

## Scaffold Safety Program

### Purpose

This program provides written procedures and guidelines to ensure employees are trained on hazards associated with scaffold use, how to properly inspect scaffolds, and safe work practices pertaining to the use of scaffolds.

This program has been established to:

- A. Ensure the safe use of scaffolds
- B. Ensure that work units understand and comply with safety standards related to scaffolds
- C. Assign responsibilities to personnel which are necessary for successful implementation.

### Scope

This program applies to all West Chester University employees

- A. Scaffold Use
  1. WCU employees are permitted to work from the following scaffold types after completing Scaffold User Training offered/approved by WCU EHS:
    - a. Fabricated Frame Scaffold / Frame Scaffold
    - b. Bakers Scaffold
- B. Scaffold Erecting
  1. WCU employees are permitted to erect the following scaffold types after completing Scaffold User Training offered/approved by EHS and Hands-on Scaffold Erector Training as dictated by section 5.0 of this document:
    - a. Fabricated Frame Scaffold / Frame Scaffold
    - b. Baker's scaffold
- C. Any other type of scaffold (including but not limited to suspended, tube and coupler, ladder jack, pump jack, and pole scaffolds) is not permitted to be erected by WCU employees unless they have received specialized User and Erector Training by a qualified third-party trainer on the specific type of scaffold.
  1. A qualified contractor can be used to erect the above types of scaffolds
    - a. EHS does not provide a User Training program for these types

## Responsibilities

### *Environmental Health and Safety (EHS) Department Responsibilities*

- A. Provide guidance on the requirements of the program and assist departments in implementing the provisions of this program
- B. Periodically review and update this written program
- C. Periodically evaluate the overall effectiveness of this program
- D. Investigate injuries and incidents related to scaffold use

### *Managers and Departmental Supervisor Responsibilities*

- A. Ensure that responsibilities assigned within this program are carried out
- B. Designate individuals responsible for the implementation of this program
- C. Actively support this program as part of the work unit's overall safety effort
- D. Be thoroughly informed of the contents of this program and its application to their areas of responsibility and authority
- E. Ensure employees comply with all provisions of this program
- F. Ensure employees receive training appropriate to their assigned tasks and maintain documentation of such training
- G. Ensure employees are provided with and use appropriate protective equipment
- H. Take prompt corrective action when unsafe conditions or practices are observed

### *Employee Responsibilities*

- A. Follow the work practices described in this program, including the use of appropriate protective equipment, and conducting pre-use inspections
- B. Attend all training required by this program
- C. Immediately report any unsafe conditions or concerns related to scaffolds to their supervisor

## General Requirements

- A. Training and demonstrated competency are required before employees are allowed to operate/setup/erect a scaffolds
- B. Scaffolds must be erected and utilized according to the manufacturer's instructions.
- C. When the working height of a scaffold reaches 6 feet, fall protection shall be addressed by the installation of a guardrail system on all open sides or a personal fall arrest system.
- D. No WCU employee is permitted to erect a scaffold with a height more than four times its minimum base dimension. A qualified third-party vendor must be utilized to erect any scaffold which exceeds the 4 to 1 ratio (4:1).
- E. Hardhats must be worn by all employees using and those working in close proximity to the scaffold.

## Training

Training must be completed prior to using or erecting a scaffold. Training can be conducted by either an equipment manufacturer, equipment vendor, safety consultant who specializes in scaffold training or by completing the training provided by EHS. EHS must pre-approve third party trainers.

### Competent person

- A. To be considered a competent person, both User Training and Hands-On Scaffold Erector Training must be completed.

