Scaffolding and Ladders

Purpose
The purpose of this program is to ensure that persons engaged in working from scaffolds and ladders are protected.

Scope
The scope of this policy is to provide guidelines for safe use of scaffolding systems and ladders.

Responsibilities
The **Person in Charge (PIC), Lead Operator, Consultant, or Production Superintendent** is responsible for:

- Being knowledgeable of this SWP and ensuring that all scaffolding and ladder activities are carried out according to this program.
- Ensuring scaffold erection, dismantling or relocated is directed by a competent person and experienced personnel according to manufacturer’s specifications.
- Ensuring a **competent person** remains on site at all times once scaffolding is erected and/or in use.
- Ensure only those personnel who have successfully completed Scaffolding training will be allowed to erect or inspect scaffolding.
- Evaluating the safe use of scaffolds and ladders as an integral part of preplanning a job.
- Evaluating and managing conditions located at the jobsite.
- Using scaffolding competent person to ensure that scaffolding is in good condition.

The **Scaffolding Competent Person** is responsible for:

- Ensuring scaffold structures/components will adequately support the loads to be imposed.
- Providing adequate foundations, proper access, bracing, handrails and toeboards, and adequate decking materials.
- Ensuring that a tag is placed on scaffold indicating its current condition (i.e. Under construction, damaged).
- Providing direction to those individuals who may be assisting them in the erecting or dismantling of a scaffold.
- Ensuring that the scaffolds and ladders are inspected, by a competent person, prior to each use and deficiencies are reported immediately to their supervisor.
Personnel or Contractors working on scaffolding or ladders are responsible for:

- Understanding and following the general and specific requirements outlined in this procedure.
- Following safe practices while working on scaffolds.
- Bringing any questions or concerns about the usage and choice of scaffolds and ladders on the job to the attention of supervision.
- Using sound judgment when planning scaffold erection.

Requirements

Erection, dismantling, and use of scaffolds shall be performed in accordance with Apache requirements. It shall be the responsibility of all contract employees to read and comply with the following guidelines, which are designed to promote safety in the erecting, dismantling, and use of scaffolds. These guidelines are not all-inclusive and do not replace other additional guidelines that may be more rigid.

Precautionary measures shall be taken when unusual conditions occur that may not be covered by these guidelines. If these guidelines conflict with applicable federal or other governmental statute or regulation which is more rigid, the statute or regulation shall apply.

Scaffold General Guidelines

All types of scaffold shall meet the following General Guidelines:

- Supported scaffold poles, legs, posts, frames, and up-rights shall bear on base plates and mudsills or other adequate firm foundation.
- Runners shall be as close to the base as possible on all scaffolds.
- Scaffolds shall be erected plumb and square.
- Scaffolds shall be braced and rigid at all times.
- The competent person shall determine the feasibility and safety of providing fall protection for employees erecting or dismantling supported scaffolds. Employers are required to provide fall protection for employees erecting or dismantling supported scaffolds where the installation and use of such protection is feasible and does not create a greater hazard.
- All scaffolds shall be equipped with a handrail, midrail, and toeboard. Handrail height shall be 36 inches to 45 inches.
- All scaffolds shall be equipped with proper access. Dual access/egress shall be considered when working in operating units per National Fire Protection Association 101 Life Safety Code.
- Scaffold access ladders shall extend three feet beyond the deck.
- Scaffolds more than thirty feet in height shall be provided with a ladder break and rest deck with additional breaks and decks every thirty feet, thereafter.
- When an overhead hazard exists, overhead protection shall be provided for persons erecting scaffolds.
- Slippery conditions on scaffold decks shall be removed or corrected as soon as possible.
- When erecting scaffolds, barricade tape shall be used.
- When persons are required to work or pass under scaffolds, barricades a minimum of six feet outside the base of the scaffold may be used instead of screening, if personnel do not cross the barricade.
- When objects are too large, heavy, or massive to be contained or deflected by barriers, those materials shall be secured as necessary to prevent their falling.
- Scaffolds that require travel between scaffolds shall have walkways of not less than 18 inches wide, except where scaffolds must be used in areas so narrow that platforms and walkways cannot be at least 18 inches wide. Such platforms and walkways shall be as wide as feasible, and employees on those platforms and walkways shall be protected from fall hazards by the use of guardrails and/or a personal fall arresting system.
- Scaffold systems may be tagged as follows:
  - A Red Tag shall indicate that the scaffolding is not safe to be used.
  - A Yellow Tag shall indicate that the scaffolding can be used but certain safety precautions shall be taken. Consult with the qualified person to find out the precautions that shall be taken while conducting work on the scaffolding platforms.
  - A Green Tag shall indicate that the scaffolding is safe to be used.
- Any scaffold damaged or weakened from any cause shall be immediately repaired and shall not be used until repairs have been completed.
- No loose scaffolding material shall be allowed on any completed scaffold.
- Each end of a platform, unless cleated or otherwise restrained by hooks or equivalent means, shall extend over the centerline of its support at least 6 inches but not more than 18 inches.
- Each end of a platform 10 feet or less in length shall not extend over its support more than 12 inches, unless the platform is designed and installed so that the cantilevered portion of the platform is able to support employees and/or materials without tipping, or has guardrails which block employee access to the cantilevered end.
- On scaffolds where platforms are overlapped to create a long platform, the overlap shall occur only over supports, and shall not be less than 12 inches unless the platforms are nailed together or otherwise restrained to prevent movement.
- All planks shall be visually inspected before each use, and any plank showing any sign of deterioration shall be removed from service.
• All planks used on scaffolds shall be scaffold grade for the species of wood used, or equivalent.

