

# Code of Safe Operating Practices

## *CODE OF SAFE OPERATING PRACTICES*

### TABLE OF CONTENTS

	<b>Page</b>
<b>PREFACE</b> .....	I
<b>SECTION I--INTRODUCTION</b> .....	1
GENERAL OPERATING PROCEDURES.....	2-6
<b>SECTION II-- HAZARD REVIEW &amp; SAFE OPERATING PROCEDURES</b> .....	1
CRACK SEALING.....	2
CHIP AND SAND SEAL.....	3
MACHINE PLACED SURFACING.....	4
POTHOLING/MANUAL SURFACING AND/OR BASE REPAIR.....	5
MACHINE BASE REPAIR.....	6
PCC SURFACE REPAIR.....	7
PCC BASE REPAIR.....	8
UNSURFACED AREA GRADING.....	9
TREE TRIMMING OR REMOVAL.....	10-13
FENCE REPAIR.....	14
SURFACE DRAINAGE CLEANING.....	15
DRAINAGE STRUCTURE CLEANING.....	16
ROADWAY LITTER AND DEBRIS.....	17
SWEEPING.....	18
LITTER REMOVAL ROADSIDE.....	19-20
DISPOSAL OF ANIMAL CARCASSES.....	21
HANDLING AND DISPOSING OF HYPODERMIC NEEDLES.....	22
HANDLING AND DISPOSAL OF URINE WASTE.....	23-24
UNIDENTIFIED HIGHWAY SPILLS.....	25
GRAFFITI REMOVAL.....	26
MANUAL AND MECHANICAL VEGETATION MANAGEMENT AND LANDSCAPE MAINTENANCE.....	27-28
PEST MANAGEMENT.....	29
VEGETATION MANAGEMENT (CHEMICAL).....	30
IRRIGATION, WATER SYSTEMS MAINTENANCE AND REPAIR.....	31
USING RECLAIMED WATER.....	32
SERVICING PORTABLE RESTROOMS.....	33
PUBLIC SERVICE FACILITIES.....	34-35
BRIDGE STRUCTURE MAINTENANCE.....	36
BRIDGE AND PUMP MAINTENANCE.....	37
PUMP HOUSE MAINTENANCE.....	38-39
TUNNEL AND TUBE MAINTENANCE.....	40
TOW SERVICE.....	41-42
TRAFFIC SIGNALS, FLASHING BEACONS & RAMP METERING, MAINTENANCE AND INSPECTIONS, REPAIRS, RELAMPING, FIELD INSPECTIONS AND MODIFICATIONS.....	43-44
SIGN LIGHTING REPAIRS, RELAMPING AND MAINTENANCE.....	45
ELECTRICAL TROUBLE WORK AND KNOCKDOWNS LIGHTING,	

# Code of Safe Operating Practices

SIGNS, SIGNALS, FLASHERS, AND RAMP METERS.....	46-47
NIGHT ELECTRICAL INSPECTION.....	48
MISCELLANEOUS ELECTRICAL INSTRUCTIONS .....	49-50
TRAFFIC ACCIDENTS/EMERGENCY RESPONSE .....	51
PAVEMENT STRIPING AND MARKINGS .....	52-53
THERMOPLASTIC STRIPER AND PREHEATER (BIG MAC) .....	54-55
THERMOPLASTIC PREHEATER.....	56-60
BITUMINOUS OR EPOXY RAISED PAVEMENT MARKER	
REPLACEMENT AND REMOVAL .....	61
SIGN MAINTENANCE .....	62-63
ROADSIDE MARKER REPAIR OR REPLACEMENT.....	64
GUARDRAIL AND MEDIAN BARRIER REPAIR OR REPLACEMENT	
INCLUDES VEHICLE ENERGY ATTENUATOR REPAIR.....	65-66
WORKING IN TRUCK ESCAPE RAMPS .....	67
SNOW REMOVAL AND ICE CONTROL .....	68-69
STAFFED CHAIN CONTROL .....	70-71
SNOW REMOVAL IN AVALANCHE AREAS .....	72
STORM PATROL.....	73
SLOPE AND EMBANKMENT MAINTENANCE	
INCLUDES REMOVAL OF SLIDES, SLIPOUTS AND ROCKFALL .....	74-76
ROCK SCALING .....	77-79
CHANGING WEAR PARTS .....	80
MOVING LANE CLOSURES .....	81
SHADOWING MOVING OPERATIONS .....	82-83
SAFETY IN CHARGING STORAGE BATTERIES .....	84-85
LUBE RACK .....	86-87
HAND REMOVAL OF LOG JAM .....	88
REMOVE/REPLACE TEMPORARY K-RAIL.....	89
INSTALLATION AND REMOVAL OF RAZOR WIRE .....	90
<b>SECTION III--EQUIPMENT SAFE PRACTICE RULES .....</b>	<b>1</b>
EQUIPMENT GENERAL CODE OF SAFE PRACTICES.....	2-3
TRUCKS, 1/2 TON THROUGH 3-AXLE .....	4
TRUCKS MOUNTED FUSEE IGNITER.....	5
TRUCK AND GRADER MOUNTED PLOWS	
INCLUDING DEBRIS PLOWS.....	6
TRUCK AND GRADER MOUNTED WING PLOWS.....	7-8
TRUCK-MOUNTED CRASH CUSHIONS (TMCC).....	9
LITTER RETRIEVAL (SNIPE) TRUCK.....	10
LOADER TRUCK (FROST LOADER).....	11
SCISSOR TRUCK.....	12
FENCE REPAIR (BOOM TRUCK).....	13-14
DIGGER TRUCK .....	15
TANKER.....	16
COMPACTOR TRUCK .....	17
VACTOR TRUCK (Formerly Vacuum).....	18
PAINT STRIPER .....	19

# Code of Safe Operating Practices

THERMOPLASTIC STRIPER AND PREHEATER (BIG MAC) .....	20-21
STENCIL MARKING TRUCK (PAINT) .....	22
STENCIL MARKING TRUCK, THERMOPLASTIC.....	23
BITUMINOUS DISPENSING MACHINE.....	24-26
SWEEPERS .....	27
TOW TRUCKS .....	28
HYDRO CRANE .....	29
PERSONNEL HOIST .....	30-31
GRADALL (BADGER).....	32-33
ROTARY PLOW .....	34
FORKLIFT AND INDUSTRIAL TRUCKS .....	35-36
POWER MOWER (RIDE-TYPE) .....	37
HIGHWAY MOWERS.....	38
TRACTOR, WHEEL .....	39
BACKHOE.....	40-41
LOADER.....	42
LOADER BUCKET ATTACHED PAVER BOX.....	43
GRADER .....	44
DOZER.....	45
PAVEMENT GRINDER .....	46-47
EMULSION AND ASPHALT HEATING KETTLES .....	48
RUBBERIZED ASPHALT HEATING KETTLES.....	49
ROLLERS, TOWABLE, POWERED, & HAND OPERATED.....	50
SWEEPERS, TOW .....	51
TRAILER-MOUNTED FLASHING ARROW BOARD.....	52
EQUIPMENT TRANSPORT TRAILER.....	53-54
LAYTON PAVER MODEL-505 SELF-LOADING TRAILER.....	55
LAYTON PAVER MODEL-505.....	56
SPREADER, CHIP .....	57
MUDJACK MACHINE.....	58
CHIPPER .....	59-60
STUMP CUTTER.....	61
CHEMICAL SPRAY, TRUCK, TRAILER OR SKID MOUNTED.....	62
CHEMICAL SPRAY BOOM.....	63
MIST BLOWER, FERTILIZER SPREADER.....	64
HIGH PRESSURE CULVERT CLEANER .....	65
IN BED SALT AND SAND SPREADER.....	66
SNOW POLE DRIVER .....	67
GUARDRAIL STRAIGHTENER .....	68
TRENCHING MACHINE .....	69
HEDGE TRIMMER.....	70-71
GRASS TRIMMER .....	72
CHAIN SAW .....	73-74
HAND POWER EDGER.....	75
AUGER, HAND HELD POWER.....	76
CONCRETE SAW .....	77
MIXER (CONCRETE) .....	78

# Code of Safe Operating Practices

AIR TOOLS (GENERAL).....	79
AIRLESS PAINT SPRAYER.....	80
SAND BLASTER.....	81-82
WELDER, OXYGEN AND ACETYLENE.....	83-84
WELDER, ELECTRIC.....	85
STEAM CLEANER.....	86
WORK BOAT.....	87-89
SPIDER STAGING.....	90
HYDROSEEDER.....	91
STRAW BLOWER.....	92
MULCH BLOWER.....	93
SCREEN-ALL, CV-40-D.....	94
DEWEESE ALL TERRAIN MOWER.....	95
JOHN DEERE GATORS.....	96
POLARIS 4WD/6WD ATV.....	97
MOVEABLE BARRIER.....	98
LIGHT TOWER.....	99-100
EXCAVATOR.....	101
ARK SYSTEM CONTAINMENT TRAILER.....	102-103
CEC SCREEN-IT, MODEL 4101.....	104
MOWER REAR AUGER 3 POINT HITCH.....	105
AIR COMPRESSOR, PORTABLE AND TRUCK OR TRAILER MOUNTED.....	106
SICKLE BAR TOPPER-HEDGER.....	107
CORE DRILL.....	108
TOWABLE SOLAR ARROW BOARDS.....	109
MOTORIZED SHOULDER MACHINE.....	110
CUT-OFF SAW.....	111
ROLL OFF BODY.....	112-113
DEBRIS REMOVAL VEHICLE (DRV).....	114
ARDVAC LITTER VACCUUM.....	115
<b>SECTION IV--SPECIAL PURPOSE CODES.....</b>	<b>1</b>
GENERAL OPERATING PROCEDURES For Special Program People.....	2-4
GENERAL OPERATING PROCEDURES For Volunteer Groups.....	5-6
APPENDIX A	
PROPANE TANK HANDLING AND USE.....	7-8
APPENDIX B	
CONFINED SPACE ENTRY PROCEDURES.....	9-10
APPENDIX C	
PERSONAL PROTECTIVE EQUIPMENT (PPE).....	11-16
APPENDIX D	
TRENCH AND EXCAVATION SAFETY GUIDELINES.....	17-18
APPENDIX E	
CUT SLOPE SAFETY GUIDELINES.....	19-20

# Code of Safe Operating Practices

APPENDIX F	
INSTRUCTIONS FOR DEVELOPING INDIVIDUAL AND SITE-SPECIFIC COSP'S .....	21
APPENDIX G	
FALL PROTECTION .....	22-23
APPENDIX H	
NATURAL OCCURRING ASBESTOS (NOA).....	24-25
APPENDIX I	
LEAD CONTAMINATED SOILS.....	26-27
APPENDIX J	
DUSK MASK GUIDELINES.....	28-29
APPENDIX K	
CONCRETE PAVEMENT REPAIR USING HAND-MIXED ISOCYANATE- BASED PRODUCTS .....	30-31
APPENDIX L	
YELLOW TRAFFIC PAINT/STRIPE/MARKINGS REMOVAL .....	32-33
APPENDIX M	
EMERGENCY EYEWASH/SHOWER INSPECTION .....	34-38
(PORTABLE & STATIONARY)	
APPENDIX N	
HOMELESS ENCAMPMENT CLEANUP .....	39-40

## **SECTION V--ALPHABETICAL INDEX**



# Code of Safe Operating Practices

## PREFACE

This *MAINTENANCE CODE OF SAFE PRACTICES MANUAL* has been developed and issued in the interest of the safety and health of Caltrans maintenance employees. Section I of this manual, states the general code of safe practices applicable to all maintenance activities.

Individual codes for each work activity and piece of equipment are provided in Sections II and Sections III.

Each of the work activity codes given in Section II lists the potential hazards and the safe operating procedures to avoid the hazards. For easy reference, the individual work activities correlate with the activities of the Caltrans Maintenance Manual, Vol. Two. These must be reviewed before beginning new activities or every ten working days, whichever comes first.

District Codes of Safe Operating Practices which are developed for special operations or equipment not included in the *MAINTENANCE CODE OF SAFE PRACTICES MANUAL* may be included in Section IV of this manual. Codes developed or revised after publication cutoff date of this manual will be distributed by download from the Caltrans Intranet Web Site (<http://onramp.dot.ca.gov/hq/maint/omee/cosp.htm>). Format for District codes of safe practices shall follow the same format for safe operating procedures and equipment used in this manual (refer to Appendix F for the correct procedure for submitting new codes).

It is the responsibility of all Caltrans Maintenance Managers, Superintendents, Supervisors, and Employees to understand and follow the applicable codes of safe practices herein. In addition, all pertinent Departmental Policy and Procedure memoranda, Safety Orders, and District instructions relating to employee safety and health are to be followed.



# Code of Safe Operating Practices

## **SECTION I INTRODUCTION**

# Code of Safe Operating Practices

## MAINTENANCE CODE OF SAFE OPERATING PRACTICES

### GENERAL OPERATING PROCEDURES

#### Applicable During All Maintenance Activities

**These GENERAL OPERATING PROCEDURES shall be posted on all crew bulletin boards; it should be read and continuously followed by all employees.** The Manual containing the individual work activity codes shall be in the crew's quarters, available to all employees.

