
	SOP-304 (Ver. 3) <b>Mobile Equipment</b>
Standard Operating Procedure (SOP)	Effective: 1/25/2022 Supersedes: 11/02/2020
Approved By: James D. Herberg General Manager 	

## I. Purpose

The safe operation of material handling, personnel lifting, and other mobile equipment on and around the workplace is essential. To help prevent injuries and reduce the risk of losses associated with operating and maintaining mobile equipment, Orange County Sanitation District (OC San) has developed the Mobile Equipment Program to establish safety rules, procedures, and training requirements for use of such equipment.

Mobile equipment includes powered industrial trucks (forklifts), utility carts, aerial work platforms (AWP), scissor lifts, front end loaders, industrial tow tractors, and bicycles.

Contractors who require mobile equipment shall adopt a plan that matches this policy. All Contractors and their Subcontractors must enforce this program while at any OC San property.

The intent is to ensure that any person who operates or maintains mobile equipment is trained, certified, and/or authorized.

## II. Background

The Mobile Equipment Program must be supplemented by good job management, safety control, and the application of sound principles of safety, training, inspection, maintenance, application, and operation consistent with all data available regarding the parameters of intended use and expected environment.

Since the equipment operator has direct control over the application and operation of the equipment they are operating, conformance with good safety practices in this area is the responsibility of the equipment operator.

## III. Definitions

**Aerial Lift Platform (AWP):** a vehicle-mounted device with telescoping or articulated arms used to position a platform to access work area at heights. Other types of elevating and rotating lifts: Extensible Boom Platforms, Aerial Ladders, Articulating Boom Platforms, Platform Lift, Vertical Towers and Ladder Trucks. Also known as a Man Lift.

**Authorization:** Authorized about an employee's assignment. Selected by the employer for that purpose.

**Bicycle:** A device upon which any person may ride, propelled exclusively by human power through a belt, chain, or gears and having one or more wheels.

Subject: **Mobile Equipment**

**Certification:** Documentary proof of the successful completion of a course of training.

**Forklift:** A mobile, power-driven vehicle used for lifting, moving, and stacking/tiering materials. Also referred as a Powered Industrial Truck or PIT.

**Industrial Tow Tractor:** A high power low speed industrial vehicle designed primarily to tow non-powered trucks, trailers, or other mobile loads. The “mule” used at the rag and grit bins.

**Loader:** a self-propelled machine with a shovel or bucket at the end of articulated arms, used to raise earth or other material and load it into a dump truck. Also, called a front loader, front-end loader, track loader, bucket loader, or skip loader.

**Scissor Lift:** A self-propelled machine with an elevating platform which can be moved into place, then raised and lowered to various heights to access work; and be powered by electricity, gasoline, and diesel.

#### **IV. Responsibilities**

##### **A. Risk Management**

1. Shall establish, implement, and maintain the Mobile Equipment Program which is designed to eliminate or minimize employees from the hazards of mobile equipment.
2. Provide training to employees required to operate mobile equipment on the various equipment used in their tasks, as well as the precautions, and safe work practices to complete each task.
3. Maintain all records relating to operators and the equipment they are authorized to use. Operators will have access to all license of equipment they are authorized to use.
4. Investigate mobile equipment accidents.

##### **B. Supervision**

1. Support and implement rules and regulations outlined in per this program.
2. Ensure only qualified and authorized employees operate mobile equipment.
3. Investigate causes of incidents related to mobile equipment and assign appropriate corrective actions.
4. Ensure each employee has completed training and received qualification to operate each specific piece of equipment. Verify the employees are completing the pre-use inspection checklists.

##### **C. Employee**

1. Successfully complete classroom and hands-on training to be authorized for use of mobile equipment, where applicable.
2. Shall qualify on each specific model of equipment they will operate, regardless of class similarities.

Subject: **Mobile Equipment**

3. Checkout forklifts, aerial work platforms, scissor lifts, and other mobile equipment as required by Warehouse and Fleet Services.
4. Shall complete a pre-use inspection prior to each use. Immediately remove equipment from service that is not in proper operating condition.
5. Read the equipment's Operation and Maintenance manual and become familiar with the safe operation of the equipment.
6. Follow safe operating practices.

