MySmartPlans®

White Paper 2011

Construction Risk Management 101

Utilizing MySmartPlans desktop project information management system in order to manage risk in the architecture, engineering and construction industries.

Marathon Digital Services

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Executive Summary

Construction risk management is much more than purchasing insurance in the event of a fire or flood. It has evolved over the years as a business philosophy. Construction companies must determine how to mitigate the possibility of losses and the consequences that may occur. These companies must also plan in advance to adequately fund for losses when they happen. In a tight economy, risk management can be the shield that prevents a construction company from closing its doors and going out of business.

Risk management has two primary functions:

- Protect the financial viability of the organization. This is accomplished by identifying and dealing with risk exposures. One of the biggest exposures that construction companies face is "passive retention" of loss, or the losses that arise that were not on the organization's radar screen.

- Minimize the cost of risk. Cost of risk is defined to include:

Insurance costs + Administration Cost + Outside Services + Losses

By reducing the cost of risk below the industry average, a contractor will gain a competitive advantage.

But how are these functions achieved? Just like any other business function, risk management utilizes problem-solving solutions to properly manage risk. The fundamental steps in any risk management process include:

1. Risk identification
2. Risk analysis
3. Designing the risk management strategy
4. Implementation
5. Review

Following the steps in this process substantially increases the likelihood that a construction company has anticipated and properly treated its risks.

MySmartPlans is a superior software package that can serve very well owners, designers, and contractors.

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Risk Management

Risk Identification

Risk identification is the most crucial part of the risk management process because an exposure that is not identified cannot be properly managed. Loss exposures fall into four broad categories:

1. Direct property losses
2. Indirect property losses
3. Liability losses
4. Injury to personnel

Appendix I (page 6) provides examples of typical construction risks by category.

Contractors have a number of risk identification techniques at their disposal. Some of the common techniques are listed and discussed below.

- Interviews with managers and operating personnel
- Checklists and surveys
- Physical inspections
- Financial statement review
- Insurer provided loss reports
- Contract reviews

Risk identification tools are excellent starting points but they do not guarantee protection of all risk. No single technique will reveal all of a contractor's risk exposures, but together they are very effective.

Risk Analysis

Risk analysis involves estimating the amount and likelihood of certain types of losses. Estimating the probable value of a loss is more difficult for some exposures than for others. Direct property exposures are probably the easiest to evaluate since property holds a determinable value. For many property losses, however, the damaged property is only the tip of the iceberg. Indirect or consequential losses can far exceed the value of the damaged property. This is particularly true when the direct loss delays the opening of an income-producing property, which results in business interruption or loss of rents.

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Design Risk Management Strategy

A risk management program is a combination of risk control and risk finance techniques. Risk control, also commonly referred to as loss control, is designed to reduce the frequency (loss prevention) and severity (loss reduction) of losses. Risk financing involves arranging for funds to be available to pay losses that occur. In choosing an appropriate mix of risk control and risk financing techniques, the risk manager seeks to choose a combination of techniques that is effective, stable, and secure.

The risk management strategy involves determining the organizations' appetite for risk and how they want to handle exposures. Risk exposures are typically handled in 3 ways:

- **Risk avoidance:** Do not perform the operation
- **Risk mitigation**: Reduce the likelihood of loss through planning to minimize exposure (training, PPE, job hazard analysis)
- **Risk transfer**: Shift the risk to another party (purchase insurance, contractual risk transfer)

Appendix III (page 8) shows the typical insurance policies that contractors purchase to transfer risk and protect themselves from loss.

Implementation

For a plan to succeed, the details of the plan must be carried out. The risk manager will spend a substantial amount of time implementing the risk management program. Some of the most important implementation functions are highlighted in **Appendix II** (page 7).

Review

Finally, risk management is an ever-changing environment. Contractors must be aware of the change in exposure. Entering new markets, changes in laws, insurance and financial markets can create new risks that require new strategy. Contractors must stay in touch with the market changes in order to continuously review and update the risk management strategy.

Insurance Structures

Many smaller construction projects require that each entity buy their own insurance and bring it to the jobsite. This is referred to as traditional insurance. The owner and general contractor contractually require every subcontractor to provide their own insurance policy with a specific set of limits. Typically, they also require that the subcontractor indemnify, defend and name the owner and contractor as an additional insured. This risk transfer technique results in the party with potentially the least amount of resources to carry the brunt of the construction risk.