### Scaffold Users

- A. Employees who only perform work on scaffolds (do not erect) must complete User Training consisting of the following:
  - 1. The nature of any electrical hazards, fall hazards and falling object hazards in the work area
  - 2. The correct procedures for dealing with electrical hazards and for erecting, maintaining, and disassembling the fall protection systems and falling object protection being used
  - 3. The proper use of the scaffold, and the proper handling of materials
  - 4. The maximum intended load and the load-carrying capacities of the scaffold
  - 5. Aware of the protocol regarding inspecting the scaffold

## B. Scaffold Erectors/Disassembles

1. Employees who erect / disassemble scaffold Complete Scaffold User training (5.2) and they must complete Hands-On Scaffold Erector Training consisting of the following (see Appendix C): (Note: Only upon completion of both User Training and Erector Training is an employee considered a competent person, which allows them to conduct the pre-use safety inspection)
  - a. The correct procedures for erecting, disassembling, moving, operating, repairing, inspecting, and maintaining the type of scaffold in question.
2. Refresher training
  - a. Refresher training in relevant topics will be provided when any of the following occur:
    - I. An employee is observed using the scaffold in an unsafe manner
    - II. An accident or a near-miss incident occurs
    - III. Changes in the types of scaffold, fall protection, falling object protection, or other equipment present a hazard that an employee has not previously been trained on
    - IV. Changes in the worksite present a hazard that an employee has not previously been trained on.

## Inspection

### *Pre-use Inspection*

- A. Each scaffold must undergo a documented pre-use safety inspection by a competent person prior to use on each shift
  1. Scaffolds not used during a shift do not have to undergo an inspection during that shift
  2. Inspections must be documented using the checklist found in Appendix A, one provided by the scaffold manufacturer, or equivalent
- B. Damaged Scaffolding
  1. The scaffold shall be removed from service if a deficiency is found. In order to remove a scaffold from service, an out of service tag or equivalent shall be placed at the scaffold access point/s. The supervisor is then responsible for ensuring the necessary arrangements are made for replacement or repair.
  2. Scaffold users must immediately report any unsafe condition to their supervisor.
  3. Only qualified personnel (vendor/manufacturer) shall perform scaffold repairs. All replacement parts shall be the same design as the original or an equivalent design as designated by the manufacturer.

## Recordkeeping

- A. Each work unit is responsible for maintaining the following records in order to meet the requirements of this program:
  - 1. A listing of all scaffolds used by the work unit
  - 2. A record of training which includes: (Use Appendix E or equivalent)
    - a. Name of employee and trainer
    - b. Date
    - c. Type of scaffold
    - d. Date of User Training and/or Hands-On Scaffold Erector Training
  - 3. Copies of all pre-use inspection records for one year after completion.
  
- B. EHS is responsible for maintaining the following records in order to meet the requirements of this program:
  - 1. A listing of all scaffolds used by the work unit
  - 2. Training Records
  
- C. Records that are maintained pursuant to this section must be kept for a minimum of three years unless otherwise indicated.

## Contractors

Contractors are required to follow all applicable OSHA regulations and manufacturer's instructions. Contractors are not permitted to use any scaffold owned by West Chester University. Exemptions to this rule must be approved by EHS.

## Definitions

- A. **Bakers Scaffold:** See Appendix B.
- B. **Base Plate:** A plate used to distribute the load of a leg/post/frame/upright.
- C. **Competent Person:** A person who is capable of identifying existing and predictable hazards in the surroundings or working conditions, which are unsanitary or hazardous to employees, and who has authorization to take prompt corrective measures to eliminate them. For the purposes of this program, an employee is considered a Competent Person after they have completed both the User and Erector portions of the training.
- D. **Fabricated Frame Scaffold / Frame Scaffold:** See Appendix B.
- E. **Guardrail System:** A vertical barrier, consisting of, but not limited to, toprails, midrails, and posts, erected to prevent employees from falling off a scaffold platform or walkway to lower levels.
- F. **Ladder Jack Scaffold:** See Appendix B.