**D. Fleet Services (Service and Maintenance)**

1. Prior to being placed into service, the equipment must be inspected to ensure equipment is in accordance with manufacturer specifications.
2. Collect and supply pre-use checklist on for required mobile equipment. Provide to Risk Management for retention.
3. Only authorized employees can perform service or make repairs on mobile equipment.
4. Maintain service records per OC San retention policy.

**V. Pre-Use Inspections**

- A. Pre-use inspections must be completed prior to each use of the equipment. This consists of a visual inspection and operational check consistent with manufacturer's instructions. If the equipment will be used by one person periodically throughout their shift, then only one inspection is required prior to the first use of the day it is used. If the equipment is shared, each person using the equipment shall complete their own inspection.
  1. Documented inspections required prior to each use for aerial work platforms, scissor lifts, front end loader, and forklifts. Inspection booklets provided on each equipment.
  2. Utility carts and industrial tow tractors shall be visually inspected prior to use.
- B. If the inspection identifies deficiencies that render the equipment unsafe to operate, then the equipment must be tagged out of service and reports made to Fleet Services. The equipment shall not be used until repairs are made.
- C. Equipment that requires a documented inspection is provided with an inspection checklist book. The checklist must be left with the equipment. If the inspection book is full, notify Fleet Services for a new inspection book. Fleet Services will deliver the completed inspection book to Risk Management for retention.

**VI. Maintenance**

- A. Mobile equipment shall be designed, constructed, and maintained in accordance with the manufacturer's requirements and applicable standards.
- B. Equipment maintenance shall only be performed by Fleet Services or an authorized representative of OC San, as determined by Fleet Services.

Subject: **Mobile Equipment**

- C. Mobile equipment shall be kept in a clean condition free of debris, oil, and grease.
- D. Equipment identified as not being in proper operating condition shall be tagged out of service and reported to Fleet Services.

**VII. Rules for Safe Operation**

A. General

1. Never operate a piece of equipment unless trained and authorized to do so. Only trained and authorized personnel may operate and access mobile equipment. At no time is an OC San employee to operate any mobile equipment without the proper training.
2. All mobile equipment must be pre-inspected daily and recorded on the applicable pre-use inspection checklist. Always report any problems or malfunctions to your supervisor immediately.
3. Appropriate personal protective equipment shall be worn when operating mobile equipment (hard hat, safety glasses, gloves, appropriate footwear and fall protection gear).
  - a. If the equipment is equipped with rollover protective structure (ROPS), then hard hats can be taken off while in the equipment cab.
  - b. If the equipment has an enclosed cab, then safety glasses can be omitted while in the cab of the equipment.
4. Equipment controls shall be plainly marked as to their function.
5. Be aware of your surroundings and changes on the jobsite.
6. Do not exceed the load limitations and rated capacity of each piece of equipment you are operating.
7. Operate at a safe speed (at posted speed limits when applicable). Mobile equipment must obey all posted traffic signs and stop at all stop signs.
8. Maintain a safe distance from energized power lines and overhead gas and piping systems.
9. Start/stop slowly to prevent load from shifting or spilling.
10. Seat belts shall be worn during equipment operation, if equipped.
11. Turn at a safe speed, smoothly and gradually. Be cautious on wet or slippery pavement.
12. Maintain a safe distance behind other vehicles.
13. Sound the horn when approaching intersections, blind spots, or other dangerous locations.

