

BEFORE YOU BUILD

Essential Reading before Commencing Your Building Project

Third Edition - 2015

PAB/001/1995/R3



SRI LANKA INSTITUTE OF ARCHITECTS

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FOREWORD

To the Third Edition

"Before You Build" was first published by the Sri Lanka Institute of Architects (SLIA) in 1995. It was meant to be used as a handbook by prospective developers who intended to get the services of Architects in the designing of buildings. A Sinhala translation titled "Godanegillak Idi Kireemata Pera" was also published at that time. Both documents were prepared by Archt. V. N. C. Gunasekera, a Past President of the SLIA.

During 2010-2011 period, The Professional Affairs Board of the SLIA PAB felt that "Before You Build" could not be reprinted as it was, due to a number of developments that had taken place in the industry since the first publication. As a result, document was update incorporating these developments as Second Edition in 2011. The PAB wishes to thank Archt. A. D. Ilangaratne F.I.A. (S.L.), assisted by the Committee on Practice Related Affairs of the PAB, under the able guidance of Archt. Jayampathy Herath F.I.A.(S.L.), Chairman, PAB for the commitment and untiring effort to bring this document before the general Public.

Third (this edition) focused more on the usability and legibility of the document. With this in mind The Professional Affairs Board has made a series of changes including the format, graphics etc of the document.

The PAB has noticed that there is a general lack of knowledge not only among individuals but also among politicians, public officials and the business community about the role of the architect and the services provided by an architect and also regarding the Acts of Parliaments and Gazette Notifications under which Architects provide their services. It is hoped that this edition of "Before You Build" will help in educating the reader on the current status of the Architectural Profession in the country.

The PAB also hopes to translate this document into Sinhala and Tamil during this year.

Chairman,
Professional Affairs Board, 2015-2016
Sri Lanka Institute of Architects

INTRODUCTION

This document is essential reading for those who hope to embark on a building project. This booklet is intended to educate and assist stakeholders in such a project on each other's role and responsibilities and the due process at each stage. It outlines the process by which an Architect could be selected or commissioned for a project and explains the processes through which Building Design and Construction takes place..

Goodwill and trust are vital ingredients of a successful building venture and contribute substantially towards the control of quality, performance, cost and completion on time. This cooperation, understanding and confidence shall be a three way relationship between the Architect, the Owner and the Contractor. The completion of a successful building project is also the result of a detailed and careful planning of the project from its very inception.

The close rapport between the Architect and the Client/ Owner is crucial for the Architect to achieve an insight into the aspirations of the Client, and under no circumstances should barriers be placed between the two. While many Professionals are needed for the successful completion of a building project, the Architect is as the Professional Lead Consultant is best equipped to translate the Client's/Owner's aspirations and interpret these into a three dimensional reality. The Architect is the link between other Professionals such as Engineers, Interior Designers, Landscape Designers and Quantity Surveyors etc. He is also the Professional who determines their inputs. This is also described in the ICTAD (Institute of Construction Training & Development), the premier state authority on the construction industry-

It is hoped that this document will help prospective builders to understand the complexity of the design activity, the advantages of being systematic and thereby, become familiar with the services to be expected of an Architect.

VALUE OF PROFESSIONAL ADVICE

1.0 VALUE OF PROFESSIONAL ADVICE

1.1 ROLE OF AN ARCHITECT

The Architect has a threefold role to play when providing Architectural Services. Those are to act as an **Accredited Agent**, as a **Professional Advisor** and during Construction period, as a **Quasi Arbitrator** to the Project respectively.

As an Accredited Agent he is expected to design and ensure implementation of the architectural project on behalf of the Client.

As a Professional Advisor he is expected to provide expert professional information and advice or arrange expert professional advice on other services to be provided by other Professionals connected with building activities. Further, he has to provide Project Costing & Management Services.

As a Quasi Arbitrator he has to administer the Building Contract in keeping with the Conditions of Contract and other documents connected with the Project, which are called Contract Documents in fairness to both parties to the Contract.

Building is often a once in a lifetime venture. It involves considerable expenditure and the prospective building owner is well advised to enlist the services of an expert. Dealing solely with non-experts who may not necessarily be concerned with his best interests, the owner has no protection against inexperience, wrong decisions, or even the right decisions being carried out incorrectly. To safeguard his own interests and avoid costly mistakes he should have expert advice on his decisions that only a professional relationship could provide.

Three main characteristics distinguish the Professional Adviser from others (such as tradesmen and commercial firms) who can and frequently do supply information and advice.

- i. Has no financial interest in any product or process and his advice is not biased like that of a tradesman or a commercial firm,
- ii. Being given information about products and services, he goes on to share with his Client the responsibility for deciding how to act in the light of that information, whereas a tradesman or a commercial firm has no responsibility for the decision.

- iii. With a duty both to his Client and to the society in general, the Professional Adviser upholds the traditions and codes of his profession. In the light of these, he performs his job honestly and well, devoid of self-interest.

1.2 QUALIFIED ARCHITECT

Architectural Educational Path

Architectural education generally consists of either full-time five year programs or part times programs of similar academic credit value and two years of practical experience before one qualifies to sit the **Sri Lanka Institute of Architects (SLIA)** Part III Examination, which qualifies them to obtain Corporate Membership of the SLIA. Part III examination also enables them to register at the **Architectural Registration Board (ARB)**. Registration at the Architectural Registration Board has to be renewed annually.

The Corporate Members of the SLIA consists of Fellows and Associates. Once an Architect obtains his membership as a Corporate Member of SLIA he is considered and accepted by SLIA Law No. 1 of 1976 of the National State Assembly as a Qualified Architect. Such qualified architects are called **Chartered Architect** in Sri Lanka.

