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[INDUSTRY NEWS](#)
[INDUSTRY OVERVIEW](#)
[BAYBIONOTES](#)
[President's Desk](#)
[Public Policy and Legislation](#)
[Guest Column](#)
[BioScience by the Bay](#)
[BayBio Institute](#)
[Real Estate Roundup](#)
[BAYBIO PANTHEON](#)
[PUBLICATIONS](#)
[ISSUE FORUM: COMPARATIVE EFFECTIVENESS](#)
[ISSUE FORUM: ENERGY RESEARCH](#)
[ISSUE FORUM: STIMULUS INVESTMENTS](#)
[RESOURCES FOR GOVERNMENT FUNDING](#)
[MEDIA CENTER](#)
[CAREER CENTER](#)

Real Estate Roundup

Achieving Excellence in Project Execution – Due Diligence

By Deepa Dhar

The design and quality of a space has a tremendous impact on the people, their productivity and their well being. Successful implementation of projects is a crucial part of the success of any organization. Projects related to technical spaces for the hi-tech, biotech, medical and manufacturing industries, are especially more demanding and critical for optimal functionality and use.

The design of a space is an iterative process with input from several disciplines. The solution evolves over a series of events to a final resolution. To set this process in the right direction from the onset, it is critical to engage in careful and comprehensive initial planning to establish a firm foundation for the rest of the process. The first step in the design process is to identify and document the User requirements. Get enough detail of space requirements, personnel count, environmental conditions and utility requirements. Establish a high level scope document, review with the user group/s and establish a high level budget. Make sure to include ample contingency – up to 25% - at this early stage. Only then go to upper management for preliminary funding approval. There have been too many projects initiated with a pre-established budget, without a good understanding of the project ramifications, making it really hard and sometimes impossible to be successful!

During the early-planning or programming phase, estimating the right amount of space required for the new facility can be tricky. Having a professional architect and engineer on your team early in the process will help you to develop space requirements, infrastructure requirements & help you define the right size & type of facility for your company. A common mistake in smaller projects is to underestimate the complexity and skip certain steps in the design process in an effort to expedite the project. Not only does this result in costly redesign, but often in even more costly surprises during construction and an unhappy user group, who's needs are not met.

A scientific laboratory needs a safe and well-controlled environment that ensures reliable, consistent results. This is true regardless of whether the laboratory is designed for biochemistry, electronics or physical sciences or whether the intended function is analytical, experimental, academic or entrepreneurial in nature. Lab projects require a very well detailed program and basis of design document identifying User requirements pertaining to space requirements, work flow, equipment needs, environmental conditions and design for building systems – electrical, hvac, plumbing, security etc needed to satisfy the project requirements. A review & sign off by the user group will confirm agreement to the design parameters. Enlist a general contractor to provide a realistic current cost estimate based on the program requirements to establish a project budget.

Key factors to keep in mind:

- Involve lab users/representatives early in the process and allow clear direct communication between the design team & users.
- Involve an architect and relevant engineering disciplines, early in the process.
- Understand and challenge existing practices. Explore more practical solutions, don't blindly repeat existing conditions.
- Plan for growth and flexibility. Design for the discipline, not for the individual.
- Field-verify existing conditions.
- Keep communication lines open. Emphasize the importance of timely decisions 'sign off' on design drawings and the exponential cost of any changes as the project progresses.
- Introduce the project to the local jurisdiction early on. The architect will discuss and resolve any code issues early on to streamline the review process.
- Establish a reasonable schedule – identify long lead items early on.

Early establishment of a detailed program will facilitate smooth progress for the rest of the design process. With a clear understanding of the project needs, documentation to facilitate and confirm requirements and expectations, the design team can now proceed with schematic design & construction documentation to address the project requirements. Regular review meetings, feedback from the User group, cost estimates and scope/schedule/budget checks at regular milestones of schematics, design development and 75% construction documentation will guide the design to the optimal final solution.

Recognition of the value of establishing a clear definition of the project early on and getting timely expert help as needed, will allow a smooth design & efficient construction process, eliminate any surprises and result in maximum return on investment in dollars and client satisfaction.

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