

**CALIFORNIA STATE UNIVERSITY,
LOS ANGELES**

LADDER SAFETY PROGRAM

May 2017

PROGRAM APPROVAL AND AUTHORIZATION

William A. Covino, President

Date

1.0. PURPOSE:

To establish organization and control over the storage, use, maintenance and inspection of portable ladders.

2.0. ORGANIZATIONS AFFECTED:

2.1. Risk Management/Environmental Health and Safety (RM/EHS).

2.2. Facilities Services.

2.3. University Auxiliary Services, Inc. (UAS) Maintenance

3.0. REFERENCES:

3.1. 8 CCR Section 3276, Portable Ladders.

4.0. POLICY:

The policy of California State University, Los Angeles (Cal State LA) is to ensure the health and safety of its staff and students by instituting safe work procedures and practices. Toward this goal, Cal State LA ladders shall be stored, inspected, used and maintained only by personnel trained in ladder safety. Students and the general public are prohibited from using university ladders unless authorized by the University.

5.0. DEFINITIONS:

5.1. **Annual Ladder Inspection Form** - This form lists inspection attributes for each of the available portable ladder types. The form is to be filled in by staff trained in ladder inspection. The form is to be used for each ladder capable of being used with an annual inspection frequency. Forms are turned into the supervisor for action and filed in departmental records. (Appendix 9.1.)

5.2. **Extension Ladder** - An extension ladder is a non-self-supporting portable ladder adjustable in length. It consists of two (2) or more sections traveling in guides or brackets so arranged as to permit length adjustment. Its size is designated by the sum of the lengths of the sections measured along the side rails.

5.3. **Extension Trestle Ladder** - An extension trestle ladder is a self-supporting portable ladder, adjustable in length, consisting of a trestle ladder base and a vertically adjustable single ladder, with suitable means for locking the ladders together. The size is designated by the length of the trestle ladder base.

5.4. **Ladders** - A ladder is an appliance usually consisting of two (2) side rails joined at regular intervals by crosspieces called steps, rungs, or cleats, on which a person may step in ascending or descending.

5.5. **Sectional Ladder** - A sectional ladder is a non-self-supporting portable ladder, nonadjustable in length, consisting of two (2) or more sections of ladder so constructed that the sections may be combined to function as a single ladder. Its size is designated by the overall length of the assembled sections.

- 5.6. **Side-Rolling Ladder** - A side-rolling ladder is a semifixed ladder, nonadjustable in length, supported by attachments to a guide rail, which is generally fastened to shelving, the plane of the ladder being also its plane of motion.
 - 5.7. **Single (or Straight) Ladder** - A single ladder is a non-self-supporting portable ladder, nonadjustable in length, consisting of but one (1) section. Its size is designated by the overall length of the side rail.
 - 5.8. **Single-Rail Ladder** - A ladder with rungs, cleats, or steps mounted on a single-rail instead of the normal two (2) rails used on most other ladders. Use of this type of ladder is prohibited.
 - 5.9. **Special-Purpose Ladder** - A special-purpose ladder is a portable ladder which represents either a modification or a combination of design or construction features in one (1) of the general-purpose types of ladders previously defined, in order to adapt the ladder to special or specific uses.
 - 5.10. **Step Ladder** - A step ladder is a self-supporting portable ladder, nonadjustable in length, having flat steps and a hinged back. Its size is designated by the overall length of the ladder measured along the front edge of the side rails.
 - 5.11. **Step Stool (Ladder Type)** - A self-supporting, foldable, portable ladder, nonadjustable in length, thirty-two (32) inches or less in length, with flat steps and without a pail shelf, designed so that the ladder top cap as well as all steps can be climbed on. The side rails may extend above the top-cap but such extension is not considered as part of the step stool length.
 - 5.12. **Trestle Ladder** - A trestle ladder is a self-supporting portable ladder, nonadjustable in length, consisting of two (2) sections hinged at the top to form equal angles with the base. The size is designated by the length of the side rails measured along the front edge.
 - 5.13. **Trolley Ladder** - A trolley ladder is a semifixed ladder, nonadjustable in length, supported by attachments to an overhead track, the plane of the ladder being at right angles to the plane of motion.
- 6.0. RESPONSIBILITIES:
- 6.1. RM/EHS will:
 - 6.1.1. Write and maintain this procedure in consultation with Facilities Services.
 - 6.1.2. Provide ladder use/inspection training when requested by departments.
 - 6.1.3. Provide program audit/oversight.
 - 6.1.4. Investigate injuries that have involved use of ladders.
 - 6.2. Facilities Services and UAS Maintenance will:
 - 6.2.1. Purchase, store and maintain ladders.
 - 6.2.2. Inspect and use ladders.

6.2.3. Provide or request training for users.

6.2.4. Provide or request training for inspection of ladders.

6.3. Departments will:

6.3.1. Provide training to staff who are using portable ladders. Training shall include ladder pre-use and audit inspection of ladders.

6.3.2. Assign annual inspections using the Annual Ladder Inspection Form (Appendix 9.1.) to trained staff and retain inspection records.

7.0. PROCEDURES:

7.1. Ladder Storage

7.1.1. Ladders may be stored near the place of use but never stored in a place that is accessible to students or the general public.

7.1.2. Ladders must be stored so as not to cause a hazard to personnel in the storage area. Ladders six (6) feet or greater should be secured against movement by earthquake or being inadvertently toppled if stored upright. Otherwise ladders should be stored laid down in a manner that does not create a trip hazard.