Sri Lanka currently (2015) has 2 SLIA accredited architecture programs; B. Arch program at the Moratuwa University and the Diploma / Higher Diploma program at the City School of Architecture.

SLIA has a structure program for assessing and accepting foreign qualifications which are deemed equivalent to the local accredited programs. Information regarding this process could be obtained from the Board of Architecture Education (BAE) of the SLIA.

Academic training given at student level in these institutions moulds a person to understand the client's requirements, analyze the site and its conditions and surrounding environment and convert the Client's requirement to a viable building or a building complex.

There is another category of membership of the SLIA called "Registered Member" and they are also considered as Qualified Professional Architects. They have not obtained full academic qualifications but having had the required practical experience have been taken into this category of

membership of SLIA up to 1998 and now this category of membership has ceased.

It is important to note here that there are a large number of other persons practicing in this country incorrectly calling themselves Architects. They have not obtained the necessary training to handle the responsibilities of a Professional Architect.

Sri Lanka Institute of Architects

By the Sri Lanka Institute of Architects (Amendment) Act No. 14 of 1996, the term Chartered Architect is protected and cannot be used by those other than Corporate Members of the Sri Lanka Institute of Architects (SLIA). The qualifications of Chartered Architects are properly authenticated, their ability, knowledge and familiarity with Sri Lankan requirements tested and their practice regulated through a strict Code of Professional Conduct. “

Architects Registration Board

The 1996 Act also specifies the setting up of an Architects Registration Board (ARB). Three categories of persons are registered annually under the ARB. They are Chartered Architects, Architects and Architectural Licentiates. The use of the terms “Chartered Architect”, “Architect” and “Architectural Licentiate” is protected by the Act, The lists of those registered with the ARB are gazetted annually. Those who register with ARB are issued a rubber stamp annually.

The Urban Development Authority (UDA) by Gazette Notification No. 1597/8 of 1751 April 2009 specified the limits within which each type of member registered by the ARB can practice.

By Gazette Notification No. 1421/2 of 28th November 2005 and No. 1416/ 10 of 2531 October 2005 the SLIA was empowered to maintain a Register of Architectural Practices.

The SLIA Code of Professional Conduct

The SLIA Code of Professional Conduct is designed to protect the owner, the builder and the Public. Powers vested in the Institute by Parliament provides it authority to take punitive action against those who violate any of its provisions. Thus, a Chartered Architect or a Registered Member of the SLIA, & Architects 8: Architectural Licentiates who are registered with the ARB unlike unauthorized persons are constrained from engaging in malpractices.

It is important to note that most of the non-members and other professionals, who call themselves Architects, do' not have a code of conduct and have not taken a Professional Oath to protect their Clients. As such, they can engage in consultancy work, construction, manufacturing of building materials and supply of materials at the same time, thus creating a conflict of interest.

The SLIA publishes a fee structure which has been formulated to enable Architects to provide satisfactory professional services.

SELECTION OF AN ARCHITECT

2.0 SELECTION OF AN ARCHITECT

2.1 METHODS OF SELECTION

With appropriate preparation and proper background knowledge it is easy to select a suitable Architect who could understand your problem and provide the best professional advice for your project.

SLIA Annual Directory of Members and Architectural Practices

The SLIA publishes an annual Directory of Members and Architectural Practices containing addresses, telephone numbers and registration numbers of all members of the SLIA in the "SLIA Year Book". The SLIA also has its own website www.slia.lk which maintains the directory of architects and provides the latest updates of SLIA activities and much useful information.

Types of Architectural Practices

Some of our members provide Architectural Services in an individual capacity (as **individual practices** or **sole proprietorships**) while others are in **partnerships** or **limited liability companies**. Those who are in sole proprietorships, partnerships or limited liability companies, mainly work as multi-disciplinary practices with other Professionals such as Structural, Civil, Mechanical and Electrical Engineers, Quantity Surveyors, Planners etc.

Whichever type of practice, all architectural consultancies listed in the SLIA Year Book, conform to the SLIA regulations, which in turn ensure maximum protection for the client and the provision of the highest architectural standards.

The success of your project mainly depends on the experience and the ability of your Architect to handle a project of the nature & type envisaged by you. Other professionals such as Structural, Electrical and Mechanical Engineers also play important roles.

While some Architects prefer to have **purely architectural practices** and associate with qualified engineers on a project by project basis others prefer to provide **consortium services** with in-house professionals of different disciplines. While Consortium Services have an advantage in response time and coordination of the project work, purely architectural practices may have access to a wide range of professionals to choose from.

In either case the co-ordination of the services of such Consultants is part and parcel of an architectural service and for which a Chartered Architect has been specifically trained.

Selection Process

If you do not have an Architect already in mind, you may select one through any one of the following ways;

i. Open selection

You may write up a short description of your project including the budget and request all members of the SLIA to apply. You may address them by placing an advertisement in the national press inviting applications from Architects.

ii. Invited selection

You may obtain the SLIA Year Book or Practice Directory of the SLIA and from the information supplied, pick an architect or a selected number of Architects / Practices and request them to apply.

In both cases, you may request information about the consultancy (including work experience and bio-data of personnel) which is also known as a technical proposal.

For your own protection and to prevent the procurement of professional service from becoming a market-place bargaining situation, the Members of SLIA are prohibited from submitting design proposals as a criterion for selection or, to allow a fee proposal to be part of the basis of selection.

Another point to remember is that unlike in the case of contractors, all Members of the SLIA are members of an institution which is incorporated by the Parliament of Sri Lanka, with authority to prevent default and do not invest monies in your project, thus requiring no financial guarantees of performance on engagement.

iii. Design Competition

A third way is to select an architect by means of a design competition conducted by the SLIA, which is the only method by which Members of the SLIA are allowed to submit design proposals as a basis for selection.

