accordance with BS5839. A test and hush facility shall be provided with each detector.

A heat detector shall be provided in the kitchen in such a position that will not give false alarms from cooking areas by steam, condensation or fumes. A test and hush facility shall be provided with each detector.

Where required (fossil fuel installations) a carbon monoxide hard-wired detector shall be provided in each dwelling. The CO detector shall comply with BS7860 and BS EN 50291-1. A unit is to be fitted in each area containing a gas appliance.

All smoke, heat and CO detectors shall be fitted in strict accordance with the manufacturer's instructions and relevant Building Regulations and BS5839.

## 2.18 GAS INSTALLATIONS NOT APPLICABLE TO THIS CONTRACT

- **Incoming mains and metering**

Each self-contained dwelling is to be separately supplied.

Meters:

(i) Each self-contained dwelling is to be separately metered.
(ii) Meters shall be located in meter boxes which shall of the wall mounted type and shall be located in an unobtrusive place, to the front of the building where possible.
(iii) All meters must be installed and tested prior to the Certificate of Practical Completion being issued.
(iv) All meters must be identified by house/flat number to indicate the dwelling to which it refers.
(v) All meter boxes shall be provided with a key.

A gas cooker point must be provided where supplies are available and shall terminate 600mm from the floor.

**Certification**

On completion of installation, test, inspect and provide a Gas Safe Register Gas Inspection and Test Certificate for each dwelling. The Certificate shall include:

(i) Tests for correct operation of safety devices.
(ii) Spillage test.
(iii) Flue flow test.
(iv) Termination, ventilation and gas soundness.

- **Pipework**

All pipework is to be in copper to comply with BS2871. Plastic tubing and valves are not acceptable.

Gas service pipework shall supply boilers and cooker points.

Wherever a pipe passes through the structure a copper sleeve shall be fitted.

All internal pipework shall be hidden.

All external exposed pipework shall be concealed within vented false down pipes. Where this is not possible, pipework is to be painted in a colour to match the background and located in a

discreet position.

## 2.19 COMMUNICATIONS INSTALLATIONS

- **Televisions**

Generally, coaxial cable, conforming to BS EN 50117, will be connected from each TV point and taken into the roof space of each dwelling with sufficient excess to allow installation of an aerial by others. Lofts will be boarded to allow access from the loft hatch (no lighting to be provided) to the aerial location, 2.4m x 0.6m area per house.

Aerials are not to be sited externally on any building unless specifically approved by the Employer.

Aerials, where installed, shall only be erected by accredited aerial installers.

Television points connected to the aerial are to be provided to the following locations at 600 mm above floor level:

(i) Main living room
(ii) Main bedroom

The location of TV aerial sockets must reflect the likely furniture positions and give maximum flexibility to possible layouts and be adjacent to a double socket.

Where the development includes flat blocks, such blocks are to be provided with an integrated reception system (TV / Satellite) with communal aerial consisting of a two wire system to provide 2 satellite feeds, 1 digital TV and 1 FM / DAB radio.

Virgin Media (or alternative, by agreement) ducting shall be provided to all dwellings.

- **Telephones**

A telephone master socket to match other electrical fittings is to be provided in the Livingroom of each dwelling located in such a position that no internal surface wiring is required. A telephone extension socket is to be provided in the main bedroom of the dwellings at 600 mm (top of socket) above floor level. Telephone points are to be adjacent to a double socket. All extensions to be wired back to master socket.

BT ducting shall be provided to all dwellings.

- **Door entry systems**

A mains operated doorbell is to be provided, to individual entrance doors with the sounder located in the hallway

Bells and buzzers shall be audible throughout the dwelling.

- **Door Entry and access control Not applicable to this contract**

**For blocks of flats**

The systems shall be as manufactured by:

Neon Secure Access Ltd
Unit 2 Lions Court
Wimborne Road
Lytchett Matravers
Poole BH16 6HQ
Tel: 0845 520 2345
Email: enquiries@neonsecureaccess.co.uk
or equivalent approved by the Employer

The complete door entry and access control systems shall be purchased from Neon Secure Access Ltd or equivalent approved by the Employer.