**Subject: Mobile Equipment**

14. Use mirrors (if equipped) mounted at corners and in blind spots to see pedestrians and oncoming vehicles.
15. Never allow any person to ride in or on material handling equipment.
16. Equipment (excluding carts and tow tractors) shall have a working signal alarm while backing up.
17. Never raise or lower the load while traveling.
18. Passengers shall not ride on equipment unless equipped to accommodate passengers.
19. Always keep arms and legs inside the cab of the equipment.
20. Equipment operator will only use the equipment in the way it was designed and intended for.
21. No part of the employees' body shall be used to locate or attempt to stop a hydraulic leak.
22. Never leave a piece of equipment running while unattended.
23. Block/chock the wheels whenever a piece of equipment is left on an incline.
24. Always drive a loaded piece of equipment with the load on the uphill side.
25. Equipment shall not be loaded beyond its established load limit and the load shall be secured for safe transport.
26. Never let a gasoline/propane/diesel engine idle in an enclosed area.
27. Drive with the load tilted back and the forks raised only enough to clear the road.
28. Block and tie round objects so that they will not roll. Tie down all loads when possible.
29. Use approved cylinder racks when transporting compressed gas cylinders.
30. Never allow any person to stand or pass under the elevated portion of any truck, whether loaded or unloaded.
31. Park the piece of equipment carefully. Make sure the forks or bucket is on the ground, the brakes are set, the engine is off, and the keys removed.
32. Never use a forklift as an elevator for personnel.
33. Equipment shall only be lifted using approved equipment. Refer to equipment manual to determine if equipment can be used for lifting.
34. Do not drive on surfaces, decks, hatch, or manhole covers that are marked no traffic or foot traffic.
35. Smoking and vaping are prohibited in OC San owned equipment.

Subject: **Mobile Equipment**

36. Do not operate equipment under the influence of alcohol or illegal drugs. If you are under the influence of a prescribed medication, please consult your physician before operating the cart or other machinery.

B. Utility/Golf Carts

1. Read the Owner's Manual before operating vehicle for first time.
2. Wear safety belts if cart is equipped with them.
3. Passengers are only allowed to ride on seats designed for passengers.
4. Keep all body parts inside the cart when the cart is in motion.
5. Drive with headlights on during low light time of days.
6. Do not drive on public highways or streets.
7. Drive slowly when making a turn.
8. Do not drive over loose objects, holes, or bumps.
9. Keep to the right under normal conditions.
10. Maintain a safe distance from all objects.
11. Always keep the vehicle under control.
12. Sound the horn when backing if cart is not equipped with a backup alarm.
13. Always keep a clear view ahead.
14. Do not loan carts to other organizations or companies.
15. Drivers and passengers must remain seated while the vehicle is moving.
16. Towing is allowed on those carts originally designed for towing.
17. When the cart is not in use, the operator will place the cart control in the neutral position turn off the cart. If the cart is equipped with a hand brake, the brake shall be applied.
18. Carts must never be parked where they will block emergency equipment, pedestrian aisles, doorways, intersections, or the normal traffic flow.

C. Aerial Work Platform / Scissor Lifts

1. Operate equipment in accordance with the manufacturer's operating instructions and safety guidelines.
2. Users to be trained in fall protection, utilizing a full body harness, and approved self-retracting lanyard or fixed length lanyard. Users must tie off to manufacturer approved anchorage points.

Subject: **Mobile Equipment**

3. Guardrails shall be in place around the perimeter of the working platform, and access gates or openings shall be properly closed per manufacturer's instructions.
4. Occupants shall maintain a firm footing on the platform floor. Climbing on mid-rail or top rail is prohibited. The use of planks, ladders, or any other device is prohibited.
5. Do not operate equipment in storms (high wind, thunderstorms) that compromise the safety of personnel. Refer to the operation and safety manual for each equipment to determine maximum wind speed.
6. Only properly secured tools and materials, which are evenly distributed and safely handled by persons working on the platform, shall be on the platform while it is being moved. Tools and equipment can be tied off or tethered.
7. Except in the case of emergency, the lower-level controls of the lift shall not be operated unless permission has been given by the person in the lift.
8. Maintain clearance when working with an overhead hazard or near electrical lines.
9. When working in elevated positions, assure all platform gates are in the closed position.
10. All features that were received on the equipment from the dealer or manufacturer must be in the intended working condition, and not disabled, tampered, or removed from the equipment.
11. Use a spotter when working near building, equipment, or powerlines.
12. Shall have in place a means of rescue should a person fall out of the basket, or the equipment become stuck in an elevated position.

