UNGER
CONSTRUCTION CO.

Proof of Training

Print name: _____Signature: _____ Date: _____

Scaffolding (Self-supported and Rolling Scaffolds)

Purpose

The purpose of this program is to ensure the protection of employees and subcontractors from the hazards associated with scaffolding.

Scope

This policy will apply to all work performed by employees and subcontractors including, but not limited to the following activities: construction, installation, demolition, remodeling, relocation, refurbishment, testing, and servicing or maintenance of equipment or machines and at other times when scaffolding is required.

Responsibilities

Management (Board of Directors and Project Managers)

Management is responsible for ensuring that the materials (e.g., tools, equipment, personal protective equipment) and other resources (i.e., worker training materials) required to fully implement and maintain this program are readily available where and when they are required. Additionally, management will monitor the effectiveness of the program, provide technical assistance as needed, and review the program bi-annually.

Program Manager

Dave Simpson is responsible for the development, documentation, training and administration of the program. This position carries the responsibility of insuring this program is adhered to and that proper reporting is executed.

Supervisors (Superintendents and Foreman)

Supervisors are responsible for ensuring that a task specific job hazard analysis (JHA), also known as a safe work plan, is developed. The JHA will select, implement and document the appropriate site-specific control measures as defined within this policy. Supervisors will direct the work in a manner that ensures the risk to workers is minimized, adequately controlled and that practices defined by this policy will be followed. Supervisors are responsible for ensuring Unger Construction employees and subcontractors are following expectations. Supervisors will be held accountable for enforcing the requirements of this program. Undesirable behavior will not resolve itself, therefore supervisors must be directly involved with modifying behaviors inconsistent with program expectations. Supervisors will be held accountable for enforcing Unger Construction's disciplinary program.

Workers (Employees and Subcontractors)

Unger Construction has high expectations and requires safety excellence for each employee, crew, project and for our entire company. Workers are required to follow the minimum procedures outlined in this program. Workers are responsible for knowing the hazards and the control measures established in the JHA. Workers are responsible for using the assigned PPE in an effective and safe manner. Workers are responsible for stopping unsafe acts and correcting unsafe conditions on the spot as soon as they are discovered. Any deviations from this program must be immediately brought to the attention of your supervisor. Workers that choose to conduct themselves in a manner that is inconsistent with these expectations will be held accountable for those decisions and may incur disciplinary actions.

Hazardous Material Survey

Unger Construction requires hazardous materials surveys before demolition or renovation work begins. The survey shall include all of the following: A visual inspection of a facility or a portion thereof for suspect materials, sampling and laboratory analysis of any suspect materials found for the presence of asbestos. The hazardous materials survey will also furnish a written report that includes: a description of the area(s) visually inspected, a detailed description of any suspect material sampled, the results of any laboratory analysis of suspect materials, the method of analysis, and the total amount of asbestos containing material. Typically a floor or roof plan is included with the report to reference the written information visually.

The person conducting the survey must be certified pursuant to OSHA and/or EPA regulations. The survey may be performed by a certified Site Surveillance Technician (SST) under the supervision of a licensed consultant. Note: The survey may be performed by a certified Site Surveillance Technician (SST) under the supervision of a licensed consultant. Note: The survey needs to be kept in a project file so that it can be accessed when working on future projects.

If lead or asbestos have been confirmed to be present employees and subcontractors must follow Unger Constructions Lead and/or Asbestos program. If hazards such as asbestos or lead will be disturbed during remediation, a properly licensed professional must perform the work and follow appropriate regulations.

