

Understanding **contract documents**

The American Society of Civil Engineers' (ASCE) 2005 Report Card for America's Infrastructure gave the nation a cumulative grade of "D" based on the condition of several public works categories. To alleviate these problems, ASCE "estimates an investment need of \$1.6 trillion over a five-year period from all levels of government and the private sector" is necessary.

These numbers indicate that there will most likely be a substantial increase in the amount of public works projects in coming years. As such, it is important that public works professionals commit to thoroughly understanding contract documents to ensure the successful completion of these projects.

Today's contracts for municipal and public works projects are loaded with legal-speak that can be difficult to wade through. Poorly written contract documents usually lead to differing interpretations that cause disputes. Many of these disputes lead to claims and costly litigation. However, by clearly outlining project goals and providing the most specific documents possible, you will greatly reduce the number of change orders on your project and, in turn, eliminate disputes and claims. The key to success is taking the time to ensure that the right language is included in the

contract from project onset, and that the contract specifications agree with the contract drawings.

COMMON PITFALLS

"Send me a proposal" or "get the contract over to us" are key phrases contractors aspire to hear. However, a poorly written contract or one with missing details can set the tone for a bad business relationship and an inadequately executed project. For example, a daily report from the contractor is one of the key items often excluded from a contract document. These daily reports are critical for ensuring adherence to the schedule and keeping you abreast of any important developments. The reports should indicate what work is being performed and by how many crew members, and should detail which subcontractors and what equipment are at the site.

Another common pitfall with contract documents is the tendency for owners and architects to use the same contract repeatedly without checking to see if it applies to the project at hand. This is especially true for public entities that just use the document from their last project without seeing if additional provisions need to be included.

Case in point is a recent project in which the brick and mortar in the plans did not

match the drawings—something that is easily caught during a constructability review, but would have been alleviated altogether with careful attention to the contract. This point also applies to contractors who don't adjust their bids based on the contract documents or specific project goals. Part of the fun and challenge of a construction project is that each one is unique. Since each project is different and brings its own challenges, a specific contract needs to be crafted for each job to ensure the unique aspects of the project are considered.

THE ALL-IMPORTANT SCHEDULE

A properly developed critical path method (CPM) schedule is an essential part of any successful project. Therefore, specific standards and requirements for CPM scheduling need to be included in the contract documents. These requirements include limiting the duration of activities, what work the activities will cover, lead-lag relationships, network logic, and other critical factors. Too often, these details are absent from the contractor's schedule because the contractor lacks scheduling expertise or does not take the time to properly develop the schedule. The result is a schedule that does not "operate" properly and misleads the contractor and the owner.

It is common to hear contractors and owners say that CPM schedules are not worth the effort. However, a schedule is a tool—no different from a power drill. If it's poorly made, it's of little use and may even be dangerous. Schedules are no different. A proper schedule should include setting specific intermediate goals for the completion of project elements. Internal milestones provide checkpoints to see if target goals are being reached to ensure that the project stays on track. Too often, contract documents specify a start and finish date with no other checkpoints. With this method, there is no way to accurately ensure that the project is staying on schedule and will meet the completion date. If

Building new public works infrastructure—whether it's as simple as a new sidewalk or as large as a new wastewater treatment facility—can be a daunting task if a contract is poorly or improperly written. Photo: HR Gray



you miss the finish date, the project is late and there is no recovery.

Building on the importance of detailing all schedule milestones, a constructability review should be performed as part of the design process. Such reviews ensure that the drawings and specifications are geared toward the current project. Constructability reviews significantly reduce change orders and can help alleviate the possibility for claims. This simple check often is overlooked because of lack of time

and/or budget, and a lack of understanding by the owner about the benefits that a constructability review can provide.

Too often, a claim situation occurs when the contractor was unaware of an item and did not include it in the bid. For example, a contractor had to cancel a concrete pour because he was not made aware of load limits on the site's main access road. The ready-mix trucks were repeatedly stopped by the police and ticketed, which necessitated canceling the pour. This greatly impacted the

schedule and required the concrete contractor to develop a creative solution to alleviate the problem. In contrast, a constructability review would have identified this scenario early in the construction process.

Recent cases prove that the most commonly disputed elements of a project are items in specifications or drawing notes that are not fully described or that omit the actual intent of the design. For example, a project in Miami required aluminum louvers that had to cover an extensive amount of the wall. The specification stated that the louvers were to be "anodized, color chosen by architect." The architect had a specific color in mind that was not one of the colors available via standard anodizing. This problem could have been alleviated if the specification had stated, "louvers are to be anodized to a custom color chosen by architect."

COMMON GOALS

Making the contractor aware of a project's goals also is key to contract success, and increases the contractor's ability to participate as a member of the team. Contractors are motivated to perform quickly and effectively, as this is how they are able to make a profit. If they are hit with many change orders because the owner was unsure of what he or she wanted, the design was incomplete, or simply because the owner failed to communicate his or her vision, it can greatly disrupt the project and increase the chances of a claim.

Documentation of project goals ensures that everyone is working toward the same end. This is especially important for contractors because they are usually the most pressed in terms of the schedule. While owners and architects may have months to weigh the various factors of a project, contractors likely have only a few weeks to provide a lump sum price that they are then required to stick to for the duration of the project. The more information contractors have, the more accurately they can quote a job and plan for challenges, thus mitigating the chance for change order claims. Simply, ensuring that

the contract documents are as thorough as possible ensures the greatest chance for project success. **PW**

— Thomas J. Kucera, P.E., is vice president of H.R. Gray, Columbus, Ohio.



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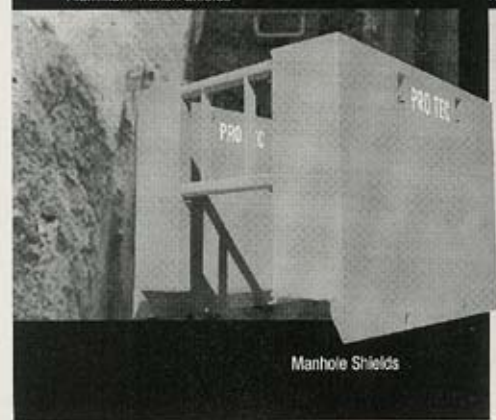
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