- G. **Mudsill:** Devices used to uniformly distribute the scaffold load over a larger area than that distributed by the base plate alone in order to prevent a scaffold from settling into the earth.
- H. **Outriggers:** Devices that increase the stability of the scaffold.
- I. **Pole/Wood Scaffold:** See Appendix B.
- J. **Personal Fall Arrest System:** A system including but not limited to an anchorage, connectors, and a body harness used to arrest a person in a fall from a working level. The use of a body belt for fall arrest is prohibited.
- K. **Pump Jack Scaffold:** See Appendix B.
- L. **Qualified Person:** One who by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience has successfully demonstrated his/her ability to solve or resolve problems related to the subject matter, the work, or the project.
- M. **Qualified Third Party Trainer/Vendor:** One that specializes in providing training on how to erect, safely use, inspect, and maintain the types of scaffolds in question.
- N. **Suspended Scaffold:** See Appendix B.
- O. **Toe-Board:** A horizontal barrier that is erected along the exposed edges of an elevated surface to prevent materials, tools or equipment from falling. Must be at least 4 inches high.
- P. **Tube & Coupler Scaffold:** See Appendix B

## References

The following have been used as references in the development of this program:

1. West Chester University Personal Protective Equipment (PPE) Program
2. West Chester University Fall Protection Program
3. OSHA regulation - 1910.28 - Safety requirements for scaffolding
4. OSHA regulation - 1910.29 - Manually propelled mobile ladder stands and scaffolds (towers)
5. OSHA regulations - 1926 Subpart L - Scaffolds

## Appendix A

### SCAFFOLD INSPECTION CHECKLIST (page 1 of 2)

Scaffold type: \_\_\_\_\_ Scaffold location: \_\_\_\_\_

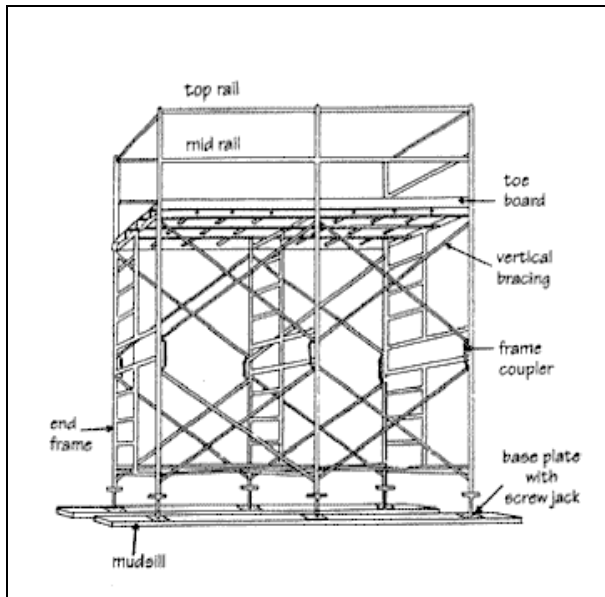
*Each box indicates one work shift OR one workday if only operating on one shift*

- Inspect job site to determine ground conditions, strength of supporting structure & overhead obstructions.
- Check to see if power lines near scaffolds are de-energized or that the scaffold/tools/materials are at least 10 feet away from energized power lines.
- Verify that the scaffold is the correct type for the loads, materials, employees, and weather conditions (do not use scaffold in winds exceeding 25 MPH, do not place tarps/plastic sheets on top of or around the scaffold).
- Check footings to see if they are level, sound, rigid, and capable of supporting the loaded scaffold.
- Check that wheels are locked in place.
- Check legs, posts, frames, and uprights to see if they are on baseplates and mudsills.
- Check metal components for bends, cracks, holes, rust, welding splatter, pits, broken welds, and non-compatible parts.
- Check for safe access. Do not use the cross braces as a ladder for access or exit.
- Check that all cross bracing is in place to support legs.
- Check wooden planks for cracks, splits greater than one-quarter (1/4) inch, end splits that are long, many large loose knots, warps greater than one-quarter (1/4) inch, boards and ends with gouges, mold, separated laminate(s), and grain sloping greater than 1 in 12 inches from the long edge. Planks must be scaffold grade lumber or equivalent.
- If the planks deflect one-sixtieth (1/60) of the span or 2 inches in a 10-foot wooden plank, the plank has been damaged and must not be used.
- Check to see if the planks are close together, with spaces no more than 1 inch around uprights.
- Check to see if 10-foot or shorter planks are 6 to 12 inches over the center line of the support, and that 10-foot or longer planks are no more than 18 inches over the end.
- Check to see if the platform is 14 inches or less away from the wall or 18 inches or less away if plastering or stucco.
- Check for guardrails and midrails on platforms more than 6 feet high.
- Check for employees under the platform and provide falling object protection such as toe boards or barricade the area. Make sure that hard hats are worn.
- Ensure any ropes/chains and pulleys used to hoist materials/tools onto the scaffold are in good condition.
- Ensure scaffolds that are 4:1 (height to width) or more are secured to the building/structure or as described by the scaffold's manufacturer to prevent tipping. Some types of scaffold may require the use of outriggers.





