
PART M
MOTOR VEHICLES, MECHANIZED EQUIPMENT, AND MARINE OPERATIONS

WAC 296-155-600 Definitions applicable to this part.

- (1) **“Apron”** means the area along the waterfront edge of the pier or wharf.
- (2) **“Bearing cap”** means:
 - (a) A slab of reinforced concrete or a heavy timber and plank platform covering the top of a group of piles for the purpose of tying them together and transmitting to them as a group the superimposed load.
 - (b) A metal plate placed across the top of a steel tube pile to distribute the load from the steel tube to the concrete.
- (3) **“Bearing pile”** means a column of wood, metal or concrete or a combination of two or more of these materials, driven, jacked, or sunk with a water jet, into the earth to transmit and distribute loads to strata below the surface.
- (4) **“Bulwark”** means the side of a ship above the upper deck.
- (5) **“Caisson pile”** means a concrete pile case in an outer casing consisting of a series of telescoping steel tubes, the top section being the largest and usually twenty inches or more in diameter.
- (6) **“Coaming”** means the raised frame, as around a hatchway in the deck, to keep out water.
- (7) **“Composite pile”** means a pile which consists of a concrete pile superimposed on a wood pile.
- (8) **“Jacob's ladder”** means a marine ladder of rope or chain with wooden or metal rungs.
- (9)
 - (a) A **“pedestal type”** concrete pile means a cast-in-place pile with an enlarged (mushroom) base or foot.
 - (b) A **“tapered type”** concrete pile means a cast-in-place pile cast in a tapered metal shell.
- (10) **“Precast concrete pile”** means a pile which is cast in a form above ground.
- (11) **“Driving cap”** means a device placed on the top of a pile to prevent its breakage or injury during the driving operation.
- (12) **“H-pile”** means a pile formed of a structural steel column of “H” section.
- (13) **“Pile driver”** means a device or piece of equipment used in driving piles.
- (14) **“Pretest or jack pile”** means a steel cylinder pile driven in section beneath an existing building and filled with concrete.
- (15) **“Rail,”** for the purpose of WAC 296-155-630, means a light structure serving as a guard at the outer edge of a ship's deck.
- (16) **“Sheet piling”** means a continuous vertical barricade consisting of squared timbers driven edge to edge, either square edged or tongued and grooved, or of a series of inter- locking steel shapes, to form a temporary wall about an excavation, and shored and braced as necessary.

WAC 296-155-600 (Cont.)

(17) **“Steel-tube”** means a concrete-filled steel cylinder, consisting of an open or closed-end steel tube or cylinder.

(18) **“Wood pile”** means a pile which is formed from the trunk of a tree or dimension timbers.
[Order 74-26, § 296-155-600, filed 5/7/74, effective 6/6/74.]

WAC 296-155-605 Equipment.

(1) General requirements.

- (a) All equipment left unattended at night, adjacent to a highway in normal use, or adjacent to construction areas where work is in progress, shall have appropriate lights or reflectors, or barricades equipped with appropriate lights or reflectors, to identify the location of the equipment.
- (b) All tire servicing of multi-piece and single-piece rim wheels are subject to the requirements of chapter 296-864 WAC.
- (c)
 - (i) Heavy machinery, equipment, or parts thereof, which are suspended or held aloft by use of slings, hoists, or jacks shall be substantially blocked or cribbed to prevent falling or shifting before employees are permitted to work under or between them. Bulldozer and scraper blades, end-loader buckets, dump bodies, and similar equipment, shall be either fully lowered or blocked when being repaired or when not in use. All controls shall be in a neutral position, with the motors stopped and brakes set, unless work being performed required otherwise.
 - (ii) Whenever the equipment is parked, the parking brake shall be set. Equipment parked on inclines shall have the wheels chocked and the parking brake set.
- (d) The use, care and charging of all batteries shall conform to the requirements of part I of this chapter.
- (e) All cab glass shall be safety glass, or equivalent, that introduces no visible distortion affecting the safe operation of any machine covered by this part.
- (f) All equipment covered by this part shall comply with the requirements of WAC 296-155-525 (3)(a) when working or being moved in the vicinity of power lines or energized transmitters.
- (g) Where traffic is diverted onto dusty surfaces, good visibility shall be maintained by the suppression of dust, through the periodic application of oil or water to the grade surface, as required.
- (h) No equipment, vehicle, tool, or individual shall operate within 10 feet of any power line or electrical distribution equipment except in conformity with the requirements of WAC 296-155-525 (3)(a).

(2) Specific requirements. (Reserved.)

[Statutory Authority: RCW 49.17.010, .020, .040, .050, and .060. 07-03-163 (Order 06-30), § 296-155-605, filed 01/24/07, effective 04/01/07. Statutory Authority: RCW 49.17.010, .040, .050, .060 RCW. 98-05-046 (Order 97-10), 296-155-605, filed 2/13/98, effective 4/15/98. RCW 49.17.040 and 49.17.050. 86-03-074 (Order 86-14), 296-155-605, filed 1/21/86; Order 74-26, 296-155-605, filed 5/7/74, effective 6/6/74.]