The system consists of two sub systems which are integrated by the manufacturer and comprise:

a) A video door entry system manufactured by Neon Secure Access Ltd or equivalent approved by the Employer b) A proximity fob access system manufactured by KMS Ltd or equivalent approved by the Employer.

The two systems are integrated with each other to form the complete entry system.

- **Video door entry system main features not applicable to this contract**

Stainless steel vandal resistant entrance panel comprising:

a) Individual 20mm round Stainless Steel buttons for each flat.

b) An individual button for a timed tradesman facility controlled by a GMT/BST time clock.

c) A four digit high visibility LED display module to provide full call progress information to the user.

d) KMS Token/Fob reader or equivalent approved by the Employer

e) Speech amplifier

Handsets to each flat:

a) A facility on each handset to operate the door-release remotely.

b) A green led which remains on in all flats if a main entrance door is not securely closed within 30 seconds.

c) A timed privacy button on each handset and a red led indicator, which illuminates when privacy is on. The privacy time will be set for 8 hours.

d) 4.3” colour screen

- **Electronic Access System main features not applicable to this contract**

a) KMS SimpleKey Web (ICLOUD) or equivalent approved by the Employer GPRS access control.

b) GPRS modem with sim card supplied by KMS or equivalent approved by the Employer

c) The fobs will be programmed by Key Management Systems or equivalent approved by the Employer Commissioning Engineers at their office and the information transmitted to the controllers over the mobile phone network

d) The main entrance reader shall be incorporated into the main entrance panel.

e) Additional readers for rear door etc shall be low profile, surface mount vandal resistant units.

**Electric Lock Release or Magnalock not applicable to this contract**

- **Maglocks**

a) Two maglocks shall be installed to each communal entrance door.

- **Electric releases and night latch**

a) If an electric release is used instead of maglocks an internal handle shall be fitted to the night latch.

- **Exit push buttons**

a) A stainless steel vandal resistant exit push Button shall be fitted adjacent to all controlled exit doors with maglocks.

b) If the entrance door has an internal handle exit pushes are not required.

- **Emergency devices and interlocks**

a) The system shall be connected to the Fire Alarm system via volt free contacts if magnalocks are fitted.

b) When the Fire Alarm is activated all the controlled doors shall unlock and remain so until the Fire alarm is reset.

- **Emergency services switch**

a) A Drop key Fire Control switch shall be mounted externally above the main entrance panel for emergency services access.

## 2.20 ADDITIONAL REQUIREMENTS FOR FLATS

**Fire Box** – A steel red document box, located externally, near the main entrance. The box is to be marked ‘Fire Document box’ and be locked with a padlock. The box is to big enough to hold A4 Lever arch file (for the Fire alarm test logs, Emergency Lighting test logs, Fire Risk Assessment and list of Vulnerable tenants for evacuation). On supported housing schemes,

an additional steel grey document box is required to be located internally, near the main entrance.

**REMOTE SWITCH - External remote switch in lockable enclosure to allow fire brigade to release entrance door.**

## Fire Sprinklers

Design and install a fire sprinkler system for each flat and the office. The sprinkler system shall be a water system to BS9251 . The fire sprinkler panel is to be located on a recessed cupboard abject to the door to the office. Each flat shall have a flow switch and isolation valve. The flow switch shall be wired back to the mains panel and the isolation valve shall be located external to the flat.