Job Hazard Assessment (Safe Work Plan)

Unger Construction utilizes JHA's as our means of hazard assessment and establishing a safe work plan. JHA's are performed by supervisors and/or workers. Our library of hazard assessments is maintained on the "S" drive. Before beginning a new task refer to the JHA library, generally speaking all scopes of our work are covered. For situations that have not yet been covered select one that is substantially similar and use it as a baseline. JHA's on the "S" drive are organized by work area and job description. JHA's include strategies for elimination, substitution, engineering and administrative controls. After applying all appropriate reduction and elimination technique, the remaining hazards will be analyzed and the proper PPE to reduce the hazards will be selected. PPE will be identified for hazards that are in the process of being reduced or eliminated and/or when hazard-reduction efforts are not 100% effective in eliminating the hazards.

For complex or moderate to high hazard tasks, tasks where an additional level of safety planning is needed, the safety director will perform the JHA with the supervisor and workers.

Training

Before any worker is allowed to perform work in areas requiring scaffolding, they must first receive training. Scaffolding has three levels of training. Scaffold awareness training is required before walking on a scaffold; anyone preparing to walk on a scaffold must either attend a scaffold awareness training class or present proof of training before they will be allowed to walk on a scaffold. The focus of the training is the typical hazards associated with working on a scaffold including but not limited to; personal fall protection, falling objects, clearance from electrical hazards, elements/components of a scaffold, scaffold use/protocol, load capacity, access requirements and taking a scaffold out of service. This training is instructor lead and can be completed in an office or class room environment. Scaffold inspector or competent person training which is required for anyone performing the Day One Inspection or Daily Pre-use inspections. The focus of this training is on the structural elements and integrity of the scaffold. This training is a combination of class room instruction and hands-on inspection. Scaffold erector training is required for anyone erecting a scaffold. This training is a combination of class room instruction and hands-on participation.

Each employee must demonstrate an understanding of the required training, and the ability to work on scaffolding properly, before being allowed to perform work.

Proof of training is available on the “S” drive. The training data base can be sorted by employee name or by subject. This ensures supervisors and employees are able to confirm they have the necessary training and if they don’t which employees do. Employees that need training should contact their project manager or superintendent to make arrangements for them to be trained.

Retraining

The need for retraining will be indicated when: An employee’s work habits or knowledge indicate a lack of necessary understanding, motivation or skills required to properly use the PPE, New equipment is installed that requires new or different PPE, Changes in the workplace make previous training obsolete, Changes in the types of PPE to be used make previous training obsolete or Upon a supervisor request.

Accepting installation and placing the unit into service

Unger Construction does not own scaffolding, before accepting ownership (signing the scaffold provider’s paper work) of newly erected units review the owner’s manual for the scaffold, and the scaffold drawings. Perform a complete pre-use inspection, known as our “Day One Inspection”. Do not accept the scaffold until you have proof the unit was installed per the manufactures instructions, per the scaffold design and per the engineers’ drawings. Not all scaffolding will require an engineered drawing or engineering approval. However, Unger Construction requires scaffolding with wind screens, shade cloth, weather protection, debris shields be reviewed and approved by a professional engineer. Drawings, tables of calculations, capacity, loading and shut down criteria for wind loading will all be stamped by the engineer.

Rated Capacity

Every scaffold has a maximum weight capacity. Scaffolding is classified as light duty (25 lbs per square foot) , medium duty (50 lbs per square foot) , and heavy duty (75 lbs per square foot). The maximum weight is determined by the manufacture and will vary based on the classification. Make sure you

understand the capacity before using the scaffold. At Unger Construction the scaffold cannot be loaded in excess of 80% of the units rated capacity.

Alterations or Modifications

Scaffolding shall be used in accordance to the manufacturers intended design and function and per the manufacturers written instructions. Scaffolding cannot be modified or altered in any way without written approval from the manufacturer or formal approval from a Professional Engineer registered in the State of California. Additionally, approval shall be received from Unger Constructions Director of Safety. The removal of any scaffold component (including but not limited to railing, cross bracing, tie backs, outriggers, frame, footings, planks etc.) for any duration of time shall not be done without written permission from Unger Construction. Utilize the "Scaffold Component Removal Form" which identifies the scaffolding components which are proposed to be removed, the reason for their removal, the alternative means and measures of protection while the component is out of position, the duration of time and the quality control inspection ensuring the components were returned to their original position.