The process begins with a request to the SLIA, at which point details of the different types of competitions with advantages and disadvantages will be made available to you, a competition may involve all SLIA members or be between a limited numbers selected architects. The SLIA will assist you through the comprehensive **Code of Practice for Architectural Competitions** it has formulated.

Competitions that are not managed by the SLIA are unauthorized competitions which members of the SLIA (and therefore all Chartered Architects, Architects, Registered Architects & Architectural Licentiatees) are prohibited from taking part.

2.2 CLIENT-ARCHITECT AGREEMENT

“SLIA Recommended Professional Fees & Charges and Conditions of Engagement” contains a template for the “Agreement between the Owner and the Architect”. This document is commonly used by the members of SLIA to enter into a formal agreement with his/her client. When completed and executed as a contract it provides a statement of the service to be rendered and the fee to be charged. If the client has entered into a Consultancy Agreement based on the above Document he would have a great deal of protection as he could bring to the notice of the SLIA any dispute with the Architect.

Before signing such an Agreement, however, the Client should clearly understand the scope of the service and responsibilities of the Architect.

2.3 ARCHITECT'S FEES

2 main aspects to consider in obtaining an architect's services and hence the fee;

- Types of service you are obtaining: **Pre Design, Basic and Supplemental services**
- Method in which they are obtained: **Architect's Service, Consortium Service**

You may engage the services of the Architect for either an Architects Fee or on a Consortium Fee as provided in the “SLIA Recommended Professional Fees & Charges and Conditions of Engagement”. The consortium fee in addition to architect's fee covers the fees for normal (non specialized) Structural, Electrical, Mechanical Engineering works and the Quantity Surveyor's work.

Either Architects Fee or on a Consortium Fee is charged for Basic Services only. Pre Design Services and Supplemental Services are charged separately. Pre-Design services consist of preparation of briefs, Feasibility studies, marketing studies etc. Supplemental Services consist of long list of work including interior work, Presentation Material including models, testing materials and equipment etc.

Asking for fee bids should be avoided if you want your Architect to provide a proper service. Members of the SLIA are not encouraged to bid competitively, as members may not be able to produce good quality work or provide proper professional advice and service when the fee are low.

“SLIA Recommended Professional Fees & Charges and Conditions of Engagement” which provide a detailed and comprehensive explanation of all these aspects can be obtained from the SLIA.

PREPARATION FOR YOUR BUILDING PROJECT

3.0 PREPARATION FOR YOUR BUILDING PROJECT

3.1 PROGRAMME OF REQUIREMENTS

To move in to the analytical and design development stage of the work, the Architect needs a careful and detailed briefing from his Client. This should generally define;

- the purposes and functions of the building,
- functional areas and their relationships,
- the expected methods of operation and management of the building general,
- performance criteria for power, lighting, cooling, ventilation and/ or air-conditioning and other detailed service requirements,
- expected comfort levels and amenities including sound proofing and vibration criteria,

In all this, the client must be very careful to distinguish between the functional requirements of the building and the way in which they can be best met. He alone can establish the former, although the Architect may help, whilst the establishment of the way in which these functional requirements may be best met is the main reason for having an Architect.

In addition to the briefing, the client should provide copies of **title plans, legal information, land survey particulars** etc., of the building site. Designing will not commence until the client has provided these requirements and reviewed and analyzed them with his Architect. Generally in architectural terminology this cluster of information is seen the **Client's Brief**.

The satisfactory functioning of a building stems in large measure from the care and skill given to defining the requirements. As such it is essential to select your Architect at a very early stage of your project and or all matters be discussed with him and his team before any design work commences.

3.2 BRIEF ANALYSIS & PREPARATION OF ARCHITECT'S BRIEF

Having obtained the Client's Brief and Site Plan, the Architect will visit the Site and obtain all the by-laws applicable to the proposed Building/ Project and the site from the relevant organizations and authorities.

Further, the Architect will investigate the need for a detailed Survey Plan of the site as per his specifications, obtaining soil investigations according his Structural Engineer's specifications and obtain environmental guidelines if the site is environmentally sensitive.

The Client has to pay separately for these investigations as they are not covered under the Architect's Basic Services.

The Architect and his team will study all of the above conditions and reports and analyze the Client's Brief to find out what reservations are to be provided, type of foundations possible, number of floors possible, orientation etc. to establish an Architect's Brief to be forwarded to the Client's approval.

The Architect will discuss the Architect's Brief and provide cost implications (Preliminary budget or probable cost of the project) and discuss further detailed requirements to reduce later disappointments and avoid changes to the design at a later date. Such a clear perspective of the project is necessary to realize a successful design.

The client can help to avoid such changes by preparing a detailed list of his requirements. Ample time should be devoted to this task, as by establishing his own thoughts precisely, the Client will find it easier to provide the Architect with a clear conception of his requirements.

3.3 UNDERSTANDING THE DESIGN

The Architect endeavours to represent the nature of his Architectural design concept for both the exterior and interior of the building by means of drawings, i.e. plans, sections, elevations and perspectives.

If the Client has a problem of understanding the proposed Project, he may request the Architect to provide 3D image, models or small samples to the proportions, textures and colours of the finishing of the Build. As this is extra work which does not fall under "Basic Services" described in the Conditions of Engagement, the Client and the Architect has to agree on the extra fee required for each of such services to be provided by the Architect.

Before approving a scheme, however, the client must be sure he really knows what he is approving. In fairness to both himself and the Architect, he should not pretend to understand more than he does. This can only lead to disappointment and perhaps expensive changes later. If in doubt, the client should ask for further explanations, Perspectives and models are often helpful and if they lead to a better understanding of the project the extra cost is well worthwhile.