Many owners and general contractors choose to provide a Contractor Controlled Insurance Program where either the owner or the contractor purchases the insurance policy for the entire project. This method often provides higher insurance limits, better coverage and a cleaner risk management profile. There are pros and cons to both insurance transfer techniques.

Top 10 Reasons to Utilize MySmartPlans to Manage Risk

Risk management is a complicated set of moving parts and pieces and is critical to the financial success and viability of every construction project. In the difficult economy of 2011, risk management becomes even more important as competition tightens and profit margins shrink. MySmartPlans is an excellent tool to increase communication, transparency and accountability on a construction project which ultimately improves the overall success of a project.

The following page provides a Top 10 list that can be utilized to increase the success of the enrollment process when marketing MySmartPlans to owners and contractors. Coincidently, the Top 10 benefits of using a risk management system spell out none other than SMARTPLANS:

Streamlined communication
Manage documentation
Accountability
Reliable warranty and commissioning
Transparency
Profitability
LEED and BIM
Align integrated project delivery
New approach to risk management
Safety

The Top 10

S – Streamlined communication*:* Communication is necessary to run a successful construction project, but it is also one of the hardest things to achieve. Communication starts at the beginning of the project in the pre-bid phase and must continue long after a project is turned over to an owner. Breakdowns in communication create expensive litigation and an opportunity for defect claims in the future.

A contractor must make sure that all subcontractors have their appropriate scope of work and that all the submittals are complete. Failure to do so can result in delays, expensive litigation and payment disputes. For example, let's say that the design team utilizes a comprehensive multi-level water-proofing method around a building's windows. The general contractor includes all aspects of the water-proofing in the window subcontractor's scope of work. The window subcontractor reviews the scope of work and changes it to exclude several aspects of the water-proofing system. The subcontractor deletes this from the scope of work. The general contractor never catches it. The result is that the water-proofing system on a $22 million condominium project lacks several layers specified by the design team. Surprise, surprise: the building leaks about two years after it is finished. After $500,000 in legal and engineer fees are paid out, the general contractor finds out about the mistake. MySmartPlans creates easy access to documents and the opportunity for everyone to review, share and comment. This claim would never occur. Millions of dollars in litigation and, more importantly, the contractor's reputation would have been protected with MySmartPlans.

M – Manage documentation*:* Both defense and plaintiff attorneys are banking on the poor management of documentation to make millions of dollars related to latent defect allegation disputes. Every state has a statute that protects the owner from latent defects. Latent defects are any issue with a project that is covered up and the owner would not be able to see until a loss occurs. They often occur in plumbing, flashing and building envelope. States provide a statute of repose up to sometimes 10-15 years after a project for a latent defect to be found.

Imagine a general contractor being accused of installing plumbing with a latent defect nine years after completion. The documents, if they can be located, are in storage and scattered. The subcontractor is out of business or unresponsive. This is the perfect storm for attorneys to earn millions of dollars in legal fees. Carriers report that latent defect allegations and engineering reports often make up over 65-70% of the total cost of claims. MySmartPlans can save a company millions by having all the documents in one place, searchable with easy access.

A – Accountability*:* Construction is a contract-driven business and many years have passed with conflict between the design team, the owner, the general contractor and the subcontractors. Lack of accountability has resulted in poor quality, poor safety and excess payment. MySmartPlans brings accountability to the construction project because everyone on the project is on the same page. The owner can see the bid list and the specifications. They can monitor progress. Accountability breeds structure, which is required for a successful project.

R – Reliable warranty and commissioning: The commissioning process is one of the most important processes related to separating warranty from defect claims. Owner maintenance departments are riddled with turnover and often times the "how to" related to building maintenance is lost in the turnover of maintenance personnel. Typically, maintenance issues are not used as a defense in latent defect allegations due to the fact that general contractors have not done a good job of documentation. MySmartPlans changes all of that. Commissioning criteria is established, documented and more importantly, easy to find in the event of litigation in the future. The owner also benefits by having a tool to train employees and ensure that their building maintenance department has access to relevant, timely information to perform their jobs.