WAC 296-155-610 Motor vehicles on construction sites.

- (1) Scope. Motor vehicles covered by this section include any vehicles that operate on a construction site. The requirements of this section do not apply to the equipment regulated by WAC 296-155-615, Material handling equipment.
- (2) General requirements for motor vehicles.
 - (a) Braking systems.
 - All vehicles must have:
 - A service brake system;
 - An emergency brake system;
 - AND**
 - A parking brake system.
 - These systems must be maintained in operable condition.
 - These systems may use common components.
 - (b) Before leaving a motor vehicle unattended:
 - (i) The motor must be stopped.
 - (ii) The parking brake must be engaged and the wheels turned into curb or berm when parked on an incline.
 - (iii) If parking on an incline and there is no curb or berm, the wheels must be chocked or otherwise secured.
 - (c) Lighting systems. All vehicles, or combination of vehicles, must have brake lights in operable condition, regardless of light conditions.
 - Employers must meet the requirements in Table 1 below.

Table 1	
If:	Then:
Visibility conditions warrant additional light.	All vehicles, or combinations of vehicles, in use must be equipped with: At least two headlights in operable condition; AND At least two taillights in operable condition.

- (d) All vehicles must be equipped with an operable audible warning device (horn) at the operator's station.

WAC 296-155-610 (Cont.)

- (e) Operating vehicles, other than passenger cars and pickups, with an obstructed view to the rear. Employers must prohibit the use of any motor vehicle equipment that has an obstructed view to the rear unless the vehicle meets one of the following:
- Has an operable automatic reverse signal alarm audible above the surrounding noise level and audible no less than fifteen feet from the rear of the vehicle;
- OR**
- Is backed up when an observer signals that it is safe to do so.

Reference: For requirements on operating dump trucks in reverse, see (f) of this subsection , Operating dump trucks in reverse.

Note:

- If the surrounding noise level is so loud that reverse signal alarms are not effective, then an observer must be used.
 - An observer can be any individual at the construction site, except a person performing the duties of a flagger. The observer must:
 - Be in a direct line-of-sight or able to communicate with the driver.
 - Be able to see the entire backing zone.
 - Continue to provide direction to the driver until:
 - ◆ The driver reaches the destination and stops;
- OR**
- ◆ There are no longer employees in the backing zone and it is reasonable to expect that no employee(s) will enter the backing zone.

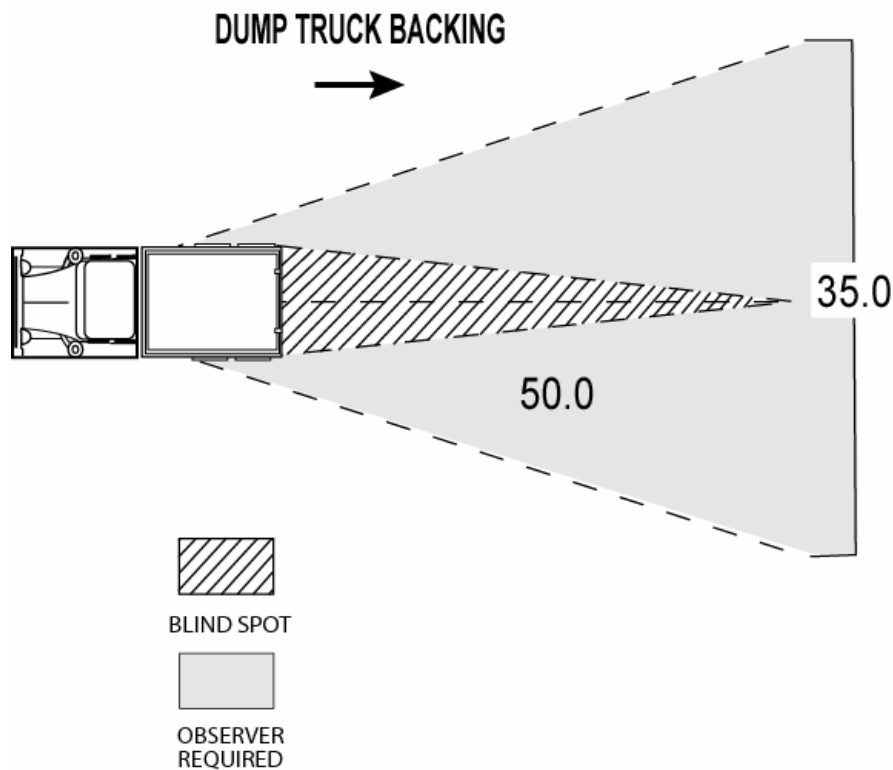
- (f) Operating dump trucks in reverse.
- (i) You must make sure the dump truck has an operable automatic reverse signal alarm:
- Audible above the surrounding noise level;
- AND**
- Audible no less that fifteen feet from the rear of the vehicle.
- (ii) Before backing a dump truck the driver must determine that no one is currently in the backing zone and it is reasonable to expect that no employee(s) will enter the backing zone while operating the dump truck in reverse.