3.4 OTHER CONSULTANTS

For a building project to be successfully completed, other Consultants such as Structural Engineers, Civil Engineers, Mechanical Engineers, Electrical Engineers, Quantity Surveyors or Town Planners are needed.

These Consultants have to work with the Architect to make his design a reality by providing their part of the consultancy service. As such, it will be most appropriate for your Architect to select his team of Allied Consultants. However, if the Owner wishes to bring any such Consultants of his choice, he has the liberty to do so with the consent of the Architect.

The Owner should keep in mind that similar to the selection of a qualified Architect, it is important that the other Consultants are also professionally qualified in their fields of specialization, the Architect may pay the fees for these services and claim reimbursement from the Client or the Client may pay those Consultants directly.

In a situation where the Owner employs other Consultants, the Architect holds no responsibility for the work of such Consultants. However, the Architect may agree to coordinate the work of such Consultants for a special coordinating fee.

3.5 COSTING THE PROJECT

Feasibility Studies & Financial Analyses

In project or site development, it may be necessary to establish an economic relationship between such factors as site costs, building costs, operating costs and estimated return on investment. The Architect carry out such feasibility studies and financial analyses when required. Such feasibility studies of a project do not fall within the "Basic Services" of an Architect. As such, separate fees will be agreed upon on time-cost or otherwise.

Estimates of Cost

If there is a cost limit for the project, the Architect should be told at the outset. In less straight forward cases, however, the building cost cannot be established until certain related matters have been settled. For example, the funds available for the project may depend upon expected return on investment.

Once a cost limit has been settled, the Architect will endeavour to work within it. His sketch designs, contract documents and specialist installations will be tailored accordingly.

It is important to recognize, that the market price of a building is constantly changing and that projects are developed in more detail during discussion and programming. Cost estimates may therefore change. If necessary, a succession of cost estimates can be prepared by the Architect and his Quantity Surveyor as the project develops in detail.

Project Cost, Building Budget & Contract Budget

Normally the building cost estimates only cover items to be included in the building contract, In preparing the building budget, however, several other items must be taken into account, e.g. cost of site surveying, soil testing costs, finance charges, Architect's and other Consultant's fees, and the costs of furniture, carpets, blinds, curtains, sculpture, murals, etc. The Architect can assist in preparing estimates for procurement of these items.

Project cost may add more aspects over and above the building project including promotional budgets and even some aspects of operational budgets.

3.6 PROJECT TIME FRAME

At an early stage, the project time chart should be discussed and agreed between Client and Architect. It should take into account, the nature of the project, the building market situation generally, site availability, etc., and from it a choice can be made from the various types of building contracts. This important decision governs the character of the documents to be prepared and the time needed for them. Particular requirements regarding a project's completion time should be discussed with the Architect as early as possible. There is usually an optimum construction time for a building and it can be costly to stipulate either a faster or slower contract time.

The time chart sets mile-stones (dates) for completion of important items such as the architects brief, schematic design stage and design development stage, the completion of the contract document stage, the calling of tenders and the start and completion of the building and contract administration stage. The chart shall finish with the date for practical completion or occupation.

This allows orderly financial planning and, with prompt decisions from the Client and the avoidance of changes, the chart should not be difficult to maintain.

DESIGNING YOUR BUILDING PROJECT

4.0 DESIGNING YOUR BUILDING PROJECT

4.1 SCHEMATIC DESIGN STAGE

Once the Architect's Brief has been approved by the Client, the Architect will commence the Schematic Design Stage. During this stage the Architect will prepare the Preliminary Sketch Designs based on the information available after the preparation of the Architect's Brief. Based on the Preliminary Design, the Architect will prepare a cost estimate and present a Schematic Design.

Preliminary sketch drawings are usually small-scale line drawings defining the Architect's proposals for using the site and his basic planning and design solution for the building. There may be alternative schemes. Details are not contemplated at this stage but the schematic drawings follow a preliminary study of the site and in consultation with the authorities. It may also be necessary to appoint a Quantity Surveyor and other specialist Consultants for preliminary consultations.

The Client must consider and formally approve the schematic drawings (with or without modification) and then give instructions to proceed with preparation of the Design Development Drawings.

4.2 DESIGN DEVELOPMENT STAGE

Once his Schematic Design proposal is approved, the Architect commences the Design Development Stage of his services. This entails preparation of developed Detailed Plans, Sections & Elevations & Layout if any.

The work includes fully supporting investigations of site and site development etc., further consultation with authorities and determination of authorities requirements, determination of principles of structural design and characteristics, consideration of mechanical, electrical and similar installations, and selection of principal materials and finishes.

The Developed Design Drawings will be sufficient to illustrate and explain the scheme and may include floor plans, elevations, sections, perspectives (if requested), and estimate of building costs, as appropriate for the Client's Approval.

Agreement by the Client is necessary progressively during this stage, followed by formal approval of the developed Plans, Sections & Elevations and instructions to prepare the tender or contract documents.

At this stage, drawings for local authority approval will be prepared and with the duly completed "Building Application Form" will be handed over to the Client to forward to the Local Authority for approval. However, if the Authorities require any technical clarifications, the Architect will provide such answers/ clarifications.

4.3 CONTRACT DOCUMENTATION STAGE

The contract documents, used for tendering and construction, are of a precise and detailed character. They include working drawings, detail drawings, specifications, pricing preambles, and detailed bills of quantities (where applicable), contract forms and tender forms to ensure that the project will be built in the manner intended and agreed. They define and co-ordinate a wide range of engineering, and building constructions, building parts and mechanical, electrical and various other services and are accompanied by estimates of cost. Their preparation is a highly complex technical process.

The Architect and his other Consultants can be expected to prepare the tender documents with reasonable competence and care, but it should be understood that may not be beyond the need for modification as construction proceeds.