# APPENDIX A – PROJECT PARTICULARS

**PARTIES**

| | |
|---|---|
| Employer: | Bournemouth Christchurch and Poole Council |
| (Client under CDM Regs) | Town Hall |
| | Bourne Avenue |
| | Bournemouth |
| | BH2 6DY |
| | Tel: (01202) 451451 |
| | Fax: (01202) 451000 |
| Employer's Agent: | **TBA** |
| Architect: | **TBA** |
| Engineer: | **TBA** |
| Constructor: | TBA |

Constructor: Note that the term "Constructor" is used throughout this document to identify the contractor that will be responsible for the construction works. Note, though, that there are places where the word "Contractor" is also used to denote the same individual or firm because that is the word used within contract documents. The use of the one definition is deemed to be synonymous with the other.

| | |
|---|---|
| Principal Designer: | **TBA** |

When the building contract is awarded to the Constructor he will appointed as the Principal Contractor as defined in the Construction (Design and Management) Regulations 2015 before the commencement of the Works. Within this document for "Constructor" read "Principal Contractor"

where it relates to any matter covered by those Regulations.

Where the Contract is awarded on a design and build basis, the Contractor will normally be required to take on the role of “Principal Designer”

## FORM OF CONTRACT

The Form of Contract to be used for this project shall be JCT Design & Build 2016.

## NATURE OF THE PROJECT

### Location

56 Herbert Avenue Poole BH12 4EE

### Description of the Works

> The 24 homes are to be used as temporary accommodation enabling people to be housed safely and securely until a permanent solution is found. Included in the 24 is to be 3 wheelchair accessible homes (1x 3bed 1x 2bed 1x 1bed). The units are to be well insulated to limit fuel poverty and to reduce energy consumption in use. The homes to be user friendly given the nature of the accommodation. The homes are to have the ability to be adapted to meet the future requirements of the Council.

Please refer to Planning Documents – Planning Ref :- APP/19/01444/F

### Schedule of accommodation

1 x 1 bed accessible apartment
1 x 2 bed accessible apartment
1 x 3 bed accessible apartment

2 x 1 bed apartment
12 x 2 bed apartment
7 x 3 bed apartment
1 x office/laundry/store

### Timescale for completion of construction work

The Date of Possession and the Date for Completion are as shown in the details on the Form of Contract.

## ACCESS AND VISITING SITE

### Access

Via PHP

### Visiting the site

To be agreed by PHP

## THE EXISTING ENVIRONMENT

### Surrounding land uses

The land to the north of the site is currently school playing fields.

The land to the south of the site is open space with w public right of way to Connaught Crescent

# APPENDIX B – LIFECYCLE OF COMPONENTS

| DESCRIPTION | MATERIAL | LIFECYCLE |
|---|---|---|
| **Roofs** | | |
| • **Roof Coverings** | Concrete Tiles | 70 |
| | Natural or Artificial Slates | 70 |
| | Flat roofs | 20 |
| • **Fascia/Soffit/Bargeboards** | PVCu | 30 |
| | Timber | 20 |
| • **Rainwater Goods** | PVCu | 30 |
| | Aluminium | 50 |
| **Walls** | | |
| • **Wall Finishes** | Pointed Brickwork | 75 |
| | Pointed Stonework /Reconstituted Stone | 70 |
| | Render | 40 |
| • **Canopies** | Timber/Tiles | 35 |
| | Other Material Type | 35 |
| **Windows** | | |
| • **Window Frames** | PVCu | 30 |
| | Painted Timber | 25 |
| | Aluminium | 35 |
| **External Doors** | | |
| • **All Entrance Doors** | Composite | 35 |
| | Timber | 25 |
| | Aluminium | 35 |
| **External Areas** | | |
| • **Fences/Gates** | Timber | 20 |
| • **Boundary Retaining Walls** | All types of Wall | 60 |
| • **Paths and Hardstandings** | Tarmac/Concrete | 35 |
| | Brick Paving | 35 |
| | Paving Slabs | 40 |
| • **Bin Store** | All Types of Store | 30 |
| • **External Streetlight** | Streetlight | 30 |
| **Communal** | | |

