Introduction

A Project Monitor is an independent third party that works to ensure the construction, reconstruction, or mitigation of a project is performed in accordance with the project’s contract documents. In acting in that role, the Project Monitor is a key player in leading to many successful projects.

Project Monitors are utilized on projects large and small. In many instances, the introduction of a Project Monitor is made when the project requires the services of a remediation construction services firm. Examples include hotels, schools, hospitals, etc., that require a significant amount of trade labor to perform major remedial work and repairs due to water or fire damage. On such projects, a Project Monitor reduces the potential of unreasonable time and expense invoice costs and delays to the project completion. In addition, a Project Monitor acts as a liaison between the insurance team, the insured, and the contractor in assuring clear lines of communication, as well as serving to document and report on the progress of the work.

A Project Monitor’s added value in keeping the project progressing in an orderly fashion is accomplished by:

- Assessing the site – understanding the “lay of the land” and the challenges therein
- Quickly establishing appropriate equipment and manpower resource requirements
- Recommending and monitoring fair and reasonable expenditures that meet client objectives
- Daily site presence for observation, recording, and reporting

Background

Project Monitoring is a time-honored tradition in the construction industry dating back to the 13th century when monks and priests took on the role of supervising works associated with the erection of religious facilities. Although many may (wrongly) associate a Project Monitor with the more mundane role of a “Clerk of the Works,” today’s Project Monitors perform a much more robust role. They are dedicated to the detailed inspections and documentation of material and workmanship throughout the remediation and building process. Unlike a Clerk of the Works, Project Monitors do not simply focus on counting quantities going into place and “ticking and tying” field notes to invoicing, but are instead adding value by evaluating progress and reviewing the work for the appropriate quality standards.

Engaging a Project Monitor is an investment. To maximize the value of the investment, daily site presence is often crucial. The Project Monitor routinely remains on-site for the duration of the project as the “eyes and ears” of a third party; reporting on the equipment, labor, materials, and workmanship. They monitor progressions and delays, while reporting their findings to the client, as these factors significantly impact the project’s budget and completion schedules.
Role

The role of the Project Monitor, while not limited to these items, includes the following:

**DAILY REPORTING DETAIL**

1. Site conditions
   - Conditions (weather, temperature, precipitation, etc.) may cause a schedule interruption, depending on the project and task. As an example, strong wind conditions would affect the operation of a crane and subsequent lifts thereby delaying that day’s production and possibly the overall project.

2. Contractor on-site resource monitoring
   - Different projects require different labor and trade involvement. The Project Monitor reviews the contractor’s trade worker staffing levels (numbers and hours), and their progress, to ensure that the project’s completion goals are met. Evaluation of productivity is an important added value provided by a qualified Project Monitor, as the over saturation of trade workers can be counterproductive and add unnecessary expense.
   - Daily on-site headcounts of each trade specialty and their designation are recorded (see Figure 1).

This information is vital to establishing the optimum crew size. Additionally, this data is critical during the all important invoice review process.

![Figure 1 – Daily Labor Report (excerpt)](image)

3. Equipment deliveries (mobilizations), removals (demobilizations), and daily on-site count (Figure 2)
• The demands for different types and capacities of different types of equipment and tools varies widely during the course of a project. The Project Monitor not only records when a piece of equipment or tool lands on the project but also its daily utilization, as well as its necessity to accomplish immediate tasks. This guards against the under-utilization of expensive equipment (and against instances when the equipment type or quantities are not even needed). Having dehumidifiers, air movers, desiccants, generators, forklifts, or even a crane onsite and not in use is an opportunity for discussion and negotiation – no matter the size of the equipment or the project.

• Equipment counts, inventory, and usage are taken daily.