This Phase of work takes most amount of time of the Architect and his other Consultants in the preparation of a complete set of documents. A check-list has been prepared by the SLIA as a guide for the use of Architects & other Consultants and Owners.

Types of Contracts

There are several types of Contracts available for building projects. They are as follows:-

- i. Measure and Pay Contract (Re-measurement Contract)**
Commonly used in Sri Lanka and has many advantages.
- ii. Lump Sum Contract**
For these contracts, the scope of work has to be accurately spelt out in terms of drawings, specifications, schedules of work etc.
- iii. Cost plus fee Contract**

When there is less time for detailing or the extent of work is unknown, this type of contract is useful. There are several types of Cost plus Fee Contracts.

There are other types of contracts also available. However, we suggest that you discuss the details of these contracts with your Architect.

There are several types of Tenders available for one to select a Contractor and are given below. Presently the term Tender is being substituted by the term Bid. Similarly the terms Tenderer and Tendering are substituted by the terms Bidder and Bidding.

i. Open Public Tenders

Tenders obtained in competition from a number of Tenderers, without registering or pre-qualification, in response to a public advertisement. Selected Tenders

ii. Pre-qualified Tenders

Tenders obtained in competition from a number of Tenderers whose names have been selected (Pre-qualified) by the Building Owner and/ or the Architect from registrations received in response to a public advertisement. Pre-qualification Applications will be evaluated and the Tenderers will be selected.

iii. Invited Tenders

Tenders obtained in competition from a number of Tenderers whose names have been selected due to their competence by the Building Owner and/ or the Architect

iv. Negotiated Tender

The Contract price is arrived at after holding discussions and negotiations with one selected Contractor.

Your Architect is the best person to advise on what type of tender is most suitable for your project. Having a competitive tender is always advantageous to the Owner.

4.4 BIDDING STAGE

Tender Procedure

Proper tender procedure will be adopted by the Architect. The tender documents include detail drawings, Specifications, Pricing Preambles, Bills of Quantities, Conditions of Contract, Conditions of Tender and Instructions to Tenderers. All the Tenderers are informed of the date and time of closing

tenders and the place at which tenders are to be received and opened. Tenders will be opened in the presence of the Tenderer's Authorized representatives.

A Tender Register is made available at the time of opening of the tenders to record the names of the tenderers, documents submitted, such as covering letters, bid bonds etc. and the Tendered Price. The Signature of all the Tenderers' representatives should be obtained on the Tender Register immediately after completing same.

It may be advisable to arrange a pre-tender site meeting for all the tenderers on 'a pre-arranged date and time so that everybody could attend. At this meeting, the Architect and his other consultants will be present at the site and explain the building project and its requirements and answer all the questions raised by the Tenderers. During the tender period, any queries raised by any Tenderer are answered by a Circular to all the Tenderers. All the Tenderers should be given equal and fair explanations, answers and information.

After opening the Tenders (Bids) the Architect will ask the Client to keep the Original Bid Bond and the covering letter and to give a photo copy of all such documents to the Architect. However, the Architect will take the original Priced B.O.Q. and any Drawings returned by the Tenderers while keeping the unopened duplicate Tender Document with the Owner/ Client.

Award of Contract

Tenders received are evaluated carefully by the Architect and his other Consultants, and a Tender Evaluation Report be submitted for the Building Owner's consideration. As the preparation of Contract Documents for signing takes some time a Letter of Acceptance should be issued to the selected Contractor.

The strict adherence to the conditions of tendering sometimes poses problems when the Owner has preference for a particular Contractor or a Subcontractor.

Should the Owner really wish to use a particular Contractor or Subcontractor, competitive tenders should not be called. Instead a Contract should be negotiated and the Architect empowered to examine the rates and tender submitted and to report and recommend accordingly. This of course foregoes market competition.

When the Architect submits a Tender Evaluation Report, the Architect should also submit to the Owner a Draft-Letter of Acceptance.

After negotiation with the select Tenderer on the high and low rates and other matters, the Owner will issue the "Letter of Acceptance" to the selected Contractor.

At this stage all the Bid Bond of the unsuccessful Tenderers will be released by registered post. When the selected Contractor provides a performance Bond, his Bid Bond will be released.

YOUR BUILDING ON SITE

5.0 YOUR BUILDING ON SITE

5.1 HANDING OVER THE SITE

Owner & Architect should arrange to hand over the site without any obstruction to the Contractor, if the selected Contractor agrees to accept the award of the contract on a predetermined date and time.

Under most of the Contracts the Contractor has to provide the Owner with a performance bond and the works to be insured before commencement of the works at the site. Many of the Contracts provide an advance payment to be made to the contractor to expedite the works. This advance is generally paid against an advance payment bond.

Your Architect will advise and approve these documents before payments are made. He will prepare the Contract Documents for signing of the agreement within a reasonable time frame.

Here onwards your Architect will administrate the Contract and supervise the works generally by providing periodic visits to the construction site to examine whether the Contractor is executing the works according to the Contract Documents. He will conduct progress review meetings at the site once a fortnight or once a month basis and a progress report will be submitted to Owner.

5.2 CONTRACT ADMINISTRATION

The Architect is entrusted with special responsibility in administering the contract, and he is obliged to follow the provisions of the contract agreement and contract documents. He must interpret and administer the contract in accordance with the documents and with due consideration to their intent, the relevant customs of the building industry and the principle of impartiality. At this stage Architect acts as a Quasi Arbitrator.

There are many matters calling for the Architect's special adjudication and some, of interest to the Client are;

- Assessing the disturbance to construction & certifying time extension.
- Assessing and certifying progress payments;
- Issuing, assessing and authorizing contract variations;
- Determining quality, etc., of materials and workmanship;

- Ascertaining losses or expenses by the Contractor due to Architects instructions, etc;
- Determining and formally notifying the date of practical completion;
- Determining completion and issuing the final certificate.