If employee(s) are in the backing zone or it is reasonable to expect that an employee(s) will enter the backing zone, you must make sure the truck is backed up only when:

- An observer signals that it is safe to back;
- OR**
- An operable mechanical device that provides the driver a full view behind the dump truck is used, such as a video camera.

WAC 296-155-610 (Cont.)

Note: The following diagram defines the backing zone. Distances are reported in feet.



Exemption:

- Employees are considered protected when they are on the opposite side of a fixed barrier such as:
 - A jersey barrier;
 - Heavy equipment (such as a paving machine);

OR

 - A six-inch concrete curb.

Note: The term “**dump trucks**” includes both belly and rear dump trucks with a minimum payload of four yards.

(g) Windshields.

- All vehicles with cabs must be equipped with:
 - Windshields;
 - Powered wipers; and
 - Rear view mirrors.
- Cracked or broken glass must be replaced.
- Vehicles operating in areas or under conditions that cause fogging or frosting of the windshields must be equipped with operable defogging or defrosting devices.

(h) Haulage vehicles. Employers must meet the requirements in Table 2 below.

WAC 296-155-610 (Cont.)

Table 2	
If:	Then:
Any haulage vehicles payload is filled by: <ul style="list-style-type: none"> • Cranes • Power shovels; • Loaders; <li style="text-align: center;">OR • Similar equipment 	You must have a cab shield and/or canopy adequate to protect the operator from shifting or falling materials.

- (i) Securing material and employees.
 - Tools and materials must be secured to prevent movement when transported in the same compartment as employees.
 - Vehicles used to transport employees must have seats firmly secured and adequate for the number of employees to be carried.
 - Seat belts and anchorages meeting the requirements of 49 CFR Part 571 (Department of Transportation, Federal Motor Vehicle Safety Standards) must be installed in all motor vehicles and used by all occupants of the vehicle.

- (j) Trucks with dump bodies.
 - Trucks with dump bodies or raisable platforms, beds, or boxes must be equipped with positive means of support, permanently attached. This positive means of support must be capable of being locked in position to prevent accidental lowering of the body while maintenance or inspection work is being done.
 - Operating levers, controlling hoisting or dumping devices on haulage bodies, must be equipped with a latch or other device, such as a detent switch, which will prevent accidental starting or tripping of the mechanism.
 - Trip handles for tailgates of dump trucks must be so arranged that, in dumping, the operator will be in the clear.

- (k) Fenders on motor vehicle equipment.
 - All rubber-tired motor vehicle equipment must be equipped with fenders.
 - Mud flaps may be used in lieu of fenders whenever motor vehicle equipment is not designed for fenders.

- (l) Vehicle safety inspections.
 - All vehicles in use must be checked at the beginning of each shift to make sure that the following parts, equipment, and accessories are in safe operating condition and free of apparent damage that could cause failure while in use:
 - Service brakes (including trailer brake connections);
 - Parking system (hand brake);
 - Emergency stopping system (brakes);
 - Tires;
 - Horn;

WAC 296-155-610 (Cont.)

- Steering mechanism;
- Coupling devices;
- Seat belts;
- Operating controls;
- AND**
- Safety devices.

- These requirements also apply where such equipment is necessary.
 - Lights;
 - Reflectors;
 - Windshield wipers;
 - Defrosters;
 - Fire extinguishers;
 - Steps and handholds for vehicle access;
 - AND**
 - Any other necessary equipment.

- All defects must be corrected before the vehicle is placed in service.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 04-24-089 (Order 04-02), § 296-155-610, filed 12/01/04, effective 01/01/05.] Statutory Authority: RCW 49.17.010, .040, .050, and .060. 04-10-107 (Order 04-24), § 296-155-610, filed 05/05/04, effective 05/12/04. Statutory Authority: RCW 49.17.040 and 49.17.050. 86-03-074 (Order 86-14), § 296-155-610, filed 1/21/86; Order 74-26, § 296-155-610, filed 5/7/74, effective 6/6/74.]

WAC 296-155-615 Material handling equipment.

(1) General requirements for earthmoving equipment.

(a) Scope.

These rules apply to the earthmoving equipment. Some examples of earthmoving equipment are:

- Scrapers;
- Loaders;
- Crawler or wheel tractors;
- Bulldozers;
- Off-highway trucks;
- Graders;
- Agricultural and industrial tractors;
- AND**
- Similar equipment.

(b) Seat belts.