<table>
<thead>
<tr>
<th>EQUIPMENT TYPE</th>
<th>QUANTITY</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scissor Lifts</td>
<td>132</td>
<td>0 not in use</td>
</tr>
<tr>
<td>Fork Lifts</td>
<td>5</td>
<td>1 not in use</td>
</tr>
<tr>
<td>Telehandlers</td>
<td>5</td>
<td>1 not in use</td>
</tr>
<tr>
<td>Booms</td>
<td>8</td>
<td>0 not in use</td>
</tr>
<tr>
<td>Baby Scissor</td>
<td>15</td>
<td>0 not in use</td>
</tr>
<tr>
<td>2 Yard Bucket</td>
<td>8</td>
<td>0 not in use, 8 in use</td>
</tr>
<tr>
<td>Bobcat</td>
<td>1</td>
<td>1 not in use</td>
</tr>
<tr>
<td>Digger</td>
<td>1</td>
<td>1 not in use</td>
</tr>
<tr>
<td>Dumpster (30 YD)</td>
<td>9</td>
<td>0 not in use</td>
</tr>
<tr>
<td>Golf Carts</td>
<td>6</td>
<td>1 not in use</td>
</tr>
<tr>
<td>Temporary Toilets</td>
<td>18</td>
<td>3 units have been placed each entry</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SITE OBSERVATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>The General Contractor is onsite overseeing and supervising all work related to reconstruction.</td>
</tr>
</tbody>
</table>

Per site observations and/or discussions with the foreman for Drywall Co., Drywall Co. is performing the following work:

1. Drywall Co. - working 7:00AM to 3:30PM installing insulation, drywall, and then taping, floating, and finishing installed drywall.


5. Drywall Co. - Drywall hanging, taping, floating and finishing in: Main Corridor NOrth A, B and C, House West Corridor 1, 2, 3 & 4, Main Corridor South B and C, and Main Corridor East, 134, 142, 161, 179, 202, 224, 244, 348, 358, 368, 371, 379, 410A, 410D, 428, 430, 433, 457, 479, 482, 489, 506, 508, 517, 521, 524, 527, 532, and 541.

Figure 2 – Daily Equipment and Activity (excerpt)
4. Material deliveries

- Similar to the efforts necessary related to the monitoring of equipment, each project will require materials and consumables. Monitoring the quantity and timing of material deliveries and ensuring that there is coordination with appropriate trade staffing levels is critical to timely project progress. Additionally, monitoring the quantities of the different materials can be vital during invoice review in ensuring that the materials being invoiced indeed were delivered to the site.

5. Daily site observations (also reflected in Fig. 2)

- Daily tracking of the progress of each trade on their respective activities is recorded and reported to the client. This not only aids in ensuring that progress is being made towards required objectives, but also in ensuring that appropriate trades and skills are being used to accomplish tasks that require their respective capabilities. This avoids the expense of “bringing a sledgehammer to bear when a tack hammer could do the job.”

6. Photo documentation of site progression

- Onsite photos of equipment, labor, and various other details, whether considered relevant or not at the time, are taken daily. Photos are an excellent indicator of project progressions or delays.
- In today’s ever changing technological advancements, photos have advanced as well. There are many 360 photo platforms which can be utilized to give the client the opportunity to see the site in its entirety. In addition, these platforms offer opportunity to update the photos daily to offer real time progressions.

REVIEW OF CONTRACTOR RATE SHEETS

- Contractor Rate sheets are commonly utilized on most projects as the basis for the invoicing for labor (daily, travel, overtime), vendor/subcontractor (daily, travel, overtime), equipment, small tools, consumables, etc. (Materials are generally invoiced “at cost” with an agreed upon mark-up.) Rate sheets are reviewed and negotiated for each project, including crew/supervision ratios, and clarification of any other “add-ons” are addressed up front. The negotiation and agreement on clear and unambiguous rate sheets is critical to a streamlined invoicing process.
FAMILIARIZATION WITH DRAWINGS AND WRITTEN INSTRUCTIONS

• Re-construction projects typically involve responsive design prepared by qualified design professionals to ensure that the remediation or re-construction will be code compliant and meet the client’s needs. The Project Monitor must be sufficiently informed of the design details, building plans, installation methodologies, and code enhancements to allow for the required level of recording and reporting on project progress.

BEING PRIVY TO POTENTIAL SPECIFICATION DESIGN ISSUES, IN REAL TIME, BEFORE THEY AFFECT COST AND SCHEDULE

• If a re-construction or remediation project encounters unforeseen conditions, knowledge of those conditions and the design is critical in order to advise the client and designer of the situation and possible solutions. In so doing, the Project Monitor can mitigate the possible negative effects on cost and schedule resulting from such conditions, and the measures necessary to address them.

ADVISING THE CONTRACTOR BUT NEVER INSTRUCTING/DIRECTING THE CONTRACTOR

• Project Monitors are not charged with, and should never give direction to, the Contractor. However, the Project Monitor’s knowledge of the project’s design requirements, and the client’s objectives regarding cost and schedule, provides ample capability to challenge the Contractor’s actions.