• All planks used on a scaffold shall meet Apache’s requirements.

• Scaffolds and their components shall be capable of supporting four (4) times the maximum intended load without failure.

• Engineered scaffolds shall be erected in accordance with the engineered drawing, and shall not be altered without written consent of the engineer. Engineers shall be qualified and competent in this field.

• Work shall not be performed on scaffolds during storms, high winds, or other weather hazards as deemed by the competent person.

• Scaffold material shall be used according to manufacturer’s specs.

• There are numerous different scaffold combinations; these scaffolds shall be built to the requirements of these guidelines.

• When erecting or dismantling scaffolds, workers shall not work off a naked bar, unless approved by a competent person.

• The throwing of scaffold material (up or down) is not permitted.

• The use of leather gloves while working with scaffolds is recommended and may be mandatory on specific job sites.

System Scaffolds
Engineered system scaffolds shall be built in accordance with engineered drawings. Scaffolds may be erected by a plan view sketch drawn by the engineer, and may be changed during the building process only with written approval of the engineer. Upon completion of the scaffold, the scaffold shall be inspected and the drawing made available to the end user.

Scaffolds of unusual design or purpose shall be approved by the engineering department and/or the safety department.

Tubular Welded Frame Scaffolds
Tubular welded frame scaffolds are available in many sizes, designed for many different uses, and shall be erected in accordance with that particular manufacturer’s recommendations.

Tubular Welded Frame scaffolds erected more than one hundred twenty-five feet (125’) above the base plates shall be designed by a registered professional engineer competent in this field.

Engineered Tubular Welded Frame scaffolds shall be erected in accordance with the drawing. These drawings shall be readily available for inspection.
Tubular Welded Frame Scaffold shall meet Apache's requirements

**Manually Propelled Mobile Scaffolds**

Manually propelled mobile scaffolds may be erected with tubular welded frames, tube and coupler, systems scaffold, or various types of manufactured mobile units.

All casters on a mobile scaffold shall be equipped with a working brake, shall be lockable, and shall be locked at all times when not in motion. Casters shall be rigidly affixed to the legs of the mobile scaffold.

Mobile scaffolds shall be square, level, plumb and rigid. Scaffolds shall be braced by cross, horizontal, or diagonal braces, or combination thereof, to prevent racking or collapse of the scaffold and to secure vertical members together laterally so as to automatically square and align the vertical members. All brace connections shall be secured.

Mobile scaffolds shall have a ladder or stairway.

The decks of the mobile scaffold shall be tightly planked.

Mobile scaffolds should only be moved on level surfaces free of holes and obstructions, or surfaces that do not exceed 3 degrees.

The force used to move mobile scaffolds shall be applied at the base.

No person shall be allowed to ride a mobile scaffold.

The height of a mobile scaffold shall be no more than four (4) times the minimum base dimension.

Mobile scaffolds more than forty feet (50') in height shall be designed by a registered professional engineer competent in this field.

Mobile scaffolds shall have the adjustable screwjacks affixed to the scaffold leg in such a way as not to drop down out of the leg.

Mobile scaffold legs shall be pinned or bolted together to prevent uplift.

Poly or tarps shall not be used to enclose freestanding mobile scaffolds without approval of the scaffold engineer.