T – Transparency: Owners are more sophisticated than ever and are looking for value-added services. Faster, cheaper, better is only as important as building with quality, safety, and schedule in mind. With the trend toward integrated project delivery, the next natural state of progression in the construction industry is to move forward with quality tools such as LEAN construction that promote efficiency and minimize waste. MySmartPlans minimizes waste by acting as the repository of documents, the one stop for effective communication.

P – Profitability: With diminishing profit margins and tight cash markets, profitability for construction projects is critical to the success of those involved on a construction project. One of the sure-fire ways lose profits on a project is to experience a delay related to a construction default. An entire project can be impacted by one key subcontractor going under. That is why prequalification, communication, risk financing strategies and techniques are important to identify any red flags before a default occurs. MySmartPlans provides an opportunity to review and track certificates of insurance, payroll documents and staffing issues that may go unnoticed in a traditional document management system. By reviewing real time data, the owner and general contractor can identify red flags ahead of time before it is too late and the project experiences a default and subsequent delays.

L – LEED and BIM: LEED/Green Building and BIM technology are changing the dynamics of the construction world. LEED is growing faster than ever before and it won't be long until the government stimulus package will require LEED certification. BIM technology, or 3D project design and modeling, is the wave of the future and here to stay. BIM requires communication at all phases and aspects of the project. It also blurs the lines of liability where design ends and construction best practice begins. BIM technology creates the natural progression toward integrated project delivery on projects. While insurance carriers scramble to come up with endorsements and policies to address these two areas of construction and underwrite exposure, contractors and owners must look at these processes from a more practical standpoint. How does one ensure that everyone on the project has access to the LEED and BIM plans and procedures? How does one ensure that everyone has the most current documents? Where does one store the repository of documents for the future? Once again, MySmartPlans is the solution.

A – Align Integrated Project Delivery: The largest owners and contractors in the world have figured out that the traditional way of building is antiquated, challenging and has huge margins of error. Heavy on contract and light on communication, the traditional way of building no longer makes sense. The Integrated Project Delivery method of construction requires everyone on the project to communicate and work on the same page. The owner, contractors and subcontractors are committed to the success of a project. As a result, the projects are more successful. Sequence, schedule, quality and safety all improve when the parties on a project communicate, plan and bring their best. MySmartPlans is the logical tool to support the IPD method of construction.

N – New approach to risk management: Typically, larger contractors have adopted a new approach to risk management where they manage safety and quality on their projects and protect themselves by implementing either an OCIP or CCIP (Owner or Contractor Controlled Insurance Program). Their programs provide assurance to the owner and contractor that the insurance is adequate for the project exposure. They also streamline the documentation of insurance process. Even when an OCIP or CCIP is in place, the subcontractors are still required to submit their insurance certificates for exposures not covered under the CIP. MySmartPlans provides an opportunity to streamline the insurance documentation process.

S – Safety: The Obama Administration has empowered OSHA and the EPA with more inspectors and a focus on compliance and citation for the construction industry. Construction is still one of the top three most dangerous industries in America. With the philosophical shift from partnership to compliance, owners and contractors must be able to document that all employees on a project are trained and that they understand what they learned. Job hazard analysis, incident management, training logs and daily reports on safety are the only ways a contractor can visibly document a commitment to safety. MySmartPlans gives the contractors on the project one place for all of their documents, making it easy to see a commitment to safety through documentation. The ability to upload training videos and audits brings the process full circle.

The world of construction risk management is complicated. Regardless of whether you are a lender, owner, contractor or subcontractor, the success of a project hinges on risk management and communication. MySmartPlans provides the missing link to increase communication, streamline processes and document all of the history of a project in one place. MySmartPlans is the tool to bring the construction industry into the future and improve overall performance of projects.