Contract Amount and Variations

In the normal building contract the owner agrees to pay the Contractor a stated sum for Completion of the works, subject to the provisions of the contract and to authorize variations.

'Extras' or variations to the contract sum most frequently result from requests by the Owner for additions or alterations during the course of construction.

Other causes could be:

- Unexpected site conditions;
- Insufficient allowances in the provisional and prime cost sums included in the contract to cover what is finally decided upon;
- Variations required by public authorities having building jurisdiction;
- Unavailability of some specified materials and the substitution of more costly ones;
- Alterations to costs of wages or materials in a contract subject to 'rise and fall provisions.

The Architect will not deviate materially from the approved design nor incur costs without the consent of his Owner unless conditions make it necessary for an instruction to be given immediately. In such a case the Owner is notified without delay.

Under the contract, variations can only be authorized by the Architect. Authority is normally issued to the Contractor on the Architects standard Variation/ Change Order form. The Architect checks and assesses the value of all variations but may, with the Owner's agreement, request the Quantity Surveyor's assistance.

Where a priced bill of quantities has been prepared the rates stated are used as a basis for valuing variations. Under the usual conditions of contract the Contractor is entitled to an allowance for overhead and profit.

It is to everyone's benefit to keep contract variations to an absolute minimum, and with careful and comprehensive programming by the Owner and full,

accurate documentation and correct administration by the Architect, this should be possible.

Contingency Sum

It is not possible, particularly in large and complex projects, to foresee in the documents everything needed during actual construction or to eliminate the need for adjustments due to minor discrepancies in the documents.

For this reason building contracts usually contain a contingency sum to be expended by the Contractor only on the written authority of the Architect, which is given at his unrestricted discretion. The amount of this sum is usually between 5% and 10% of the contract amount, depending on the type and size of the project, and is credited in part or whole if unexpected.

Provisional and Prime Cost Sums

The final cost of the project may vary from the contract sum if the contract includes provisional and prime cost, sums to cover work which may or may not be required (see also Contingency Sum), and/ or to cover the cost of work to be done by nominated subcontractors as well as materials and components to be provided by nominated suppliers for which no firm price had been obtained at the time the main building contract was let.

Nominated Subcontractors and Suppliers

Most Contractors normally subcontract a substantial part of the work to be done on the site but he remains responsible for the total contract (with some qualifications in the case of nominated subcontracts).

The Architect could identify the works which has to be done by specialist Contractors and the Specialist suppliers of special material and equipment. Such specialist Contractors are call "Nominated Sub Contractors" & those who supply specialized material or equipment are called "Nominated Suppliers" The architect normally calls tenders or obtains quotations for specialist subcontractors and suppliers and make recommendations to the Owner, but both specialist nominated subcontractors and nominated suppliers sign contracts with the Contractor and not with the Owner.

Nominated Subcontractors and suppliers are nominated at various stages according to the nature of the project and the method of tendering, although the principal subcontractors are usually selected before tenders for the main building contract are called.

Items for which subcontractors and suppliers are commonly nominated include mechanical and electrical installations, lifts, windows, sanitary fittings, steelwork and pre-cast concrete etc.

Contractor's Claims for Compensation

The usual building contracts are governed by the standard contract form, the agreement, conditions of which provide that many matters are at 'Contractor's risk'. Such matters include costs arising from weather or from delays by subcontractors and so on. However, delays and costs may result from the Owner's instructions to hold up the work or delay it or from delay in getting decisions or information to the contractor in sufficient detail to enable the work to proceed, or from excessive variations and changes. In these and some other cases the Contractor may be entitled to claim

compensation for idle scaffold, plant, cranes, foreman's time, offices and sheds, disruption of his program and arrangements, and other costs. These claims can be considerable and emphasize the necessity for contracts to proceed without delay by the owner, and with prompt decisions and information as to his requirements.

In the present day where the prices of materials and wages cannot be forecast for a long period of time, the Contracts carry a clause to cover price fluctuations.

An elaborate formula has been published by the ICTAD which is being commonly used in Government construction contracts of over 3 month duration.

The formula works both ways where not only price increases but decreases are also taken in to consideration. The ICTAD publishes indices of materials and other inputs which are used in calculating the price fluctuation.

Inspection of Work

It is the Contractor's responsibility to fully supervise all work of the project whether the work is carried out by his own men or by those of his subcontractors.

With smaller projects supervision is generally exercised by the Contractor himself as well as by his general foreman and trades foremen. With larger projects supervision is exercised through the Contractor's Project Manager, General Foreman, Trades Foremen, Floor Foremen and leading hands.

The Architect, within the limitation of his periodic inspections is responsible for seeing that the work conforms generally to the requirements of the contract and forgiving the contractor any necessary instructions or interpretations of documents.

In the course of his inspections the Architect helps to guard his Client against defects and deficiencies in the works. However he neither guarantees the performance of the contracts nor assumes liability for the contract nor assumes liability for the errors and inadequacies of Contractors or Manufacturers, Contractors, Suppliers or other persons not directly in his employ.

Experience shows that the Architect's inspections of the work together with spot checks, tests and examination of prototypes and of goods and materials on and off the site afford his client a very substantial degree of protection.

If necessary the Architect will recommend to the Owner, to employ full time technical supervisors (Clerk of Works / Resident Engineer) at the Site to inspect and supervise the works under the guidance of the Architect. The Architect will approve the samples and arrange the approved samples to be kept with the Clerk of Works. The Architect will request the Contractor to prepare a "Mock-ups" to set standards required in the Project.

Clerk of Works

In the case of larger or complex projects the Architect may advise his client to appoint one or more full-time clerks of works to increase the amount of inspections.

