

Garmong Construction Services					
<i>EMPLOYEE SAFETY POLICY HANDBOOK – Concrete Safety</i>					
Last Revised:	January 24, 2012	By	Douglas Mahurin, MS, CSP	This Copy Printed:	1/24/2012 5:20:00 PM

CONCRETE

No construction loads will be placed on a concrete structure or portion of a concrete structure unless, based on information received from a qualified person, the structure or portion of the structure is capable of supporting the loads.

All protruding reinforcing steel onto and into which employees could fall, shall be guarded to eliminate the possibility of impalement.

No employee shall be permitted to neither ride in concrete buckets nor work under concrete buckets while buckets are being elevated or lowered into position. Employees will be required to wear proper clothing (i.e., boots, gloves, hard hats and safety glasses) to prevent cement burns.

No employee shall be permitted to place or tie reinforcing steel more than six (6) feet (2 meters) above any adjacent working surface unless the employee is protected by the use of a safety harness or equivalent fall protection.

A. TROWELING

Power and rotating type concrete troweling machines that are manually guided shall be equipped with a control switch that will automatically shut off the power whenever the hands of the operator are removed from the equipment handles.

B. TRANSPORT

Positive safety latches or similar safety devices shall be installed on all hydraulic or pneumatic gates of concrete buckets to prevent premature or accidental dumping. Buckets will be suspended from shackles or approved safety-type hooks.

C. PUMPING

All pipe supports of concrete pumping systems will be designed to one hundred (100%) overload. Compressed air hoses will utilize only fail-safe joint connectors to prevent separation of sections when pressurized. Tremies, elephant trunks, etc., sections will be secured with fail-safe chain or wire rope in addition to regular couplings or connections. Concrete buggies (Georgia buggy) handles will not extend beyond the wheels on either side of the buggy. Where there is a possibility of contact with energized electrical conductors, handles on bull floats will be constructed of non-conductive material or insulated with non-conductive sheath.

D. CUTTING

Blades of masonry saws must be covered with a semicircular enclosure to retain blade fragments. A method for retaining blade fragments shall be incorporated in the design of the semicircular enclosure. Cutting or grinding of cured concrete will require a dust minimization plan. All concrete processes that create airborne dust exposure shall be evaluated and documented.

E. FORMWORK AND SHORING

Formwork and shoring will be designed, erected, supported, braced and maintained so as to safely support any and all vertical and lateral loads that may be imposed upon it during

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placement of concrete. A drawing of plans showing the jack layout, formwork, shoring, working decks and scaffolding will be available at the jobsite.

F. INSPECTIONS

All shoring equipment will be inspected prior to erection to determine that it is specified in the shoring layout and that it is not defective. Defective or damaged shoring equipment must not be used for shoring under any circumstances. Erected shoring equipment will be inspected during and immediately before and after the placement of concrete. Damaged or weakened shoring equipment will be immediately reinforced or replaced.

G. PERMISSIBLE LOADS

All sills for shoring will be sound, rigid and capable of safely carrying all vertical and lateral loads that may be imposed upon them at any time. All base-plates, shore heads, extension devices and adjustment screws will be in firm contact with the footing sill and the form material. Eccentric loads on shore heads and similar members must be designed for such loading. Ground load compaction must be checked to verify that the imposed load can be sustained. Shoring for tiered single post shores and erected shoring must be designed and inspected by a qualified designer and by an engineer qualified in structural design.

H. BRACING

Single post shores must be vertically aligned, spliced to prevent misalignment, and adequately braced in two (two (2) mutually perpendicular directions at the splice level. Each tier also must be diagonally braced in the same two (2) directions. Single post shores should not be adjusted after the placement of concrete. The spacing between towers and cross-brace spacing in erected shoring will not exceed that shown on the layout, and all locking devices will be in the closed position. All shoring will be laterally supported by attachment to the structure. Freestanding masonry walls will be braced and supported to provide lateral stability against wind or other forces. Re-shoring must be erected, as original forms and shores are removed, whenever the concrete is required to support loads in excess of its capacity.

I. STRIPPING

Forms and shores (except those used for slabs on grade and slip forms) must not be removed until the concrete gains sufficient strength to support its weight and superimposed loads. Compliance with the plans and specifications for removal of forms and shores, and proper testing with an appropriate American Society of Testing Material (ASTM) standard test method can help determine if the concrete has gained sufficient strength. Re-shoring also must not be removed until the concrete being supported has gained adequate strength to support its weight and all loads upon it. Employees removing formwork or shoring at elevations of six (6) feet (2 meters) or more will wear and use safety harnesses with lanyards being attached to a lifeline or the structure, or work from a suitably guarded platform.

J. REBAR

Employees will not be permitted to work above vertically protruding reinforcing steel (rebar) unless it has been protected to eliminate the hazard of impalement. Bending the steel over or covering the protruding ends of the steel with timber or other suitable material may accomplish elimination of this hazard. Employees working adjacent to rebar (presenting an impalement

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hazard) must wear a work-positioning belt and a safety harness attached to a lifeline or suitable anchorage point. Employees must wear gloves when placing or tying rebar. Reinforcing mats (used as a walkway) will be provided with planking to provide safe footing. A two (2)-part sling will be used when moving bundles of rebar by crane over twenty (20) feet (6 meters) in length. Wire mesh rolls will be secured at each end to prevent a recoiling action. Rebar for walls, piers, columns, and similar vertical structures must be properly guyed and supported to prevent collapse. Exposed vertical and horizontal rebar must be suitably capped or otherwise protected by approved method immediately after installation unless the area can be barricaded off to prevent access.