7.1.3. Ladders may be carried on vehicles where their placement does not cause a hazard. These ladders must either be tied to the vehicle or placed in racks that hold the ladder securely.

7.2. Ladder Inspection

7.2.1. Ladders are stored in a variety of locations throughout the University. Because of the dispersion of storage areas, it is the responsibility of the user to perform inspections. Both pre-use and annual inspections have the same criteria and are therefore considered to be equivalent.

7.2.2. Pre-Use Inspection – The ladder must be inspected by the user to determine suitability for use. No documentation required. The following attributes should be inspected of all ladders:

1. Rungs tightly affixed.
2. Treads are free of friction reducing materials (e.g., oil/grease).
3. Locks/cleats/feet/wheels/other hardware operate freely.
4. Rope and other software in good condition.
5. Signage/safety labels are readable.

7.2.3. Annual Inspection – Facilities Services competent personnel will make inspections of ladders within their groups to ensure that each ladder is ready for use.

7.2.3.1. Document inspection on the Annual Ladder Inspection Form (Appendix 9.1.)

7.2.3.2. Hazardous Ladders

- 7.2.3.2.1. Hazards due to mechanical and serviceability problems must be tagged to indicate that the ladder is out-of-service or “Do Not Use” and reported to the supervisor for disposition.
- 7.2.3.2.2. The ladder shall not be used until the hazard is resolved.
- 7.2.3.2.3. Ladders that are to be discarded must be effectively rendered unusable prior to disposal.

7.3. Maintenance

- 7.3.1. Lubricate items that do not run freely.
- 7.3.2. Replacement of parts designed for replacement is permitted.
- 7.3.3. Tighten joints designed to be tight.
- 7.3.4. Minor straightening is permitted of metal parts.
- 7.3.5. Tag-out ladders that have discovered safety hazards.
- 7.3.6. Ladders that cannot be repaired shall be disposed per 7.2.3.2.3.

7.4. Use placement

- 7.4.1. Choose a supporting surface that holds the expected weight without sinking and has sufficient friction for the use. Avoid slick surfaces both at the feet and in contact with the upper rails.
- 7.4.2. Support plane of the ladder should be reasonably level to keep the ladder vertical.
- 7.4.3. The area around the ladder should be clear of debris and trip hazards.
- 7.4.4. Do not use blocks or other jury-rigged devices to maintain the ladder vertical. Only devices designed for and attached to the rails are allowed to adjust verticality.
- 7.4.5. Do not approach within ten (10) feet of exposed, energized electrical lines.
- 7.4.6. Provide clearance from doors/exits/stairways. If needed, temporarily block and provide warning signs to prevent contact with ladder placement. If temporarily blocking an emergency exit pathway, the blockage must be able to be removed immediately upon alarm activation.
- 7.4.7. Ladders used to ascend must be secured from movement where the user expects to move the body's center of gravity beyond the rails.
- 7.4.8. When moving onto a roof or ledge, ensure the ladder extends three (3) feet beyond the level being accessed. Tie off the upper portion of the

ladder to prevent inadvertent movement in order to move onto the ledge/roof from the ladder.

7.4.9. When moving onto a scaffold or other device that might move relative to the ladder during the transfer of body weight. Always lock portable scaffold wheels before ascending. Tie the ladder to the platform before shifting body weight beyond the rails.

7.4.10. For use of straight and extension ladders, provide a firm base and wall support by allowing one (1) foot distance from the wall for each four (4) feet of ladder length at the point of contact (1:4 ratio). Add any overhang to the base distance to maintain plumb vertical.

7.4.11. For additional stability use a helper to stabilize.

7.4.12. For use of step ladders:

1. Lock the spreader bars in the fully open, locked position.
2. Ensure the base surface allows secure 4-leg contact.
3. Use step side only to bear workers' weight.
4. Do not use the pail shelf, top platform or top step to gain additional height or use as a step.
5. Keep the center of you belt buckle between the rails.
6. Perform work within eighteen (18) inches of the rail. Do not over-reach.

7.5. Ladder Climbing (three (3) points of contact)

7.5.1. Use 3-point climbing technique for ladders of any type.

7.5.1.1. For stability, have either:

- (a) two (2) feet and one hand, or
- (b) one (1) foot and two hands stably on the ladder during the climb.

7.5.1.2. The 3-point technique ensures that if one were to slip with any one (1) hand or foot, there would remain two (2) stable contact points from which to recover and prevent a fall.

7.5.1.3. When transferring weight from ladder to a platform, the three (3) points of contact are even more important for this awkward position.

7.5.2. Do not hold tools/equipment in the hands during the climb. Hands must be fully ready to hold additional body weight if needed. Use lanyards, ropes or helpers to raise equipment.

7.6. Additional Safe Practice

7.6.1. Do not reach more than eighteen (18) inches horizontally from the ladder's rail.

7.6.2. Be mindful of personnel below the ladder that can be hit by falling debris. Workers must wear a hardhat to work below the ladder.

7.6.3. Do not extend planks from the ladder to other supports.

7.6.4. Do not extend reach by standing above the second-to-top step.

7.7. Prohibited portable ladders

7.7.1. Single rail ladders are not allowed.

7.7.2. Modifications to ladders to join or extend that are not designed for the purpose by the manufacturer are not allowed.

8.0. TRAINING:

8.1. Training contains the following:

1. Descriptions of the available portable ladder types.
2. Pre-use inspection and annual inspection attributes.
3. Ladder stability.
4. Climbing procedure.
5. Safe dismount from ladder to elevated surface.
6. Prohibited uses.

9.0. APPENDICES:

9.1. Annual Inspection Form