Cantilevers on mobile scaffolds shall not be allowed, unless designed by a registered professional engineer competent in this field.

**Aluminum Beams**

Spans and widths of decks placed on aluminum beams must not exceed manufacturers’ recommendations. The use of aluminum beams shall be under the direction of the engineering
department. Decorator planks (pick boards) shall not be bridged together by planking to form a deck.

**Hanging Scaffolds (Tube and Clamp Systems)**

Hanging scaffolds shall meet the Requirements of this scaffolding safety procedure. The area below a hanging scaffold shall be barricaded.

**Temporary Work Platforms**

Temporary work platforms may be erected only if the following factors are abided by:

- Employee must utilize 100% fall protection.
- An approved anchor point capable of withstanding two times the arresting force of the deceleration device must be utilized.
- The work platform must be securely fastened to the best available structure and be capable of supporting the intended workload.

### Ladders

**Responsibilities**

The **Person in Charge (PIC), Lead Operator, or Consultant** is responsible for:

- Ensuring portable ladders are in safe condition.
- Providing appropriate ladder for the job and provide resources to maintain them.
- Providing appropriate employees with training on ladder use and inspections.

**Employees or Contractors** working on ladders are responsible for:

- Maintaining ladders in a safe condition
- Selecting appropriate ladders for the job
- Report or replace damaged ladders as needed.

**General Information**

Portable and fixed ladders are to be maintained in a safe working condition with an inspection program that is documented. All ladders, whether manufactured or job-made, must meet or exceed Apache’s requirements for the purpose for which they are to be used.
Portable Ladders

- Damaged ladders should be tagged "Do Not Use" and removed from service or destroyed.
- All portable ladders should be equipped with non-slip feet.
- Stepladders for heavy duty services should be Type I industrial.
- Metal ladders should not be used to work on or be carried through the vicinity of electric circuits. Each metal ladder should have a sticker or decal reading "Caution - Do Not Use Near Electrical Equipment" placed on the inside of each side rail at about eye level from the base.

Fixed Ladders

- Ladders more than 20 feet in height (maximum unbroken length of 30 feet) are to be provided with cages or safety climbing devices.
- Cages are to extend 42 inches above top landing.
- Cages are to extend down the ladder to a point not less than 7 feet, no more than 8 feet above the ground.
- Landings or offsets should be provided for each 30 feet if caged.
- Landings or offsets should be provided for ladders that are less than 20 feet if no cage.

**NOTE:** If a climbing safety device is used, a landing platform is not required.

- Metal ladders should be constructed as follows:
  - Minimum rung diameter of ¾ inch
  - Uniform distance between rungs of no more than 12 inches
  - Minimum clear length of rungs or cleats of 16 inches
  - Clearance in back of ladder not less than 7 inches.

Guidelines

- When placing portable extension ladders, for every 4 feet in height, the base should come out one foot from the wall.
• The top of the ladder should be placed with the two rails supported.
• To prevent slipping, the ladder should be tied or held in place at the bottom as well as the top.
• Ladders should not be placed in front of doors, unless the doors are locked.
• Ladders should not be placed on boxes, barriers, or other unstable bases to level or gain additional height.
• No ladder should be used to gain access to a roof or tank top unless the top of the ladder extends at least three feet above the point of support, at eaves, gutter or roofline.
• The ladder should not be used by more than one person at a time.
• The user should have both hands free when climbing.
• The user should always face the ladder and not reach so far to the side that they cannot keep their head between the side rails.
• The top of an ordinary stepladder is not to be used as a step.
Ladders are not to be used in a horizontal position as platforms, runways, scaffolds, or as braces, skids or for any use other than their intended purpose.

Inspections

- Visual inspections of ladders should be made prior to each use.
- All Portable ladders shall be inspected frequently for oil, grease, fractures or other defects.
- Ladders with broken or missing rungs, broken side rails, or other faulty equipment are not to be used. Improvised repairs are not to be made.

Definitions

**Competent Person** – one who is capable of identifying existing hazards and predictable hazards in the surrounding or working conditions which are unsanitary, hazardous, or dangerous, and who has authorization to take prompt corrective action to eliminate them.

**Qualified Person** - one who, by possession of a recognized degree, certificate, professional standing or who, by experience, has successfully demonstrated an ability to solve or resolve problems relating to the subject matter, the work, or the project.

**Scaffold User** - anyone who performs work on a scaffold.

**Safety Factor** - the ratio of the ultimate breaking strength of a member or piece of equipment to the actual working stress or safe load when in use.