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## THE PRE-JOB SAFETY PLANNING PROCESS FOR CONSTRUCTION SITES

*By SeaBright Insurance Loss Control*

**D**uring construction projects, the work activity and site are constantly changing. New hazards are created with each new phase. This situation creates some unique and difficult challenges in the area of safety management. One of the best tools to help in meeting these challenges is Pre-Job Safety Planning. The chances of a successful result are increased if proper planning is used. Safety planning will ensure that safety is taken into account along with costs, schedules, quality, and other important job goals. If safety is not included in the planning stage, then it's less likely that it will receive much consideration during the actual construction process.

### Estimating

Unless you are fortunate enough to obtain a "time and materials" contract, you will obtain construction contracts through the open bid process. Planning for safety must start at the estimating phase. The total bid should budget a reasonable amount of money for this function. The designated safety person should prepare the safety budget. The total safety expenditure from similar past projects is a helpful figure to review. It is also important to know how many employees are expected for the project so that the time and cost associated with required safety training is considered. The architectural design should also be reviewed in order to appropriately consider any extra safety costs created by design factors. If available, a quick review of the project schedule may provide some insight into any additional safety costs that will be necessary. The expected cost of personal protective equipment, safety equipment, and other safety related materials should be included in the safety budget.



Keeping a construction project under budget is frequently a tremendous challenge. If a safety bid is not included in the total bid, then finding the necessary dollars for safety expenditures during the project will be difficult.

### Pre-Job Safety Planning Meeting

A meeting should be held after the contract is awarded and before the project begins. This meeting should be used to discuss the entire safety program and define responsibilities. Your safety program should be in written form and should include your policy, safety management strategies, and safety rules. The blank forms to be used for documentation of various safety efforts should also be included in the written program. The five main items to address in the meeting are safety management strategies, subcontractor requirements, specific hazards and controls, job hazard analysis, and purchasing.

## 1. Safety Management Strategies

Training is the most important aspect of your program and segments required by OSHA. Training begins with a thorough new-employee safety orientation. The orientation should include general information needed for every new employee. One example is hazard communication training. Ongoing training should occur at a minimum during weekly tool box safety meetings. In addition, some employees will require specialized training for hazard specific activities such as scaffolding erection and powder actuated tool usage.



A safety self-inspection program is necessary to ensure that unsafe conditions and practices are identified and corrected. An enforcement policy for non-compliance should be clearly established and known by all. A policy with progressive action for each additional offense is recommended. Counseling should be used for initial minor offenses. Any serious offenses should result in termination of employment. Enforcement and discipline are necessary for dealing with individuals who knowingly violate safety rules and procedures. Praise should be given frequently to individuals who consistently adhere to the safety rules and procedures.

Accident investigation is necessary in order to find out what caused the accident so steps can be taken to prevent a similar recurrence. Timely reporting of every accident is essential for the investigation to be effective. Arrangements should be made with occupational medicine clinics near the project site so workers can receive timely and appropriate initial treatment for injuries. An early return-to-work program should be available for injured employees capable of performing some meaningful work, but temporarily unable to perform regular work duties. Possible modified duty tasks should be identified ahead of time for usage whenever appropriate.

All posting and record keeping requirements should be addressed. A person must be trained and assigned to maintain the OSHA 300 Log and post it from February 1st through April 30<sup>th</sup> with the summary from the previous year. A safety bulletin board should be established for locating required posters, emergency contacts and phone numbers, and for posting other safety related bulletins.

Incentive programs should be considered as a tool for motivating employees to work safely and for motivating employees to monitor co-workers for safe work practices. While these do not work for all companies they can be an effective tool. Awards can be distributed on an individual or group performance basis. Awards may consist of items such as shirts, jackets, money, or gift certificates. Awards or bonuses for employees in a supervisory capacity can be used for motivating them to complete assigned safety responsibilities and for making safety management a high priority. Even more importantly, however, is to hold the supervisors accountable for their safety responsibilities. Bonuses for superintendents based upon loss prevention results can also be considered for larger projects.