Sometimes a Clerk of Works for mechanical services is also appointed. Frequently he is chosen by the Owner as the maintenance engineer to take over and operate the plant on practical completion. He thus acquires full knowledge of the service installed.

Progress Payments

The Contractor is paid by installments as the work proceeds. The work is valued periodically by the Architect who issues interim Payment Certificates stating the amount due to the contractor for the work done and for the materials and goods on the site to be used in the building.

Unless otherwise agreed, the owner is required by the building contract to pay the amount certified within a stipulated period. The Contractor is entitled to claim interest for delays in payments.

Extension Of Time And Practical Completion

Building Contracts provide that, on a stated date, the building shall be handed over to the owner to occupy and use, the main reason for extensions of times is inclement weather and the Owner should understand that there are likely to be extensions for inclement weather conditions on most projects.

Other Causes could be:

- Delays in receiving permits and approvals from public authorities;
- Delays in giving decisions or instructions to the Building Contractor;
- Variations to construction, planning or design;
- Instructions to slow down or defer a portion or the whole of the work;
- Disputes with neighbours;
- Events outside the control of the contractor.

However, granted co-operation and a well-planned program, Contracts can and usually do finish on time, subject to influences of inclement weather.

The term 'practical completion' describes a time when the work has been completed, all equipment installed, tested and found to be in running order, and when the project is reasonably fit for use or occupation. Minor defects may still have to be rectified during the defects liability period, but the work has reached a stage which justifies payment of the balance outstanding less only the sums retained for rectifying defects.

Retention Fund

A percentage of the amount due on each interim Payment Certificate is retained (or in large projects paid into a joint bank account) until a stated sum is reached. This sum, which is a safeguard for the Owner, is known as the 'retention fund'. It is usually limited to five percent of the contract sum of the project.

Half the retention is paid to the Contractor on Practical Completion and the remainder on completion, after defects liability period is over and any latent defects are satisfactorily rectified.

Alternatively, if the Owner is in agreement, the contractor may provide security in the form of a bank guarantee equivalent in value to the normal retention fund. In this case no moneys are retained from the progress payments but the bank or guarantor agrees to pay the money to the owner on default by the contractor.

Building Insurance is a complex matter in which most Architects have some experience but little specialized knowledge.

The building contract requires that adequate insurance be taken out to cover occurrences such as risks of loss and damage from causes such as fire, explosion, earthquake, lightning, storm, tempest or civil Commotion, plus the consequent cost of demolition and removal of debris and the fees of the Architects, Engineers, Quantity Surveyors and Consultants, Liability to the public for injury to persons and damage to property.

With new buildings, the Contractor is responsible for taking out such insurance in the joint names of himself and the owner. It must be in the form of a Contractor's All Risks Policy, and the Contractor must submit all cover notes, policies and premium receipts to the Architect who after scrutinizing hands it over to the Owner.

It is also common to cover the Consultants who either supervise or make periodic inspections of the work and the Owner for injury and death under the same All Risks Insurance Policy. Such a cover is referred to as a Cross Liability cover.

The Contractor's responsibility for maintaining insurance cover terminates when the Certificate of Practical Completion is issued. As soon as the date is set for practical completion the Architect will notify his Client, who should make immediate arrangements for whatever insurance cover is required.

Further, the Contractor should obtain a "Workmen's Compensation" insurance cover to safe guard his workmen from injury. A copy of such a policy should also be submitted to the Architect who after scrutinizing hands it over to the Owner.

For additions and alterations to existing structures special insurance policies are available.

5.3 PRACTICAL COMPLETION AND COMPLETION OF THE CONTRACT

Even after Practical Completion has been reached and the Contractor hands over the building for occupation, the contract is not completed and the Owner should be aware that the Contractor has certain obligations and rights. If damage occurs through moving in or daily usage, incorrect use of plant or equipment etc., the responsibility does not rest with the Contractor who may still have to finish various tests and adjustments and minor works before completion of the contract.

Many finishes and services and items of equipment will be under particular warranty during the period between Practical Completion and Completion and the Owner should take care to avoid interference and voiding of either the warrantor's or the Contractor's responsibilities.

To assist with the often complicated job of maintaining and operating the building, the Architect may supply his client with:

- As-Built Drawings showing the completed form of the building and its principal services:
- Notes on operation of plant and equipment;
- Maintenance contracts on certain materials and items of equipment;
- Lists of Subcontractors, Suppliers, Tradesmen, etc.
- Notes on cleaning and maintenance for special internal and external surfaces and materials and items of equipment.
- Testing of installed systems such as lifts, Fire Systems, Sewerage, Electrical Distribution Boards and explain to Owner's staff and maintenance Manager how to operate them and maintain them.

Liquidated Damages

If the actual time of Practical Completion is late beyond any formal extension of contract time, the owner may be entitled to 'liquidated damages' to cover the losses and costs due to delay. The amounts are calculated at pre-assessed rates nominated in the contract. In law, however, it is difficult to support claims in excess of the damage actually suffered.

Liquidated damages are not usually assessed against the contractor unless he has been inefficient, failed to make every reasonable effort to complete on time, and has so caused unavoidable losses to the owner.

Occupation

The Owner has no contractual right to occupy any part of the premises before Practical Completion without the consent of the Contractor (unless this is provided for in the contract documents). Should he do so there should be a clear understanding that this does neither imply acceptance of the building as 'practically complete', nor an obligation to make payment as if it were.

In a flurry of finishing a project and with last minute and unforeseen difficulties, Practical Completion may be a busy and difficult time. However, the handing over date must be committed well in advance so that the owner's

arrangements for taking over and moving in can be organized and carried through. .

