TITLE:

EHS-326 SCAFFOLDING SAFETY GUIDELINES

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1.0 Introduction

1.1 Purpose

The purpose of this guideline is to provide instruction for the safe assembly, inspection and use of supported scaffolding at Emory University, as prescribed in the Occupational Safety and Health Administration (OSHA) Standard – 29 CFR 1910.28 Safety Requirements for Scaffolding.

1.2 Scope

These guidelines are inclusive of Emory employees, including Emory Healthcare (EHC), faculty, staff, students, contractors, and other people who work with scaffolding equipment. Mobile work platforms, such as mobile ladder stands, are covered in the Ladder Safety Program. Wood (Pole) scaffolds are not used at Emory University and the use of shore scaffolding or lean-to scaffolding is prohibited by OSHA.

1.3 Definitions

Brace. A rigid connection that holds one scaffold member in a fixed position with respect to another member or to a building or structure.

Competent Person. One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous or dangerous to employees and who has authorization to take prompt corrective measures to eliminate them.

Maximum rated load. The total of all loads including the working load, the weight of the scaffold and such other loads as may be reasonable anticipated.

Operator (or User). Person who performs work on a scaffold.

Outrigger. The structural member of a supported scaffold used to increase the base width of a scaffold in order to provide support for, and increased stability of, the scaffold.

Plank (Fabricated). Manufactured platforms made of wood (including laminated wood and solid sawn-wood planks), metal or other materials.

Platform. A working space for persons, elevated above the surrounding floor or ground; such as a balcony or platform for the operation of machinery and equipment.

Qualified Person. One who possesses a recognized degree, certificate or professional standing or who has extensive knowledge, training and experience to solve or resolve problems related to the work or project.

Scaffold. Any temporary elevated platform and its supporting structure used for supporting employees, materials or equipment.
Scaffold Tower. A scaffold configured by the use of frame and brace scaffolding (also known as scaffold towers, tower scaffolding, rolling scaffold and rolling towers).

Span. The distance a scaffold plank runs between supports.

Working load. The load on the scaffold imposed by employees, material and equipment.

1.4 Training Requirements

- Only properly trained and authorized personnel are allowed to use mobile work platforms and rolling (mobile) scaffolds or towers.
- Students trained to assemble, disassemble and/or use scaffolding must be supervised by an Emory employee, trained as a scaffolding competent person.
- All authorized personnel (except students) will be trained to be competent in supervising and directing all scaffolding erection, dismantling, and altering work. Responsibilities include:
- Identifying and correcting hazards encountered in all scaffold work.
- Having complete authority to promptly abate any hazardous worksite conditions.
- Training will be provided by qualified personnel and will include a combination of classroom and hands-on instruction, such as a review of information contained in this guideline and any manufacturer instructions. At a minimum, the training topics will cover:
- Identifying scaffold hazards and implementing corrective actions;
- Proper scaffold construction (assembly and erection), movement, operation, and disassembly of each type of scaffold used (according to the manufacturer's instructions);
- Conducting inspections of scaffolding and components for proper construction and structural integrity; and
- Determining the maximum load-carrying capacity of the scaffold.
- Competent person training will be provided every three (3) years to designated and authorized personnel. Qualified persons are to maintain proficiency, at least annually.
- Retraining will be provided, as needed, to ensure employees have the skills and understanding needed for safe work involving the erection, use or dismantling of scaffolds, up to and including under the following conditions:
- Where there are changes in the worksite that introduces new hazards for which the employee has not been previously trained;
- Where there are changes in the types of scaffolds, fall protection, or other equipment for which an employee has not been previously trained;
- Where an employee's work has demonstrated inadequacies such that he or she has not retained the necessary proficiency, including an accident or near miss.

2.0 General Requirements

- Only properly trained and authorized personnel are allowed to use mobile work platforms (including mobile scaffold towers, and manlifts).
- Follow the manufacturer's instruction for the safe assembly and dismantling of all scaffolds.
- Erect, move, dismantle or alter scaffolding only under the direct supervision of a competent person.
- Inspect scaffold daily or before each use.

