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## **Experienced construction managers have the resources to help plan for unexpected challenges**

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During a renovation, despite meticulous preplanning, you will inevitably stumble upon some unexpected challenges once walls and ceilings are opened up. Many older buildings have been patched here and there throughout the years, so up-to-date records or as-builts are not available. The best strategy a construction manager can employ to combat these foreseeable surprises is anticipate that they will occur and develop a proactive, project-specific plan to deal with them effectively.

### Necessary Components of the Project-Specific Plan

Most construction managers have policies and procedures that outline the baseline standards for quality and safety on every job. To achieve optimum success, these policies should be modified to create a project-specific plan that addresses the unique difficulties each project faces.

### Project Kick-off Meeting

At Erland, as part of the project kick-off meeting, we have developed a Risk Assessment Matrix - a document filled out by the project executive during preconstruction and shared with the team - that identifies potential hazards before a project begins. Anticipating these risks allows the project team to start crafting potential solutions early. When a problem arises, the team is prepared and can quickly respond because they are tuned into a troubleshooting mind set.

### Technology

Technology such as Building Information Modeling (BIM) can be very useful. A layered, 3-dimensional, electronic model represents exactly how the real building will be built in the field - with structural, plumbing, electrical, and HVAC components laid out in precise detail. For older and historic structures that don't have as-built records, you must perform field dimensioning - an analysis of the building that verifies existing conditions like ceiling heights, beam & column locations, and wall placement. This information is then used to create the base of your BIM model.

Once the BIM model is complete, a coordinator can run a clash detection query to identify any areas of conflict. For example, if the plumbing subcontractor has laid out piping in the same space as the electrician's conduit runs or a subcontractor has not accounted for an existing support beam, that interference will be fixed at the plan level before the clash becomes a problem in the field.

### Accurate Schedules

A project-specific plan should also include a detailed project schedule - one that is realistic about the time it will take to perform a complex renovation and allow for time to resolve issues as they arise. The difficulty is in knowing how much extra time is needed - a few days? Weeks? Months? It would be a huge waste of resources and money if your construction manager was too conservative, inaccurately projecting that the job would take months longer than necessary. While it is impossible to predict exactly how a project will unfold - none of us has a crystal ball, after all - practice does

make perfect. Construction managers with a strong portfolio of renovation projects will draw from previous experience to determine the appropriate amount of time and will update schedules throughout the project to reflect current conditions.

#### Experienced Team

This leads us to the final, and perhaps most crucial, component of successfully managing a complex renovation - staffing your project with experienced and knowledgeable field and management personnel. You'll want to trust that the individuals performing your renovation have managed similar projects and know how to handle both simple and complex obstructions as the project progresses. Policies and procedures are important, but it's even more critical to have the right individuals in place to put those plans into action while dealing with circumstances as they arise.

#### A Good Defense

In construction, like sports, sometime the best offense is a good defense. Planning ahead and anticipating setbacks based on previous experience and the building's observable condition will help to avoid huge problems during construction. There is no exact way to renovate a space, but the top construction managers have plenty of resources and experience to draw on and policies to enforce to increase the chance for success.

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