5.4 DEFECTS LIABILITY PERIOD

After Practical Completion, a stated period commences during which the contractor must complete any outstanding works including all defects due to faulty materials or workmanship. The contractor is entitled to charge for making good defects only where they have occurred despite the materials and/ or workmanship being in accordance with the contract requirements. This period allows seasonal changes and operating conditions to show up defects.

However, once the works formally listed by the Architect are completed and the defect liability period has lapsed, the contract is terminated by the issue of the Final Certificate by the Architect. The owner then has no further recourse under the contract, except in respect of certain hidden items (or items covered by warranty), but he retains certain rights under common law. It should of course, be understood that the Architect does not legally warrant that the contractor has complied with the contract in all respects (see also 'inspection').

OPERATING YOUR BUILDING

6.0 OPERATING YOUR BUILDING

Post-construction Period

Generally architects contractual responsibilities end with the end of defect liability period. However the client and the architects must enter in to a clear agreement regarding this fact in their agreement.

However the client shall maintain contact with the Architect and if any unexpected structural or services issues arise, shall inform the architect immediately. Client shall also maintain the list of warranty items to ensure that he obtain the full values for his building and installed equipments.

Post-occupancy Evaluations

Post-occupancy evaluations are an important aspect for an owner to consider. Such evaluation will help the owner to find further means of energy conservation and efficiency in operating his building.

Post-occupancy evaluations generally review a building's performance. These evaluations may review;

- functional performance, including efficiency of spatial arrangements, suitability of special arrangements to given activity
- technical performance such as the performance of building envelope or finishes.

When evaluating functional performance, the process attempts to quantify and measure performance in terms of explicitly stated needs of occupants and users. Post-occupancy evaluations which include a technical review of the building and certain architectural components, such as finishes or the building envelope, are used to develop a long-term maintenance plan or the requirements for future projects.

Post-occupancy evaluations assist clients — especially those who undertake many repeat buildings, such as retail outlets and fast-food restaurants — to determine how their future facilities may be improved and how costs may be reduced. Post-occupancy evaluations also assist in developing new functional programs and plans for facility management, future renovations, and master plans.

Finally, the post-occupancy evaluations may review the method of project delivery and contractual arrangements to determine how to improve the design, contract documents, and project management methods for future projects.

Sri Lanka institute of architects provides such post-occupancy evaluations service under its SPECI (Sustainability & Performance Criteria Evaluation Index).

7 0 CONCLUSION

With carefully planned projects and adequate contractual arrangements it is possible to exercise satisfactory control of quality, cost and time.

Projects should be planned and detailed well ahead of construction itself. They can be carried out to fixed cost commitments and constructed to a fixed timetable. There are many examples of successful projects of this kind which have resulted from full co-operation between Owner, Architect and Contractor.

Building contracts define the respective responsibilities and obligations of the Contractor and Owner, and for that reason the Architect must deal with matters where there is a conflict of interests between the two parties. Fortunately in most building projects these cause little trouble.

The most satisfactory results are achieved when Owner, Architect and Contractor understand each other and help each other with the minor and sometimes major problems that can arise during design and construction. Such co-operation is of more value than any legal assistance.

By way of summary, the table that follows sets out very briefly some of the principal operations to be performed by building Owner and Architect, individually or jointly, from initiation to completion of a building project,

If an Architect agrees to provide his services for a reduced consultancy fee, then it is a violation of the Code of Conduct. Any Architect undertaking an assignment at a reduced fee invariably produces poor quality service and would have to face the consequences of same. .

Considering that the Architect has to perform a vital and very responsible service together with his other Consultants, it is essential that you agree to the Architect's appointment in keeping with SLIA Mandatory Minimum Scale of Fees.

Appendix

Sequence And Responsibilities Of a Building Projects Owner Architect oint

1. Seek architectural services.
2. Preliminary discussions. X
3. 3, Client/Architect agreement.
4. Establish budget.
5. Establish building program.
6. Agree design and documentation time chart.
7. Program analysis.
8. Consultation with authorities.
9. Recommended Consultants
10. Approve Consultants and Quantity Surveyor, if required.
11. Schematic designs.
12. Preliminary estimates.
13. Approve schematic design. '
14. Design development drawings and specifications.
15. Progressive estimates.
16. Discussion of details.
17. Modifications to design development documents,
18. Approve design development document.
19. Authorize contract 19. Forward the Building documents. Application to Owner to forward to Local Authority for approval
20. Contract working drawings and specifications.
21. Progressive estimates.
22. Discussions on Contract documents.
23. Modifications if required `
24. Set Construction time program.
25. Preparation of Bill of Quantities Final estimates.
26. Approve contract documents.
27. Award contract.
28. Execute contract.
29. Approve retention
30. Issue tender documents
31. Organize Pre-tender Meeting

32. Receive tenders.
33. Analyze and report on tenders.
34. Assist in execution of contract.
35. Check Performance Bond, Advance Payment Bond, All Risks Insurance Policy & Workmen's Compensation Policy and recommend to Owner
36. Select Tenderers.
37. Review tenders arrangements.
38. Recommend clerk of works. (if required)
39. Approve clerk of works.

40. Contract administration and inspection.
41. Check shop drawings.
42. Inspect and approve samples.
43. 45. Discuss progress, possible variations etc.
44. Prepare progress payment certificates, statements etc.
45. 47, Make progress payments.
46. 48. Finalization of fittings, finishes, etc
47. Obtain and insure
48. variation quotations
49. Check and recommend quotations
50. 51. Accept variation ~ quotations
51. 52. Issue contract variations
52. Inspect at practical completion
53. 55. Occupy building.
54. 56. Release half retention
55. 60. Make final payment
56. Issue notice of practical completion and certificate for release of half retention
57. Receive Warranties (if any) from contractor.
58. Make final inspection at end of defects liability period and check that all defects made good
59. Issue final certificate

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