

## The Architecture Design & Documentation work process:

### Stage 1: Inception 5%

- Receive, appraise and report on the clients requirements with regards to –
  - The clients brief;
  - The site and rights and constraints;
  - The need for consultants;
  - Project program; and
  - Methods of contracting.

After meeting with the client, the first step is to assess what the client has requested in their brief. Following that would be to find out all the information regarding the site, if it has any No Build Zones, what you are allowed to build on the site, the maximum Build Area Permissible (FAR), Maximum Footprint Permissible (Coverage), Maximum Height Restriction.

Depending on the complexity of the clients brief or site, the Architect would advise if an Engineer's services would be needed or any other consultants for any specialized design. A Geotechnical Investigation would be need for any new dwelling/ Building; this is needed to check the soil conditions in order to give an educated assessment of the type of foundations that are needed.

A breakdown of the process going forward to completion of the project can then be scheduled and a calculated Project Programme determined, at this stage Budget must be determined and checked against what the clients requirements are and if the proposed project will meet the budget constraints, if not this would need to be adjusted accordingly. Lastly the architect would utilize all the information accumulated during this stage to determine the best method of contracting, between the Client and Architect as well as Between the Client and the Builder/Contractor.

### Stage 2: Concept Design 15%

- Prepare an initial design and advise on-
  - The intended space provisions and planning relationships;
  - Proposed materials and intended building services; and
  - The technical and functional characteristics of the design.
- Check for conformity of the concept with the rights to the use of the land.
- Review the anticipated cost of the project.
- Review the project program

Now that the Concept Design has commenced the Architect must determine the best layout for all rooms based on the accommodation requirements (the brief), that best suit the site context (site orientation, the typography, access and predominant views). Careful spatial planning needs to be considered in order to ensure the functional characteristics of the design are met. A basic feeling for textures, materials and building services must now be thought about; items such as solar panels and water storage tanks if required or requested must be incorporated into the planning. A basic 3D of the spatial planning will also be utilized at this stage to assist with the visualization of the Concept design.

The sketch plans will at this stage be reviewed against the proposed budget and suggestions made to reduce the scope of work (or adjust the budget) if required to bring back within budget, as well as reviewed for conformity with rights of use and building restrictions (height restriction, building lines etc.) of the site.

As the sketch plans form the basis of the entire project, this may be a back-and-forth process until all parties involved are entirely satisfied with the outcome.

If any consultants are needed for the project, it would be at this point that the architect would inform you. For larger projects where a Quantity Surveyor is appointed to oversee the financial management and cost control of the project, they two would be brought on board during this stage to provide the initial cost estimates.

### **Stage 3: Design Development                      20%**

- Confirm the scope and complexity.
- Review the design, and consult with the local and statutory authorities.
- Develop the design, construction system, materials and components.
- Incorporate and co-ordinate all services and the work of consultants.

The design development stage will commence once the final concept design, along with estimated budgets based on this, are approved by you the client.

The plans will then be further developed based on the approved concept design, with any further changes that may be required, as well as the input from the consultants. The structural engineer's specifications will also be added at this point to the design, information such as the foundations, suspended floors and the roof design can then be specified on the drawings. At this stage details, specifications and any adjustments required in terms of energy efficiency will also need to be completed.

After any further changes are made, the final set of design development plans is produced. These will include detailed floor plans, sections showing the materials and structural systems being utilized, as well as detailed elevations also giving information

as to the finishes required on the external elevations. Now that the drawings are more refined the 3D model can now be developed further.

The design, costing and programme will then be reviewed with the consultants. The building cost and fee estimate will be adjusted to suit the revised design and square meter areas, by the architect (Calculated Estimate), appointed contractor, or by the Q.S. if one has been appointed.

## **Stage 4: Documentation and Procurement**

### **4.1: Documentation for local authority submission      20%**

- Coordinate technical documentation with the consultants and complete primary co-ordination.
- Prepare specifications for the works.
- Review the costing and programme with the consultants.
- Obtain clients authority, and submit documents for approval.

