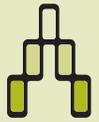


THE HIGH PERFORMANCE PORTFOLIO:

HIRING THE RIGHT TEAM – INTEGRATED DESIGN SERVICES



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Designing and creating high performance buildings is a maturing discipline. Many practices and strategies differ significantly from traditional development, requiring new skills and technical expertise to deliver projects at their optimum level of energy performance. Further, development of high performance buildings require a fundamental shift in management style – an innovative, collaborative, multi-disciplinary approach – which can prove difficult to master. Owners and developers seeking architectural, engineering, and construction services should re-examine the process for securing qualified firms, and focus on finding those that either have experience in integrated design or can quickly come up to speed.

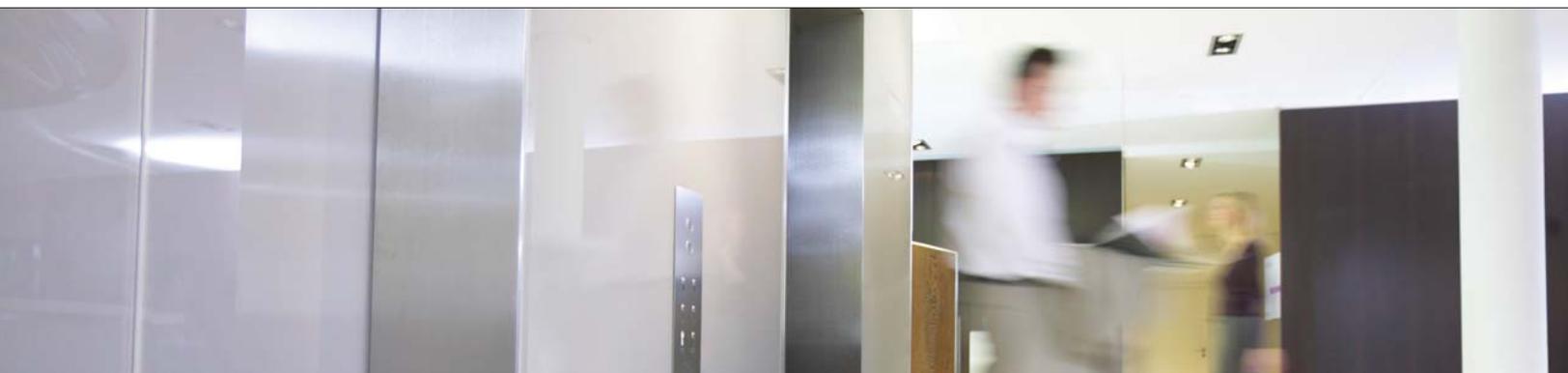
IN DEPTH:

The practice of integrated design (and high performance buildings as a whole) is rapidly evolving. Many architects and designers are still developing and refining their skills in these areas. Ideally, seek an experienced design team that has had success managing an integrated design process.

However, it may prove difficult to locate the exact qualifications you need. If that's the case, consider ways to allow for "on-the-job training" among team members. Even with an experienced group, allocate time and resources for the team to research innovative strategies and techniques – a consideration unique to integrated design services, given their cutting-edge nature. This doesn't necessarily translate to additional time or cost. Firms eager to boost their expertise and professional reputation might be willing to adjust their negotiated fee or the timing of that fee in order to build their knowledge base.

When evaluating a design team, consider their familiarity with the following concepts and techniques:

- Employing a holistic approach to building systems, materials, design, and operations to maximize efficiency, occupant comfort, and cost-effectiveness
- Conducting energy modeling
- Minimizing building energy loads
- Implementing efficient lighting strategies, integrated with daylighting
- Employing natural ventilation



- Assessing alternative mechanical system strategies
- Training building staff on enhanced operations & maintenance procedures
- Assessing life-cycle costs of building systems
- Using building information models (BIM) as a tool for team integration
- Working collaboratively early in the design process with multiple stakeholders

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The firm should not only be technically proficient, but also possess excellent management skills, which are essential for the highly collaborative integrated design process. Gauge the firm's management style, and see if they have the flexibility to break away from the silos of traditional design. Team members must be able to effectively communicate design details and solicit input

from an expanded circle of professionals, such as owners, developers, architects, engineers, contractors, proposed occupants, commissioning agents, O&M staff, energy consultants, mixed-use experts, and others. In particular, look for personnel that are fluent in managerial issues, cross-functional teams, and the other concepts associated with integrated design.