Appendix I: Examples of Typical Construction Risk

Direct Property Damage to Contractor's Property

Automobile damage from collision
Automobile damage from other events, i.e., windstorm, fire, etc.
Damage to contractor's equipment
Damage to materials to be used in construction
Damage to the project itself, including the contractor's own work
Damage to the contractor's office building and contents

Indirect (Consequential) Loss from Damage to Property

Cost to remove debris resulting from direct loss
Rental cost of construction equipment needed to replace damaged equipment
Loss of rents from damaged/destroyed rental property
Business interruption resulting from damage to key construction equipment
Liquidated damages
Increased financing costs

Legal Liability

Bodily injury to the public occurring on job sites
Property damage to another contractor's equipment from contractor's negligence
Injury to the public resulting from an auto accident
Damage to a completed project resulting from defective construction
Bodily injury or damage to other property arising from a construction defect
Bodily injury to another contractor's employee resulting from contractor's negligence
Failure of project to perform as intended
Liability for environmental damage arising out of the contractor's work

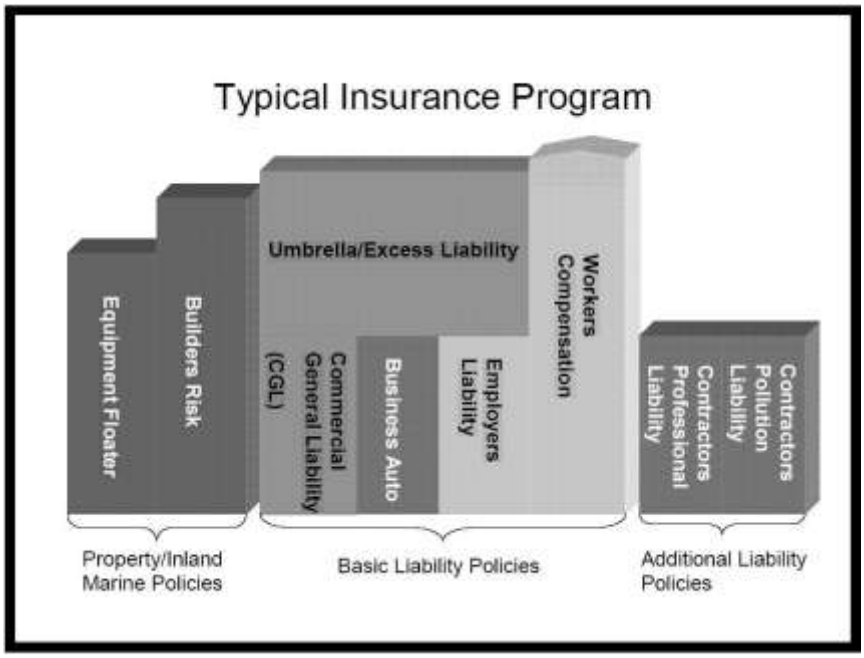
Personnel

Bodily injury to employees
Expenses necessary to replace an injured key employee

Appendix II: Risk Management Program Implementation

- Establishing authority and responsibility for the safety program and assuring that it receives the amount of attention desired by upper management.
- Choosing a professional insurance agent or broker with knowledge of construction insurance and who represents insurance markets that focus on the construction industry.
- Determining contractual risk transfer strategies and tactics to use and either reviewing the contracts or providing those who will with checklists and guidelines for doing so.
- Obtaining and reviewing certificates of insurance from subcontractors to verify compliance with insurance requirements.
- Assembling underwriting information for insurers and working with the agent/broker to present a positive picture of the company to underwriters.
- Reviewing insurance proposals presented through the agent or broker.
- Assuring that losses and claims are promptly and clearly communicated to the proper insurers.
- Working with and monitoring claims adjusters to assure that employees and customers are being fairly and properly treated.
- Reviewing insurance policies, premium audits, premium invoices, and similar documents to assure they are correct and accurate.
- Working with estimators to assure that bids contain appropriate insurance and risk management expense elements.
- Communicating special needs, such as for additional insured endorsements and certificates, to the agent or broker.
- Working with legal counsel to assure the company is properly defended against liability claims.

Appendix III: Typical Insurance Program Chart



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Creating Chaos-Free Construction

MySmartPlans is a project centric dashboard that automatically organizes all construction project information from design phase to closeout. This online collaboration and project management (OCPM) technology allows for improved visibility, transparency, organization, and collaboration. By effectively organizing all plans, specs, RFIs, ASIs, submittals, as-built drawings, planholders lists, email correspondence, videos and photos, and client-requested information onto a single project-centric dashboard, MySmartPlans keeps all users on the same page all while staying green and going paperless. With a strong project information management (PIM) team MySmartPlans provides clients and users with access to real people in real time in order to facilitate ease of use and overall collaboration.

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