- Seat belts must be provided and used by all operators and passengers on all equipment covered by this section.
- Seat belts must meet the requirements of the Society of Automotive Engineers, J386-1969, Seat Belts for Construction Equipment.
- Seat belts for agricultural and light industrial tractors must meet the seat belt requirements of Society of Automotive Engineers J333a-1970, Operator Protection for Agricultural and Light Industrial Tractors.

WAC 296-155-615 (Cont.)

Exemption: Seat belts are not required for equipment designed only for standup operation.

- Seat belts must not be used on equipment that does not have rollover protective structure (ROPS) or adequate canopy protection in place.

Exemption: Mechanics and persons in training may ride on the equipment without a seatbelt if one is not provided.

(c) Access roadways and grades.

- Equipment must not be operated on access roadway or grades unless they are constructed and/or maintained to allow for the safe operation of the equipment.
- Every emergency access ramp and berm used by an employer must be constructed to restrain and control runaway vehicles.

(d) Brakes.

Earthmoving equipment must have brakes capable of stopping and holding the equipment fully loaded.

- Equipment mentioned in (a) of this subsection, General requirements for earthmoving equipment, must have brakes meeting the specifications in Society of Automotive Engineers SAE-J237, Loader Dozer-1971, J236, Graders-1971, and J319b, Scrapers-1971.
- Brake systems for self-propelled rubber-tired off-highway equipment manufactured after January 1, 1972, must meet the applicable minimum performance criteria set forth in the following Society of Automotive Engineers Recommended Practices:

Self-propelled scrapers	SAE J319b-1971
Self-propelled graders	SAE J236-1971
Truck and wagons	SAE J166-1971
Front-end loaders and dozers	SAE J237-1971

(e) Fenders.

- If pneumatic-tired earthmoving haulage equipment has a maximum speed that exceeds fifteen miles per hour, then the equipment must be equipped with fenders on all wheels to meet the requirements of Society of Automotive Engineers SAE J321a-1970, Fenders for Pneumatic-Tired Earthmoving Haulage Equipment.
- An employer may, at any time, seek to show under WAC 296-155-010, Variance and procedure, that the uncovered wheels present no hazard to personnel from flying materials.

Note: Examples of pneumatic-tired earthmoving haulage equipment may include:

- Trucks;
- Scrapers;
- Tractors;
- **AND**
- Trailing units.

(f) Rollover protective structures (ROPS).

WAC 296-155-615 (Cont.)

For requirements pertaining to rollover protective structures and overhead protection, see WAC 296-155-950 through 296-155-965.

- (g) Audible alarms.
- All bidirectional machines must be equipped with a horn, distinguishable from the surrounding noise level. This horn must be:
 - Operated as needed when the machine is moving in either direction;

AND

 - Maintained in an operative condition.

Note: Examples of bidirectional machines include:

- Rollers;
 - Compactors;
 - Front-end loaders;
 - Bulldozers;
- AND**
- Similar equipment.
- Employers must make sure that earthmoving or compacting equipment with an obstructed view to the rear in reverse is not operated unless:
 - A reverse signal alarm distinguishable from the surrounding noise level is used;

OR

 - An observer signals that it is safe to back up.
 - If the surrounding noise level is of such amplitude that reverse signal alarms are not effective, then amber strobe lights must be used.

- (h) Operators must look in the direction of travel.

The driver must look in the direction of, and keep a clear view of the path of travel, when operating equipment in reverse.

Exemption: See (g)(ii) of this subsection, Audible alarms, for requirements pertaining to equipment that has an obstructed view to the rear.

- (i) Scissor points.

Scissor points on all front-end loaders, which constitute a hazard to the operator during normal operation, must be guarded.

- (j) Tractors.

- Tractor motors must be cranked only by operators or other experienced persons.
- Waterproof and comfortable seat cushions must be provided on tractors at all times when working.
- Operator must not leave controls of tractor with master clutch engaged.

WAC 296-155-615 (Cont.)

- (k) Winch lines.

Winch lines must be maintained in good condition and provided with spliced eye, knob or hook in working end, except under conditions where unspliced end is required.

- (l) Bulldozers and carry-all gates.

- Repairs on blade or dozer equipment must not be initiated unless the motor has been stopped and dozer blade is resting on the ground or securely blocked. The same applies to carry-all gates.
- Bulldozer blades and carry-all gates must rest on the ground or on blocking when machines are not in operation.

- (m) Moving equipment.

Personnel must not get on or off machine while machine is in motion.

- (n) Hazardous conditions.

Where excessive dust conditions are created, such areas must be sprinkled with water or an environmentally safe solution to keep dust at a minimum.

Reference: When dust presents a hazard, see chapter 296-841 WAC, Respiratory hazards for additional requirements.

- (2) Excavating and other equipment.