Hazards

Typical hazards when working on scaffolds are falls, collapse, shifting and tip overs. Workers can fall if the platforms are not properly protected by guardrails or when scaffold planks are not properly aligned. Workers or pedestrians working nearby are at risk of falling objects. Make certain your work area has toe boards or that the potential drop zone area is barricaded to ensure safe clearance distances in the event of an accidental drop. Collapse, shifting, and tip overs are caused by incorrect assembly, overloading the capacity of the unit, incorrect outriggers for stability, poor lock pins, improper footing, missing supports, poorly maintained components, defective structural members, or improper tie-ins for stability.

Workers or pedestrians working nearby are at risk of falling objects. Make certain to ensure safe clearance distances in the event of an accidental drop. Ensure that the area around the scaffold has the proper amount of clearance for workers and pedestrians to pass by safely. In some situations the potential drop zone area should be barricaded.

Day One and Pre-use Inspections

Each day verify the scaffold is safe for use by performing a pre-use inspection. All components must be complete, functioning correctly and correctly assembled. Any incomplete part, missing part or ill-fitted part should be replaced prior to use or the scaffold should be taken out of service. Do not use a scaffold that is in need of repair. The pre-use inspection must be performed by a competent person. In order to demonstrate competency inspectors must attend Unger Constructions Scaffold Inspector training class or present a competent person certification card. The following items are to be inspected.

Footings

All stationary legs including outriggers shall rest upon base plates. When the scaffold is resting on earth or other soft material the base plate shall be secured to 2 inches thick by 10 inches square wooden base or 1-1/8 inch thick exterior grade plywood. Base plates must be nailed to the footings with at least 2 nails (8d or larger). The nails should be positioned diagonally, not on the same side of the footing.

Interior rolling scaffolds cannot be used on earth or other soft material without removing the wheels and using base plates (available from the manufacture).

Scaffold Jacks

Scaffold jacks, (screw jacks) shall not exceed 12 inches of exposed screw.

Location

The inboard edge should not be more than 16 inches from the building. Except for bricklayers and masons they can extend a platform outrigger to within 7 inches of their work surface. Scaffolds are conductive, the scaffold must be installed such that the workers and their tools shall be greater than 10 feet from overhead power lines.

Planking

Planks are not typical lumber they are structurally engineered. Planks are nominally 2 inches thick by 10 inches wide. Planked surfaces must be at least two planks wide. Planks must overlap the upright at least 6 inches. Planks must overlap each other at least 12 inches. The working platform shall cover the entire space between the uprights except for the open area under the back railing, that opening cannot exceed 10 inches. Planks must not overhang the upright by more than 18 inches (teeter totter affects). Planking cannot slope more than 2 feet vertically to 10 feet horizontally. Workers cannot place ladders or other devices on the plank board to achieve additional height.

Screens or Wraps

Wind screens, shade cloth, weather protection, debris shields must be engineered and the drawings stamped before they can be installed. Wind loading places additional forces on the scaffold which will change the frequency an often times the style (method) of the tie in. Every frame coupling must be pinned, every end section, all levels, tied back into structure.

Weight capacity

Loads must be uniformly distributed, not concentrated in one spot, the heaviest portion of the load should be placed directly over the upright. Light duty = 25 pounds per square foot uprights not more than 10 feet apart. Medium duty = 50 pounds per square foot uprights not more than 8 feet apart. Heavy duty = 75 pounds per square foot uprights not more than 6 feet apart

Joints/Couplings

Joints of scaffolds shall be locked together with locking pins or equivalent fastening such as double looped #12 wire or single looped #10 wire.