D. Powered Industrial Trucks (Forklifts)

1. No riders shall be permitted on the forklift unless provided with adequate riding facilities.
2. Employees shall not ride on the forks of lift trucks.
3. Employees shall not place any part of their bodies outside the running lines of an industrial truck or between mast uprights or other parts of the truck where shear or crushing hazards exist.
4. Employees shall not be allowed to stand, pass, or work under the elevated portion of any industrial truck, loaded or empty, unless it is effectively blocked to prevent it from falling.
5. The driver shall slow down and sound the horn at cross aisles and other locations where vision is obstructed. If the load being carried obstructs forward view, the driver shall be required to travel with the load trailing.
6. The driver shall look in the direction of travel and shall not move a vehicle until certain that all persons are in the clear.

**Subject: Mobile Equipment**

7. Trucks shall not be driven up to anyone standing in front of a bench or other fixed object of such size that the person could be caught between the truck and object.
8. Grades shall be ascended or descended slowly.
9. When ascending or descending grades more than 10 percent, loaded trucks shall be driven with the load upgrade.
10. On all grades the load and load engaging means shall be tilted back if applicable and raised only as far as necessary to clear the road surface.
11. The forks shall always be carried as low as possible, consistent with safe operations.
12. When leaving a vehicle unattended, the brakes must be set, the mast is brought to the lowered vertical position, and controls placed in neutral.
13. Forklifts shall not be run onto any elevator unless the driver is specifically authorized to do so. Before entering an elevator, the driver shall determine that the capacity of the elevator will not be exceeded. Once on an elevator, the industrial truck's power shall be shut off and the brakes set.
14. Motorized hand trucks shall enter elevators or other confined areas with the load end forward.
15. Vehicles shall not be operated on floors, sidewalk doors, or platforms that will not safely support the loaded vehicle.
16. Prior to driving onto trucks, trailers and railroad cars, their flooring shall be checked for breaks and other structural weaknesses.

**VIII. Fueling and Recharging**

**A. Gasoline or Diesel Fuels**

1. No equipment shall be refilled while the engine is running.
2. Fueling shall be done in such a manner that likelihood of spillage is minimal. If a spill occurs it shall be completely evaporated, or equivalent action taken to control vapors before restarting the engine.
3. A UL listed pump shall be provided to service the fuel tanks of all gasoline or diesel engine driven equipment, unless done in a safe manner by a gravity flow system with a metal-to-metal contact between the containers and the fuel tank.
4. Refueling with portable containers shall be done using Class 1 or Class 2 safety containers equipped with an automatic closing cap and flame arrester.
5. Fueling shall not take place near open flames, sparking or arc producing equipment.
6. Fuel tank caps shall be secured before starting the engine.
7. The storage and handling of liquid fuels such as gasoline and diesel shall be in accordance with NFPA Flammable and Combustible Liquids (NFPA No. 30).



Subject: **Mobile Equipment**

B. Liquid Propane

1. Follow manufacturer's recommendations.
2. Make sure the equipment has stopped moving and forks or boom and platform are lowered to the ground or floor.
3. If forks are loaded, lower the load to the ground or floor.
4. Turn off engine and set emergency brake.
5. If, the equipment is on an incline, set wheel chocks under tires.
6. Wear gloves that resist cold temperatures, close tank supply valve, disconnect the flex hose connection, open holding straps, and remove the propane tank.
7. Propane tanks can be heavy and difficult to access, ask for assistance to avoid injury.
8. Place a verified full tank back into place, secure holding straps and connect the flex hose connection.
9. Open the propane tank supply valve and restart the mobile equipment.
10. The storage and handling of liquefied petroleum gas fuel shall be in accordance with NFPA Storage and Handling of Liquefied Petroleum Gases (NFPA No. 58).

C. Electric Equipment

1. Equipment shall only be charged in approved locations.
2. Turn off the engine and set parking brake and lower any attachments.
3. Prevent open flames, sparks or arc producing equipment in charging areas.
4. Ensure that vehicles are plugged into approved charging receptacles. Use only electrical cords that have been approved by Fleet Services and Risk Management.

