Large Scale Commercial Projects
Unique Challenges and Planning to Make Your Project a Success
Learning Objectives

Managing a large scale project can be difficult, especially for managers who have never handled a project of that size and scope. During this topic we will discuss:

- Characteristics of Large Scale Projects
- Planning/Organization Techniques for Success
- Managing Projects & Risks
- Managing Personnel & Subcontractors
- Budget Planning
General Considerations

Large-scale commercial projects which utilize SPF insulation or roofing present greater challenges due to the increased size of the projects.

These projects have many more moving parts, schedules, adjacent trades coordination, and typically GC oversight that may or may not appreciate SPF’s installation details.
Characteristics of Large Scale Projects
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Although this may vary from one organization to another, large workplace projects typically have the following characteristics. They have:

- Longer durations (often running for at least 6 months, but perhaps as long as a year or more)
- Larger teams of people (perhaps as many as 20-30 on your crew and 100+ or even more on the jobsite overall)
- Greater budgets and resource allocation
- Much more task complexity, including many tasks having to be done concurrently
Planning/Organization Techniques for Success
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The success of a large scale commercial project begins with a strong project manager and qualified team members. As with any well managed project, you’re only as good as your project team and project plan.

Larger projects are different to small ones first and foremost because decision-making cannot be carried out so quickly and so easily and need coordination. This means that decisions need to be much more carefully made, communicated and executed and in a very joined-up way (as so many overlapping tasks are likely to be going on at the same time).
Planning/Organization Techniques for Success

Communication is KEY!

Successful communication begins early on with meetings with the owner, developer, and supervisors to plan the complete project. This will include the main purpose, scope of work, facilities, resources needed, amenities to be provided, project risks, work schedule, and many other aspects.

Large projects need more team meetings:

While people may complain about how a weekly, or even daily, meeting seems like a waste of time, it’s a very important tool for keeping everyone aware of what’s going on with the project.
Managing Projects & Risks
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A project is a **fixed-time** group activity designed to produce a **unique product**, service or result. Fixed-time means that a project always has a specific beginning and end in time, and therefore your defined scope and resources fall within these two points.

In addition, a project requires a **unique set of tasks** performed by a **diverse group of people** who are usually **working together** for the first time to **accomplish a particular goal**... This is typically to complete the project on time and on budget.

So to recap, we are a **diverse group of people** **working together** **accomplishing a particular goal**... This is typically to complete the project on time and on budget.

Sounds Simple Right?
Managing Projects & Risks

So Many Roles & Responsibilities

Scope, Schedule, and Budget
Personnel & Organization
Project Plans
Quality Control
Contract Admin
Change Orders & Claims
Final Project Closeout

Construction Project Activities
Project Planning
Field Office Expenses & Records
Contractor Payments
Records & Admin
Safety
Site Coordination
Managing Projects & Risks

There are a wide range of factors that are required for the project to be successful. These factors are classified into the following categories:

- Project Planning
- Cost Management
- Time Management
- Quality Management
- Contract Management
- Safety Management
Managing Projects & Risks

Project Planning

A project always begins with an idea. From there it blossoms into a reality, but only after some careful consideration which ultimately takes the form of a “plan”.

A project plan consists of many parts to include:

• A Schedule
• A Budget
• A Set of Deliverables, Work Specs, and Task Lists
• A Means for Reviewing & Reporting Procedures
Managing Projects & Risks

Cost Management

Creating and closely monitoring progress of a budget plan is critical not only for an individual project but for the future of the business in general. Key factors to consider when planning are:

- Labor Costs
- Raw Material Costs
- Special Equipment Costs
- Overhead Costs
- Desired Profit

“Don’t get too excited about the big jobs and unless you have some deep pockets, under bidding is a fast way to loose your ass-ets!”
Managing Projects & Risks

Time Management

It all begins with a project schedule/calendar. As a project manager you must:

- Closely monitor the schedule (daily, weekly, monthly goals)
- Assign daily personnel tasks to stay on schedule
- Make adjustments (CO’s, weather, subcontractor, other delays)
- Schedule Tracking/Generating Reports/Progress Meetings

A project manager is also typically responsible for maintaining employee time sheets & expense reports.
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Delegating Responsibilities

A project manager can’t do everything. You need to be sure you’ve delegated responsibility to the right people at the right time.
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Quality Management

Project quality management ensures that the project will satisfy the needs for which it was undertaken.