Toe boards

When a scaffolds working platform exceeds 6 feet in height toe boards are required. Toe boards are required whenever workers cross under or work alongside the scaffold. Toe boards can be 1 inch x 6

inches nominal lumber. Typically speaking plank boards make the best toe boards as they can be easily moved and adjusted as the work progresses or situation near the scaffold change.

An alternative means of protection is to barricade the area that is determined to be the fall zone in order to keep workers well away from the drop zone. In this situation a toe board would not be required. However if the barricade is removed and workers could enter the fall zone toe boards would be required.

Guardrails

Guardrails are required when the platform exceeds 30 inches above grade level. The top guardrail shall be 42-45 inches above the walking surface. This can present a challenge for some scaffold suppliers. The reason being is the difference between the Federal and California OSHA standards. The Federal Standard allows for a top rail position to between 39- 45 inches above the walking surface. In California this means the top rail could be 3 inches too low. For scaffold systems such as this there is a California complaint top rail, in essence a modification and optional top rail supplied by the manufactures. The challenge however can be limited availability of the California Compliant top rails. Units that are out of compliance with California OSHA will be red tagged. “X” bracing is acceptable as a guardrail if the intersection of the “X” falls between 20-30 inches above the walking platform. Guardrails are required for all open sides and ends of the platform that are greater than 6 feet from grade level. Planks cannot be place on guardrails to obtain greater height. Workers cannot stand or sit on the guardrails. Guardrails are not required on the side of bricklayers or masons adjacent to their work provided the wall is higher than the platform. Trusses and guardrail sides must be checked to make sure the locking pins are working properly.

Securing the Scaffold (Tie-ins, Outriggers, Guy Wires)

Scaffolds cannot exceed 3 times the minimum base dimension in height unless they are securely tied into the structure, have outriggers or guys. Tie-ins for subsequent levels shall not exceed 26 feet in height. The free ends of the scaffolds must be tied into the structure. The horizontal distance between tie-ins cannot exceed 30 feet horizontally. No tie-in can be further than 4 times the minimum base dimension from the top of the scaffold. An alternative for securing the scaffold is outriggers or guy wires. Tie-ins can be double looped #12 wire or single looped #10 wire.

Environmental Conditions

Wind speed can be a significant concern when working on a scaffold. Unger Constructions rule of thumb shut down criteria for windy conditions is sustained wind speeds above 25 MPH. Where engineers have provided environmental shut down criteria their criteria will be used.

Before Accessing the Scaffold

Verify the scaffold is safe for use by checking for the green tag at the access point. If the access tag is red or is missing the scaffold is out of service. Ensure the scaffold has already received a pre-use inspection.

Working on the Scaffold

No worker is to access a scaffold unless a competent person has inspected the scaffold and deemed it safe for use. The competent person shall inspect the scaffold daily and install a "green" tag to the scaffold to indicate the scaffold is safe to use. A "red" tag will be used to indicate the scaffold is unsafe and no worker is to enter and use the scaffold until it is deemed to be safe.
No worker is to access a scaffold unless the worker has received training on the safe use of the scaffold. If you are not trained on the safe use of a scaffold, let your supervisor know and training will be provided.

Before you mount the scaffold inspect your work area for potential hazards for example: overhead obstacles, overhead sharps, changes in floor elevation (holes, curbs), debris, cords, and/or poor body posture due to the positioning of the scaffold. These potential hazards must be addressed before starting your work. Before starting your work ensure that the area around the scaffold has the proper amount of clearance for vehicles and pedestrians to pass by safely.

Perform a visual inspection from the access point to your work area every time you walk on the scaffold. If at any time the scaffold appears to in need of repair or is unsafe stop your work and report the situation to Unger Construction directly. You are not allowed to alter or modify the scaffold in any way (this includes temporarily removing plank boards, railings or supports) without written permission from Unger Construction. Access hatches for internal ladders must be closed by the person that opens the hatch. Don't place tools or materials on the access hatch. During use keep the platform free from trip hazards. Do not allow loose objects or debris to accumulate on the platform. Do not use the scaffold if you are in poor health or taking medication which may impair your ability to work safely.