- (a) Tractors covered in subsection (1) of this section must have seat belts as required for the operators when seated in the normal seating arrangement for tractor operation.
- (b) For the purposes of this part and of Part L of this chapter, the names and descriptions for measurement of dimensions of machinery and attachments must be as described in Society of Automotive Engineers 1970 Handbook, pages 1088 through 1103.
- (c) The safety requirements, ratios, or limitations applicable to machines or attachment usage covered in Power Crane and Shovel Association's Standards No. 1 and No. 2 of 1968, and No. 3 of 1969, must be complied with, and must apply to cranes, machines, and attachments under this part.

- (3) Lifting and hauling equipment (other than equipment covered under Part L of this chapter). Industrial trucks (including forklifts) shall meet the requirements of chapter 296-863 WAC, WAC 296-155-605 and the following:

- (a) Lift trucks, stackers, etc., shall have the rated capacity clearly posted on the vehicle so as to be clearly visible to the operator. When auxiliary removable counter-weights are provided by the manufacturer, corresponding alternate rated capacities also shall be clearly shown on the vehicle. These ratings shall not be exceeded.
- (b) No modifications or additions which affect the capacity or safe operation of the equipment shall be made without the manufacturer's or professional engineer's written approval. If such modifications or changes are made, the capacity, operation, and maintenance instruction plates, tags, or decals, shall be changed accordingly. In no case shall the original safety factor of the equipment be reduced.

WAC 296-155-615 Cont.)

- (c) If a load is lifted by two or more trucks working in unison, the proportion of the total load carried by any one truck shall not exceed its capacity.
- (d) Steering or spinner knobs shall not be attached to the steering wheel unless the steering mechanism is of a type that prevents road reactions from causing the steering handwheel to spin. The steering knob shall be mounted within the periphery of the wheel.
- (e) All high lift rider industrial trucks shall be equipped with overhead guards which meet the configuration and structural requirements as defined in paragraph 502 of American National Standards Institute B56.1-1975, Safety Standards for Powered Industrial Trucks.
- (f) All industrial trucks in use shall meet the applicable requirements of design, construction, stability, inspection, testing, maintenance, and operation, as defined in American National Standards Institute B56.1-1975, Safety Standards for Powered Industrial Trucks.
- (g) Unauthorized personnel shall not be permitted to ride on powered industrial trucks. A safe place to ride shall be provided where riding of trucks is authorized.
- (h) When a forklift truck is used for elevating workers a platform shall be specifically built for that purpose and shall comply with the following requirements:
 - (i) The platform shall be securely attached to the forks and shall have standard guardrails and toeboards on all open sides.
 - (ii) The hydraulic system of the forklift shall be so designed that the lift mechanism will not drop faster than one hundred thirty-five feet per minute in the event of a failure in any part of the system. Forklifts used for elevating platforms shall be identified that they are so designed.
 - (iii) A safety strap shall be installed or the control lever shall be locked to prevent the boom from tilting.
 - (iv) An operator shall be at the controls of the forklift equipment while persons are on the platform.
 - (v) The operator shall be in the normal operating position while raising or lowering the platform.
 - (vi) The vehicle shall not travel from point to point while workers are on the platform except that inching or maneuvering at very slow speed is permissible.
 - (vii) The area between workers on the platform and the mast shall be adequately guarded to prevent contact with chains or other shear points.
 - (viii) All platforms shall be visually inspected daily or before each use by the person in charge of the work being performed, and shall be tested as frequently as is necessary to maintain minimum safety factors.
 - (ix) Whenever a truck, except for high lift order picker trucks, is equipped with vertical hoisting controls elevatable with the lifting carriage or forks, the following precautions shall be taken for the protection of personnel being elevated.
 - (A) Provide a platform secured to the lifting carriage and/or forks.

WAC 296-155-615 (Cont.)

- (B) Provide means whereby personnel on the platform can shut off power to the truck.
- (C) Provide such protection from falling objects as indicated necessary by the operating conditions.

[Statutory Authority: RCW 49.17.010, .020, .040, .050, and .060. 07-03-163 (Order 06-30), § 296-155-615, filed 01/24/07, effective 04/01/07. Statutory Authority: RCW 49.17.010, .040, .050, and .060. 04-24-089 (Order 04-02), § 296-155-615, filed 12/01/04, effective 01/01/05. Statutory Authority: RCW 49.17.010, .040, .050. 00-01-176 (Order 99-18), § 296-155-615, filed 12/21/99, effective 03/01/2000. Statutory Authority: Chapter 49.17.010, .040, .050, .060 RCW. 98-05-046 (Order 97-10), 296-155-615, filed 2/13/98, effective 4/15/98. Chapter 49.17 RCW. 94-15-096 (Order 94-07), 296-155-615, filed 7/20/94, effective 9/20/94. Statutory Authority: RCW 49.17.040 and 49.17.050. 86-03-074 (Order 86-14), 296-155-615, filed 1/21/86; Order 74-26, 296-155-615, filed 5/7/74, effective 6/6/74.]

WAC 296-155-620 Pile driving equipment.