#### **I. RESPONSIBILITY**

- A. Before beginning new planned activities, applicable safe operating procedures and safe equipment usage procedures as given in the *MAINTENANCE CODE OF SAFE OPERATING PRACTICES MANUAL*, herein referred to as the CSOP, shall be reviewed. The purpose of this review is to assure that safe practices are discussed, understood and followed.
- B. Supervisors are responsible to see that employees observe and obey all applicable safe practice rules, laws, policies or procedures necessary for the safe conduct of the work; and the Supervisor shall take corrective action if necessary to obtain compliance.
- C. Each employee shall comply with all the safe practice rules of the CSOP and any other safety laws, rules, policies, or procedures applicable to the work being done.
- D. Each employee shall be provided with and shall wear required personal protective equipment (PPE). The standard minimum PPE includes hard hat, eye protection, appropriately colored warning garments, and reflective garments at night. Such equipment shall be worn when required by the *MAINTENANCE CSOP*, Departmental Policy, Safety Orders, and District Instructions or when, in the judgment of the Supervisor, their use would contribute to the prevention of injuries.
- E. It is each employee's responsibility to work in a safe manner and to report unsafe conditions or procedures to their Supervisor.
- F. Horseplay, scuffling, and other such activities are prohibited.
- G. Crew tailgate safety meetings shall be held at least every 10 working days or when starting a new work activity. Meetings shall be documented and posted on the crew bulletin board until the next meeting.

# Code of Safe Operating Practices

## II. INJURY, MEDICAL SERVICES, FIRST AID

- A. An employee who is injured on the job shall report the work injury to their immediate Supervisor as soon as possible, or at least before the end of the work shift, and before going to a doctor. If an injury requires treatment during off-hours, the employee's Supervisor shall be notified immediately and should accompany the injured employee to the doctor.
- B. All employees shall be aware of the approved physicians, clinics and hospitals available in their immediate work areas. Names, addresses and telephone numbers of approved physicians and medical facilities shall be in all trucks and supervisors' offices.
- C. At each work site at least one crewmember shall be trained in a standard first aid course equal to that of the American Red Cross Standard First Aid Course. To remain current, each employee shall be trained every three years. An approved first aid kit shall be provided and maintained in the crew's quarters.
- D. Supervisors shall provide proper equipment and prompt transportation that will avoid unnecessary delay in emergency treatment of injuries.
- E. A first aid kit must be available at the work site. All supplies must be kept and maintained in a sanitary and usable condition.

## III. VEHICLE OPERATION

- A. All drivers shall perform a pre-operational (pre-op) check of their vehicles, including rental equipment before leaving the yard. Be familiar with operator's manual. No vehicles or equipment are to be operated when in an unsafe condition.
- B. All employees who are drivers or passengers of state vehicles, rental vehicles or private vehicles on state business shall wear seat belts and/or harnesses.
- C. All employees operating equipment with rollover protective structures shall wear seat belts.
- D. All employees expected to operate vehicles or equipment, covered by the Equipment Qualification Program, shall be trained and qualified on each type of vehicle/equipment that the employee will operate on state business *before operating the vehicle/equipment unsupervised.*
- E. Use proper mounting/dismounting techniques when climbing into and from vehicles/equipment. Face the equipment, use the hand and foot holds provided and do not jump off equipment.

# Code of Safe Operating Practices

## III. VEHICLE OPERATION (Cont'd)

- F. Do not work under vehicles supported by jacks or chain hoists without adequate protective blocking or jack stands.
- G. Vehicles/equipment are to be kept clean of any objects or materials, which could fall off. Cabs are to be kept clean and orderly.
- H. Do not work under a vehicle unless steps have been taken to prevent it from rolling. Use chock blocks or otherwise secure the vehicle to prevent movement; **do not** rely on the parking brake.

## IV. CHAPTER 8

- A. Traffic control, shoulder closures and work area protection requirements shall be in accordance with Chapter 8 of the Maintenance Manual. When planning a lane or shoulder closure, everyone concerned must know what their job is and what is expected of them before going out on the road.
- B. Whenever possible, avoid parking close to a highway, even for a short period of time. If a vehicle is not being used for the work or to protect workers, it should be parked where it will have no influence on passing traffic or block potential escape routes for workers on foot.
- C. When vehicles are parked alongside the traveled way, enter and exit vehicles on the off-traffic side whenever possible, even though it may be inconvenient.
- D. Do not walk around in an area where equipment is being operated until you let the person operating equipment know that you are there and that you are seen by them.
- E. Unless there is a clear reason for doing otherwise, workers on the pavement or on an unprotected roadside, or landscaped areas, shall, insofar as is practical, continually face toward oncoming traffic. **This is the personal responsibility of every individual working on or near the highway.** If facing oncoming traffic is impractical, you should use a lookout.
- F. Supervisors should plan work activities so as to minimize or eliminate the need for backing of equipment.

## V. HAND TOOLS, POWER TOOLS, GUNPOWDER-ACTIVATED TOOLS.

- A. Workers shall not handle or tamper with any electrical equipment, machinery, or air or water lines in a manner not within the scope of their duties, unless they have received proper instructions to do so from their Supervisor.

# Code of Safe Operating Practices

## V. HAND TOOLS, POWER TOOLS, GUNPOWDER-ACTIVATED TOOLS (Cont'd).

- B. Machinery shall not be repaired or adjusted while in operation, nor shall oiling of moving parts be attempted, except on equipment that is designed or fitted with safeguards to protect the person performing the work.
- C. When equipment, machinery or power tools are used, guards shall be in place and properly adjusted. Any deficiencies in this regard are unacceptable and use of the equipment, machinery or power tool is prohibited.
- D. Loose or frayed clothing, dangling ties, long hair, jewelry, etc., shall not be worn around moving machinery or other sources of entanglement. Only clothing and personal protective devices appropriate for the job shall be worn.
- E. Hand tools, air tools, hydraulic tools and miscellaneous tools and equipment shall be inspected regularly to assure that they are in good operating condition. Report any deficiencies to the supervisor. Defective tools shall not be used.
- F. Employees are not permitted to use certain equipment, such as chain saws and gunpowder actuated tools without proper training, licensing and approval. Safe practice rules and requirements for using this type of equipment and performing other specialty work such as welding and cutting, are found in the Equipment Index of the COSP; and these rules and requirements must be strictly followed.

## VI. HAZARDOUS MATERIALS

- A. All employees assigned to operations involving the use of chemicals shall have access to Material Safety Data Sheets (MSDS), proper training in handling procedures and be provided the necessary protective devices as required by the Departmental Safety Manual.
- B. All employees shall be trained in the Caltrans Hazardous Material Communication Program.
- C. Employees shall be trained in hazardous spill awareness. Drug lab paraphernalia, used hypodermic needles, medical waste, bombs or other explosive devices and other hazardous substances are occasionally discarded within the right of way. If any of these items are found, the Supervisor should be notified immediately and the proper steps taken to insure that employees are not exposed. Unknown materials should be considered hazardous until identified by trained personnel.
- D. Wash thoroughly after handling chemical pesticides or other hazardous substances, and before eating, smoking, or using the restroom. Follow all special instructions on product labels, Pest Control Advisor recommendations, Material Safety Data Sheets and from other authorized sources.

# Code of Safe Operating Practices

## **VI. HAZARDOUS MATERIALS (Cont'd)**

- E. When new products/ chemicals are introduced, supervisor shall ensure that the MSDS are reviewed and understood by all affected employees before any work with the product/ chemical is done.

## **VII. SPECIAL INJURY PREVENTION**

- A. Learn to recognize and when possible, avoid poison oak. Whenever it is necessary to work around suspected poison oak areas, wear long sleeve shirts and gloves, and wash with water and soap after any suspected exposure.
- B. A significant number of lost time injuries involve the back. Be careful when lifting. Get help or use equipment, if necessary. When lifting heavy objects, lift properly:
  - 1. Get a firm footing. Keep feet apart (shoulder width) for a stable base, point toes out.
  - 2. Bend your knees.
  - 3. Tighten stomach muscles.
  - 4. Lift with your legs.
  - 5. Keep load close.
  - 6. Keep your back straight.
- C. Certain insects and snakes pose hazards. Learn to recognize their habitat and avoid them. If you must work in those areas wear the proper protective equipment: long sleeve shirts, high top work boots, and gloves.
- D. Do not operate vehicles, tools or equipment if your abilities are impaired in any way due to fatigue, the effects of prescription or over-the-counter medication(s), controlled substances, or the complications of illness or injury. Working in this condition may limit the ability to perform your work in a safe manner. Notify your supervisor if you are taking any medication that could hinder your performance.
- E. Hearing protection is required for any noise exposure above 90 decibels.

# Code of Safe Operating Practices

## **SECTION II**

### **HAZARD REVIEW & SAFE OPERATING PROCEDURES**

# Code of Safe Operating Practices

## CRACK SEALING

### HAZARD REVIEW

Moving traffic  
Moving equipment  
Hot materials  
Loading asphalt heating kettle  
Flying particles

### SAFE OPERATING PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard personal protective equipment. Coveralls or long sleeved shirts, gloves or arm gauntlets are required. Hearing protection may be required. Use face shield while loading material into kettle.
6. When using a fired kettle, keep a fire extinguisher available at all times.
7. Employees should avoid adjusting burners while kettle is in motion.
8. Employees should avoid direct contact with hot sealing materials.
9. Materials should be loaded into kettle to avoid splashing. Never open kettle door when material is extremely hot as flash may occur.
10. Review Material Safety Data Sheet for material being used.

# Code of Safe Operating Practices

## CHIP AND SAND SEAL

### HAZARD REVIEW

Moving traffic  
Moving equipment  
Flying particles  
Wheel rolling  
Dust

### SAFE OPERATING PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard personal protective equipment. Coveralls are recommended. Use dust protection where necessary during sweeping operations.
6. Employees shall stand clear of trucks spreading cover material.
7. Employees shall stand clear during wheel rolling.
8. When using a fired kettle, keep a fire extinguisher available at all times.
9. Review Material Safety Data Sheet for material being used before handling.

# Code of Safe Operating Practices

## MACHINE PLACED SURFACING

### HAZARD REVIEW

Moving traffic  
Moving equipment  
Hot asphalt  
Overcrowding of workers  
Noise

### SAFE OPERATING PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard personal protective equipment. In addition, hearing protection may be required.
6. Review Material Safety Data Sheet for material being used.
7. Gloves and coveralls are recommended.
8. Employees should avoid direct contact with hot paving material.
9. Employees on foot should stay out of the way of operating equipment until the area is clear for handwork. Special care should be taken when trucks are dumping or backing in to paver.
10. Spotters shall be used when trucks are dumping into paver.
11. Employees should stay within the protected work area and avoid working immediately adjacent to traffic.
12. Stay clear of the roller during rolling operation.
13. Allow ample space for each employee to work safely.
14. Be alert when working with others who are not part of your crew (vendor trucks). Their safety procedures may differ from ours.
15. Vendor provided trucks shall be equipped with automatic audible backup alarms.

# Code of Safe Operating Practices

## POTHOLING/MANUAL SURFACING AND/OR BASE REPAIR

### HAZARD REVIEW

Moving traffic  
Moving Equipment  
Overcrowding of workers  
Hot asphalt  
Wheel rolling  
Installing shoveling apron

### SAFE OPERATING PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard personal protective equipment. Coveralls, long sleeves, or arm gauntlets are required when working with hot asphalt.
6. A minimum of one shadow vehicle and one mix truck shall be utilized on freeways and expressways. Other vehicles such as additional shadow vehicle, ramp vehicles, or changeable message signs (CMS) should be considered for enhanced protection. A ramp vehicle could be used to block traffic from a city street to a highway on-ramp.
7. When working on two-lane roads, a lookout shall be utilized.
8. Work in inclement/adverse weather conditions requires heightened awareness and prudent judgment on the part of both the employees and supervisor/management as to what constitutes a hazard and how it will be addressed.
9. If visual contact between the shadow vehicle and mix vehicle cannot be continuous due to curves, structures, etc., then an additional shadow vehicle or CHP assistance must be considered to enhance work zone protection.
10. Employees should use caution when installing or removing the shoveling apron. Use proper lifting techniques.

# Code of Safe Operating Practices

## **MACHINE BASE REPAIR**

### **HAZARD REVIEW**

Moving traffic  
Moving equipment  
Excavation drop off  
Broken pavement and other loose material  
Overcrowding of workers  
Noise

### **SAFE OPERATING PROCEDURES**

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard personal protective equipment. In addition, hearing protection may be required.
6. Employees on foot should stay out of the way of operating equipment until the area is clear for hand work.
7. Be especially alert when working around others not part of your crew, i.e., contractors, utilities, city crews, county crews, etc. Their safety procedures may differ from ours.
8. Stay clear of vehicles involved in wheel rolling. Use a spotter if employees are on foot.
9. Watch for tripping hazards and uneven ground.
10. Allow ample space for each employee to work safely.

# Code of Safe Operating Practices

## PCC SURFACE REPAIR

### HAZARD REPAIR

Moving traffic  
Moving Equipment  
Hot asphalt  
Overcrowding of workers  
Evacuation drop off  
High pressure hoses  
Noise  
Cement products  
Loose material on pavement

### SAFE OPERATING PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard personal protective equipment. Coveralls or long sleeve shirts are recommended.
6. In addition hearing and dust protection may be required.
7. Employees on foot should stay out of the way of operating equipment until the area is clear for hand work.
8. Employees should avoid direct contact with hot paving materials, or cement products.
9. Watch for tripping hazards and uneven ground.
10. Employees should stay within the protected work area and avoid working immediately adjacent to traffic.
11. Allow ample space for each employee to work safely.
12. Employees shall stand clear during rolling.
13. Review MSDS for materials used.