• To further the client’s objectives, the Project Monitor should seek to develop a collaborative relationship with the contractor. For example, the Project Monitor can utilize the insights of the Contractor to establish what should be considered loss-related damage and repairs as contrasted to what is an actual improvement.

MONITOR DAILY CONSUMABLES

• Knowing the daily consumable rate will assist with knowing a crucial element associated with the contractors ‘burn rate,’ especially on a mitigation project.
• A "consumable rate" includes the quantities (and costs) for the items a contractor (particularly a mitigation contractor) consumes during the repair/mitigation of the project (e.g., air filters, plastic sheeting and bags, cleaning products, etc.).
• Left unchecked or monitored, the “consumable rate” can become an astronomical expense.

WHITE PAPER

MONITOR DAILY CONSUMABLES

• Knowing the daily consumable rate will assist with knowing a crucial element associated with the contractors ‘burn rate,’ especially on a mitigation project.
• A "consumable rate" includes the quantities (and costs) for the items a contractor (particularly a mitigation contractor) consumes during the repair/mitigation of the project (e.g., air filters, plastic sheeting and bags, cleaning products, etc.).
• Left unchecked or monitored, the “consumable rate” can become an astronomical expense.
ATTEND CONTRACTOR AND SUB-CONTRACTOR PRODUCTION MEETINGS

- Project Monitors attend and record events in meetings, including at typical project meetings. In so doing, the Project Monitor gains insights and understanding into the contractor’s “means and methods” and the project execution plan. This allows for enhanced recording and reporting on project progress and cost as against a baseline project schedule and budget. These meetings also identify such (potential) project “rocks-in-the road” such as trade staffing levels, design issues, quality concerns, third party cooperation, procurement and delivery issues, etc.

ATTEND CONTRACTOR AND INSURED/OWNER PRODUCTION MEETINGS

- The insured’s knowledge of the project progressions or delays is important information delivered by the contractor and observed by the Project Monitor. Often the Project Monitor is viewed by the insured as a representative of the adjuster, and as such relies on the Project Monitor for validation or clarification of the information provided by the contractor.

UPDATE PRODUCTION SCHEDULES

- As production begins, whether it be mitigation or construction, inevitably a schedule will be presented by the contractor. It is the Project Monitor’s responsibility to be aware, and keep their client aware, of schedule fluctuations utilizing realistic projections for the remaining work.

AUDIT CONTRACTOR INVOICES

- At the outset of a project, the Project Monitor meets with the contractor and the parties agree upon rates for labor (including for different roles (e.g., management, supervision, clerical, different trades, etc.), equipment, materials, etc. This agreement is then documented and signed and becomes the standard by which the amounts invoiced by the contractor are evaluated.

- Contractor invoices for payment, on larger projects, are typically periodic (bi-weekly or monthly) and very rarely wait until the end of a project.

- By virtue of first-hand knowledge and reporting of daily site activity, the Project Monitor is ideally suited to review contractor invoices and validate the accuracy of contractor invoicing.
ADDRESS UNRESOLVED CONCERNS AFFECTING PROJECT COMPLETION

- When a project is approaching completion and the pant of heavy construction or catastrophic mitigation has subsided, so begins the detail of cleaning and finalizing punch lists. This is the time for the Project Monitor to stay extra vigilant as these are the details that can keep a job from timely completion.

- The Project Monitor pushes the schedule and all aspects of the project to the end.

Conclusion

Today’s Project Monitor provides an independent assessment of the project at hand with the experience, knowledge, and understanding of most building processes. Whatever the project, from mitigating a water loss to the nuances of building a multi-level structure; the Project Monitor builds a strong working rapport with the construction and design teams to become a true liaison between the teams performing the tasks and the expectations of the client. This is accomplished through the following:

- Daily reports
- Review of contractor rate sheets
- Monitoring daily contractor consumables
- Familiarization with drawings and written instructions
- Highlighting potential specification design issues before they affect construction
- Advising the contractor but never instructing/directing the contractor
- Attending contractor and sub-contractor production meetings
- Attending contractor and insured production meetings
- Updating production schedules
- Auditing contractor invoices
- Addressing unresolved concerns affecting project completion

Acknowledgements

We thank our colleague Elizabeth Foster who provided insight and expertise that greatly assisted this research.