

Design and Build

When selecting a design and build supplier the main aim is to look for company that can combine different technologies and interrelated aspects of project management into a composite whole. This would allow the client to benefit from having access to leading professionals for design, construction and project management under one umbrella. A successful team would ensure that it creates a concept which is tailored to the mindset and requirements of the customer along with focusing on ergonomic and cost-effective design that conforms to building codes of the area.

Stages of Project Planning

By working with the consolidated supplier it will be possible to save money and time on the project. Since one organization will work at the representative for the client and manage the entire project they can be effective communication and monitoring of the project progress. Before the project is initiated a lot of time must be spent on site survey, assessment of building codes and applicable jurisdiction, as well as concept designing. The advantage of selecting firm specializing in design and build solutions is that a realistic budget is presented along with the feasibility report to the client prior to finalizing the project. This means basically that the client has for information on the realistic cost which will be incurred in the reconstruction or new project development.

Budgets and Timelines

The supplier works to delivering a concept that meets the client's aesthetic and functional requirements along with the budget range that is to be allocated on the project. The idea is to provide the best possible solution in the most economical manner on both monetary and time aspect. Another important factor to consider on project management is that while the budget may be well planned out and realistic it is only achievable if the project meets its construction schedule timelines. If the project delivery and completion overshoots the timeline than the cost of the project consistently increases and can have a negative affect on the overall cost of the project.

Companies focus on providing realistic workflow timelines and then manage slight alterations as required. The client is involved in each case by receiving updates and reports to inform them of progress. With a workable knowledge of construction technology and the use of skilled staff the suppliers ensure that realistic goals are set for delivering the project with high build quality.

Services Provided by the Design and Build Teams

Design and build solution providers can offer a one-stop solution for construction and prefabrication requirements. With a comprehensive team of experienced professionals the companies aim to create a synergy between these interrelated functions of design and construction.

Most of the companies include experienced engineering professionals who can handle approval from the planning commission and city council. Furthermore, the team members may include knowledgeable architects who are well-versed in creating design for both of offices or warehouses and follow the requirements of the planning commission and get approval from the architectural review board. This means that the client is saved the hassle of going through all the paperwork and bureaucracy before the project is initiated. A well-designed reporting system would allow the client to be updated about the progress of the project as and when required. Design and build suppliers are hired for their ability to deliver a full-spectrum of construction and fit out required for the project to be completed. With the combination of integrated work experience and the latest technology to design and build concept allows suppliers to offer a more customer centric and hands-on approach. The aim is to plan, design and execute a successful project with flexibility and professionalism.

There are various aspects involved in selecting a design and build supplier. The primary consideration should be the experience and approach of the company pertaining to the type of project at hand. There are companies which focus specifically on warehouse and industrial unit development whereas others are more geared towards commercial office project. A supplier must be selected based on their experience in the kind of project that the clients have in order to deliver successful results.

Basic Design and Build Process

From initial survey and a feasibility study to assessing the planning permissions and building regulations, a supplier has to cover all the necessary legal and construction aspects. Once these are finalized the architectural team works out a concept based on the aesthetic, functional and budgetary requirements of the client.

The correlation between the architectural and engineering team results in a customized design catering to the client's requirements. With constant interaction the entire team is on the same wavelength and eliminates majority of the mistakes, which may commonly be made when independent contractors hired for each aspect. The level of accuracy and compliance is very high when a project is being managed from start to finish by one contractor who is experienced in the concept of design and build management.

Costs and Timelines for Completion

Following this, the cost estimates and budget are prepared, for approval by the client. There is always a provision for contingency spends in the budget. Furthermore contractor has direct access to manufacturers who can supply materials and manpower in a very timely and cost-effective manner. Due to their long-standing relationship the contractors can acquire most of the products at economical rates thereby transferring the benefit to clients in terms of the cost cutting. Once the financial aspect is finalized and the design is approved the timeline for construction and project completion is established.

Again certain constraints are taken into account when planning the delivery schedule to ensure a realistic timeline. This process is done after comprehensive meetings and suggestions of the entire professional team and is assigned to the project manager.

This allows the client to have one point of contact rather than chase after professional for drawings and specifications of the architectural design or perhaps documentation from the planning commission.

