8.0 Procurement of Social Housing

8.1 Supply Chain and Contractual Framework

8.1.1 Timber frames, although an essential and specifically designed building component, are purchased as a product in component form from a supplier as are other building components. The Conditions of Contract for the supply is generally the standard condition of the supplier subject to relevant laws and statutes. These standard conditions vary from supplier to supplier but address terms of payment, delivery, limitations to liability on behalf of the supplier, and product guarantee. The contract conditions, as with any commercial contract, are negotiable between contracting parties.

8.2 Contractual Responsibility, Liability and Remedies

8.2.1 Essentially, the timber frame is purchased by the developer or contractor from the supplier as a product. The product is incorporated into the building and the building itself becomes a product. If the purchaser of the timber frame component retains ownership of the constructed building, the statutory contractual liability exists between the purchaser and supplier. If, however, the building is sold on, the contractual liability of the supplier is not transferred to the new owner. In the event of a defect in the timber frame, the new owner could not seek remedy from the timber frame supplier under contract.

[Note: It is not intended that this study is an in-depth legal commentary, and therefore the above is solely an outline of the contractual framework. Other remedies under the Law of Torts may exist.]

8.2.2 To improve upon this particular situation, mechanisms such as collateral warranties provided by the supplier to the building owner, as exist in the commercial sector, might be used. This, however, would be a requirement on timber frame suppliers over and above that normally demanded of other product suppliers.

8.2.3 Furthermore, insurance policies that are currently provided for housing purchasers would provide the end purchaser a remedy in the event of a failure, subject to the policy conditions.

8.3 Social Housing Procurement

8.3.1 Social housing in the Republic of Ireland is provided by both local authorities and voluntary housing associations with funding by the Department of the Environment, Heritage and Local Government. The method by which these organisations procure their housing stock greatly influences the form of construction used in the building of social housing stock.

8.3.2 Social housing providers tend to use the ‘traditional procurement route’. This route involves the substantial completion of design by the housing providers’ designers prior to the issue of tender documentation. The tender documents, consisting of drawings and specification (with or without bills of quantities), are issued to the tendering building contractors and competitive tenders
are sought.

8.3.3 This form of procurement provides a relatively high degree of cost certainty which is generally a fundamental requirement of social housing providers, particularly as funding is subject to cost limits. Relative cost certainty is achieved as the design is essentially complete at tender stage and the tenderers are pricing what is or should be the ‘as/built’ design. In addition, the social housing providers are able to significantly influence the design of the housing schemes through their design professionals, for example incorporating low cost-in-use heating systems, low maintenance materials.

8.3.4 The conventional form of construction for low rise housing in the Republic of Ireland is structural masonry walls and is evident in both the knowledge and experience of developers, social housing providers, designers, building contractors, trades people and occupiers and is supported by the proportion of existing housing stock constructed in this form.

8.3.5 Designers of social housing schemes generally follow conventional design and construction methods and this is manifest in the tender documents prepared for social housing schemes. Alternative or innovative construction and/or design solutions are therefore not generally employed. Furthermore, tenderers are rarely offered the opportunity to submit alternative tenders proposing alternative design or construction methods. However, providing tenderers the opportunity to submit tenders based on alternative design or construction methods raises the following issues:

1. The majority of social housing schemes have an element of public funding and, if the estimated cost of the project exceeds the specified thresholds, are subject to European Procurement Directives. This would require the contracting authority (social housing provider) to assess the tenders not only on objective criteria such as price but on subjective criteria regarding the proposed alternative design or construction method.

2. Designers under their Conditions of Engagement have a responsibility to their client for, inter alia, the design, owe the building contractor a duty of care under safety and health legislation, and a potential tortuous liability exists with regard to end users. Particular importance is therefore attached to the appointment of properly qualified and capable design professionals who have adequate professional indemnity insurance. When tenderers propose alternative construction methods, difficulty may arise with regard to who is responsible for the design of the alternative methods. Furthermore, the Architect is normally responsible for certifying the works, and where alternative design or construction methods have been incorporated, the Architect could be in a position whereby certification of works for which the Architect was not responsible in design would arise; the Architect would therefore be reluctant to certify such works.