- (1) General requirements.
 - (a) Boilers and piping systems which are a part of, or used with, pile driving equipment shall meet the applicable requirements of the American Society of Mechanical Engineers, Powers Boilers (section I).
 - (b) All pressure vessels which are a part of or used with, pile driving equipment shall meet the applicable requirements of the American Society of Mechanical Engineers, Pressure Vessels (section VIII).
 - (c) Overhead protection, which will not obscure the vision of the operator, and which meets the requirements of Part L of this chapter, shall be provided. Protection shall be of 2-inch planking or other solid material of equivalent strength.
 - (d) Stop blocks shall be provided for the leads to prevent the hammer from being raised against the head block.
 - (e) A blocking device, capable of safely supporting the weight of the hammer shall be provided for placement in the leads under the hammer at all times while employees are working under the hammer.
 - (f) Guards shall be provided across the top of the head block to prevent the cable from jumping out of the sheaves.
 - (g) When the leads must be inclined in the driving of batter piles, provisions shall be made to stabilize the leads.
 - (h) All working equipment shall be visually inspected at the beginning of each shift.
 - (i) Fixed leads shall be provided with ladder, and adequate rings, or similar attachment points, so that the loft workers may engage their full body harness lanyard to the leads. If the leads are provided with loft platform(s) such platform(s) shall be protected by standard guardrails.
 - (j) Pile drivers with swinging leads shall have a wire rope safety strap on top end.
 - (k) Spud bars shall be of hard wood with smooth round handle end for safe handling. Iron shod spud bars are prohibited.

-
- (l) A follower block or driving cap shall be used with a drop hammer on all piling except sheet piling.

WAC 296-155-620 (Cont.)

- (m) Steam hose leading to a steam hammer or jet pipe shall be securely attached to the hammer with an adequate length of at least 1/4-inch diameter chain or cable to prevent whipping in the event the joint at the hammer is broken. Air hammer hoses shall be provided with the same protection as required for steam lines.
- (n) Safety chains, or equivalent means, shall be provided for each hose connection to prevent the line from thrashing around in case the coupling becomes disconnected.
- (o) Steam line controls shall consist of two shutoff valves, one of which shall be a quick-acting lever type within easy reach of the hammer operator.
- (p) Guys, outriggers, thrustouts, or counterbalances shall be provided as necessary to maintain stability of pile driver rigs.
- (q) Ladders constructed in compliance with this chapter shall be installed on all pile drivers from the hoist platform to the head block, and in such position that workers using ladders will not come in contact with lines, sheaves, etc.
- (r) Drop hammers which have been chipped on the face shall not be used for pile driving.
- (s) Groove worn drums or spools shall be replaced or properly repaired to present a smooth working surface.
- (t) At least two full wraps of cable shall be maintained on hoisting drums.
- (u) Proper racks shall be provided for storage of cross-cut saws.
- (v) Every hoisting drum used as a pile driver shall be equipped with manually operated dogs or pawls to hold suspended loads. Foot brakes shall only be used to hold suspended loads until drum dogs are engaged. The dogs shall be visible from the operator's station or be equipped with a positive direct connected telltale which shall be visible to the operator.
- (w) No counterweight or spring arrangement on dogs shall be permitted which would allow dog to be automatically disengaged either by relieving the load or rolling the drum.
- (x) In every crew there shall be designated signalperson. The driver operator or drum person shall receive signals from no others, except when loftworker is above. The hammer shall not be lowered except on the loftworker's signal.
- (y) Spliced hammer lines shall not be used.
- (2) Pile driving from barges and floats. Barges or floats supporting pile driving operations shall meet the applicable requirements of WAC 296-155-630.
- (3) Pile driving equipment.
- (a) Engineers and winchperson shall accept signals only from the designated signalperson.
- (b) All employees shall be kept clear when piling is being hoisted into the leads.

-
- (c) When piles are being driven in an excavated pit, the walls of the pit shall be sloped to the angle of repose or sheet-piled and braced.

WAC 296-155-620 (Cont.)