| | | |
|---|---|---|
| • **Door Entry System** | All Types of System | 15 |
| • **Fire Precautions** | All Types of System | 25 |
| • **CCTV in General Needs Flats** | All Types of System | 15 |
| **Internal Structure Finishes etc** | | |
| • **Floor Finishes** | Carpet | 15 |
| | Altro | 20 |
| | Vinyl Sheet | 15 |
| **Kitchens** | | |
| • **Kitchen Furniture** | Whole Kitchen | 20 |
| • **Extract Fans** | Conventional Extract Fan | 20 |
| | Cooker Hood | 20 |
| **Bathrooms** | | |
| • **Sanitaryware** | Whole Bathroom | 30 |
| • **Extract Fans** | Conventional Extract Fan | 20 |
| • **Separate WCs** | WC & Basin | 30 |
| **Electrical Installation** | | |
| • **Wiring & Fittings** | Whole (exc. Consumer Unit) | 35 |
| • **Consumer Unit** | All Types of System | 30 |
| • **Smoke Detectors** | Mains Powered | 10 |
| • **CO Detectors** | Mains Powered | 10 |
| • **Communal TV Aerials** | All Systems | 20 |
| • **Emergency Lighting** | All Systems | 25 |
| **M & E Services** | | |
| • **Boilers** | Gas Boilers | 15 |
| | Ground Source Heat Pump | 20 |
| • **Heating Distribution** | Radiators | 30 |
| | Underfloor Heating (Wet) | 25 |
| • **Hot Water Cylinders** | High Pressure HW Cylinder | 15 |
| • **Water Main** | Alkathene | 60 |

| | | |
|---|---|---|
| • **Solar Thermal System** | All Components | 20 |
| • **Waste, SVP's** | All Components | 30 |
| • **Hot and cold pipework** | All Components | 25 |

# APPENDIX D – STAGE FOR PAYMENT TEMPLATE

| **STAGES FOR PAYMENT HOUSE** | |
|---|---|
| | |
| **UNIT DESIGNATION** | |
| | |
| Building Regulation Approval | |
| | |
| Substructure up to slab | |
| | |
| Brick & Block shell, internal wall/ Timber Frame | |
| | |
| Windows and external doors | |
| | |
| Carpentry/structural timber work | |
| | |
| Roof coverings | |
| | |
| Plumbing, first fix | |
| | |
| Electrical, first fix | |
| | |
| Joinery, first fix | |
| | |
| Plasterwork, plasterboard and screeds | |
| | |
| Joinery and kitchen fittings | |
| | |
| Plumbing installation, second fix | |
| | |
| Electrical installation and heating, second fix | |
| | |
| Decoration, wall tiling | |
| | |
| Drainage | |
| | |
| Services, connections and fees | |
| | |
| External works, hard/soft landscaping, porch | |
| | |
| **TOTAL** | |
| If the Contractor wishes to suggest an alternative layout for payments to suit his own sequence of work this will be considered by the Employer's Agent. | |

# APPENDIX E – HANDOVER FORM

**HANDOVER FORM (Contractor to Council)**

THIS FORM TO BE COMPLETED BY A REPRESENTATIVE OF THE COUNCIL AND SIGNED BY A REPRESENTATIVE OF THE COMPANY AND THE CONTRACTOR.

Address of site/dwelling(s) to be handed over to the Council:

.....

.....

Handover took place on:

Date: ..... Time: .....

PROVISION OF KEYS

| **Location of lock** | **Number of keys (and Fob if applicable)** |
|---|---|
| Communal entrance door | |
| Front door | |
| Back door | |
| Loft hatch | |
| Window | |
| Gas meter box | |
| Electric meter box | |
| Bin store | |
| Cycle store | |
| | |
| | |
| | |

(attach separate list if required)

The above keys were passed to the Representative of the Council :

Date: ..... Time: .....

METER READINGS

Electricity – Meter Number……

Meter Reading……..

Water – Meter Number……

Meter Reading……..

The above meter readings were agreed as accurate on the date of this handover.

Signed for the Contractor: .....

Date: .....

Position: .....

Signed for the Council: .....

Date: .....

Position: .....