3. Any design or construction method must be in accordance with statutory legislation including Building Regulations. Therefore it would be necessary to ensure that the alternative proposal met the statutory requirements. The responsibility for ensuring this compliance would rest primarily with the Architect; however, this would generally be beyond the Architect’s Conditions of
Engagement. In addition the process of confirming the compliance of proposed alternatives would extend the period of tender submission and/or evaluation and may indeed be unfair to other tenderers.

8.3.6 The inherent process of following conventional design and construction methods by social housing providers’ design professionals, the form of procurement mainly employed by social housing providers and the additional issues arising when alternative design and/or construction methods are submitted by or requested from tenderers all impede somewhat the greater use of timber frame housing for social housing schemes.

8.3.7 Furthermore, many social housing providers are generally unwilling to be the ‘forerunners’ in using what is perceived to be ‘innovative’ construction methods. Also smaller social housing providers take the form of committees consisting of lay persons who most probably are less informed with regard to the various alternative available forms of construction other than conventional and may therefore be reluctant or perhaps prejudicial in the approval of design proposals.

8.3.8 If the challenge facing the State is to maximise the potential output of all parts of the construction industry to meet social housing needs then it is important that barriers or obstacles, actual or perceived, to full participation are removed taking due cognisance of existing methods, reasons for use and positive attributes.

8.3.9 The existing procurement model for public sector housing is generally referred to as the ‘traditional model’ and has, with little evolution, represented the dominant method of procurement for a considerable period of time. Consequently this method has attained a very high level of familiarity within local authorities, social housing providers, design professionals and construction sectors and is supported by a suite of well established contract documents, procurement procedures and understanding by all parties of the risk profile, relative roles and responsibilities.

8.3.10 In recent times this approach has also accommodated the rules and procedures laid down by the European Community for procurement of publicly funded works.

8.3.11 The continued dominance of this procurement method has coincided with the continued use of conventional design and construction methods to the probable exclusion of innovative or alternative designs and/or technology such as timber frame, and as explained below, are mutually compatible.

8.3.12 Any potential for the increased utilisation of timber frame construction in Ireland must therefore be carried out within the context of EU procurement directives and further attain the relative level of familiarity and comfort enjoyed by the traditional procurement model, and in turn the conventional design and construction methods. The Consortium note that relatively few social housing projects have estimated construction costs over €6.3 million, which would bring them within the scope of the EU Public Works Directive.

8.3.13 A further objective would be to create a comparable level of opportunity for all construction techniques/methods to compete openly for social housing projects on a consistent and regular basis.
8.4 Procurement Procedures

8.4.1 The following sections illustrate the key objectives of current procurement procedures and identify the obstacles that the timber frame industry must overcome if the objectives above are to be delivered on.

8.4.1.1 Traditional Model

Public sector bodies within the constraints of the EU directives on public procurement continue to use the ‘traditional’ procurement model to provide the majority of social housing in Ireland. This approach is likely to continue given the key stakeholders’ (public sector bodies, private clients, designers, constructors) faith in this system as expressed in various strategies and policy notes for the industry (Ref: Strategic Review Committee findings).

The traditional model has at its core the following principles:

- Design and construction responsibilities split
- Design completed prior to starting on site
- Client afforded maximum ability to effect change at any stage of the process
- Client attains relative cost certainty at the outset of the construct stage of the project
- Client attains relative programme certainty at the outset of the construct stage of the project
- Approach allows maximum competition at all levels of the supply chain at tender stage
- Risk allocation is well established, known and understood by all participants
- Client retains maximum control on the process, which allows the client an input into all aspects of the design process in particular
- Tendering costs for contractors are low based on the provision of completed design by others
- A suite of standardised and recognised contract documents supported by substantial case precedent is in place

Timber frame construction could be procured under the ‘traditional’ model but, as stated above, the continued use of the ‘traditional’ procurement method has coincided with conventional design and construction methods, and indeed the use of the traditional model in which timber frame housing is the construction method specified could create potential barriers to other forms of construction.

Projects are delivered in a sequential manner with no overlap between design and the construction functions, and each stage of work requires approval by the funding body before proceeding to the next stage. The process is very descriptive in terms of design information and specifications and relies on a high level of supervision of the two alternative methods.

Recognised alternative methods of procurement include, Design and Build, Construction Management Contracting or Design Construct and Manage. Within public sector projects, Design and Build has in recent times increased in usage and some noteworthy examples have been successfully completed. These include the various
decentralised offices for Central Government and the recent Pilot PPP Community School Programme completed late 2002. Whilst many of the above alternative methods can also meet some of the above objectives no other alternative can satisfy each point. Likewise there are other benefits with the alternative methods that the ‘traditional’ approach cannot satisfy.