- (d) When steel tube piles are being "blown out," employees shall be kept well beyond the range of falling materials.
- (e) When it is necessary to cut off the tops of driven piles, pile driving operations shall be suspended except where the cutting operations are located at least twice the length of the longest pile from the driver.
- (f) When driving jacked piles, all access pits shall be provided with ladders and bulkheaded curbs to prevent material from falling into the pit.
- (g) Floating equipment such as dredges and pile drivers shall maintain a signal system to shore in the event of an emergency.
- (h) The distribution of machinery on floating equipment shall be such that the completed unit floats on an even keel.
- (i) Fuel tanks below decks shall be vented to outside of hull and vents shall be equipped with flame arrestors.
- (j) All hull compartments shall be ventilated. No person shall work in hull compartments until it is shown the compartments contain no flammable or toxic concentrations.
- (k) Light fixtures installed or used within the hull shall be explosion proof.
- (l) All floating rigs shall be equipped with ladderways extending from the deck to the waterline where the deck is more than 36 inches above the water. A wire rope shall be hung along both sides of the hull or float and so hung that it shall be at all times near or at the waterline.
- (m) Doors of deck houses where deck house sets within 36" of edge of deck and doorways in hull shall be equipped with guard rails or cross chains.
- (n) Deck houses shall have a substantial grab rail installed on all sides where such installation will not interfere with operations.
- (o) Pile driver and dredge fairlead sheaves, and spudline sheaves shall be guarded to prevent workers or tools being drawn into them.
- (p) All work deck shall be kept clear of debris, unnecessary tools and equipment in order to minimize the stumbling hazard. Lines shall be coiled, tools stored and material stacked clear of working spaces.
- (q) Night operations shall be adequately lighted for all activity while work is in progress and shall be maintained until workers leave the work area.
- (r) Electrical installation and equipment shall be installed and maintained in compliance with the National Electric Code.
- (s) All walkways over water and on dredge pontoon discharge pipe lines shall be a minimum of 20" in width with standard handrail along one side on structures and gang planks. Walkways on pontoon lines may be equipped with hand lines in lieu of standard handrail.

-
- (t) Adequate fire extinguishing equipment shall be provided and maintained in a serviceable condition.

WAC 296-155-620 (Cont.)

- (u) Protective equipment shall be used when working with creosote timbers. Protective creams shall be used on exposed skin surfaces and gloves and eye protection worn especially when driving piles.
- (v) Pulling piles with hammer or pile line rigged through the head block is prohibited unless driver and rigging are designed to safely withstand the imposed strain.
- (w) Truck runways and platforms shall be equipped with a wheel guard on all outside edges. Top of wheel guards shall be a minimum of 10 inches above deck.
- (x) Use of foot blocks at base of leads for hammer line or pile line is prohibited.

[Statutory Authority: Chapter 49.17 RCW. 94-15-096 (Order 94-07), § 296-155-620, filed 7/20/94, effective 9/20/94; 91-03-044 (Order 90-18), § 296-155-620, filed 1/10/91, effective 2/12/91; Order 76-29, § 296-155-620, filed 9/30/76; Order 74-26, § 296-155-620, filed 5/7/74, effective 6/6/74.]

WAC 296-155-625 Site clearing.

(1) General.

- (a) The word “*clearing*” means the removal of trees, stumps, logs, brush, debris and rubbish from the surface of the ground in preparation of a site for construction work of any kind. The removal of trees and logs shall be in accordance with the requirements of chapter 296-54 WAC.
- (b) All equipment and tools such as axes, sledges, wedges, saws, springboards, etc., shall be maintained in a safe condition and guarded with standard safeguards.
- (c) Fallers shall give warning to brushing crews, buckers and other persons in the vicinity where a tree is being felled; taking notice that such persons are not only out of the reach of tree, but also out of danger of possible sidewinders, snags or other trees which may be knocked over by the tree being felled.
- (d) Trees must not be felled toward and within range of a traveled road or operational railroad unless a flagger is used to stop all approaching persons, vehicles, or railroad equipment. Flaggers and flagging activities at the site must comply with the requirements of WAC 296-155-305.
- (e) Clearing crews shall not be placed immediately below other crews working on hillsides where there is a possible danger of skidding or rolling trees, moving earth or rock.
- (f) Pioneer roads on clearing operations shall be constructed to safely accommodate all equipment moved over road.
- (g) Hazardous standing and down timber, rocks, etc., shall be moved from upper sides of cuts on side hill operations.
- (h) Care shall be exercised in the use of oil for burning brush or timber.
- (i) Employees engaged in site clearing shall be protected from hazards of irritant and toxic plants and suitably instructed in the first-aid treatment available.
- (j) All equipment used in site clearing operations shall be equipped with rollover guards meeting the requirements of this chapter. In addition, rider-operated equipment shall be equipped with an overhead and rear canopy guard meeting the following requirements:

WAC 296-155-625 (Cont.)

- (i) The overhead covering on this canopy structure shall be of not less than 1/8-inch steel plate or 1/4-inch woven wire mesh with openings no greater than 1 inch, or equivalent.
- (ii) The opening in the rear of the canopy structure shall be covered with not less than 1/4-inch woven wire mesh with openings no greater than 1 inch.
- (iii) Use of 1/2 inch thick plastic sheets or other thicknesses of plastic panels derived from polycarbonate, acrylic, cellulose acetate butyrate which provides equivalent or better protection against particular hazards involved is acceptable in lieu of 1 or 1 3/4 inch open mesh material.
 - (A) All panels shall be installed in a manner which can withstand the initial impact, and maintain the protective barrier integrity; and
 - (B) All panels must be labeled or marked to distinguish between acceptable and inferior materials.
- (k) In addition to observance of the general safety and health standards;
 - (i) The employer shall assume the responsibility of work assignment so that no worker shall be required to work in a position or location so isolated as to not be within ordinary calling distance of another person who can render assistance in case of emergency. In any operation where cutting, felling trees, loading, or a combination of these duties is carried on, there shall be a minimum crew of two persons who shall work as a team and shall be in visual or voice contact with one another. If one worker at these operations is required to be left alone for a period of time, the worker shall be contacted by another person at reasonable intervals not to exceed fifteen minutes unless such practice can be established to be impractical.
 - (ii) This does not apply to operators of motor vehicles, watchpersons or certain other jobs which, by their nature, are singular worker assignments. However, a definite procedure for checking the welfare of all workers during working hours shall be instituted and all workers so advised.