# Code of Safe Operating Practices

## **PCC BASE REPAIR**

### **HAZARD REVIEW**

Moving traffic  
Moving equipment  
High Noise  
High pressure hoses  
Excavation drop off  
Loose material on pavement  
Dust  
Wash Water  
Cleaning of equipment

### **SAFE OPERATING PROCEDURES**

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard personal protective equipment. Hearing protection is required in close proximity of drilling operations. Respiratory protection (with HEPA filter) is required for auger operator and 'stacking' person. All other employees shall stand upwind of dust cloud or if impracticable must use respirator protection, such as a dust mask.
6. Employees shall take care to stay clear of wash water while cleaning equipment. Wash water shall be captured and returned to yard for proper disposal.
7. Employees on foot should stay out of the way of operating equipment until the area is clear for handwork. Assistant (lookout) shall be utilized while moving any equipment within the work zone to ensure all hoses and employees are clear of intended movement.
8. Employee should be aware of hoses, loose material, excavation drop off, tripping hazards, uneven ground and other obstructions when moving about within the work area.
9. During mudjack operations only the employee operating the nozzle will direct the pump operator when to start/stop the pump.

# Code of Safe Operating Practices

## UNSURFACED AREA GRADING

### HAZARD REVIEW

Moving equipment  
Moving traffic  
Noise  
Dust

### SAFE OPERATING PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard personal protective clothing. Hearing and dust protection may be required.
6. Employees should stay within the protected work area and avoid working immediately adjacent to traffic.
7. Be careful when working with others not part of your crew (vendor, trucks, etc.). Their safety procedures may differ from ours.
8. Vendor provided trucks shall be equipped with automatic audible backing alarms.
9. Water should be used to control dust.
10. Employees shall stand clear during rolling.

# Code of Safe Operating Practices

## TREE TRIMMING OR REMOVAL

### HAZARD REVIEW

Moving traffic  
Utility lines  
Slipping and falling  
Faulty ropes  
Brittle trees  
Dull climbing spurs  
Rope or cable blocks and pulleys  
Falling branches  
Brush fires  
Noise

### SAFE OPERATING PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard personal protective equipment. Hearing protection is required during chain saw and chipper operation.
6. Keep proper clearance from overhead utility lines. Caltrans employees shall not perform electrical line clearance tree trimming work. If working in proximity to high/low voltage lines, a ground observer with appropriate warning device must be present (10 ft. / 3 meters minimum for high voltage and 3 ft. / .1 meter minimum for low voltage).
7. Each work location where aerial tree trimming, tree repairing or removal is to be done, shall be under the direction of a qualified tree worker (except district qualified tree fellers).
8. With the exception of minor tree trimming, at operations involving tree maintenance or removal, a second qualified Tree Worker shall be at each work location to render immediate assistance.

...Cont'd on Page 11

# Code of Safe Operating Practices

## TREE TRIMMING OR REMOVAL (Cont'd)

9. Each Qualified Tree Worker shall be issued ANSI approved climbing gear. A complete set consists of tree saddle, tree climbers, safety strap and climbing line for their exclusive use.
10. Prior to use, all equipment, (including climbing gear) and safety devices shall be inspected and if found defective, immediately repaired or removed from service.
11. When working aloft, employees shall be required to wear tree workers saddles and tie-in with an approved safety strap or climbing rope.
12. Climbing ropes shall be a minimum 1/2 inch (12.7 millimeters) First-grade State approved (by a Tree Maintenance Supervisor) synthetic tree surgeon's rope.
  - a. Rope made unsafe by damage, defect or any other reason shall not be used.
  - b. Climbing ropes shall never be used for lowering limbs.
  - c. Rope shall be stored away from all cutting edges and sharp tools. Corrosive chemicals, gas, and oil shall be kept away from rope.
  - d. Rope shall be coiled, piled or suspended so that air can circulate through the coils.
  - e. Climbing rope ends shall be dressed, melted or back spliced to prevent raveling.
  - f. Climbing and safety rope shall not be spliced to lengthen or repair.
  - g. Safety snaps may be rotated from one end of rope to other as needed and the worn end cut off.
13. Climbing spurs shall be of the tree-climbing type and shall have gaffs of the proper type and length suitable for the tree being climbed.
14. Prior to climbing the tree, the tree shall be visually inspected to determine the safest method of entry into the tree. The location of all electrical conductors and equipment within the work area shall be identified in relation to the work being performed. Make sure tree will support your weight.
15. Chain saw and chipper operators must be trained and qualified.
16. Safety belts and lanyards are required when operating aerial equipment. (See Appendix G, Fall Protection).
17. The use of worker leg protection (chaps, leggings, pants, etc.) is required for all ground level chain saw operation.

...Cont'd on Page 12

# Code of Safe Operating Practices

## TREE TRIMMING OR REMOVAL (Cont'd)

### Felling Trees

#### Safe Work Practices

1. Each work location where tree felling is to be done shall be under the direction of a qualified tree worker, or a District qualified tree feller.
2. Before beginning any felling operation, the worker shall carefully consider:
  - a. The tree and the surrounding area for anything that may cause trouble when the tree falls.
  - b. The shape of the tree.
  - c. The lean of the tree.
  - d. Wind force and direction.
  - e. Decayed or other weak spots.
  - f. The location of other workers.
  - g. The location of all electrical conductors and equipment within the work area shall be identified in relation to the work being done.
3. The work area shall be cleared to permit safe working conditions and an escape route shall be planned before any cutting is started.
4. A job briefing shall be conducted before each tree removal is begun. Such job briefing shall include the description of the hazards unique to the removal, appropriate work procedures to be followed, work assignment and other items to ensure that the work can be accomplished safely.
5. Each tree worker shall be instructed as to exactly what he/she is to do. All workers not involved in the operation shall be kept clear of the work area.
6. A notch or back-cut should be used in felling trees over ten inches (254 millimeters) at chest height. No tree shall be felled by ripping or slicing cuts.
7. The depth or penetration of the notch should be about one-third the diameter of the tree.

...Cont'd on Page 13

# Code of Safe Operating Practices

## TREE TRIMMING OR REMOVAL (Cont'd)

8. The opening or height of the notch should be about 2 1/2 inches (63 millimeters) for each foot of the tree's diameter.
9. The backcut shall be made higher than the point of the notch to prevent kickback.
10. Just before the tree is ready to fall, an audible warning shall be given to those in the area. All personnel in the vicinity shall be safely out of range when the tree falls.
11. Tree felling wedges (plastic) shall be on hand at all times. A single headed axe or sledgehammer will be used for driving the wedges.
12. Holding wood should not be cut completely through until tree is on the ground.
13. If there is a danger of the tree falling in the wrong direction, wedges, block and tackle rope or wire cable (except where electrical hazards exist) shall be used. All limbs shall be removed from trees to a height and width sufficient to allow the tree to fall clear of any wires and other objects in the vicinity.
14. Special precautions in roping rotten or split trees are important because they may fall in an unexpected direction even though the cut is made on the proper side.
15. Workers shall keep clear of the butt of a tree that is starting to fall.

# Code of Safe Operating Practices

## FENCE REPAIR

### HAZARD REVIEW

Moving traffic  
Overcrowding of workers  
Slip, trip and fall hazards  
Loose ends of wire and fabric  
Cutting or welding galvanized materials  
Starting fires

### SAFE OPERATING PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard personal protective equipment. Since galvanized materials contain zinc, when welding or cutting galvanized material, a respirator may be required. Avoid breathing fumes from cutting or welding on galvanized posts. Work upwind or use local ventilation. If welding or cutting will last more than 30 minutes in a workshift, a half-face cartridge respirator with P-100 cartridges is required. If less than 30 minutes, no respirator is required, but an N-95 dust mask respirator may be worn.
6. Avoid breathing dust from treated posts, review Material Safety Data Sheet for posts before using. Use sharp saws and tools to minimize creation of dust. Work upwind or use local ventilation if possible during cutting and drilling operations. Respiratory protection is not required, but an N-95 dust mask respirator may be used.
7. When working with treated posts or galvanized materials, don't eat, drink, or smoke while working. Carry wash water and soap to wash your hands before eating, drinking, smoking, or using the restroom.
8. Employee should select proper tools for the job.
9. Allow ample space for each employee to work safely.
10. Be alert to wire and posts which are under tension.
11. Watch for tripping hazards and uneven ground.
12. Clear work area of fire hazards before using torch
13. Have a fire extinguisher available while cutting or welding.

# Code of Safe Operating Practices

## **SURFACE DRAINAGE CLEANING**

### **HAZARD REVIEW**

Moving traffic  
Moving equipment  
Overcrowding of workers  
Uneven ground  
Hidden hazards

### **SAFE OPERATING PROCEDURES**

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard personal protective equipment.
6. Before excavating, contact U.S.A. and your regional electrical office.
7. Workers on foot should stay out of the way of operating equipment until the area is clear for hand work.
8. Employees not involved in operation of equipment should avoid being in the vicinity of the same until the area is clear for hand work.
9. Allow ample space for each employee to work safely.
10. Watch for tripping hazards and uneven ground.

### **REPAIR OR REPLACEMENT OF DRAINAGE FACILITIES**

A special hazard review and safe operating procedure will be written by the Supervisor for each individual job covered in this section.

The Code and Review shall incorporate those factors needed to cover the highly individualistic nature of this type of job.

Each employee shall review the Code of Safe Practices for the particular tools or equipment the employee will be using.

# Code of Safe Operating Practices

## **DRAINAGE STRUCTURE CLEANING**

### **HAZARD REVIEW**

Moving traffic  
Wedged objects  
Moving equipment  
Loose and slippery material within work area  
Working in confined spaces

### **SAFE OPERATING PROCEDURES**

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard personal protective equipment.
6. Employee should not dislodge wedged objects with his hands.
7. Employee should select the proper tool for the job.
8. A confined space entry permit shall be posted at the work site and must be completed and signed before the entry into any confined workspace. (See Confined Space Appendix (B)).
9. Workers on foot should stay out of the way of operating equipment until the area is clear for hand work.
10. Avoid operating equipment inside structures. Equipment operating underground may require special permit from Cal-OSHA. Be aware of possible carbon monoxide buildup and other sources of contamination.

# Code of Safe Operating Practices

## ROADWAY LITTER AND DEBRIS

### HAZARD REVIEW

Moving traffic  
Lifting heavy objects  
Unknown and unlabeled substances  
Loading vehicle from exposed position  
Overcrowding of workers

### SAFE OPERATING PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform your work *facing* oncoming traffic.
5. Use standard personal protective equipment.
6. Prior instruction shall be given employees on criteria to determine what constitutes a hazard to traffic. Employees shall exercise judgement in determining whether or not individual objects actually constitute a hazard to traffic, and only if they do, shall the object be removed. Prior to removal of debris from the roadway all of the following conditions must be met:
  - a. The worker can walk to the object and back without interfering with traffic.
  - b. Sight distance shall be at least 500 ft (150 meters).
  - c. A lookout shall be provided or the employee will face traffic continuously -- If these conditions cannot be met, use a CHP traffic break or appropriate traffic control.

**NOTE:** Refer to Maintenance Manual Chapter 8.

7. Properly identify material or object before handling, it may be hazardous.
8. Use power operated equipment or additional assistance when needed to remove heavy objects from traveled way.
9. When removing debris or objects from traveled way, provide necessary traffic control. Use CHP traffic break when needed, to provide "work area protection".
10. Load vehicle from off-traffic side if possible.
11. Avoid climbing into back of truck to compact brush and/or debris.
12. Allow ample space for each employee to work safely. Avoid "bunching" of workers.

# Code of Safe Operating Practices

## **SWEEPING**

### **HAZARD REVIEW**

Moving traffic  
Airborne contaminants  
Unattended vehicles

### **SAFE OPERATING PROCEDURES**

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use required personal protective equipment.
6. Wait for break in traffic before sweeping around unattended vehicles.
7. Be sure all warning devices are operating properly before operating sweepers and use shadow trucks when necessary.
8. When using back up be sure there is communication between sweeper and backup truck, i.e., proper planning and radio contact.
9. Do not sweep unknown substances.

# Code of Safe Operating Practices

## LITTER REMOVAL ROADSIDE

### HAZARD REVIEW

Moving traffic  
Moving equipment  
Hidden obstructions  
Overcrowding of workers  
Unidentified material  
Exposure to sharp objects  
Infectious substances  
Body wastes  
Personal and public contact  
Environmental protection

### SAFE OPERATING PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard personal protective equipment.
6. Workers should stay clear of moving equipment.
7. Beware of hidden obstructions in grassy areas or unstable terrain.
8. Properly identify material or object before handling.
9. Use caution when handling bags containing broken or sharp objects.
10. Allow ample space for each employee to work safely. Avoid "bunching" of workers.
11. Read Code for Roadway Litter and Debris, if applicable.
12. Do not overload bags.
13. Place bags where they can be safely retrieved.

...Cont'd on Page 20

# Code of Safe Operating Practices

## LITTER REMOVAL ROADSIDE (Cont'd)

### Handling Medical and Biological (Human) Wastes

1. Employees shall be informed of the potential health hazards involved with contact of biological (human) wastes and shall be trained regarding proper hygienic procedures.
2. Use standard personal protective equipment. In addition, impermeable (rubber) gloves, boots and rain gear or Tyvek coveralls are required while working with biological wastes. An approved half-mask respirator with organic vapor cartridges may also be desirable.
3. Do not eat or smoke while working with biological wastes. Wash hands thoroughly with clean water and soap before eating, drinking, smoking or using the restroom. Safe drinking and wash water and soap shall be provided at the work site.
4. Plan the task to minimize public and employee contact with potentially infectious substances and to prevent environmental damage. Contain the waste with earth berms if possible or use absorbent materials.
5. Use a disinfectant such as a chlorine bleach solution to disinfect the waste before picking it up.
6. Use motorized equipment (loader, backhoe, vactor, etc.) whenever possible.
7. An adequate first aid kit should be available.
8. For large quantities, the services of a contractor may be warranted. If services of a contractor are warranted, a properly trained First Responder should be contacted.