Advances in construction technology, the increased use of prefabrication and increased complexity of construction projects have, however, created significant precedence in recent times where design responsibility has become a shared responsibility between designer and manufacturer. Relevant examples would include bathroom pods, curtain walling and piling. Timber frame technology is not dissimilar in terms of the relationship required between designer and manufacturer. The impact on the standard forms of procurement has been, in the main, revisions to the construction contract to reflect allocation of design responsibility for distinct elements of the building fabric to the design team, main contractor or specialist sub-contractor during the construction phase to ensure quality.

8.5 Timber Frame Procurement

8.5.1 The Timber Frame procurement solution differs fundamentally from the conventional method in the following ways:

- Competition in the supply of timber frame, in terms of high volume developments, is presently limited to fewer than 10 indigenous suppliers.
- Design - the specialist timber frame manufacturer rather than design consultant (in a manner not dissimilar to, say, curtain wall design) primarily retains responsibility for structural and detailed design of the timber frame structure.
- Timber frame housing has a relatively longer lead-in period due to design and manufacture requirements but a shorter period on site as prefabricated components are less labour intensive to erect. Consequently the ‘window of opportunity’ to effect change without undue penalties for the client is relatively shorter.
- The blurring of design responsibility between structural engineers, specialist designer of the timber frame, and Architect implies a need for a specific design responsibility to be accommodated within the building contract. Whilst this is becoming an increasing feature of building contracts there remains no recognised standard form of contract with recognised rights, responsibilities and remedies with regard to design.
- For timber frame developments it can be argued that the skill bases required to properly supervise construction work are not as widely available within designer and constructor organisations as are available for conventional construction methods.

8.5.2 The broad reasons why the ‘traditional’ method of procurement, unaltered, is favoured by the procuring party for a timber frame solution is that the following criteria can be achieved:

- Design completed prior to starting on site.
- Client attains cost certainty at the outset of the construct stage of the project.
- Client attains relative programme certainty at the outset of the construct stage of the project.

8.5.3 In contrast the following represent difficulties for public bodies and/or the industry and are in our opinion barriers to maximising the potential use of timber frame housing within the principles laid down in current government procurement procedures:

- Design and construction responsibilities split, however, the constructor would indirectly undertake some design.
- Risk allocation is not well established, known or understood by all participants
- Client does not retain maximum control on the process, enabling input into all aspects of the design process in particular.
- Tendering costs for contractors may be higher as there is an element of contractor design during the tender stage.
- There are no recognised standard contract documents in place.
- Pre-selection process used by local authorities and social housing provider

8.5.4 Almost all of the above issues are capable of resolution; however, in our opinion they require change both in terms of approach and expectations on the part of the public sector if it is the objective to create a comparable level of opportunity for all construction methods.

8.5.5 From our perspective, the existing social housing market more accessible to non-conventional construction methods would entail changes to the following key aspects which are discussed in detail below:

- Allocation of responsibility and liability for design
- Timing of tender in overall process
- Form of Contract

8.6 Timing of tender in the overall process

8.6.1 The current arrangement presumes full design prior to tender. Post tender the contractor’s ability to effect change in the traditional method is constrained by the condition that each and every change must be ‘or equivalent approved’.

8.6.2 This in effect limits change of suppliers of generic construction products rather than change of construction method or product type. Consequently a contractor submitting a tender for a housing scheme, for example, based on detailed masonry working drawings will be willing to seek a derogation on the specified block supplier but will not be willing to seek a significant change in terms of the construction method to, say, timber frame on the basis that either:

- this change will require design team approval or
- the Forms of Contract will require amendment to reflect the position on design responsibility or
- client approval
8.6.3 Once a scheme proceeds into detailed design stage for tender documents this establishes, on a de facto basis, the method of construction. At this point fees are committed to detail design of a particular construction method and the pre-selection process for contractors will be influenced by the type of construction to be adopted.

8.6.4 Consequently the stage at which tenders are sought and the timing of it within the process represent a key issue. It would therefore be our recommendation that a public sector or voluntary housing scheme be tendered in a manner that is flexible in the choice of construction method and does not contain information that infers a preference for a specific construction method. This would have the effect of removing barriers arising from the current method of procurement used. In this instance, tenders would be based on performance specification and drawings developed to Stages 2-3 (developed sketch scheme, performance specification and preliminary cost plan).