AIA RESOURCES

The American Institute of Architects (AIA) has recognized that integrated design represents a shift in the traditional design process, and is currently preparing reference materials for use by the development community to promote the adoption of this practice. The *AIA Integrated Project Delivery: A Guide* is expected to be released in November of 2007. Also, *AIA Contract Documents for Integrated Project Delivery* – contract templates for use by design teams - will be released in conjunction with the AIA national convention in the spring of 2008.

The selected design team must be familiar with and supportive of value the commissioning agent brings to the process. Integrated design incorporates commissioning from the earliest stages, and the design team must be prepared to work with third-party commissioning agents at multiple touch-points.

Check references carefully, and broaden the scope of your interviews to explore integrated design qualifications. Ask questions of potential team members. For example, find out whether the firm utilizes an integrated approach only in the early phases of design or throughout the entire process. Also, be sure to understand what their definition of integrated design really is – it might not necessarily meet your criteria.



Even if you've found a team with the necessary skills, don't assume the architects, designers, and engineers know everything. If necessary, bring in additional expertise and consultants to supplement the team. For example, "green building" or sustainability consultants can play an important role in the development of high-performance buildings, often running charrettes or guiding developers through green building certification programs. Specialists in energy, site sustainability, lighting, green materials, or new technologies might also be required.

Some architectural firms have these experts on staff; others bring on external consultants for each project. Find out whether potential design teams plan to bring in special consultants, and if not, include provisions for this in the contract. Or you might consider hiring sustainability consultants first, and then working with them to search for architects, engineers, contractors, and other experts.

As an additional way of maximizing expertise, encourage a cross-functional mindset. Though it's important to involve specialists in all areas, the team should foster a climate of contribution. For example, the water expert can come up with HVAC solutions; the HVAC expert can come up with building envelope solutions. Seek and welcome input from a wide array of views, as opposed to a traditional hand-off process from architect to engineer to contractor.

When you're ready to secure the firm, pay attention to several contractual issues unique to integrated design:

- Integrated design is more time-intensive early in the process compared to a conventional project, with less time required during later design and construction stages. While design teams traditionally receive a percentage of the total fee during each phase of the project, the fees specified in contracts for integrated design services should reflect the timing of involvement and a greater effort in the early design stages.
- Typically, a mechanical engineer's fee is a percentage of the total mechanical equipment installed. This set-up makes less sense for high performance buildings, which aim for reduced loads and minimal equipment size. Establish a fee structure that rewards efficiency, not excess.

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- Ensure that the architects have their team established early on, including all sub-consultants, engineers, and other experts. To gain confidence that the team has all the necessary skills and to ensure that all members can contribute in the pre-design phase, you'll need to know who they are before you sign the contract.
- Build energy performance goals into contracts for all sub-contractors and consultants, in addition to the architectural firm's contract.
- Finally, remember that integrated design can result in a lower overall project cost. Potentially higher up-front costs will be recovered later during construction.

THE BOTTOM LINE:

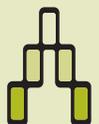
- Seek an experienced design team with a proven track record, but acknowledge that some on-the-job training will be required
- Evaluate teams' familiarity with innovative integrated design methodologies, energy modeling, life-cycle cost analysis, and building operator training
- The design team should possess the fundamental management skills necessary to lead in a collaborative team environment
- Bring in additional expertise and consultants to supplement the team as necessary, and encourage a cross-functional mindset to maximize expertise
- Fully integrate the commissioning agent's role throughout the integrated design process.
- Contracts may need to be re-examined to set proper expectations about project milestones, payment schedules, and performance criteria

LEARN MORE:

The High Performance Portfolio Framework
www.betterbricks.com/office/framework

Sample RFP for Integrated Design Services
www.betterbricks.com/office/briefs

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