# Code of Safe Operating Practices

## DISPOSAL OF ANIMAL CARCASSES

### HAZARD REVIEW

Moving traffic  
Lifting heavy animals  
Biological waste

### SAFE OPERATING PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard personal protective equipment. In addition, impermeable (rubber) gloves, boots and rain gear or tyvek (paper) coveralls are required while working with biological wastes.
6. Prior to removal of carcass from the roadway all of the following conditions must be met:  

The worker can walk to the carcass and back without interfering with traffic.  
Sight distance shall be at least 500 ft (150 meters).  
A lookout shall be provided or the employee will face traffic continuously – If these conditions cannot be met, use a CHP traffic break or appropriate traffic control.
7. Use caution when handling animal carcass, it may still be alive. Do not approach “live” animal. Immediately call Dispatch so they can notify Animal Control
8. When handling and loading large carcasses, a minimum of two employees will be used.

# Code of Safe Operating Practices

## HANDLING AND DISPOSING OF HYPODERMIC NEEDLES

### HAZARD REVIEW

Punctures  
Infectious Diseases/substances  
Body wastes  
Personal and public contact  
Environmental protection

### SAFE WORK PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Under no circumstances should you pick up discarded hypodermic needles with your hands. Use a litter-picker or other device. Needles can puncture leather gloves.
3. Place hypodermic needles in a leak-proof, rigid, puncture-resistant container ("Sharps Container" provided by your Supervisor). Do not hand hold container while placing needles inside with a litter picker; **YOU MAY ACCIDENTLY PUNCTURE YOUR HAND.** Place the open container on the ground before attempting to put the needle inside the Sharps container. Containers must be labeled as a biohazard.
4. Do not carry or store needles in the cab of your vehicle or anywhere where they may accidentally come in contact with another person, your clothes or foodstuffs.
5. Store containers with used needles in secure areas where contact will be avoided. For disposal, use the services of Hazardous Spill Cleanup Contractors. Contact a properly trained First Responder.
6. If you feel you may have come in contact with any item that may be infectious, notify your Supervisor. Wash the contaminated area immediately with soap and water. Towelette preps in the first aid kit may also be used to disinfect the hands. Wash thoroughly with clean water and soap before eating, drinking, smoking or using the restroom.

# Code of Safe Operating Practices

## HANDLING AND DISPOSAL OF URINE WASTE

### HAZARD REVIEW

Moving traffic  
Hidden obstructions  
Unidentified materials  
Infectious diseases/substances  
Urine waste  
Personal and public contact  
Environmental protection

### SAFE OPERATING PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in a safe area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Employees shall review this Code of Safe Practices and utilize Pre-Task Planning to identify hazards, solutions, and identify individual assignments prior to starting work. All required personal protective equipment; material handling equipment, disposal containers and decontamination facilities will be onsite before work begins.
6. Use standard personal protective equipment including pesticide-use safety glasses (brow and side shields required) or chemical goggles. In addition, impermeable (rubber) boots, nitrile or other impervious gloves and Tyvek coveralls or other splash resistant clothing (i.e. raingear) are required while working with urine waste. A NIOSH approved N-95 dust mask and/or face shield may also be used. (If a dust mask is used, comply with the Caltrans Dust Mask Guidelines.)
7. Prior to collecting or disturbing suspected urine waste, observe the container and contents:
  - The contents are the color of pale yellow, straw, light yellow, yellow, dark yellow or amber;
  - The amount of fluid in the container is less than 1 (one) gallon;
  - The bottle is of a shape that could be used to urinate in to (workers should be suspicious of glass containers);
  - The container does not appear to be eaten away, melted, or deformed by the contents. (These are indicators that the contents may be chemicals rather than urine.)

...Cont'd on Page 24

# Code of Safe Operating Practices

## **HANDLING AND DISPOSAL OF URINE WASTE (Cont'd)**

8. Pick up urine containers with a litter picker or other extension tool (shovel, pitchfork, etc.) and place in a 5-gallon bucket or other leak-proof carrying container. Do not touch urine containers with your hands. Do not open or puncture urine containers. If they disintegrate during handling, collect pieces of container if possible. Don't allow liquid to enter storm drains or drainage facilities, follow Stormwater BMPs.
9. Consolidate the waste into a 55-gallon drum with a poly-liner or other leak-proof transport container. Make sure the transport container is in good condition before use. After filling, make sure container is properly sealed and labeled before moving or storage. Use a lift gate or loader to place filled drums in truck; do not lift by hand. Store transport containers in the waste storage locker at the maintenance station. Contact the District Maintenance Hazardous Materials Manager for disposal assistance. **DO NOT THROW URINE IN THE TRASH OR POUR URINE DOWN A STORMWATER DRAIN.**
10. Follow good hygiene practices. Do not eat, drink or smoke while cleaning up urine waste. If urine splashes on skin, wash with water and soap as soon as possible. If protective clothing is splashed, wash off with water and change if leakage is occurring. Remove protective clothing and wash hands thoroughly with clean water and soap when finished and before eating, drinking, smoking or using the restroom. Place disposable protective clothing in garbage bags for disposal in trash. Non-disposable protective equipment should be bagged and cleaned before re-use. If vehicles become contaminated, they should be cleaned before being re-used for other work.

# Code of Safe Operating Practices

## UNIDENTIFIED HIGHWAY SPILLS

### HAZARD REVIEW

Moving traffic  
Unknown and unlabeled substances

### SAFE OPERATING PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Stay uphill, upstream, and upwind. Protect yourself first. Avoid contact with unidentified material.
3. Protect traffic.
4. Call for help (Caltrans Maintenance Supervisor, Caltrans HazMat Specialist, Emergency First Responder Operational Level Team, or CHP).
5. Do not leave the site.
6. **WAIT FOR THE EXPERTS.**

Note: Handling hazardous material spills by First Responder Operational Level Teams will be in accordance with industry recognized practices and procedures as covered in the CALTRANS/CSTI FIRST RESPONDER OPERATIONAL (FRO) LEVEL TRAINING COURSE AND REFERENCE MANUAL AND HAZARDOUS MATERIAL SPECIALIST COURSE given at CSTI. For additional information see Chapter D5 of the Maintenance Manual.

# Code of Safe Operating Practices

## GRAFFITI REMOVAL

### HAZARD REVIEW

Moving equipment  
Moving traffic  
Hazardous materials  
Working above ground  
Use of airless sprayers  
Overcrowding of workers

### SAFE WORK PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection and any traffic control requirements.
3. Park in an area suitable for entering and exiting your vehicle, which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work **facing** oncoming traffic.
5. Use standard personal protective equipment. In addition face, hearing and respiratory protection may be required.
6. Employees not involved in the operation of powered equipment or pressurized sprayers should remain clear until the area is safe for hand work.
7. Allow ample space for each employee to work safely. Do not bunch up.
8. Only trained personnel are allowed to operate airless sprayers.
9. Read Material Safety Data Sheet for chemicals, which are to be used before the work begins.
10. If an injury occurs, seek immediate medical attention. Take the MSDS with you to the doctor, if applicable.
11. If working on overhead signs, lanyards shall be used and shall be attached at all times to the boom, basket or sign structure. Two lanyards may be required. See fall protection, (Appendix G).
12. If using personal fall arrest, provisions must be made for prompt rescue in case of a fall.

# Code of Safe Operating Practices

## MANUAL AND MECHANICAL VEGETATION MANAGEMENT AND LANDSCAPE MAINTENANCE

### HAZARD REVIEW

Chain saws  
Moving traffic  
Moving equipment  
Overcrowding of workers  
Noise  
Sharp edged tools  
Hidden objects  
Unwieldy brush  
Unstable ground  
Poison Oak  
Utility lines  
Thorns

### SAFE OPERATING PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard personal protective equipment. Coveralls or long sleeve shirts and gloves are recommended. Hearing protection is required when using chain saws or chippers.
6. Employees should, when necessary, cut an opening in R/W fence to remove brush. Avoid climbing over fences.
7. Cut and stack brush in small pieces that are easily handled to avoid back injuries.
8. Avoid climbing into back of truck to compact brush and/or debris.
9. Utilize appropriate mechanical means when moving large quantities of brush across drains and up slopes.

...Cont'd on Page 28

# Code of Safe Operating Practices

## **MANUAL AND MECHANICAL VEGETATION MANAGEMENT AND LANDSCAPE MAINTENANCE (Cont'd)**

10. Be aware of moving equipment in the work zone.
11. Chain saw, chipper, and hydraulic and pneumatic tool operators must be trained and qualified.
12. Use caution when handling tools with sharp edges.
13. Watch for tripping hazards and uneven ground.
14. Keep proper clearance from overhead utility lines (At least 10 feet / 3 meters away).  
Do not cut limbs that may contact overhead utility lines.
15. The use of worker leg protection (chaps, leggings, pants, etc.) is required for all ground level chain saw operation.
16. Locate underground utilities before digging.
17. Tree trimming involving climbing, shall only be performed by a qualified Tree Maintenance worker.
18. Trees over 4 inches (102 millimeters) or greater in diameter (when measured 4 feet (1.22 meters) from the ground) and having a total height greater than 20 feet (6 meters) shall be felled by a qualified Tree Feller.

# Code of Safe Operating Practices

## PEST MANAGEMENT

### HAZARD REVIEW

Moving traffic  
Storing pesticides (handling or securing)  
Wildlife (desirable)  
High pressure hose  
Unstable terrain  
Toxic chemicals

### SAFE OPERATING PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard personal protective equipment. Wear all additional protection required by chemical label, Pest Control Recommendation, district policy, and supervisor. Impermeable gloves and boots, coveralls and either face shield or goggles are required when handling pesticides. A respirator may be required.
6. Store chemicals in shed under lock and key; with appropriate warning signs posted.
7. Protect wildlife.
8. Employee should avoid exceeding recommended hose pressure on sprayer. Check for wear and tear on hose. Check pressure regulator to see if working properly.
9. Beware of hidden obstructions in grassy areas or unstable terrain.
10. Refer to general instructions for mixing or applying pesticides. (See Vegetation Control Chapter in Maintenance Manual.)
11. Read product label, Material Safety Data Sheet and Pest Control Recommendation before applying pesticides or rodent bait. These documents are required at the application site.
12. Test pump and system and perform calibration before adding chemical.
13. Clean wash water shall be available. Hand washing facilities shall be available. Wash thoroughly with clean water and soap before eating, drinking, smoking or using the restroom.

# Code of Safe Operating Practices

## VEGETATION MANAGEMENT (CHEMICAL)

### HAZARD REVIEW

Moving traffic  
Unstable terrain  
Toxic chemicals  
High pressure hoses  
Moving equipment  
Handling fertilizers

### SAFE OPERATING PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard personal protective equipment. Wear all additional protection required by chemical label, Pest Control Recommendation, district policy, and supervisor. Impermeable gloves, boots, coveralls and either face shield or goggles are required when handling pesticides. A respirator may be required.
6. Beware of hidden obstructions in grassy areas or unstable terrain.
7. Refer to general instructions for applying or mixing materials.
8. Do not exceed recommended pressure; check for wear and tear on hoses; check pressure regulator to see if working properly.
9. Read product labels, Material Safety Data Sheet and Pest Control Recommendation before handling chemicals. These documents are required at the application site.
10. Review emergency medical plan and have location of nearest medical facility posted in vehicle where applying chemicals.
11. Be sure that fertilizer mist-blower is properly grounded.
12. Keep chemicals in locked storage.
13. Insure that clean water and soap are available at the worksite.
14. No spraying from cone baskets.
15. Test pump and system and perform calibration before adding chemical.

# Code of Safe Operating Practices

## IRRIGATION, WATER SYSTEMS MAINTENANCE AND REPAIR

### HAZARD REVIEW

Moving traffic  
Hidden objects and unstable terrain  
High pressure lines  
Digging holes  
Improper tools  
Access to valve boxes  
Electrical shock  
Spiders/insects

### SAFE OPERATING PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard personal protective equipment. Rubber boots are recommended.
6. Shut off main valves, relieve pressure or drain lines before starting repairs.
7. Use proper tools.
8. Be aware of tripping hazards and uneven ground.
9. Unless properly trained, do not work on electrical valves, or clocks, call an electrician if necessary.
10. Be aware of the hazards connected with the use of reclaimed water.
11. Keep valve boxes colored and marked, check for spiders and other insects.
12. Keep access to valves clear.
13. Be aware of high water pressure while installing sprinklers.
14. Review Appendix D if excavation is required over 3 feet (1 meter) deep.