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A safety committee could be created to help resolve issues and make suggestions for enhancing the safety program. Committee responsibilities may include periodic safety inspections, review of accident investigations, and analysis of accident data.

## 2. Subcontractors

Construction projects frequently have workers from several different contractors on the site at the same time. The activities of workers employed by one contractor can create hazards for workers employed by others in the immediate work area. In many states, the general or prime contractor assumes safety responsibility for all contractors and workers on the project. You need to inform all subcontractors of the course of action that will be taken to resolve any safety issues that arise due to subcontractor activity.

Your subcontractor agreements should contain a clause binding the subcontractor to your safety rules and all applicable federal, state and local safety code requirements. Each subcontractor's safety program should be obtained to assure that it meets all of your requirements. Obtain documentation to assure they actually carry out their safety plan. Make certain you thoroughly review your program with each subcontractor's representative prior to commencing work. Subcontractors should know exactly what you expect from them regarding safety. It is also a good practice to obtain written information verifying the subcontractor's safety record.

### 3. Specific Hazards and Controls

Hazard controls will vary from project to project depending upon the scope and type of construction activity. The hazards and their controls presented by the specific activity or in conjunction with Local, State or Federal safety & health regulations. Some of the most common construction items to address during the planning stage are:

#### Specific Hazards

- Blasting
- Compressed Air
- Concrete Work
- Confined Spaces
- Cranes and Rigging
- Electrical
- Emergency Planning and Disaster Response
- Excavations/Trenching/Shoring
- Fall Protection
- Fire Protection/Prevention
- First Aid
- Hazard Communication
- Hazardous Waste
- Heavy Equipment
- Housekeeping/Clean Up
- Ladders
- Lighting
- Lock Out/Tag Out
- Material Handling and Storage
- Noise
- Personal Protective Equipment
- Respiratory Protection
- Sanitary Requirements
- Scaffolding
- Tool Use and Maintenance
- Traffic Control and Motor Vehicles
- Warning Signs, Signals, and Barricades
- Welding and Cutting

This list is not all inclusive, but it can be used as a general guideline to assist in developing your own specific list of items relevant to your project.

### 4. Job Hazard Analysis

Another good practice is to identify in advance any special safety equipment, tools, hazards, or methods that will help in completing the job efficiently and safely. Particular consideration should be given to hazards associated with ergonomic issues such as repetitive motion, vibration, temperature extremes and adjustability of tools or equipment. By planning ahead, you can avoid work stoppage or delays caused from being unprepared for unexpected hazardous conditions. Job hazard analysis is the process of identifying hazards associated with each step of a particular job or phase of a job. The development of a job hazard analysis will help produce solutions and eliminate or minimize safety hazards associated with the specific job activity. You should choose specific job activities known to be highly hazardous or known to have produced a high frequency of accidents on prior projects.

There are five basic steps to follow in the preparation of a job hazard analysis:

1. Select the jobs for hazard analysis.
2. Break the task into individual components or activities.
3. Identify the hazards.
4. Develop safe procedures.
5. Apply the analysis to the job.

Job hazard analyses can be used to make a habit of safe work practices. It is also beneficial as a guideline to follow during new employee training efforts and for quickly identifying the cause of an accident should one occur. Each analysis should be periodically reviewed for possible improvements.

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### 5. Purchasing

Plan ahead for the purchasing of all safety equipment and supplies required during the project so they will be available when needed. Suppliers should be checked for availability, and prices from several suppliers should be obtained and compared. Discounts may be applicable to high volume purchases. It may be necessary to purchase a few different styles of some personal protective equipment to insure proper fit and comfort. Safety glasses are one example where a few different styles should be available. "Cool" styles tend to be

more easily accepted. All required safety features should be included on any new power equipment purchased for the project. If any equipment is to be rented, verify with the rental company that the equipment will have all required safety features. For example, if rental scaffolding components are provided, it is up to you to make sure the delivered components include all of the necessary safety features.



### ***In Summary***

If you include safety in the early stages of the pre-job planning process, positive results will naturally follow. Reductions in the frequency and severity of accidents will transform into higher productivity, lower insurance costs, and a competitive advantage when bidding against other contractors for future projects.