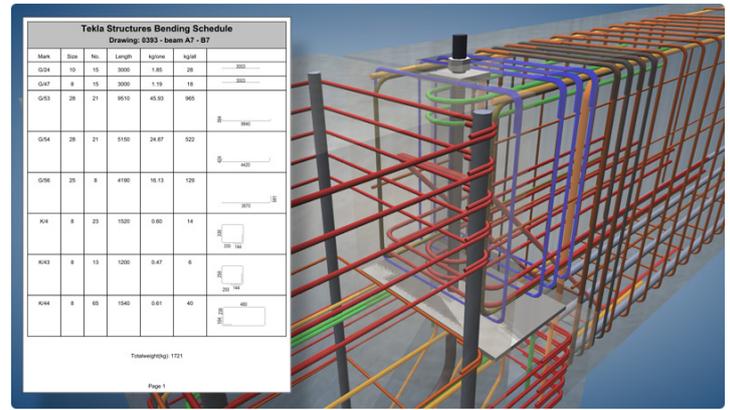
Accountability and Contact Point

The accountability resides on the project management company as they are responsible to deliver each aspect of the project in time with the finalized delivery schedule. The project manager is responsible for overseeing the entire workflow and progress on the site. The aim is to ensure management of work-flow and construction schedules. Every issue is resolved in a timely manner to keep the project on track for completion. All the departments must function to deliver each aspect on the basis of specifications that are previously approved by the client. This, results in full compliance with the client's requirements in terms of build quality design and build.

Designing for Reinforcement

Designing buildings of reinforced concrete is more difficult than using structural steel. For more than 10 years, fully integrated design software has allowed engineers to design, price, and produce full preliminary design documents for structural steel in a day. Consequently some engineers lean towards using structural steel, especially with more detailed and impressive designs. In addition, thanks to its accuracy and completeness, there can be more accurate and aggressive pricing, making steel more competitive.

While reinforced concrete has long enjoyed its traditional role in certain building markets, such as hotels, condominiums, and parking structures, in many geographic regions it has not garnered a major portion of the office and institutional markets. Recently, however, new technologies have appeared that will help put reinforced concrete on an equal playing field with structural steel from the start of the design development stage all the way through construction. The choice of building material should be made on an objective investigation of the best performing structural system that most appropriately meets the owner's needs rather than on the difficulty of design. These new technologies promise to raise the competitiveness of reinforced concrete.



For reinforced concrete design today, an engineer generally employs one software tool to design lateral framing system, another to design mildly reinforced or post-tensioned beams and slabs, another to design columns, and then a CAD system to produce all construction documents. As a result, the engineering labor involved is significantly higher than a similar structural steel design. And when design changes are requested, the engineer refers back to the frame analysis software, column design software, and floor or beam design software, then laboriously traverses through the structural design to ensure that the change has been thoroughly investigated. Several days later, in many cases, the architect gets the results, and significant costs must be either passed on or "swallowed" by the structural engineer.

One of the fabricator's most time-consuming jobs is manually transcribing data found on beam-and-column schedules, a grueling and error-prone process. The goal of the electronic data link is to eliminate 90% of this transcription process, and, hence, a large portion of the bidding labor. Within the next few years we expect the design gap between structural steel and reinforced concrete to diminish, and building materials to be chosen solely on their merits. reinforced concrete design information from RAM Concrete directly to a estimating and detailing software. Within the next few years it is expected that the design gap between structural steel and reinforced concrete to diminish, and building materials to be chosen solely on their merits. These advances hold great promise

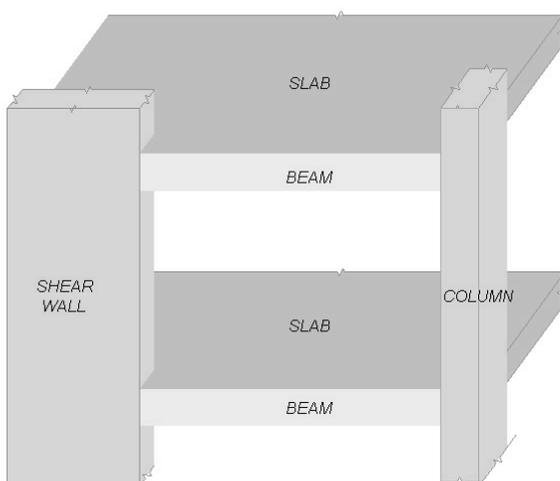


Illustration of Seismic Strengthening Techniques