# Code of Safe Operating Practices

## USING RECLAIMED WATER

### HAZARD REVIEW

Infectious substances  
Personal contact  
Public contact

### SAFE OPERATING PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Employees shall be informed of the potential health hazards involved with contact or ingestion of reclaimed water and should be trained regarding proper hygienic procedures.
3. Ensure that appropriate coliform and chlorine levels are met before using reclaimed water.
4. Use standard personal protective equipment. In addition, impermeable (rubber) gloves are required while working with reclaimed water. Coveralls or rain gear may also be required. Consult with your local supplier to determine minimum requirements for personal protective equipment.
5. Wash thoroughly with clean water and soap before eating, drinking, smoking or using the restroom. Safe drinking water shall be provided.
6. Areas where reclaimed water is used must be conspicuously posted. Individual rainbirds and risers must be equipped with check valves and also be tagged "Reclaimed water - do not drink - may be harmful".
7. Do not allow reclaimed water to run "off target" or into drainage systems. Repair leaks in water systems immediately.
8. Water tankers, which use reclaimed water, must be labeled "Reclaimed water - do not drink - may be harmful". Repair leaks immediately.
9. Do not allow pedestrian traffic to be exposed to reclaimed water.
10. Water systems must have functioning back-flow preventers to prevent contamination of fresh water systems.
11. Any discharge of untreated or partially treated wastewater areas shall be immediately reported to the Supervisor, treatment facility and regulatory agency (local health department).

# Code of Safe Operating Practices

## SERVICING PORTABLE RESTROOMS

### HAZARD REVIEW

Body wastes  
Infectious substances  
Sanitizing chemicals

### SAFE OPERATING PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Use standard personal protective equipment. Impermeable gloves, boots, and coveralls are required when contact with body wastes or infectious substances are possible.
3. Insure clean water and soap, are available at work site.
4. DO NOT TOUCH body wastes or infectious substances. Use hand tools or other methods to avoid personal contact.
5. Review product label and Material Safety Data Sheet before using sanitizing chemicals.
6. DO NOT eat or smoke during work involving raw sewage.
7. Make fresh water hose line available when working on portable restrooms (for emergency wash down).
8. Be aware of possible slipping hazards on wet surfaces when cleaning these units.
9. Clean up and hose down area after dumping.

# Code of Safe Operating Practices

## **PUBLIC SERVICE FACILITIES**

A special hazard review and safe operating procedure will be written for each roadside rest and weigh station. The Regional Superintendent shall ensure that all activities and work areas are reviewed for hazards. Safe work methods and procedures will be established for each individual location.

The code and review shall incorporate those factors needed to cover the safety items peculiar to each facility.

### **HAZARD REVIEW**

Body wastes  
Infectious substances  
Sharp objects  
Sanitizing chemicals  
Public contact  
Insects  
Confined spaces

### **SAFE OPERATING PROCEDURES**

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any vehicle or pedestrian traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. Use standard personal protective equipment. Impermeable gloves, boots, and coveralls are required when contact with body wastes or infectious substances is possible.
5. Clean wash water and hand washing facilities shall be available. Wash thoroughly with clean water and soap before eating, drinking, smoking or using the restroom.
6. A plumbed or self-contained eye wash station must be provided. General Industrial Safety Orders (GISO). Section 5162.

...Cont'd on Page 35

# Code of Safe Operating Practices

## **PUBLIC SERVICE FACILITIES (Cont'd)**

7. Review product label and Material Safety Data Sheet before using sanitizing chemicals.
8. DO NOT TOUCH body wastes, infectious substances, or hypodermic needles. Use hand tools or other methods to avoid personal contact. Place sharp objects in puncture proof containers for proper disposal.
9. If employees must enter sumps, tanks, crawlspaces or other confined spaces, review the appendix for confined spaces before entry.
10. Be aware of insects, rodents, and snakes in the area.
11. Do not eat or smoke during work involving raw sewage.
12. Make fresh water hose line available when working on sewer lines (for emergency wash down).

# Code of Safe Operating Practices

## BRIDGE STRUCTURE MAINTENANCE

### HAZARD REVIEW

Moving traffic  
Overcrowding of employees  
Hazardous materials  
Airborne contaminants  
Flying particles  
Hot patching materials  
Falling  
Confined spaces  
Insects, rodents, bird droppings

### SAFE OPERATING PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard personal protective equipment.
6. Employees on foot should stay out of the way of operating equipment until the area is clear for hand work.
7. Allow ample space for each employee to work safely.
8. Employees should avoid direct contact with hot paving material.
9. Employees should utilize approved temporary safety railing or safety harness to eliminate falling hazards. See fall protection (Appendix G).
10. Electrical repairs will conform to applicable provisions of the K family.
11. A confined space entry permit shall be posted at the work site and must be completed and signed before entry to any confined space.
12. Assure proper ventilation while welding or cutting galvanized materials with torch.
13. Review MSDS for chemicals used.
14. Review Sand Blaster COSP in equipment section of this book.
15. Wash thoroughly with clean water and soap before eating, drinking, smoking or using the restroom. Safe drinking and wash water and soap shall be provided at the work site.

# Code of Safe Operating Practices

## **BRIDGE AND PUMP MAINTENANCE**

## **BRIDGE PAINTING AND CLEANING**

Regional Superintendent shall ensure that all activities and work areas are reviewed for hazards. Safe work methods and procedures will be established for bridge cleaning and painting jobs.

The Code and Review shall incorporate those factors needed to cover the highly individualistic nature of this type of job.

Each employee should review Safe Practice Rules for applicable equipment (see Equipment Index).

The COSP shall be developed using the standard COSP format. Instructions are found in Appendix F - Instructions for developing site-specific codes.

# Code of Safe Operating Practices

## **PUMP HOUSE MAINTENANCE**

### **HAZARD REVIEW**

Explosive Hazards  
Oxygen Deficient Atmosphere  
Footing and Falling Hazards

### **SAFE OPERATING PROCEDURES**

1. Review safe practice rules for applicable equipment (including rental equipment), perform pre-operational checks and review Confined Space Entry Procedures (see Appendix B).
2. Do not go below floor level prior to notifying Area Supervisor or Area Superintendent, and the local dispatcher.
3. Before entering a confined space, a "Confined Space Pre-Work Check List" shall be posted at the work site and must be completed and signed by all employees involved in entering the confined space before entry into the confined space.
4. All employees, including standby persons, shall be trained in the operating and rescue procedures, including instruction as to the hazards they may encounter.
5. Employees entering confined spaces should be in good physical condition and psychologically suited for the job.
6. At least one person shall stand by on the outside of the confined space ready to give assistance in case of emergency.
7. Smoking or open flames shall not be permitted in any area of the structure. "No Smoking" signs shall be posted on all exterior doors of the pump house. If cutting or welding is required, remove the object to outside area, if possible. If removal is not possible, remove all grates, manhole covers and set up mechanical ventilation to provide maximum ventilation in the work area. Respiratory protection may be required.
8. The area shall be ventilated for a minimum of 15 minutes prior to atmospheric testing and entry. Pumping plants with wet pits need not be ventilated if the crew leader determines that the updraft of air is sufficient to indicate the natural ventilation system is functioning and the atmosphere required tests are satisfactory.

...Cont'd on Page 39

# Code of Safe Operating Practices

## PUMP HOUSE MAINTENANCE (Cont'd)

9. Atmospheric tests must be conducted by a trained and qualified person prior to any employee descending below the entry level of the pump house. If it is determined from the initial test, that the lower explosive level and oxygen levels are within acceptable and legal standards as mandated in Article 108 of the General Industrial Safety Orders, Title 8, California Code Regulations, then entry below the main floor may proceed. The air shall be continually monitored with an appropriate instrument for combustible gases and oxygen-deficient atmosphere. A record of such tests shall be kept at the job site. **Should the atmospheric-testing instrument's audible alarm or visual indicator indicate a change, all individuals must evacuate the area immediately.**
10. Atmospheric detection instruments shall be stored at Supervisor, Area Superintendent, and Region Manager's office. These shall be certified annually and checked before each use. Detection instruments not operating properly shall not be used.
11. During the initial testing of structure for atmospheric conditions, all employees must remain at floor level.
12. A radio-equipped vehicle must be at the location when an employee(s) will be below the floor level. The radio shall be checked with local dispatcher for communication capabilities at the location.
13. One person must remain at floor level at all times, and visual or verbal communication must be constantly maintained with employee(s) below the floor level.
14. **WRITTEN EMERGENCY RESCUE PROCEDURE MUST BE LOCATED IN PUMP HOUSE AND AT THE LOCAL DISPATCH OFFICE READILY AVAILABLE AT ALL TIMES. THE STAND-BY PERSON (S) SHALL FOLLOW THE WRITTEN EMERGENCY RESCUE PROCEDURES.**
15. Notify the local dispatcher when all work below floor level has been completed and all employees have safely returned to floor level.
16. If the above conditions cannot be obtained, no one shall enter the confined space.

# Code of Safe Operating Practices

## **TUNNEL AND TUBE MAINTENANCE**

Most of the hazards involved in this program are covered under the Code of Safe Practices for the various items of equipment being used.

The variables encountered in traffic and weather conditions make each operation unique concerning safety matters. It is recommended that each supervisor prepare a Code of Safe Practices covering the hazards peculiar to his operation/location. This code should be reviewed and revised as necessary.

Regional Superintendent shall ensure that all activities and work areas are reviewed for hazards. Safe work methods and procedures will be established for each location.

Refer to Appendix B for confined space hazards prior to entry.

Refer to “J” family in MMS.

# Code of Safe Operating Practices

## TOW SERVICE

### HAZARD REVIEW

Moving Traffic  
Flammable Materials (gas, diesel, oils, etc.)  
Hazardous Materials (battery acid or load being transported)  
Slippery Roadway  
Tripping Hazards  
Adverse weather conditions  
Broken Glass  
Sharp Edges or Points  
Limited Space

### SAFE OPERATING PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks. (Check booms, for crack, loose pins, bad cables, etc.)
2. Check truck to assure all required equipment is in good working order (chains and hooks, gas cans, jumper cables, flashlights, tools, etc.)
3. Use standard personal protective equipment (hard hat, vest, coveralls, gloves, glasses, etc.)
4. When on foot, make every effort to perform work *facing* oncoming traffic.
5. Employees shall use proper lifting techniques and obtain assistance if needed when lifting heavy objects.
6. Avoid working under or around raised vehicles.
7. Do not exceed equipment limitations.
8. Be alert for other people in the work area.
9. Be especially aware of traffic at night, a driver's perception is different. Also, impaired drivers are more prevalent at night.
10. Maintain radio contact with dispatcher at all times.
11. If it can be done safely, move vehicle off travel way before working on it.
12. Use care when entering or exiting vehicles.

...Cont'd on Page 42

# Code of Safe Operating Practices

## **TOW SERVICE (Cont'd)**

13. Keep hands and body away from moving parts and pinch points.
14. Check for flammable liquids before using fuses.
15. Proper procedures and safeguards will be used during tow truck operations:
  - a. When giving jumper starts, hook up the positive post first and then attach the ground cable to the vehicle away from the battery. Where possible, attach cables to battery, then plug into socket.
  - b. Never remove the cap from an overheated radiator. Cool off the radiator by putting water over it.
16. Check all rigging (especially snatch blocks) before starting a heavy lift or pull. Stay clear of cables during pulls.
17. Safety chains shall be used when towing on all public roads and are to be used with all towing devices, such as Car Slings, Truck Hitches, Wheel Lifts, Axle Lifts, etc. Safety chains are used in addition to regular hook-up chains and must have a positive locking hook on it to attach to the vehicle being towed; they shall retain the towed vehicle if it accidentally comes loose while in tow.
18. When hooking up vehicles in adverse weather conditions or high-speed traffic, use a protective/barrier vehicle or CHP traffic break. Use a lookout if available.

# Code of Safe Operating Practices

## **TRAFFIC SIGNALS, FLASHING BEACONS & RAMP METERING, MAINTENANCE AND INSPECTIONS, REPAIRS, RELAMPING, FIELD INSPECTIONS AND MODIFICATIONS**

### **HAZARD REVIEW**

Traffic hazards  
Electrical shock  
Hot lamps  
Above ground work  
Footing and unstable terrain  
Broken glass  
Sharp edges and points  
Flying particles

### **SAFE OPERATING PROCEDURES**

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entry and exit of vehicle, which does not cause a hazard to your self or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard personal protective equipment. Reflective vests and white coveralls are required for night work. Wear hearing protection if appropriate.
6. Survey the work area, for electrical hazards, both overhead and surface locations.
7. Use proper testing procedures and equipment.
8. Insure power is properly disconnected when necessary. Locks and/or tags shall be used where approved.
9. Remain alert to traffic when walking into intersection.
10. Wear gloves when re-lamping.
11. Be aware of pedestrian traffic.

...Cont'd on Page 44

# Code of Safe Operating Practices

## **TRAFFIC SIGNALS, FLASHING BEACONS & RAMP METERING, MAINTENANCE AND INSPECTIONS, REPAIRS, RELAMPING, FIELD INSPECTIONS AND MODIFICATIONS (Cont'd)**

12. Be alert while working around others not part of your crew such as contractors, utility workers or city and county crews. Their safety procedures may differ from ours.
13. Wear safety belts and lanyards when operating aerial equipment. (See Appendix G, Fall Protection).
14. Follow your District's established hazardous materials policies when disposing of any gas filled lamp such as fluorescent, mercury vapor or sodium vapor.