- Ensure all parts and accessories necessary for the safe use of work platforms and scaffolds are integral parts of the equipment design.
- Ensure all scaffolds are capable of supporting at least four (4) times their designed working load.
- Never load a scaffold in excess of its intended working load.
- Ensure fall protection is provided when employees are working more than ten (10) feet above a lower level.
- Maintain work platforms and scaffolds in safe condition.
- Do not allow exposed surfaces to develop sharp edges, burrs or other safety hazards.
- Ensure materials are of standard manufacture and conform to standard specifications of strength, dimensions, and weights, and are able to safely support the design working load.
- Ensure all nails, bolts, or other fasteners are of adequate size and are used in sufficient numbers at each connection point to meet the designed strength of the unit.
- Drive all nails full length.
- Do not exceed the maximum work level height of any scaffold, which is calculated as four (4) times the minimum or least base dimensions. When the mobile unit does not meet the least base dimension requirement:
    - Install suitable outrigger frames, or
    - Make provisions to guy or brace the unit against tipping.
- Never use boxes, ladders, or other objects on a platform, or sit or stand on the guard rails to increase the working height.
- At scaffold work levels ten (10) feet or higher above the ground or floor, ensure the following is installed:
    - A standard (4-inch nominal) toe-board,
    - A guardrail (2- by 4-inch nominal or the equivalent).
- Use proper access and egress for scaffolds, such as a climbing ladder or stairway.
    - Ensure that the climbing device is affixed or built into the scaffold and located so as not to tip the scaffold.
    - Ensure landing platforms are provided at thirty (30) foot intervals.
    - Never climb or stand on cross braces or horizontal braces.
- Never move a mobile scaffold while the platform or equipment is occupied.
- Ensure the supporting structure for the work level is rigidly braced, using adequate cross bracing or diagonal bracing, with firm platforms provided at each work level.
- Ensure the work level platform of scaffolds (towers) is secured in place and expands the full width of the scaffold, except at necessary openings.
    - All planking should be 2-inch (nominal) scaffold grade minimum 1,500 f. (stress grade) construction grade lumber or equivalent.
- Ensure wheels or casters are designed for strength and dimensions to support four (4) times the design working load.
    - All scaffold casters must be provided with a positive wheel and/or swivel lock to prevent movement.
    - All ladder stands must have at least two (2) of the four (4) casters must be of the swivel type.

- Use screw jacks, leveling casters (or other suitable means) to properly adjust the height of an elevated work platform.
    - Never place bricks, wood, boxes, concrete blocks, or any other objects under scaffold leg.
- Use planking that is scaffold grade as recognized by the grading rules for the species of wood used.
- The maximum permissible spans for 2-inch by 9-inch or wider planks are shown in the following table:

	Material				
	Full Thickness Undressed Lumber			Nominal Thickness Lumber	
Working Load (p.s.f)	25	50	75	25	50
Permissible Span (ft.)	10	8	6	8	9

- The maximum permissible span for 1-1/4 x 9-inch or wider plank of full thickness is 4-feet with medium loading of 50 p.s.f.
- Nails are not subjected to a straight pull and are driven full length.
- Ensure all planking or platforms are overlapped (minimum of 12-inched) or are otherwise secured from movement.
- Extend scaffold planks over their end supports not less than 6-inches or more than 18-inches.
- Erect scaffolding such that the poles, legs, or uprights of the scaffold are plumb, and securely and rigidly braced to prevent swaying and displacement.
- Use a tagline when hoisting materials onto a scaffold.
- Provide overhead protection for workers where there is exposure to overhead hazards.
- Place a screen between the toe-board and the guardrail, where persons are required to work or pass under the scaffolds.
    - Extend the screen along the entire opening; and
    - Use screens consisting of No. 18 gauge U.S. Standard Wire ½-inch mesh or the equivalent.
- Do not use scaffolding during severe weather events occurring, such as storms or high winds, or when the scaffold is covered in snow or ice.
- Keep scaffold planking and work platforms clear of unnecessary tools, materials or debris.
- Use only treated or protected fiber rope when working with or near corrosive substances or chemicals.
- Secure scaffolds to permanent structures, through the use of anchor bolts, reveal bolts or other equivalent means. **Note: Do not use window cleaners' anchor bolts.**

3.0 Personal Protection Equipment (PPE) Requirements

At a minimum, personnel engaged in the use, erection and dismantling of scaffolding will wear PPE appropriate for the hazards identified with scaffolding operations such as:

- Head protection – hard hat (falling objects)
- Eye protection – safety glasses or goggles (impact, chemical splash)
- Foot protection – steel-toe or composite shoes/boots (crushing/impact)
- Hand protection – gloves (chemicals, lacerations)
- Fall protection – standard guardrails or fall arrest systems (fall from height)

4.0 References

Occupational Health and Safety Administration [OSHA], 1910 Subpart D, Safety Requirements for Scaffolding, 29 CFR 1910.28.