

Innovation Building Group Best Practices for Modern Methods of Construction



6. How Integrated Design Eliminates Future Pain Points

One of the most important advantages of long-term construction and operational experience is the ability to identify future project problems before they are physically built into the building.

Over time, recurring patterns become increasingly predictable. Experienced project teams begin identifying where:

- mechanical systems are likely to conflict,
- servicing access may become problematic,
- sequencing inefficiencies may slow construction,
- envelope interfaces may increase moisture risk, or
- operational complexity may create long-term maintenance challenges.

At that point, design evolves beyond producing coordinated drawings. It becomes a process of systematically eliminating future operational and construction problems before construction begins.

In many projects, relatively small early-stage design decisions have disproportionately large downstream impacts. For example:

- minor structural adjustments can simplify mechanical distribution,
- improved interface detailing can reduce long-term moisture exposure, and
- simplified duct routing can significantly reduce installation and maintenance complexity.

The earlier these issues are identified, the lower the cost and disruption required to resolve them. This is one of the primary advantages of integrated design processes.

When:

- builders,
- manufacturers,
- energy consultants,
- mechanical engineers, and
- and operational stakeholders

are involved early enough in project development, coordination issues can often be resolved while the project remains flexible.

Once tendering, procurement, and construction documentation are substantially complete, opportunities for meaningful simplification are significantly reduced.

Over time, we found that many of the highest-performing buildings were not necessarily the most technologically advanced. Frequently, the strongest outcomes came from projects where future operational friction had been systematically removed during design development.

At IBG, many current assemblies and coordination approaches evolved directly from years of:

- field coordination,
- post-occupancy review,
- operational monitoring,
- maintenance feedback, and
- sequencing refinement.

This iterative process improved constructability, maintenance accessibility, durability, coordination efficiency, and occupant experience.

Integrated design benefits all project participants. Trades encounter fewer conflicts during installation. Contractors manage fewer field coordination issues. Operators inherit simpler

and more maintainable systems. Occupants experience buildings that are quieter, healthier, and more operationally stable over time.

In this context, integrated design should not be viewed solely as a construction efficiency strategy. It is fundamentally a lifecycle optimization strategy.