# Code of Safe Operating Practices

## **SIGN LIGHTING REPAIRS RELAMPING AND MAINTENANCE**

### **HAZARD REVIEW**

Traffic hazards  
Electric shock  
Above ground work  
Hot lamps  
Broken glass  
Footing and unstable terrain  
Falling material  
Excessive noise  
Communication difficulties

### **SAFE OPERATING PROCEDURES**

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard, required personal protective equipment. Reflective vests are required and white coveralls are recommended for night work. Hearing protection if appropriate.
6. Insure circuit is properly disconnected if appropriate to work. Locks and/or tags shall be used.
7. Place lamps, tools, and supplies where they won't fall.
8. Don't drop or throw materials from sign.
9. Use proper testing procedures and equipment.
10. Be alert when working around others not part of your crew such as contractors, utility workers or city and county crews. Their safety procedures may differ from ours.
11. A safety strap shall be attached at all times to the basket, platform or sign structure when the catwalk safety rails are down. One must be attached before the other one is unattached. Lanyards may be removed when all safety rails are up and end chains are in place, (see Appendix G, Fall Protection).
12. Follow your District's established hazardous materials policies when disposing of any gas filled lamp such as fluorescent, mercury vapor or sodium vapor.

# Code of Safe Operating Practices

## **ELECTRICAL TROUBLE WORK AND KNOCKDOWNSLIGHTING, SIGNS, SIGNALS, FLASHERS, AND RAMP METERS**

### **HAZARD REVIEW**

Traffic hazards  
Electric shock  
Underground and overhead utilities  
Broken glass  
Equipment limitations  
Suspended loads  
Lifting  
Footing and unstable terrain  
Excavation hazards  
Toxic materials  
Falling materials  
Communication difficulties  
Excessive noise  
Airborne contaminants

### **SAFE OPERATING PROCEDURES**

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entry or exit of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard, required personal protective equipment. Reflective vests and white coveralls are required for night work. Wear hearing protection if appropriate.
6. Insure circuit is properly disconnected when necessary. Locks and/or tags shall be used.
7. Provide signal person when load is hidden from boom operator.
8. When raising loads be sure the slings and cables are properly labeled or of sufficient capacity and properly positioned.

...Cont'd on Page 47

# Code of Safe Operating Practices

## **ELECTRICAL TROUBLE WORK AND KNOCKDOWNS, LIGHTING, SIGNS, SIGNALS, FLASHERS, AND RAMP METERS (Cont'd)**

9. Remain visible to boom operator and do not stand under any load. Non-essential personnel should remain clear.
10. Use proper testing procedures and equipment.
11. Follow underground utilities and trench safety procedures, if applicable (see Appendix D).
12. Follow your district's established hazardous materials policies when disposing of any gas filled lamp such as a fluorescent, mercury vapor or sodium vapor.
13. Wear safety belts and lanyards when operating aerial equipment. (See Appendix G, Fall Protection).

# Code of Safe Operating Practices

## NIGHT ELECTRICAL INSPECTION

### HAZARD REVIEW

Traffic hazards  
Impaired Drivers  
Hazardous parking areas  
Dark work areas  
Footing and unstable terrain

### SAFE OPERATING PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entry and exit of vehicle, which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard, required personal protective equipment. Reflective vests are required and white coveralls are recommended for night work. Wear hearing protection if appropriate.
6. Be especially aware of traffic as driver perception is different and impaired drivers are more prevalent at night.

# Code of Safe Operating Practices

## MISCELLANEOUS ELECTRICAL INSTRUCTIONS

### HAZARD REVIEW

Traffic hazards  
Hazardous parking areas  
Electrical shock  
Falling materials  
Heavy materials  
Sharp edges and points  
Obstructed work spaces  
Above ground work  
Airborne contaminants  
Equipment limitations  
Underground utilities  
Excavation hazards  
Noise  
Footing and unstable terrain

### SAFE OPERATING PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard personal protective equipment. White coveralls are required at night.
6. Utilize truck-mounted work light or flashlight.
7. Be especially aware of traffic as driver perception is different at night and, also, drunk drivers are more prevalent at night.
8. Do not work over bridge rails or on sign bridges without being properly secured (See Appendix G, Fall Protection).
9. Use proper testing procedures and equipment.

...Cont'd on Page 50

# Code of Safe Operating Practices

## MISCELLANEOUS ELECTRICAL INSTRUCTIONS (Cont'd)

10. Insure circuit is properly disconnected when necessary. Locks and/or tags shall be used where approved.
11. Remain alert to traffic when walking into an intersection.
12. Perform testing in such a manner as to minimize traffic disruptions.
13. Good housekeeping will be continuously practiced to preclude obstruction of workspaces.
14. Check ladder footing on first and second step before climbing. (Slight jump to verify ladder is secure). Do not use the top steps.
15. Follow underground utility and trench safety procedures (See Appendix D).
16. Be alert while working around others who are not part of your crew such as contractors, utility workers, or city and county crews. Their safety procedures may differ from ours.
17. Follow your district's established hazardous materials policies when disposing of any gas filled lamp such as fluorescent, mercury vapor or sodium vapor.
18. Employees required to work on series or high voltage circuits, must have high voltage and series circuit safety training before starting work.
19. Only Caltrans electricians will work on high voltage circuits (600 volts or more). A minimum crew of two is required; one will act as an observer. A Caltrans Electrical Technician may be used if under the immediate supervision of a Caltrans electrician.
20. Maintain at least 10 feet of clearance from overhead high voltage lines at all times.
21. Open safety switches, lock and tag out at any locations that are automatically controlled.
22. Should work require entry into a confined space, a Confined Space Pre-Work Checklist shall be posted at the work site and must be completed and signed before entry into the confined space. (See Appendix B)
23. Care must be exercised when removing or replacing conductors, components, circuit boards or similar devices that fingers or hands are not burned, lacerated, pinched or punctured.
24. Wear safety belts and lanyards when operating aerial equipment. (See Appendix G, Fall Protection).

# Code of Safe Operating Practices

## TRAFFIC ACCIDENTS/EMERGENCY RESPONSE

### HAZARD REVIEW

Moving traffic  
Moving equipment  
Confused motorist  
Non-Caltrans personnel  
Hazardous spills  
Infectious diseases

### SAFE OPERATING PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Use appropriate radio communications to notify Caltrans dispatcher per District instructions.
3. Park your vehicle where it will not be a hazard to yourself or others. Never stand between your vehicle and traffic.
4. Continually *face* oncoming traffic; if possible, use a lookout.
5. Use discretion if administering first aid, use AIDS protection where there is a chance of body fluid contamination.
6. Install Chapter 8 traffic controls when necessary.
7. **DO NOT** attempt to identify spilled substances; they may be hazardous. Protect yourself; protect traffic; protect the environment; WAIT FOR THE EXPERTS!
8. Do not let down your guard after the accident has stabilized. Motorists are confused when they encounter traffic congestion and accidents. Be aware of the errant and/or frustrated driver.
9. Be careful when working around non-Caltrans personnel (law enforcement, fire departments, ambulance crews, etc.), their safety procedures may differ from ours.
10. Be careful when removing debris from the traveled way; use equipment if possible.
11. Above all, do not jeopardize your personal safety.

# Code of Safe Operating Practices

## PAVEMENT STRIPING AND MARKINGS

### HAZARD REVIEW

Moving traffic  
Hot materials  
Hazardous materials  
Open flame  
Pressurized containers  
Moving equipment  
Heavy equipment handling  
Noise

### SAFE OPERATING PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard personal protective equipment. Long sleeve shirts or coveralls, gloves, eye protection, and face shield (wire mesh for thermoplastic) are required when handling and loading. Use appropriate footwear with hard soles and leather uppers.
6. Bead tank pressure shall be completely released before the lid is removed.
7. Make sure paint pressure is completely released before pulling paint filters.
8. Do not use pressure relief valves to bleed pressure on any pressurized tanks.
9. All air and paint pressure lines should be checked periodically for softness and wear.
10. Do not use a pressurized air hose to clean yourself.
11. Use extreme caution when working around high-pressure paint guns. Paint could be injected into your skin.
12. Avoid contact with hot thermoplastic.

...Cont'd on Page 53

# Code of Safe Operating Practices

## **PAVEMENT STRIPING AND MARKINGS (Cont'd)**

13. Alert all crewmembers to hazards of removing thermoplastic.
14. Review Material Safety Data Sheet for materials used.
15. Dispose of all hazardous waste properly.
16. Lift properly.
17. Follow specified kettle lighting procedures. Extinguish flames during refueling operations.
18. Be aware of sharp edges on metal stencils.
19. Wash thoroughly with clean water and soap before eating, drinking, smoking or using the restroom. Safe drinking and wash water and soap shall be provided at the work site.

# Code of Safe Operating Practices

## **THERMOPLASTIC STRIPER AND PRE-HEATER BIG MAC**

### **HAZARD REVIEW**

Hazardous materials  
Moving traffic  
Pressurized containers  
Hot materials  
Noise  
Open flame  
Moving equipment  
Heavy equipment handling

### **SAFE OPERATING PROCEDURES**

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard personal protective equipment. The use of 100 % cotton smocks or coveralls is required. Gloves, eye protection, and face shield (wire mesh for thermoplastic) are required when handling and loading. Use appropriate footwear with hard soles and leather uppers.
6. Bead tank pressure shall be completely released before the lid is removed.
7. A type BC, 20lb (9 kilograms) dry chemical fire extinguisher, shall be carried on all thermoplastic heating or applying equipment.
8. Smoking is prohibited within 25 feet (8 meters) of LPG tank opening vents and while filling tanks. Burners on pre-heaters shall not be left unattended while lit.
9. Material shall never be heated beyond manufacturers recommended temperature for applications.

...Cont'd on Page 55

# Code of Safe Operating Practices

## **THERMOPLASTIC STRIPER AND PRE-HEATER BIG MAC (Cont'd)**

10. Pre-heaters should be loaded and unloaded with care to prevent splashing of hot material. Pre-heaters should be left about six inches (152 millimeters) from top while filling to leave room for material to move when vehicle is deadheaded.
11. In case of fire, all engines, pumps, and valves should be shut off.
12. Truck beds should be cleaned each day of loose material and melted thermoplastic.
13. Only qualified and trained personnel are allowed to operate Pre-heaters.
14. The "Owner's Manuals" for both units will be reviewed with each operator prior to their first-time operation.
15. Avoid contact with hot thermoplastic.
16. Alert all crew members to hazards of removing thermoplastic.
17. Review Material Safety Data Sheet for materials used.
18. Dispose of all hazardous waste properly.
19. Lift properly. Review "Proper Lifting" video in Maintenance Employee Safety Orientation series for specific instructions on correct lifting practices.
20. Follow specified kettle lighting procedures. See COSP for Propane Tank Handling And Use (Appendix A). Extinguish flames during refueling operations.

**SEE EQUIPMENT CODES FOR SPECIFIC EQUIPMENT SAFETY  
INSTRUCTIONS!**

# Code of Safe Operating Practices

## THERMOPLASTIC PRE-HEATER

### HAZARD REVIEW

Flammable Gases  
Hot and molten material  
Open flame  
Hazardous Materials and Wastes  
Dust and Fumes  
Pressurized Containers  
Moving Equipment  
Operating Mechanical Lifting Devices  
Heavy Lifting  
Noise

### SAFE OPERATING PROCEDURES

1. Review safe practice rules before starting work. Perform pre/post operational checks on vehicle and pre-heater installed electric igniter system (including rental equipment), if applicable.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic or working equipment that is supporting your operation.
5. In addition to standard personal protective equipment, the following protective gear is also required.
  - a. For handling of thermoplastic in the granular form or glass safety spheres: (This includes loading/unloading of vehicles, applicators and cleanup of spilled material).
    1. Safety Glasses & Wire Mesh face shield.
    2. 100% cotton long sleeve shirt, long sleeve cuff or coveralls.
    3. Leather gloves
    4. Appropriate work boots (no low cut) with leather uppers and non-slip hard soles.

...Cont'd on Page 57

# Code of Safe Operating Practices

## **THERMOPLASTIC PRE-HEATER (Cont'd)**

5. If visible dust is generated, cartridge respirators (with HEPA filters) or N-100 dust masks shall be worn. Respirator training and use will comply with Chapter 15 of the Caltrans Safety Manual.
  - b. For handling thermoplastic in the molten form, the following is required:
    1. Safety Glasses & Wire Mesh face shield
    2. 100% cotton long sleeve shirt, long sleeve cuff or coveralls.
    3. Leather gloves.
    4. Foot protection.
    5. A type "BC" 20lb (9 kilograms) dry chemical fire extinguisher shall be carried on all thermoplastic equipment, including applicators.
6. Smoking is prohibited within 25 feet (8 meters) of LPG tanks and during tank filling or changing.
7. Pre-heater burners shall not be lit during filling of LPG tanks or fueling of vehicle.
8. Pre-heater shall not be left unattended while burners are on.
9. Thermoplastic material shall never be heated beyond 425°F (218° Celsius) or the manufacturer's recommended temperature for application.
10. Care shall be taken when loading/unloading pre-heaters to prevent splashing of hot material and to reduce spillage of unmelted material. A space of approximately six inches (152 millimeters) shall be left unfilled from the top of the kettle to provide for material movement during agitation or vehicle deadheading.
11. In case of fire immediately turn off or close all engines, pumps and valves.
12. Vehicles shall be cleaned daily of spilled materials. Care shall be exercised to segregate the recovered material to provide for proper waste disposal according to material classification. Never dump molten or unmelted material on the ground as a disposal method. Place the material in a container for re-use or proper disposal.
13. Only qualified personnel shall operate pre-heaters. Refer to the attached safe practice rules for proper lighting procedures.
14. Equipment 'Owner's Manual', if available, shall be reviewed during the qualification procedures. If the manual is not available, contact the assigned mechanic or Equipment Shop for assistance in procuring manual.

