

## Understanding the Phases of Architectural Design

By : Bienenfeld Architecture

Understanding the many phases of architectural design is imperative for a smooth building process. Sometimes the architect uses terminology that is not comprehensible to the Owners, and we mean to rectify that by outlining our process and defining some of our ‘buzz words’ that we tend to use. What follows is a brief synopsis of what will happen in designing your new building.

### **I. Programming**

Some clients already have an established program and some do not – but that is where the architect can help. In conjunction with the school principal[s] and key administrators, a Program of Requirements [POR] is developed. This lists all of the desired spaces needed in the school and their occupancy counts [i.e. how many people will sit/occupy that space]. For instance, there will be 25 classrooms with 22 students and one teacher, and one assistant teacher in that space. After you describe to us how teaching occurs within that space and what kind of furniture and equipment needs to be included, the architects then develop typical square footage for that kind of classroom. The POR is generally an Excel spreadsheet that can include all sorts of additional information like existing and projected numbers of spaces and their occupants, if projections are possible and known. Without the POR the new space cannot be designed – this is the road map we develop to design the school you need. Design comes later – establishing needs comes first.

### **II. Zoning Study**

A zoning study is always required in order to establish the allowable lot coverage, square footage and height of the building. This can be prepared either by the architect or a separate Zoning consultant. This can be done in conjunction with the Programming Phase and early stages of the Masterplanning stage as outlined below. But no intelligent Masterplan or Schematic Plans can be yielded without one.

### **III. Masterplanning**

In this phase, we identify the key goals for a new space and the pain points of the existing space. This is done in partnership with the Building Committee and as many of the building occupants as possible through a two-part process:

#### **1. Scope Report**

Through a series of interviews with all building users including administrators, secretaries, teachers, specialty staff, program directors, students, parents, custodial staff, et. al, we

ascertain what works in the current space, what doesn't work and what everyone's fantasy school will look and operate like. This involves types of spaces to include, programmatic functioning of all departments, types of furniture and finishes, flow through the space, drop off and pickup sequences for vehicles, pedestrians, and deliveries. This is an opportunity for people to both vent their frustrations but to also articulate their desires. We get a feel for the kind of space you loathe and the one you dream of! This phase establishes spatial and operational priorities. The deliverable is a Scope Report that clearly illustrates by building space type all our Findings and Recommendations.

### **2. Masterplan**

The Masterplan is a plan-like diagram which illustrates the major positions of buildings on a site or a campus and/or the interior layouts of all rooms in a single building. It includes the room types that the client desires drawn to scale and their adjacencies. This is not much more than a glorified bubble diagram and should not be mistaken for an actual architectural plan, but its goal is to test the number of spaces that can possibly fit into a given existing or new space and site. Each 'room' is labeled with a room tag that defines the space and its square footage. Multiple options are yielded to optimize the best use of space. It is when the client signs off on this plan that the classic phases of the architectural process can begin.

Some clients may choose to share the Masterplan with a professional Cost Estimator or a GC/CM that they have a relationship with to understand the magnitude of order for the upcoming building project – i.e., the cost of construction in addition to the cost of design services.

## **IV. The Five Phases of Architecture**

A classic AIA [American Institute of Architects] contract describes the following phases of design as the classic service of the architect. All of the above is 'extra' but as we have learned more and more necessary to help our clients yield the most optimal and economical plans.

### **1. Schematic Design**

The architect assists the owner in finalizing the Program of Requirements and other information furnished by the owner, and shall review laws, codes, and regulations applicable to getting the building built.

Then, the architect prepares Schematic Design Documents. These consist of drawings and other documents including a site plan and building plans illustrating the basic scheme of the project, in addition to miscellaneous other information as appropriate. The drawings will look 'architectural in nature' showing actual wall thicknesses and rooms designated for mechanical

and other systems' use. Preliminary selections of major building systems and construction materials shall be noted on the drawings or described in writing by our team of consulting engineers including the MEP [Mechanical, Electrical and Plumbing, Fire Protection or Sprinklers and Fire Alarm engineers], Civil Engineers, Structural Engineers and others as appropriate for the building at hand.

We recommend that a Cost Estimate by a professional Cost Estimator be yielded at this point.

### **2. Design Development**

Based on the owner's approval of the Schematic Design Documents, the architect prepares Design Development Documents. These illustrate and describe the development of the approved Schematic Design Documents and shall consist of drawings and other documents including more developed plans, sections, elevations, door and window schedules [lists], typical construction details, and diagrammatic layouts of building systems to fix and describe the size and character of the project as pertains to architectural, structural, mechanical and electrical systems, and other appropriate elements. The Design Development Documents shall also include outline specifications that identify major materials and systems and establish, in general, their quality levels.

### **3. Construction Documents**

Based on the owner's approval of the Design Development Documents, the architect prepares Construction Documents. These are construction-ready drawings that contain a high level of detail and specificity, all material types, door schedules, window schedules, partition types, finish types, etc. The Construction Documents shall illustrate and describe the further development of the approved Design Development Documents and shall consist of Drawings with Specifications setting forth in detail the quality levels and performance criteria of materials and systems and other requirements for the construction of the work.

An updated Cost Estimate will be submitted at this stage.

### **All Along the Way...**

Throughout the course of phases 1-3, **photorealistic renderings** can be provided to the Owner for the sake of illustrating more 'realistically' what the space will look like and to understand the major design areas like the exterior facades and those building areas that are designated for a higher design treatment. These are useful for both the owner to understand and participate in the design and for use as marketing materials to show potential donors.

Additionally, periodic meetings are held with the client to make material and furniture selections regarding **Interior Design**.

#### **4. Bid and Negotiation**

When the General Contractor has not yet been selected, the Architect will assist the owner in selecting one by a bidding process. The Architect will be available to review competitive bids and explain to potential bidders what the scheme of the building entails.

#### **5. Construction Phase Services**

It is important to realize that the architect protects the owner during the Construction Phase – we are your partner to ensure that the General Contractor [GC] is building according to the plans that you reviewed and approved. Additionally, and most critically, we make sure that the GC is not making any substitutions to materials that were specified for the project.

The architect shall not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the work, but the architect will report any deviations that we see on site directly to you.

The architect will make regular site visits to see the progress of construction and to make sure that the contractor is building according to the plans. Other consultants will have to visit the site at regular intervals as well for the same reasons. During this phase, the architect also responds to shop drawings and submittals as submitted by the GC and revise our plans according to need.

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#### **A Common Goal....**

We want your project to succeed! The goal is to bring the construction project to a close with all parties happy – the owner, the architect and the GC. We are here to help you get there and we believe that the key to a building's success is communication, communication, communication!