8.7 Design Responsibility

8.7.1 The traditional method of procurement as set out above places full design responsibility with the client's design team and places no design responsibility on the contractor. This arrangement has successfully formed the traditional model for some time and its key benefits are recognised as:

- Design complete prior to tender of works
- Quality control enhanced by level of detail design work carried out by design team in advance of site work and supervision duties imposed by client on design team post contract.
- Clear and unambiguous allocation of responsibilities between designer and contractor. Process affords client maximum opportunity to influence comment and approve all aspects of design.
- Relative cost certainty

8.7.2 Timber frame housing does not sit well with the core principle of the ‘traditional’ procurement method where design is an independent function apart from construction. Typically, a timber frame is a specially designed bespoke product, and its design, not unlike other components such as lifts, external cladding, etc., becomes a shared process between the client’s designer (responsible for performance design) and timber frame supplier (responsible for detailed design). This process places a significant onus on the timber frame supplier to complete a design to a performance specification which, given the volume of work involved and bespoke products available to each company, can in practical terms only be completed once a contract is awarded. Consequently the splitting of design responsibility creates a significant departure from the current preferred route and further creates the following consequences:

- Design not complete prior to placing of contracts.
- Client’s designers responsibility for the structural frame, reduced to that of preparing performance specification for the timber frame.
Client ability to influence design much reduced after manufacturer has commenced design of the timber frame.

The frame manufacturer may require modification to the general arrangement drawings to achieve their timber frame design criteria and proposed changes, if any, would have to be submitted for approval by the client’s designer.

8.7.3 If this change is accepted then the emphasis is on putting in place contractual safeguards, which reflect the revised risk profile for client and contractor; these are dealt with below.

8.8 Contracts

8.8.1 Currently public sector housing is procured using the GDLA 82 Form of Contract, which is widely used and is similar to the RIAI private form. A further marked feature of this Form of Contract is the relative lack of change/alteration imposed by the public sector since its inception, which has contributed to the thorough understanding by all parties of its content.

8.8.2 In contrast the private sector has typically used the RIAI form; however, with increasing regularity this form has been amended quite significantly almost to the point where it can be described as a ‘bespoke’ form, particularly on major projects. However, upon inspection of the typical standard amendments to the RIAI form it is clear that addressing design responsibility and role of specialist sub-contractors is at the root of the principal amendments.

8.8.3 The current GDLA Form of Contract does not deal with design responsibility of contractors per se other than through the practice of nominating sub-contractors who in turn give the client a collateral warranty.

8.8.4 In the case of timber frame housing this approach can give the client a degree of comfort; however, it does so at the expense of the following:

- Responsibility for design of the timber frame would not be the main contractor's responsibility.
- A main contractor/nominated sub-contractor relationship must be formed which can create other difficulties in the administration of the contract, for example: the nominated sub-contractor would be entitled to direct payment by the client in the case of default in payment by the main contractor; delay to the completion of the project where the delay is due to the nominated sub-contractor would entitle the main contractor to an extension of time and possibly associated additional expense.

8.8.5 An alternative would be to explore the potential of preparing a bespoke form of contract to be adopted by all public sector agencies for housing work, which would address the issue of design responsibility as a contractor issue, i.e. public sector responsible for performance specification outputs, contractor responsible for detailed design proposal. Key changes, which any new form would need to address, would include:
- Materials off site
- Approvals process for drawings and design
- Insurances (Professional Indemnity insurance)
- Product guarantees
- Certification of works by Project Architect
8.9 UK PRECEDENT

8.9.1 The United Kingdom’s social housing stock is considerably larger than that of the Republic of Ireland. Annual expenditure is in the region of stg£1.3 billion (forecast for 2003). The major provider of capital finance is the UK Government’s Department of Environment, Transport and the Regions with a budget of stg£659 million for 2002/3; this funding is generally matched by the housing associations through private borrowing. The funding is allocated on a competitive basis to the housing associations in the form of social housing grants.