Processes include:

**Quality planning:** identifying which quality standards are relevant to the project and how to satisfy them

**Quality assurance:** periodically evaluating overall project performance to ensure the project will satisfy the relevant quality standards

**Quality control:** monitoring specific project results to ensure that they comply with the relevant quality standards
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Quality Management Cont.

Planning
- Process: Quality planning
- Outputs: Quality management plan, quality metrics, quality checklists, process improvement plan, quality baseline, updates to the project management plan

Executing
- Process: Quality assurance
- Outputs: Requested changes, recommended corrective actions, updates to organizational process assets and the project management plan

Monitoring and Controlling
- Process: Quality control
- Outputs: Quality control measurements, validated and recommended defect repair, recommended corrective and preventive actions, requested changes, validated deliverables, and updates to the quality baseline, organizational process assets, and the project management plan

Project Start

Project Finish
Managing Projects & Risks

Contract Management

The next responsibility is carrying out all contract formalities about the project. The manager has to establish and review the contracts of all entities connected with the project, such as the owner, the architect, and the General Contractor.

Contracts will include such areas as:

- Scope of Work & Schedule
- Terms & Conditions
- Procedures for Submittals & Billing
- Change Orders & Claims Process
- Warranties
- Contract Closeout Procedures
Managing Projects & Risks

Contract Management Cont.

Contracts may also consist of certain conditions regarding legal formalities to be completed with city or state government authorities in your area such as obtaining permits and/or proper licensing.

Contracts may also contain conditions to be completed with other entities such as manufacturer warranty requirements, outside testing/inspections, or paperwork for green building certification programs.
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Safety Management

Most large-scale projects will require a written safety plan to be submitted. In most cases it will address safe working procedures, warnings regarding areas of concern and other procedures to be followed during worst case scenarios to include medical/emergency evacuations and accident reporting.

During the course of a project, Site & Safety Inspections are one of the most essential tasks. It is important to supervise workers in certain areas of the project, and also to make sure that safety standards are being maintained. Knowing and adhering to safety and building codes are extremely important.
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Techniques for Safety Management:

- Tool Box Talks
- Activity Hazard Analysis (AHA)
- Respiratory Protection Plan
- Site Specific Safety Plan
- Equipment Training
- Equipment Inspections
- Formal Employee Training such as OSHA 30
- Importance of Housekeeping
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What is a Tool Box Talk?

A toolbox talk is an informal safety meeting that is part of an organization's overall safety program. Toolbox meetings are generally conducted at the job site prior to the commencement of a job or work shift. It covers special topics on safety aspects related to the specific job. These meetings are normally short in duration and cover topics such as workplace hazards, and safe work practices. It is one of the very effective methods to refresh workers' knowledge, cover last minute safety checks, and exchange information with the experienced workers.

These meetings are also commonly referred to as tailgate meetings or safety briefings.
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Why should you do them?

Toolbox talks promote the awareness of safety issues in the forefront. A toolbox talk may have the following impacts:

- Promotes safety awareness. When workers get actively involved in safety matters the safety risks can be greatly reduced.
- Introduces workers to new safety rules, equipment, preventive practices and motivates workers to follow standard operating procedures
- Provides vital information to the workers on accident causes types and preventive actions
- Emphasizes planning, preparation, supervision, and documentation
- Helps when reviewing new laws or industry standards, company policies and procedures
- Encourages workers to discuss their experiences that help to review safety procedures in future
Managing Projects & Risks

Activity Hazard Analysis (AHA)

Activity Hazard Analysis, or AHA for short, is both a thing that you do, and a specific document that you need to create.