**IX. Bicycles**

- A. Every person and employee riding bicycles on OC San property shall abide by the same rules and are subject to duties applicable to the driver of a vehicle.
- B. Every employee who operates a bicycle shall conduct a pre-use inspection before using the bicycle. The inspection will involve checking the tires for proper inflation, handlebar grips, drive chain slack, loose fenders, bent tire rims and steering forks, and damage to the seat.
- C. No employee shall operate a bicycle unless it is equipped with a brake.
- D. No employee shall operate a bicycle that is configure and sized to prevent the operator from safely stopping, supporting it in the upright position with at least one foot on the ground for stopping and starting.

Subject: **Mobile Equipment**

- E. Bicycles shall not be modified in any way.
- F. Every OC San bicycle that is operated during darkness shall be equipped with a lamp emitting a white light which illuminates the roadway and is visible from 300 feet and a red reflector mounted on the rear of the bicycle visible from 500 feet. Bicycle pedals shall be equipped with white or yellow reflectors visible from 200 feet. A lamp emitting a white light attached to the bicycle operator that is visible from 300 feet, can be used in place of a lamp attached to the bicycle.
- G. Any employee operating a bicycle on OC San property shall abide by all motor vehicle operating rules including posted traffic and speed limit signs.
- H. Any employee operating a bicycle on OC San property shall ride as close as practicable to the right-hand curb or edge of the roadway.
- I. When overtaking and passing another bicycle or electric cart, proceed in the same direction.
- J. Avoid conditions including, but not limited to, fixed, or moving objects, poor road conditions, uneven road surfaces, substandard lane width that make it unsafe to continue along the right-hand curb or edge of the road.
- K. Do not ride a bicycle on sidewalks but walk the bike while on sidewalks.
- L. No employee operating a bicycle shall attach themselves to or hold on to any vehicle, electric cart or bicycle operated by another individual.
- M. No person or employee operating a bicycle shall ride on any other part of the bicycle other than the regular attached seat.
- N. No person or employee operating a bicycle shall allow anyone to ride as a passenger other than on a separate attached seat.
- O. No persons or employees operating a bicycle shall carry any package, bundle, or article which blocks their vision of the road or prevents the operator from keeping at least one hand upon the handlebars.
- P. No persons or employee shall place or park their bicycle to impede or block the normal movement of pedestrian traffic on sidewalks and/or bicycle, electric cart, or vehicle traffic on in-plant roadways.
- Q. No person or employee operating a bicycle shall wear any headset covering or earplugs in both ears. Exceptions for persons or employees wearing personal hearing protection designed to attenuate injurious noise levels and which do not inhibit the wearers' ability to hear horns from motor vehicles or backup alarms construction vehicles.

**X. Training**

- A. General
  - 1. Only authorized employees may operate mobile equipment. An employee may become authorized after the successful completion of training and evaluation.

Subject: **Mobile Equipment**

2. Utility/golf carts must be operated by persons who have a valid California driver's license. Drivers must obey all posted traffic signs.
3. All operator training and evaluations are conducted by persons who have demonstrated the knowledge, training and experience to train powered industrial truck operators and evaluate their competence to Environmental Health and Safety.

B. Powered Industrial Trucks

1. Initial Training

- a. Initial training for forklift operators shall be conducted by qualified individuals or vendors who have sufficient knowledge, training, and experience in teaching the subject matter.
- b. Training has three parts:
  - 1) formal instruction such as a lecture, discussion, interactive computer learning, videotape and or written material (can be taken anywhere).
  - 2) practical training which includes hands-on demonstrations by the trainer and exercises by the trainee (on the model of forklift the worker will use).
  - 3) an evaluation of the effectiveness of the training by observing the operator's performance while doing actual work using the forklift. This evaluation must be repeated at least once every three years (must be at workplace).

2. Refresher Training

- a. Certified Operators attend refresher training every three (3) years.
- b. In addition, refresher training, including an evaluation of the effectiveness of the Certified Operator's training, will be conducted whenever one or more of the following occur:
  - 1) The operator has been observed to operate the forklift in an unsafe manner.
  - 2) The operator has been involved in an accident or near-loss incident.
  - 3) The operator has received an evaluation that reveals that the operator is not operating the forklift safely.
  - 4) The operator is assigned to drive a different type of forklift.
  - 5) A condition in the workplace changes in a manner that could affect safe operation of the forklift.