...Cont'd on Page 58

# Code of Safe Operating Practices

## **THERMOPLASTIC PRE-HEATER (Cont'd)**

15. Avoid contact with hot thermoplastic. Alert all crewmembers to hazards of removing hot thermoplastic if an employee is splashed. If molten material gets on skin, immerse in water to cool – then seek medical assistance – do not remove the spilled material off the skin.
16. Avoid standing downwind during loading operations in case of spillage of unmelted material. REMINDER: A respirator with HEPA filter is required within ten feet (3 meters) of the pre-heater or nurse truck whenever unmelted thermoplastic is being handled and, within five feet (1.5 meters) from the immediate vicinity where a thermoplastic spill (unmelted) is being handled.
17. Review the Material Safety Data sheet prior to handling thermoplastic material.
18. Lift Properly: Periodically review “Proper Lifting” video in the Maintenance Employee Safety Orientation series for specific instruction on correct lifting practices.

## **SAFE PRACTICE RULES**

1. Never travel outside of your immediate work area with burners lit. If the main burner & pilot light go out, immediately closed all valves starting at the tank(s), wait three minutes to clear all gases from firebox. Then start the lighting procedures.
2. Pre-heater temperature shall be a minimum of 375° F (190° Celsius) before engaging kettle agitator.
3. Operator shall ensure pre-heater lid is secured before engaging kettle agitator or before deadheading.
4. Operator shall perform a ‘gas leak’ test (at least weekly) on all lines, fittings and connections using a spray bottle and soap solution. Any leaks shall be immediately repaired.
5. Before securing at the end of the work shift, fill kettle to reduce possibility of fire. When securing the pre-heater close the main propane tank(s) valve(s) and allow all gas in the line to be exhausted at the burner. Once you confirm that the burner and pilot are off, close all propane line valves.
6. The following safety equipment is mandatory while lighting pre-heater.
  - a. Standard safety equipment (hard hat, safety glasses, proper foot protection, orange vest).
  - b. Heat reflecting face shield.
  - c. Hand & arm heat shielding.

...Cont'd on Page 59

# Code of Safe Operating Practices

## THERMOPLASTIC PREHEATER (Cont'd)

### 7. LIGHTING PROCEDURES

#### A. Electric

**(If the installed electric igniter system properly operates during pre-operational check, its use is mandatory for the initial lighting of the pre-heater. If the installed igniter system fails to properly operate during pre-op, the vehicle shall not be used until the installed igniter system is repaired.) The operator shall:**

1. Visually inspect the main burner firebox. If the firebox is dirty or contains oils and or other debris thoroughly clean the firebox before lighting pilot.
2. Ensure that all valves associated with the pre-heater are closed.
3. Turn on propane tank(s), as appropriate.
4. Starting at the tank(s), turn on all valves leading to the thermostat valve.
5. Turn thermostat to 250° F (121° Celsius) then open valve to access the propane. Depress pilot light gas button and operate electronic igniter switch a maximum of ten seconds to light pilot. If pilot light burns hold down pilot gas button for 30 seconds. Release button, and verify through the site port that burners are on. If pilot fails to light, wait three minutes for the propane gas to dissipate from the firebox before relighting. **FAILURE TO WAIT THE THREE MINUTES MAY RESULT IN A FLASHBACK DUE TO TRAPPED GASES IN THE FIREBOX.**
6. Once burners are steadily burning increase thermostat temperature to 425° F (218° Celsius).

#### NOTE:

1. **Two employees (operator & assistant) shall be present during lighting procedures.** The assistant shall verify that the lighting procedures are being followed and shall immediately call for assistance in case of an accident.

#### B. Manual

**(If the installed electric igniter system does not operate properly once the vehicle reaches the work site, manual lighting procedures are authorized.) The operator shall:**

1. Visually inspect the main burner firebox. If the firebox is dirty or contains oils and or other debris thoroughly clean the firebox before lighting pilot.

...Cont'd on Page 60

# Code of Safe Operating Practices

## THERMOPLASTIC PREHEATER (Cont'd)

- 2 The operator shall ensure that all valves associated with the pre-heater are closed.
- 3 The operator shall turn on propane tank(s), as appropriate.
- 4 The operator starting at the tank(s) shall turn on all valves leading to the thermostat valve.
- 5 The operator shall turn thermostat to 250° F (121° Celsius) then open valve to access the propane.
- 6 While depressing the pilot light gas button the operator shall have his/her assistant attempt to light the pilot through an available port utilizing a long reach manual igniter (24 inches / 600 mm maximum reach) for a maximum of ten seconds. The assistant shall not reach inside the firebox and shall not look directly into the port opening while lighting the pilot. If pilot light ignites the operator shall hold down pilot gas button for 30 seconds. The operator shall then release the pilot button and verify through the site port that burners are on. **If pilot fails to light, the operator shall wait three minutes for the propane gas to dissipate from the firebox before attempting to relight the pilot. FAILURE TO WAIT THE THREE MINUTES MAY RESULT IN A FLASHBACK DUE TO TRAPPED GASES IN THE FIREBOX.**
- 7 Once burners are steadily burning the operator shall increase thermostat temperature to 425° F (218° Celsius).

### NOTE:

- 1 **Two employees (operator & assistant) shall be present during lighting procedures. The assistant shall verify that the lighting procedures are being followed and shall immediately call for assistance in case of an accident.**

# Code of Safe Operating Practices

## **BITUMINOUS OR EPOXY RAISED PAVEMENT MARKER REPLACEMENT AND REMOVAL**

### **HAZARD REVIEW**

Moving traffic  
Hazardous material  
Skin irritation  
High noise level  
Lifting  
Flying objects

### **SAFE OPERATING PROCEDURES**

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard personal protective equipment. Long sleeve shirts or coveralls, eye protection and gloves are required. Face shields are required for manual marker removal. Hearing protection may be required. Use appropriate footwear with hard soles and leather uppers.
6. Make sure pressure on thinner tank is released before removing lid.
7. Epoxy machine shall not be operated in wet weather as electrical shock may result.
8. While operating the epoxy machine make sure the air valve is closed to the thinner tank.
9. During an epoxy operation, make sure the compartment lid is closed.
10. Use proper tools for removal of markers.
11. Use proper lifting techniques to avoid back injury.
12. Review Material Safety Data Sheet for material used (note first aid).
13. Avoid contact with hot bituminous material. If contact occurs immerse injury into cold water and seek immediate attention.
14. Burners shall not be lit while in transit.

# Code of Safe Operating Practices

## **SIGN MAINTENANCE**

### **HAZARD REVIEW**

Moving traffic  
Power equipment operation  
Above ground work  
Footing hazard  
Power tool/Chain saw operation  
Underground utilities  
Splintered posts  
Falling/Flying objects  
Heavy lifting  
Wood preservatives

### **SAFE OPERATING PROCEDURES**

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard personal protective equipment. Gloves and long sleeved shirts, coveralls are required to minimize skin contact when handling treated posts.
6. Avoid breathing dust from treated posts, review Material Safety Data Sheet for posts before using. Use sharp saws and tools to minimize creation of dust. Work upwind or use local ventilation if possible during cutting and drilling operations. Respiratory protection is not required, but an N-95 dust mask respirator may be used.
7. Avoid breathing fumes from cutting or welding on galvanized posts. Work upwind or use local ventilation. If welding or cutting will last more than 30 minutes in a workshift, a half-face cartridge respirator with P-100 cartridges is required. If less than 30 minutes, no respirator is required, but an N-95 dust mask respirator may be worn.
8. Avoid cutting sign bolts where the danger exists of these flying into eyes or face.
9. When working off of truck utility body on bridges, employees shall use fall protection. See fall protection (Appendix G).
10. Check ladder footing on first and second step (slight jump to secure footing) before climbing. (Reference: Personnel Hoist, General Instructions, Equipment Section).

...Cont'd on Page 63

# Code of Safe Operating Practices

## SIGN MAINTENANCE (Cont'd)

11. Employees shall use safety railing and chains and make sure they are secure while working on overhead signs.
12. Extreme care must be exercised to avoid the rupture or disturbance of underground utilities when digging postholes. Contact USA before digging.
13. Safety strap shall be attached at all times to the boom, basket, platform or sign structure when the catwalk safety rails are down.
14. Employees shall use proper lifting techniques and obtain assistance when lifting heavy objects.
15. Be alert to suspended loads and avoid walking or working under suspended loads or other equipment.
16. Employees are to examine footing prior to working on slopes.
17. Employees shall promptly dispose of protective paper between signs so other employees won't slip on it.
18. Dispose of treated posts properly, do not burn them.
19. When working with treated posts observe good personal hygiene -- do not eat, drink, or smoke during work. Carry wash water, soap, and paper towels. Wash your hands before eating, drinking, smoking or using the restroom.

# Code of Safe Operating Practices

## ROADSIDE MARKER REPAIR OR REPLACEMENT

### HAZARD REVIEW

Moving traffic  
Uneven terrain  
Removing damaged posts  
Driving posts and pilot holes  
Handling materials  
Fiberglass splinters

### SAFE OPERATING PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard personal protective equipment. Wear gloves when handling posts.
6. Use proper tool when removing or installing posts.
  - a. **Caution** - Damaged posts may break during removal- Stay clear of vertical movement
7. Beware of hidden objects in grassy areas or unstable terrain.
8. Use special care when handling fiberglass markers that are broken or splintered.
9. Keep vehicle between yourself and traffic if possible.
10. Use special care when handling material with sharp edges or points.

# Code of Safe Operating Practices

## **GUARDRAIL AND MEDIAN BARRIER REPAIR OR REPLACEMENT INCLUDES VEHICLE ENERGY ATTENUATOR REPAIR**

### **HAZARD REVIEW**

Moving traffic  
Overcrowding of workers  
Handling materials  
Sharp objects  
Uneven terrain  
Material under stress  
Falling objects  
Cutting and welding galvanized materials  
Blowing sand

### **SAFE OPERATING PROCEDURES**

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard personal protective equipment. Gloves and long sleeved shirts, coveralls are required when handling treated posts.
6. Avoid breathing dust from treated posts, review Material Safety Data Sheet for posts before using. Use sharp saws and tools to minimize creation of dust. Work upwind or use local ventilation if possible during cutting and drilling operations. Respiratory protection is not required, but an N-95 dust mask respirator may be used.
7. Allow ample space for each employee to work safely. Keep the work area clear
8. Inspect area for hidden hazards before beginning work.
9. Be careful when removing damaged rail or cable - it may flex and spring back.
10. Be alert for objects, such as guardrail or blocks that can fall when they come loose.
11. Avoid breathing fumes from cutting or welding on galvanized posts. Wear welding goggles when using torch. Work upwind or use local ventilation. If welding or cutting will last more than 30 minutes in a workshift, a half-face cartridge respirator with P-100 cartridges is required. If less than 30 minutes, no respirator is required, but an N-95 dust mask respirator may be worn.

...Cont'd on Page 66

# Code of Safe Operating Practices

## **GUARDRAIL AND MEDIAN BARRIER REPAIR OR REPLACEMENT INCLUDES VEHICLE ENERGY ATTENUATOR REPAIR (Cont'd)**

12. Use proper lifting techniques to avoid back injury.
13. Locate utility lines and pipes before digging, contact (USA).
14. When entering or exiting the truck bed use provided ladders.
15. Before moving sand truck, be sure personnel are out of bed.
16. Stay clear of boom when under tension. Keep clear of pinch points. Do not stand between boom extension and controls.
17. Be aware of moving equipment in the work zone.
18. Be aware of sharp wire ends or damaged posts and sharp edges.
19. When using Guardrail Straightener, refer to the Equipment COSP for specific equipment cautions.
20. Dispose of treated posts properly, do not burn them.
21. When working on treated posts don't eat, drink, or smoke while working. Carry wash water and soap to wash your hands before eating, drinking, smoking or using the restroom.
22. Minimize exposure to traffic by placing tools and materials on off-traffic side of work vehicle. Use the guard rail/ median barrier/ or work vehicle as a physical barrier from traffic whenever possible.
23. Do not needlessly expose yourself to moving traffic to pick up small pieces of debris left over from impacted sand barrel/gore attenuators.

# Code of Safe Operating Practices

## WORKING IN TRUCK ESCAPE RAMPS

### HAZARD REVIEW

Traffic hazards  
Flying gravel and sand  
Footing and unstable terrain

### SAFE OPERATING PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Shoulder should be closed with cones near the entrance to the *ESCAPE RAMP*.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard personal protective equipment. Reflective vest and white coveralls are required at night.
6. Employees on foot should stay out of the way of operating equipment until the area is clear for hand work.
7. Be especially alert when working around others not part of your crew, i.e., contractors, tow truck operators, etc.
8. Stay clear of tow cables and vehicles involved in vehicle retrieval.
9. Use a spotter if employees are on foot.
10. Use a planned escape route.
11. Use typical ramp or connector closures; Plate 8-2.
12. Use two (2) C19 signs as well as two (2) C30 signs.
13. At 1/2 mile (0.8 kilometers) before ramp, use a Changeable Message Sign or Early Warner in the caution mode and a lookout with a radio to warn our crew of fast moving or runaway trucks.
14. Entrance of Ramp: Place lookout with *Remote Control* warning device.
15. Barrier trucks should be placed across entrance of *ESCAPE RAMP*.
16. At night, signs should be lighted and cones should have reflective sleeves.
17. Optional: Lookout person standing near workers.

The procedures listed above shall be followed any time our crews have to work in the *Truck Runaway Escape Ramp*.