**Appendix B**  
**Examples of Scaffold types (Page 1 of 2)**



**Fabricated Frame Scaffold / Frame Scaffold**

A type of scaffold that consists of large, prefabricated (modular) metal or fiberglass pieces that fit together. Cross-bracing is utilized on the sides of the scaffold.

This is a common type of scaffold because they are versatile, economical, and easy to use. They are frequently used in one or two tiers by residential contractors, painters, etc.

Can also be mobile.



**Example of Mobile Scaffold**

Fabricated Frame / Frame and/or Bakers



**Bakers Scaffold**

This scaffold has wheels for easy mobility and consists of two end frames, one on each end, and a work platform.

The wheels contain a manually operated lock to prevent movement while the scaffold is in use.

Typically only one level high.

## Appendix B

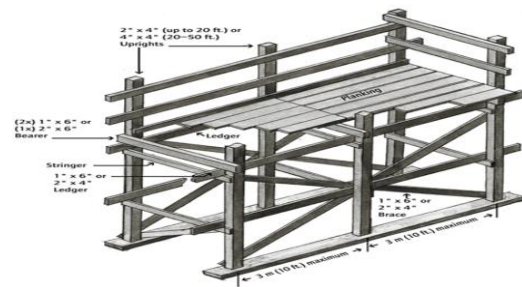
### Examples of Scaffold types (Page 2 of 2)



#### Tube & Coupler Scaffold

A type of scaffold consisting of tubing which serves as posts, bearers, braces, ties, and runners.

Special couplers (ex. As seen to the left) connect the uprights and join the various members.



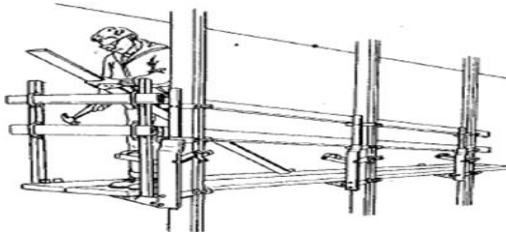
#### Wood or Pole Scaffold

A type of scaffold in which every structural component, from uprights to braces to platforms, is made of wood.



#### Ladder Jack Scaffold

A type of scaffold consisting of a platform resting on brackets attached to a ladder.



#### Pump Jack Scaffold

A type of scaffold consisting of a platform supported by moveable brackets on vertical poles. The brackets are designed to be raised and lowered in a manner similar to an automobile jack.



#### Suspended Scaffold

A type of scaffold where the platform is suspended by ropes, or other non-rigid means, from an overhead structure.

**Appendix C  
Hands-On Scaffold Erector Training Checklist**

Trainee Name:	Work Unit:
Trainer Name:	Department:
Scaffold make and model:	Date:

**NOTE: Hands-On Scaffold Erector Training must be completed for each type of Scaffold.**

<b>Step</b>	<b>Completed Step?</b>	<b>Comments</b>
1) Review manufacturer's owner's manual / instructions.		
2) Put on appropriate PPE. Hardhat is required. Gloves as needed.		
3) Inspect all of the scaffold components.		
4) Select a secure foundation on which to erect the scaffold.		
5) Assemble the scaffold according to the manufacturer's owner's manual / instructions.		
6) Ensure the scaffold is stable and level.		
7) Ensure safe access onto the scaffold is provided.		
8) Review all items listed in Appendix A of this program with the trainees.		
9) Perform an inspection of the scaffold using Appendix A of this program.		
10) Disassemble scaffold. (This step <b>MUST BE DONE</b> )		
11) Store scaffold in a safe location.		