3. The training program shall emphasize safe and proper operation to avoid injury to the operator and others and prevent property damage. Topics may include:
  - a. Operating instructions, warnings, and precautions for the types of truck the operator will be authorized to operate.
  - b. Similarities to and differences between the truck and the automobile

**Subject: Mobile Equipment**

- c. Truck controls and instrumentation.
  - d. Engine or motor operation (type of motive power and its characteristics).
  - e. Steering and maneuvering.
  - f. Braking method and characteristics, with and without load.
  - g. Visibility (including restrictions due to loading; forward and reverse).
  - h. Vehicle capacity (load handling capacity, weight, and load center).
  - i. Vehicle stability (with and without load, with and without attachments).
  - j. Load handling capabilities; forks, attachments.
  - k. Guards and protective devices for the specific type of forklift.
  - l. Any vehicle inspection and maintenance that the operator will be required to perform.
  - m. Refueling and/or charging and recharging of batteries.
  - n. Operating limitations.
  - o. Fork and attachment adaptation, operation, and use limitations.
  - p. Any other operating instructions, warnings, or precautions listed in the operator's manual for the types of vehicles that the employee is being trained to operate.
  - q. Surface conditions where the vehicle will be operated.
  - r. Composition of loads to be carried and load stability.
  - s. Load manipulation, stacking, and unstacking.
  - t. Pedestrian traffic in areas where the vehicle will be operated.
  - u. Narrow aisles and other restricted places where the vehicle will be operated.
  - v. Hazardous (classified) locations where the vehicle will be operated.
  - w. Ramps and other sloped surfaces that could affect the vehicle's stability.
  - x. Closed environments and other areas where insufficient ventilation or poor vehicle maintenance could cause a build-up of carbon monoxide or diesel exhaust.
4. Except for training purposes, no OC San employee may operate a forklift without completing required training.

**C. Aerial Work Platforms**

- 1. Only personnel who have received instructions and training regarding the inspection, application, and operation of a specific aerial work platform, shall operate that AWP.
- 2. Training will be under the direction of a qualified, competent individual capable of determining an employee's proficiency in knowledge and actual operation of the lift. This training shall include the recognition and avoidance of hazards associated with operation of the specific lift. Training shall include the following:
  - a. The purpose and use of operating manuals

**Subject: Mobile Equipment**

- b. Pre-start inspections
- c. Responsibilities associated with problems or malfunctions affecting the operation of the aerial work platform
- d. Factors affecting stability
- e. The purpose of placards and decals
- f. Safety rules and regulations
- g. Operator warnings and instructions
- h. The purpose and function of all controls
- i. Actual operation of the aerial work platform

**XI. Recordkeeping**

All records created or generated during this procedure shall be legible and stored in a way that they are readily retrievable in facilities or electronic document/content management systems that provide a suitable environment to prevent damage, deterioration, or loss. Records may be in the form of any type of media, such as hard copy or electronic media. The OC San Records Retention Schedule is the official procedure governing the retention, retirement, and destruction of District records. Document owners should use these schedules to determine the item and series that best fit their records. Document owners are responsible for ensuring that documents are properly marked, indexed, and filed for their projects or area of responsibility.

**XII. References**

Title 8, California Code of Regulations, Subchapter 5, Group 1. Low-Voltage Electrical Safety Orders, Section 2229 – 2599

Title 8, California Code of Regulations, Subchapter 7, Group 4. General Mobile Equipment and Auxiliaries, Article 24. Elevating Work Platforms and Aerial Devices

Title 8, California Code of Regulations, Subchapter 7, Group 4. General Mobile Equipment and Auxiliaries, Article 25. Industrial Trucks, Tractors, Haulage Vehicles, and Earthmoving Equipment

**XIII. Revision History**

<b>Version</b>	<b>Date</b>	<b>By</b>	<b>Reason</b>
1.0	06/29/2011	Bauer, Wesley	New
2.0	08/31/2020	Stone, Jereme Frattali, John	Periodic Update – Refer to Program Change Log
3.0	12/13/2021	Stone, Jereme	Annual Program Update- Refer to Program Change Log