



Independent Drawing Review

How to Mitigate Construction Overruns and Save Money

Overview

Independent Drawing Review (IDR) can be an important addition to any design and construction project. Conflicts and on-site errors are inevitable, especially when projects are poorly documented and designed. By identifying inconsistencies and missing information before the project is sent out to bid, IDR can increase the accuracy of price estimation, improve the process of scheduling, and reduce the number of change orders and last-minute revisions. Consequently, projects will have reduced costs, more streamlined schedules with fewer delays, and improved coordination between owner, architect, and contractor.

IDR involves a simple and straightforward process that has been practiced for decades. Documents are most typically reviewed between schematic design and the issuance of construction documents, with the reviewer looking at constructability, potential code concerns, and coordination issues. The reviewer documents these concerns and returns them to the client for review and consideration with their design team. Generally, a review that occurs earlier in the design process reaps greater benefits to the project. However, with a typical project producing 7% of its original budget in change orders over the course of construction,¹ IDR can be beneficial during any part of the design and documentation process.

Case Study

Three sample projects that JLS Architects provided Independent Drawing Review for over the past year confirm and demonstrate the overall utility of the service. The first, a commercial office fit-out in Nashville, witnessed a 7% reduction of its total construction cost. This reduction was primarily achieved through clarifications of door specs and HVAC design, and the completion of electrical specifications that helped resolve coordination issues and improve constructability. The second, a mixed-use project in Philadelphia, saved over \$1.1 million on its construction cost through revisions to fire-rating details and locations of safety glazing. The third, a 14-story hotel, saved approximately \$250K through coordination of MEP trades which eliminated penetrations through multiple floors and the identification of shaft wall requirements.

When does Independent Drawing Review make sense?

For most development teams, IDR is a value-add to the design process. Many of the errors during the construction process are invisible to traditional development teams and are not observed until a cost has already transpired. Development teams that self-perform tend to be able

to deal with documentation and design errors directly in the field, reducing but not eliminating some of the utility of IDR. Larger or more complex projects will typically see a higher return, due to the greater need for coordination and a larger amount of documentation.

What value does IDR provide to a project?

In the end, the goal of Independent Drawing Review is to create a more complete, better coordinated drawing set that benefits the documentation of the overall project. In the process of achieving this, IDR generates even greater value to the development team.

Projects that utilize IDR typically save 3-6% in construction costs, while spending less than 1% of the construction budget on the service. In some cases, the reduction of construction costs is close to 50 times the fee paid for IDR.

In 2018, PlanGrid published a report estimating that \$31.3 billion dollars was spent on rework the prior year.³

A 2020 report by the National Construction Payment Report noted that only 30% of contractors finish their projects on time and within budget,² and coordination issues play a key role in this. IDR helps mitigate these issues, resulting in fewer change orders and less antagonism between the design and construction teams. Overall, this results in a more efficient construction schedule and a greater chance that the construction team will complete the work on time.

In general, while the extent of the improvements may vary, IDR can benefit a wide variety of projects by identifying potentially problems earlier in the process. With earlier detection comes a greater ability to set the groundwork for a project that is on time and on budget.

Citations

1 Barry B. Bramble, Michael T. Callahan, Construction Delay Claims (Aspen Publishers Online, 1999)

2 2020 National Construction Payment Report (LevelSet, 2020)

3 Pete Schlott, Construction Disconnected: The High Cost of Poor Data and Miscommunication (PlanGrid, 2018)