Toe boards shall be used on elevated surfaces if personnel work or pass below. All interior floor openings protected by railings shall have toe boards. Do not use a single plank as a ramp to access work areas. Ramps must be at least 20 inches wide and have handrails if 7 1/2 feet or more in height.

Guardrails are required anytime the fall potential exceeds 7 ½ feet. The top rail of a guardrail must be between 42-45 inches from the walking surface; these are hard dimensions and not estimates. The mid rail must be halfway between the top rail and the walking surface. Guardrails must resist a load of 200 lbs. in all directions except up. Guardrails must be provided on all open sides and ends of all built-up scaffolds, runways, ramps, rolling scaffolds, elevated platforms, surfaces, and other elevations seven and one-half (7-1/2) feet or more above the ground, floor or level underneath.

Adding wind screens, shade cloth, weather protection, debris shields to a scaffold requires an engineering review and approval via a wet stamp from a PE. The engineer will also determine the acceptable wind loading and will provide a shutdown criterion.

Rolling Scaffolds

End frame ladders and guardrail end frames must be inspected for loose or missing caster bushings and/or stack pins. Casters must be checked for worn or damaged wheels, missing or damaged snap rings. Wheels should spin freely, bearings should pivot freely. The locks, pins, springs and nipples should be lubricated weekly, when the scaffold is in use. Mobile scaffolds are conductive do not use near energized, exposed electrical conductors. Maintain at least 10 feet of clearance.

Before mounting the scaffold always lock the brakes on the casters. Wheels of rolling scaffolds must be provided with a locking device. At least 2 of the wheels shall be swivel type. Wheels must be locked when working on a rolling scaffold. To mount the scaffold, climb the end frame.

To move from one location to another on rolling scaffolds that do not have a top mounted breaking system. The user must climb down from the platform unlock the casters and move the scaffold to the new location. Do not self-propel (surf) from one location to another unless all of the conditions listed in the surfing section below have been met.

Workers may ride a scaffold being moved by others if; the floor is within 3 degrees of level. The floor is free of holes, elevation changes, cords, or debris (broom clean). The scaffold height cannot exceed 2 times the minimum base dimension. Manual force applied at the base is not more than 5 feet above floor level.

Surfing (self-propel) can be performed as long as the floor is within 3 degrees of level, the floor is free of holes, elevation changes, cords, or debris (broom clean), the scaffold height cannot exceed 2 times the minimum base dimension, the platform is less than 4 feet above grade, the platform is not less than 20 inches wide, the scaffold is equipped with locking devices for the brakes that can be operated while the worker remains on the platform. While surfing the worker must be in the center of the scaffold.
Surfing: can be performed as long as all of the conditions listed above are met and the platform is less than 4 feet above grade, the platform is not less than 20 inches wide, the scaffold is equipped with (Top Plate) locking devices for the brakes that can be operated while the worker remains on the platform.

Do not overreach. Keep your body within the boundaries of the guardrail and scaffold section. Do not stand on the guardrail or use any components of the guardrail to gain additional standing height. Do not place ladders, boxes or any other such devices on the platform to gain additional standing height.

Mobile scaffolds are subject to tipping over with relatively low side-load forces <100 pounds or impacts. The maximum distributed load of a single base section is 1,000 pounds. The safe working load per square foot depends on the length of the scaffold. (4’ = 100 lbs., 6’ = 73 lbs., 8’ = 50 lbs., 10’ = 43 lbs.)

When using a scaffold on a stairway the casters must be removed and base plates installed. When stacking the scaffold (making it taller) a set of 4 outriggers must be installed, one per leg.

The most common type of mobile scaffolds (Perry, Baker, New Wave) are to be used exclusively in the interior of a building. They are not rated for exterior work on asphalt, rock or soil. Refer to their owner’s manual for this exclusion.