**Appendix D**  
**Hands-On Scaffold Erector Trainer Guidelines**

- 1) Pre-Requisites:
  - a. Complete Scaffold User Training.
  - b. Review and become familiar with the WCU Scaffold written program.
  - c. Be experienced erecting the type of scaffold you are training on.
  - d. Review the manufacturer's owner's manual / instructions. If unavailable, contact the manufacturer or visit the manufactures website to obtain a copy.
  
- 2) Choose a safe location:
  - a. Open area.
  - b. Away from vehicles and pedestrian traffic.
  - c. Away from overhead hazards (electric lines, moving equipment, etc)
  - d. Flat surface on solid ground.
  - e. If necessary barricade the area with cones (or equivalent) to keep vehicles and pedestrians out of the training area.
  
- 3) Review the specifics of the scaffold:
  - a. Type of scaffold.
  - b. Parts/pieces.
  - c. Owner's manual / instructions.
  
- 4) Document training using Appendix E of the WCU Scaffold Safety Program or equivalent recordkeeping form.



**Appendix F**  
**Safe Work Practices (Page 1 of 2)**

### Before Use

- A. Follow all instructions from the manufacturer for erecting.
- B. Consideration shall be given to the amount of wind. Follow the manufacturer's instruction regarding operation in windy conditions. As a general rule, scaffolds shall not be used in winds exceeding 25 MPH.
- C. Modifications and additions that may affect the capacity or safe operation are prohibited.
- D. Welding operations completed while using scaffolds shall be conducted per the WCU Hot Work Permit Program.
- E. Inspect the scaffold. If the scaffold fails inspection or becomes unsafe, a "out of service" tag or equivalent shall be attached to the access points in a conspicuous location.
- F. Scaffolds with noted/reported deficiencies shall not be used until the deficiencies are corrected and the scaffold is re-inspected.

### During Use

- A. Hard hats are required PPE when working on or in near proximity.
- B. Ensure fall protection is in place.
- C. Non-skid shoes shall be worn when working on a scaffold.
- D. Scaffolds may never be overloaded. Only tools and materials which are needed may be stored on the scaffold.
- E. Special consideration is needed to ensure no overloading or tipping of the scaffold occurs when utilizing add-ons such as pulleys for lifting materials/tools and shelves that attach to the scaffold to hold materials/tools.
- F. Cross bracing shall not be used as a ladder or to access the working levels of the scaffold.
- G. Mobile scaffolds may not be moved while occupied by personnel. Wheels must be locked when scaffolds are in use.
- H. Control or tag lines shall be used to control the swinging of materials or equipment during transport onto the scaffold.
- I. Ladders or other similar devices shall not be used on scaffolds to increase the working height of employees.
- J. Sitting or climbing on the guardrails is prohibited.
- K. Scaffold shall be kept clean of debris, excessive amounts of materials or tools, ice, snow, or other slippery substances.
- L. Consideration shall be given to the protection of bystanders via barricading, or other equivalent means.

**Appendix F**  
**Safe Work Practices (Page 2 of 2)**

M. The following approach distances to energized electrical lines must be maintained:

<b>Voltage Range (Phase to Phase)</b>	<b>Minimum Safe Approach Distance (feet)</b>
0 to 300V	Avoid Contact
300V to 50 KV	10
>50KV to 200KV	15
>200KV to 350KV	20
>350KV to 500KV	25
>500KV to 750KV	35
>750KV to 1000KV	45

## After Use

- A. All equipment and debris must be removed from scaffolds at the end of the shift. Items may not be thrown off the scaffold items are to be lowered with a rope/bucket or handed off).
  
- B. Steps must be taken to protect against unauthorized use of scaffolds. (This may be necessary when a scaffold is located outdoors or in a high pedestrian traffic area).
  - Options include but aren't limited to:
    - Dismantling the scaffold at the end of the shift
    - Securing the worksite so that access to the scaffold is prohibited
    - Barricading the scaffold
    - Covering access points with fencing or other adequate item that will prevent climbing on the scaffold
    - Removing the access ladder
    - Placing caution/danger tape around the scaffold