Commencement of work stage 4.1 follows on the approval of the final Design Development plans and revised cost estimates. Drawings and documentation required by the Local Municipal Authority for drawing approvals needs to be prepared. There are generally specialist consultants that need to issue accompanying documentation that indicates a higher level of design, such as an engineer's appointment form indicating his scope of work and responsibilities for the project are submitted as part of the building plan document set to the local authority. This information is co-ordinated by your appointed architect.

The documentation required for the submission would include the following:

- **Detailed Site Plan;**
- **Floor and Roof Plans**, with all relevant specifications and dimensions;
- **Elevations**, with all relevant specifications;
- **Sections**, with all relevant specifications and dimensions; **5 Copies (3 colored in; 2 Black and White) needed of each of the above drawings.**
- Submission Documentation and Engineers appointment letter as well as architects appointment letter, SACAP registration letter and compliance with all the new SANS 10-400 documentation (Fenestration calculations, Hot and cold water reticulation, Electrical loading calculation, etc.)

Other information required during this stage can include Estate Review Committee; they require the drawings to go through an internal Design committee review, to ascertain if the design complies with their Estate Design Codes and Aesthetics, this includes:

- An application to attend a design review meeting to discuss the design processes and how the design conforms to their Estate Codes and Aesthetics.
- A full set of drawings needed for municipal submission.

- 3D perspective views showing design to assist with Design review.

#### **4.2: Construction documentation and proceed to call for tenders 10%**

- Obtain the clients authority to prepare documents for procuring offers for the execution of the works.
- Obtain offers for the execution of the works.
- Evaluate offers for the execution of the works.
- Prepare contract documentation, and arrange the signing of the building contract.

Documents are prepared to procure offers for the execution of the works. These would include a set of Tender Drawings/ Working Drawings for information, any detailed specifications, all information relating to the site, documentation/ drawings from the engineers and any other specialist consultants, works construction period/ duration of contract and the method of contract agreement being used to appoint the contractor.

Offers are then assessed, and recommendations made on the awarding of the principle building contract, as well as any other appointments, as required with direct contractors or nominated sub-contractors, depending on the complexity.

Contract documentation is then prepared and arrangements made for the signing of the building contract between the contractor and the client.

## **THE CONSTRUCTION PHASE**

Stages 5 and 6 are optional, and are sometimes excluded from the architectural service. It is recommended, however, that unless you, as the client, have experience administering construction projects, a full architectural service is provided including these stages.

#### **Stage 5: Contract Administration 27%**

- Administer the building contract.
- Give possession of the site to the contractor.
- Issue construction documentation.
- Check sub-contractors design and specifications that they are acceptable.
- Inspect the works for conformity with the contract documentation and acceptable quality standards in accordance with industry standards.
- Administer and perform the duties and obligations assigned to the Principal Agent in the JBCC Building Contract or fulfill the obligations provided for in other forms of contracting.

- Issue the Certificate of Practical Completion.
- Assist the client in obtaining the Occupation Certificate.

The architectural service provided for this stage comprises of the administration of the building contract. This includes administering the handover of the site to the main contractor; the issuing of construction documentation; initiating and checking sub-contractors design and documentation as appropriate; regularly inspecting the works for conformity to the design and contract documentation; performing the duties and obligations assigned to the 'principle agent', as set out in the JBCC building agreements or similar approved contract; issuing the practical completion certificate; and assisting the client to obtain the occupation certificate from the relevant local authority.

**Stage 6: Close-Out                      3%**

- Facilitate the project close-out including the preparation of the necessary documentation to effect completion, handover and operation of the project.
- When the contractor's obligations with respect to the building contract have been fulfilled, the architectural professional shall issue the certificates related to contract completion.
- Provide the client with as-built drawings and relevant technical and contractual undertakings by the contractor and sub-contractors.

The final stage is the close out of the project, which includes completing all necessary documentation to effect the completion and handover of the project to the client. All systems installed, such as solar, sewerage, rainwater harvesting and gas systems are also checked. As well as all instruction manuals are handed over to the client and explained how all the systems operate.

After the contractor's responsibilities with respect to the building contract are fulfilled, certificates relating to the contract completion are issued. The client is also then provided with as-built drawings as well as the relevant technical and contractual undertakings and guarantees by the contractor and sub-contractors.