[Statutory Authority: RCW 49.17.010, .040, .050; Chapter 239, Laws of 2000 (ESHB 2647); and Chapter 34.05 RCW. 01-04-015 (Order 00-03), § 296-155-625, filed 01/26/01, effective 02/28/01. Statutory Authority: Chapter 49.17 RCW. 94-15-096 (Order 94-07), § 296-155-625, filed 7/20/94, effective 9/20/94; 91-03-044 (Order 90-18), § 296-155-625, filed 1/10/91, effective 2/12/91. Statutory Authority: RCW 49.17.040 and 49.17.050. 86-03-074 (Order 86-14), § 296-155-625, filed 1/21/86; Order 74-26, § 296-155-625, filed 5/7/74, effective 6/6/74.]

WAC 296-155-630 Marine operations and equipment.

- (1) Material handling operations.

Operations fitting the definition of “*material handling*” shall be performed in conformance with applicable requirements of “Safety and health regulations for longshoring.” The term “*longshoring operations*” means the loading, unloading, moving, or handling of construction materials, equipment and supplies, etc. into, in, on, or out of any vessel, from a fixed structure or shore-to-vessel, vessel-to-shore or fixed structure or vessel-to-vessel.

- (2) Access to barges.

-
- (a) Ramps for access of vehicles to or between barges shall be of adequate strength, provided with side boards, well maintained, and properly secured.

WAC 296-155-630 (Cont.)

- (b) Unless employees can step safely to or from the wharf, float, barge, or river towboat, either a ramp, meeting the requirements of (a) of this subsection, or a safe walkway, shall be provided.
 - (c) Jacob's ladders shall be of the double rung or flat tread type. They shall be well maintained and properly secured.
 - (d) A Jacob's ladder shall either hang without slack from its lashings or be pulled up entirely.
 - (e) When the upper end of the means of access rests on or is flush with the top of the bulwark, substantial steps, properly secured and equipped with at least one substantial hand rail approximately 33 inches in height, shall be provided between the top of the bulwark and the deck.
 - (f) Obstructions shall not be laid on or across the gangway.
 - (g) The means of access shall be adequately illuminated for its full length.
 - (h) Unless the structure makes it impossible, the means of access shall be so located that the load will not pass over employees.
- (3) Working surfaces of barges.
- (a) Employees shall not be permitted to walk along the sides of covered lighters or barges with coamings more than 5 feet high, unless there is a 3-foot clear walkway, or a grab rail, or a taut handline is provided.
 - (b) Decks and other working surfaces shall be maintained in a safe condition.
 - (c) Employees shall not be permitted to pass fore and aft, over, or around deckloads, unless there is a safe passage.
 - (d) Employees shall not be permitted to walk over deckloads from rail to coaming unless there is a safe passage. If it is necessary to stand at the outboard or inboard edge of the deckload where less than 24 inches of bulwark, rail, coaming, or other protection exists, all employees shall be provided with a suitable means of protection against falling from the deckload.
- (4) First-aid and lifesaving equipment.
- (a) Provisions for rendering first aid and medical assistance shall be in accordance with Part B of this Chapter.
 - (b) The employer shall ensure that there is in the vicinity of each barge in use at least one U.S. Coast Guard-approved 30-inch life ring with not less than 90 feet of line attached, and at least one portable or permanent ladder which will reach the top of the apron to the surface of the water. If the above equipment is not available at the pier, the employer shall furnish it during the time that the employer is working the barge.
 - (c) Employees walking or working on the unguarded decks of barges shall be protected with U.S. Coast Guard-approved personal flotation devices such as Type I PFD, Type II PFD, Type III PFD, or Type V PFD, or their equivalent, pursuant to 46 CFR 160 (Coast Guard Lifesaving

Equipment Specifications) and 33 CFR 175.23 (Coast Guard table of devices equivalent to personal flotation devices). Ski belt or inflatable type personal flotation devices are specifically prohibited.

WAC 296-155-630 (Cont.)

(5) Diving operations. (Reserved.)

[Statutory Authority: Chapter 49.17 RCW. 94-15-096 (Order 94-07), § 296-155-630, filed 7/20/94, effective 9/20/94; Order 76-29, § 296-155-630, filed 9/30/76; Order 74-26, § 296-155-630, filed 5/7/74, effective 6/6/74.]