If you think about the name, Activity Hazard Analysis, you realize there are basically three parts to the process. Identifying the activities to be performed, as well as the sequence of work within that activity, or the job steps. After you’ve identified the activities, you anticipate the hazards for those job steps, as well as the site conditions, equipment, and material that will on the job. Finally, you analyze those hazards and attempt to control them.
Managing Projects & Risks

Project Management Tools

A critical piece of the puzzle for managing a project is a project management tool such as one of the many software-based project management systems now available, including software which helps with overall planning & scheduling, risk assessment and mitigation, project analysis, etc.

It is important to take the time to find the best project management tool available, because the benefits can make or break the amount of time you spend sorting through the big picture all the way down to the smallest details.

Examples of tools you can use include:
- Project Management Software
- Team Communication Apps
- Team Calendars
- GPS
- SPF Proportioner Activity Monitor
Managing Personnel & Subcontractors
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Personnel Management

A project manager is supposed to oversee the duties assigned to all workers on the crew. He also has to coordinate work among other personnel such as the GC, architect, engineers, and other trades.

He/She must also see to it that the crew is doing their job(s) as planned, and are working according to the deadline while ensuring they use the available resources in the best manner possible, to keep costs under control.
Budget Planning
Budget Planning

While projects can differ dramatically, there are some common strategies when it comes to writing budgets, such as: Plan for the worst, identify where changes are likely to originate and watch those areas closely. And don’t forget the contingency plan—and a contingency budget—in case things go a bit haywire.

Don’t Get Caught Up in the Numbers

It’s important to note that first time and even seasoned managers working on huge projects with giant budgets may find themselves dwelling on the numbers. However, it is important not to get caught up in saving every penny. Large projects have large budgets – use that budget when necessary.
Budget Planning

Here are seven tips and practices for creating a budget that supports your project:

1. **The hardest project budget you’ll ever write is the first one.** After the first one you can easily refer to that for budgeting similar projects and writing detailed budgets going forward.

2. **Learn from other projects.** Identify a previous project that was similar in scope to the current one, and use it as a model. You may also refer to your project management tool to gather data and information on how much time and money went into certain projects.

3. **Know your core costs.** Start by factoring costs—the absolute must-haves to get the project up and going. They may include such items as payroll, equipment, materials, travel, etc.
4. **Prepare to change budget estimates.** Initial estimates are just that – estimates. It’s not to all uncommon to have unexpected surprises. It’s just the nature of doing business, at some point in the project the budget can easily change. This fact just helps to emphasize the need to manage the project budget continually.

5. **Monitor resources.** Payroll is a big component of the budget, so review activity reports regularly to make sure that everyone is working the highest priorities and putting the proper amount of hours per week into their tasks. You want your staff working on the right tasks to their full potential.
Budget Planning

6. **Be transparent.** Communicate what’s expected of your staff in order for the project to stay within budget. People may start watching how they manage their hours and other costs to your project. And they’ll likely better understand any requests to change directions if they come up.

7. **Manage scope.** Changes in the scope of work can bust a budget. To avoid unplanned work that leads to cost overruns, create change orders for work that extend the deadlines beyond initial project requirements, and be sure to include accurate projections of additional costs, seeking additional funding for the project to cover change orders. Be sure to follow contract documents.

*Using the right project management software is one of the best ways to know exactly where your project stands; to track how much time and money has been spent, and to forecast the cost and timeline for the entire project.*
Summary
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The key to managing large-scale construction projects is the same as managing small ones. If you get the basics of construction management right and understand the full scope of an entire construction project, size isn’t really the issue.

Try not to get overwhelmed and instead rely on your staff and support tools to make a plan for success, monitor the progress & budget regularly and make appropriate adjustments where necessary to complete the project in a timely and profitable manner.

Before you know it, it’ll be like riding a bike!