8.9.2 The Egan Report (Egan J., Rethinking Construction, 1998 HMSO), commissioned by the government to identify ways in which the UK construction industry’s performance could be improved, identified pre-fabrication, partnering, benchmarking, and learning from abroad as ways to achieve increased performance. The UK Government saw the social housing sector as a way to lead change in the construction industry and to achieve the improvements in the construction industry as identified in the Egan Report. This influence is partly exerted through the Housing Forum which allocates separate money for innovative homes that satisfy the criteria of product development, product implementation, partnering in supply chain, pre-fabrication of components and the aim to have the entire housing construction budget compliant with the principles set out in the Egan Report by the year 2003/4.

8.9.3 An example of how the UK Government has influenced the construction industry, through the social housing sector, in order to achieve an increase in performance is the Amphion Consortium. The Amphion Consortium was formed by three social housing providers in response to the Egan Report and in particular as they found housing construction was becoming more expensive, of unpredictable quality and resulted in high levels of site wastage. The Consortium currently consists of twenty social housing providers providing the volume and continuity of production that is needed to allow innovation to be pursued and economies and efficiencies to be achieved. The Consortium formed a partnership with a constructor/timber frame manufacturer applying the principles of the Egan Report of factory production and partnering to achieve efficiency, economy and quality.

8.9.4 This Partnering Agreement has established a stable environment in which the constructor/timber frame manufacturer is certain of the right, subject to satisfaction of clear preconditions, to design and build approximately 2,000 homes. The Design and Build method facilitates the utilisation of innovative designs and construction methods by the constructor/timber frame manufacturer in the meeting of the housing provider’s performance brief.

8.9.5 The confidence gained from the Partnering Agreement worth in the region of stg£100 million has enabled the constructor/timber frame manufacturer to commit to a major corporate investment to a new factory for timber frame manufacture.
8.10 Conclusions

8.10.1 Social housing providers tend to use the 'traditional procurement route'. This route involves the substantial completion of design by the housing providers' designers prior to the issue of tender documentation. The tender documents, consisting of drawings and specification (with or without Bills of Quantities), are issued to the tendering building contractors and competitive tenders are sought.

8.10.2 This form of procurement provides a relatively high degree of cost certainty that is generally a fundamental requirement of social housing providers, particularly as funding is subject to cost limits. Relative cost certainty is achieved as the design is essentially complete at tender stage and the tenderers are pricing what is or should be the 'as built' design. In addition, the social housing providers are able to significantly influence the design of the housing schemes through their design professionals, for example incorporating low cost-in-use heating systems, low maintenance materials.

8.11 Recommendations

R.8.1. Contractors should be allowed, on a pilot scheme basis, to put forward alternative designs and specifications to those set out in prescriptive tender documents, while respecting DoEHLG guidelines on design, layout, unit cost limits, etc. This would allow a contractor to submit a tender based on timber frame construction, in addition to a bid based on traditional (masonry) construction, with limited design variations permissible to accommodate timber frame construction. The contractor should be required to demonstrate a proven track record in timber frame construction.

R. 8.2. Public sector procurement of social housing should be changed in the medium term, from prescriptive design and specifications to tender documentation incorporating performance specifications and outputs. This would allow contractors to select the construction method geared to their building strengths, on which to base their competitive tender.

R.8.3. In the meantime, the Design and Build procurement option would allow experienced timber frame contractors to put forward designs, based on timber frame construction; and this procurement route should also be tried and evaluated on a pilot scheme basis.

R.8.4. The above approaches should be assessed on up to 12 projects across the regions, over a concentrated 12 to 24 month period. A monitoring system should be set up to assess progress. Two pilot timber frame projects are already in planning by South Dublin County Council.

R.8.5. In the medium term, amendments to procurement policy should address the following recommended policy and ‘learning curve’ issues for all participants:
- Preparation of and agreement by all participants on a suite of standardised GDLA contract amendments. Forum for the Construction Industry (FCI) to control this process, in consultation with the Department of Finance (Public Procurement Policy Unit), and the insurance industry.

- A recognised standard wording to confirm compliance with Building Regulations should be formulated, in consultation with the timber frame industry, which in turn can be used by the client’s designer.

- Establishment within the insurance industry of a certifiable insurance backed guarantee sufficient to provide indemnity to client and designer.

- Education of all parties on revised design responsibilities by way of education workshops coordinated in conjunction with the relevant institutions (RIAI, CIF, etc.)

- Education of all parties of revised expectations, which would pertain to the administration of contracts coordinated in conjunction with the relevant institutions (RIAI, CIF).