THE ARCHITECTURAL DESIGN PROCESS

Every project is unique, and every building is a prototype, so the design process may vary depending on a variety of factors. Some services may be handled by the Architect, or may be assigned to others. Certain phase sequences may be moved around, expanded, or eliminated. For example, cost consultants may perform a cost estimate at any point during the process (with varying degrees of certainty). Each project faces different code issues, site issues, and involve a unique cast of consultants and stakeholders.

And although many processes are unique to each project, certain elements are common to most jobs. They are most easily defined as *Schematic Design* (the beginning), *Design Development* (the middle), and *Construction Documents* (the end). These milestone phases are built-in to assist the Client and the Architect. They offer the Client pause to reflect, analyze, alter the path the project, or abandon it. They also allow the Architect to define distinct goals for billing his services. The design process is iterative, adaptive, and welcoming of new challenges. A successful *project* is the result of an in-depth design *process* that satisfies the concerns of all stakeholders with an outcome that is predictable. A sample process is as follows:

1. PROGRAMMING

Programming is the phase where the design problem is *defined*. Some Clients may have done this work themselves beforehand, organizing their space requirements into a list, but the Architect can assist in developing this document as well. The Program includes:

- List of spaces, quantities, functions, sizes, and spatial relationships

Usually the building site, construction budget, and project schedule are determined before the project is designed. The owner should secure a professional survey of the site for the Architect's use.

The Owner also determines the method of project delivery at this point. Some typical methods are Design-Bid-Build or Design-Build.

2. SCHEMATIC DESIGN

This phase is preliminary and gathers all relevant information to form a building. The building's shape, size, and levels are determined and fit onto the site. The interior spaces are arranged with major circulation routes, and door and windows are roughed in. A pricing estimate may be performed at the conclusion of this phase, if a General Contractor (GC) is hired for the exercise. Typical drawings include:

- Preliminary Site Plan
    - Zoning, setbacks
    - Allowable height and area
- Preliminary Life Safety Plan (if applicable)

    - Occupancy Type and Count
    - Egress
- Floor Plans: Each level with room names and dimensions
- Exterior Elevations: Cardinal elevations show general arrangement and floor elevations
- Building Sections: showing floor levels and space stacking

3. DESIGN DEVELOPMENT

The project team (engineers and designers from different disciplines) is assembled and consultants' scope is identified. The drawings are developed further to begin to assign materiality and general construction type. A pricing estimate may be performed at the conclusion of this phase, if a General Contractor is hired for the exercise. With pricing information from a GC, the design may have to adapt to meet the budget. Value Engineering (VE'ing) is a process where cost savings can be identified if a project is over budget. Scope may be reduced, delayed or phased, quality of materials may change, or the budget may change, among other outcomes. Typical drawings include:

- Site Plan
- Life Safety Plan (if applicable)
- Floor Plans: Each level with dimensions and window and door tags
- Exterior Elevations: Cardinal elevations tagged with material and dimensions
- Ceiling Plans: Each level with heights and generic materials
- Interior elevations of kitchens and bathrooms (If Interior Design included in scope)
- Door and window schedule with general sizes and materials
- Partition tags and types generalized
- Wall Sections: Generic and typical showing construction types

4. CONSTRUCTION DOCUMENTS

Final input from external consultants are integrated and coordinated into a whole. The building is drawn with sufficient detail for construction and bidding. Typical drawings include:

- Final Site Plan
- Final Life Safety Plan (if applicable)
- Final code review
- Final material specifications
- Floor Plans: Each level and some enlarged plans where required
- Ceiling Plans: Each level with lighting and ceiling components
- Building Sections: Show arrangement of spaces and system, referring to larger wall sections
- Exterior Elevations: Each face of the building, and some enlargements where required
- Wall Sections: Show assembly of different materials and systems
- Miscellaneous details for Doors & Windows / Stairs / Roofs / Exterior Systems / Interiors, etc.
- Door schedule with hardware and other characteristics
- Finish Floor Plans: Each floor surface indicated (If Interior Design included in scope)
- Kitchen details integrating owner appliance selections (If Interior Design included in scope)

5. BIDDING AND PERMITTING

The Construction Documents are reviewed with potential bidder and some changes may be made. A final bid is negotiated by the Owner and Contractor, and a bidder is awarded the contract. The Architect furnishes the following to the contractor:

- Stamped Construction Documents
- Final Specifications
- ResCheck or ComCheck (Energy Performance Analysis)

The Contractor then submits the Construction Documents to the local permitting authority. The Authority Having Jurisdiction (AHJ) typically requests some changes, and the Architect makes all changes to comply with the requirements until the building permit is granted.

***6.** CONTRACT ADMINISTRATION*

These services are offered during construction, where the architect's role diminishes, and the general contractor's role is prominent. Design changes may occur during this phase, but should be avoided due to excessive costs. Services includes:

- Review Submittals and Shop Drawings
- Observe Construction
- Answer Requests for Information (RFI's)
- Review payment applications