# Code of Safe Operating Practices

## SNOW REMOVAL AND ICE CONTROL

### HAZARD REVIEW

Moving Traffic  
Out of control vehicles  
Adverse weather conditions  
Poor visibility  
Moving equipment  
De-icing materials  
Slip and trip hazards  
Workers on foot

### SAFE OPERATING PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle. Enter and exit vehicles properly. Steps may be slippery or icy.
4. While on foot, use standard personal protective equipment. Use reflective gear at night. Hearing protection may be required. Dress appropriately for the job and weather conditions.
5. When you are working on foot be alert for out of control vehicles. Be prepared to take evasive action at a moment's notice. Make every effort to perform work *facing* oncoming traffic.
6. During storm conditions, employees should exercise extreme caution to allow for unexpected action on the part of other motorists.
7. Maintain radio contact with Caltrans base station or CHP dispatcher.
8. While plowing snow, be alert for pedestrians, and slow down as needed.
9. Make sure equipment and personal protective devices are in good repair before leaving the yard. It is advisable to carry a shovel, flares, extra washer fluid and safety triangles.

...Cont'd on Page 69

# Code of Safe Operating Practices

## **SNOW REMOVAL AND ICE CONTROL (Cont'd)**

10. Use caution when plowing around obstructions and parked vehicles. Slow down as needed i.e. chain control areas and bridge decks. Obstructions are usually marked with blue reflectors. Review and be familiar with the Statewide Snowpole Policy.
11. Use tire chains when required, or when there is difficulty starting or stopping.
12. Clean and check all warning and vehicle lights frequently during plowing and sanding operations.
13. If possible, do not stop in the traveled way to work on equipment. Pull off the road in a safe location. Avoid stopping or standing on low side of super elevated curves.
14. Use caution while backing during adverse conditions, avoid if possible.
15. During adverse weather conditions, take time to think. Most accidents can be prevented if each of us considers the results of our actions.
16. Review Material Safety Data Sheet for de-icing chemicals.
17. Use proper lifting techniques to avoid back injuries.
18. Post-op equipment.

# Code of Safe Operating Practices

## STAFFED CHAIN CONTROL

### HAZARD REVIEW

Moving traffic  
Moving equipment  
Workers on foot  
Slip and trip hazards  
Adverse weather conditions  
Poor visibility  
Out of control vehicles

### SAFE OPERATING PROCEDURES

1. Pre-op equipment and review Safe Practice Rules for applicable equipment (See Equipment Index)
2. Review work area protection procedures and any traffic control requirements. Contact and use a CHP Officer at your location.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use required personal protective equipment.
6. While standing chain control, be especially alert for out of control vehicles. You are working on foot, and you must be prepared to take evasive action at moments notice.
7. Do not argue with irate persons, remain positive and use CHP for help
8. During storm conditions, employees should exercise extreme caution to allow for unexpected action on the part of other motorists.
9. When working at night, use sufficient illumination at the chain control.
10. Use caution when entering and exiting vehicles.
11. Maintain radio contact at all times.
12. Make sure equipment and personal protective devices are in good repair before leaving the yard

...Cont'd on Page 71

# Code of Safe Operating Practices

## **STAFFED CHAIN CONTROL (Cont'd)**

13. Use tire chains when required, or when there is difficulty starting or stopping.
14. Clean and check all warning and vehicle lights frequently.
15. Be especially careful when backing during adverse conditions, avoid altogether if possible.
16. Most of the time, you will be working under adverse weather conditions, take time to think. Most accident can be prevented if each of us considers the results of our actions.

# Code of Safe Operating Practices

## SNOW REMOVAL IN AVALANCHE AREAS

### HAZARD REVIEW

Moving traffic  
Moving equipment  
Small snow slides  
Large snow slides  
Drifting snow  
Poor visibility  
Stopped traffic  
Pedestrians on foot

### SAFE OPERATING PROCEDURES

1. Pre-op equipment and review safe practice rules applicable for equipment. (See equipment index).
2. Review work area protection procedures and any Traffic Control requirements.
3. Use required personal protective equipment including locator beacon tuned to transmit mode.
4. Avalanche areas and slopes shall be constantly monitored by qualified personnel and by equipment operators. Any unusual snow movement or occurrence shall be immediately reported to qualified personnel.
  - A. A qualified person is a person by reason of experience or instruction is familiar with the avalanche area and the hazards involved.
  - B. A qualified person will have the authority to close the road if avalanche hazards exist.
5. Stop only in designated safe areas. Qualified personnel shall define safe areas.
6. Never exit vehicles or equipment except in designated safe areas.
7. All personnel working in avalanche areas shall maintain periodic radio contact with their base station.
8. Never exit vehicle or equipment if caught in an avalanche, shut off engine and attempt to contact the base station or another vehicle by radio.
9. All employees shall be briefed on these procedures at the beginning of each snow season and periodically during the winter. Any new employees assigned to work in avalanche areas shall be briefed prior to beginning work.

# Code of Safe Operating Practices

## STORM PATROL

### HAZARD REVIEW

Rocks, mud and debris on roadway  
Overhead falling/sliding material  
Slippery pavement  
Poor visibility  
Entering into or exiting from traffic-flow  
Falling trees  
Flooding  
Abrupt changes in vehicular speeds  
Blowing sand or snow

### SAFE OPERATING PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard personal protective equipment. Reflective gear is required at night.
6. Watch out for hydroplaning or unexpected action by motorists, especially on the curves.
7. If storm deposited material cannot be removed from the roadway, set up traffic control and if necessary close the road until appropriate personnel and equipment are provided and the area is safe. Refer to Slope and Embankment Maintenance COSP and Cut Slope Safety Guidelines (Appendix E).
8. If working on foot under a cut slope, avoid the hazards of, falling rock or other debris, or being trapped by a slide. Notify someone that you are leaving your vehicle to work under a cut slope.
  - a. First evaluate what hazards are apparent in the cut slope area.
  - b. When working at night, use sufficient illumination to check the face of the slope.
  - c. If you have any doubt as to your safety, do not work under the cut slope. If necessary, set up traffic control or close the road, as outlined in #7 above.
9. During high winds watch for falling trees, downed power lines, blowing sand or snow.
10. Be alert for washouts hidden by floodwaters.

# Code of Safe Operating Practices

## **SLOPE AND EMBANKMENT MAINTENANCE INCLUDES REMOVAL OF SLIDES, SLIPOUTS AND ROCKFALL**

### **HAZARD REVIEW**

Moving traffic  
Moving equipment  
Workers on foot  
Rocks, mud and debris on roadway  
Overhead falling/sliding material  
Slipping and tripping hazards  
Poor visibility

### **SAFE OPERATING PROCEDURES**

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard personal protective equipment. Hearing protection may be required.
6. Before work is started, a qualified person must evaluate what hazards are apparent and the scope of the work involved. This evaluation should include an examination of the area and adjacent areas for ground cracks and excessive water flow as well as loose boulders, trees, and other debris on slopes.
  - a. A qualified person is a person who by reason of experience or instruction is familiar with the operation to be performed and the hazards involved.
  - b. A qualified Caltrans person will direct the operation, and have the authority to relieve any person for noncompliance of his orders.
7. A lookout shall be used to continually watch the face of the slope and give warning when loose rock, or other materials, start to fall.
  - a. Lookouts have the authority to clear the area or stop work at any time.

...Cont'd on Page 75

# Code of Safe Operating Practices

## **SLOPE AND EMBANKMENT MAINTENANCE INCLUDES REMOVAL OF SLIDES, SLIPOUTS AND ROCKFALL (Cont'd)**

- b. The number and placement of lookouts is at the discretion of the qualified person who is directing the operation. Lookouts should be carefully placed to reduce their exposure to falling material, operating equipment and moving traffic.
  - c. Lookouts shall have adequate communications with equipment operators at all times. When using voice communication devices with optional voice actuated and push-to-talk modes, the lookout shall use the voice actuated mode and equipment operators shall use the push-to-talk mode. If voice communications are used, an alternate alarm system shall be provided, e.g., hand held air horn, etc. Should communications not work properly, the lookout shall stop the operation until the situation is corrected.
  - d. Lookouts shall have pre-planned escape routes which will be reviewed and changed as necessary.
  - e. Lookouts should be changed periodically to avoid lowered levels of alertness.
8. Equipment operators, whether Caltrans' employees or rental equipment operators, are required to take direction from the qualified Caltrans person directing the operation.
- a. Equipment operators shall have pre-planned escape routes which will be reviewed and changed as necessary.
  - b. Equipment operators shall move to a safe area when the lookout gives the alarm.
9. Any person who fails to respond to the lookout's alarm shall be immediately relieved of duty by the qualified Caltrans person directing the operation.
10. Work shall be preplanned. It is important to understand that careful, planned actions must be followed in this type of work activity.
- a. Work crews shall hold pre-job conferences on the operation to be performed and the conditions involved, with re-briefing on a timely basis to avoid complacency.
  - b. Personnel and equipment appropriate for the work activity shall be provided.
  - c. If necessary, traffic control shall be established, including highway closure, until appropriate personnel and equipment are provided and the slide is safe to work.
  - d. Flaggers and other workers on foot should be located well clear of moving equipment and rock/slide active faces.

...Cont'd on Page 76

# Code of Safe Operating Practices

## **SLOPE AND EMBANKMENT MAINTENANCE INCLUDES REMOVAL OF SLIDES, SLIPOUTS AND ROCKFALL (Cont'd)**

- e. When pushing over an embankment edge, a spotter will be provided if necessary to protect workers below.
- 11. Traffic control procedures should be designed to assure the safety of motorists as well as Caltrans employees.
  - a. Holding areas should be in safe locations.
  - b. Where possible, motorists should be advised of the amount of delay time and other pertinent information including how to proceed through the work area.
- 12. When working at night, sufficient illumination shall be provided throughout the work area.

# Code of Safe Operating Practices

## ROCK SCALING

### HAZARD REVIEW

Moving traffic  
Moving equipment  
Overhead falling/sliding material  
Workers on foot  
Slipping and tripping hazards  
Rock and debris on roadway  
Poor visibility

### SAFE OPERATING PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
4. While on foot, make every effort to perform work *facing* oncoming traffic.
5. Use standard personal protective equipment. Hearing protection may be required.
6. Before starting any scaling operation, conduct a daily pre-job briefing where work procedures and assignments shall be discussed.
7. Location of all utilities shall be known before starting operations.
8. Before work is started, a qualified person must evaluate what hazards are apparent and the scope of the work involved. This evaluation should include an examination of the area and adjacent areas for ground cracks and excessive water flows as well as loose boulders, trees, and other debris on slopes.
  - a. A qualified person is a person who by reason of experience or instruction is familiar with the operation to be performed and the hazards involved.
  - b. A qualified Caltrans person will direct the operation, and have the authority to relieve any person for noncompliance of his orders.
9. Before starting any scaling operation all precautions shall be taken to protect property, traveling public, and employees from injury or accidents.

...Cont'd on Page 78

# Code of Safe Operating Practices

## ROCK SCALING (Cont'd)

10. Keep work area clear and be aware of surroundings. Danger areas shall be posted with signs and barriers.
11. Personnel assigned to scale slopes shall be trained and outfitted with approved climbing gear in accordance with safety commission U.I.A.A. (Union International des Association). [All U.I.A.A. equipment shall meet or exceed ANSI A10.14-1975 standards for safety belts, harnesses, lanyards, lifelines, and drop lines]
12. All climbing gear shall be inspected daily, both prior to and after use.
13. Before climbing operations begin, there shall be on site at least one trained aerial rescue climber on standby.
14. A lookout shall be used to continually watch the face of the slope and give warning when loose rock or other materials start to fall.
  - a. Lookouts have the authority to clear the area or stop work at any time.
  - b. The number and placement of lookouts is at the discretion of the qualified person who is directing the operation. Lookouts should be carefully placed to reduce their exposure to falling material, operating equipment and moving traffic.
  - c. Lookouts shall have adequate communications with equipment operators at all times. When using voice communication devices with optional voice actuated and push-to-talk modes, the lookout shall use the voice actuated mode and equipment operators shall use the push-to-talk mode. If voice communications are used, an alternate alarm system shall be provided, e.g., hand held air horn, etc. Should communications not work properly, the lookout shall stop the operation until the situation is corrected.
  - d. Lookouts shall have pre-planned escape routes which will be reviewed and changed as necessary.
  - e. Lookouts should be changed periodically to avoid lowered levels of alertness.
  - f. All lookouts at the top of the slope should have a safety line attached to them and properly tied in.
15. Carabiners shall never be oiled. Keep carabiners out of dust and grit. All carabiners shall be equipped with self-closing gate opening and should be equipped with a screw-locking device.

...Cont'd on Page 79

# Code of Safe Operating Practices

## ROCK SCALING (Cont'd)

16. Double carabiners, opposite opposed, shall be used on all tie ends.
17. All climbing ropes shall meet or exceed ANSI A10.14-1975 standards (drop lines shall have 5400 pounds (2.4 tonne) minimum tensile strength).
18. Ends of all ropes shall be either braided or melted to prevent unraveling. They shall be multi-strand synthetic approved rope for mountaineering.
19. Only approved mountaineering knots shall be used. Figure eight knots should be used on all tie ends, and all knots shall be safeguarded by two overhand knots.
20. Climbing ropes shall not be used for any other purpose except climbing operations.
21. Climbing ropes shall not be spliced. Also, a figure eight should be tied into ends of the climbing rope to prevent being pulled through the safety harness.
22. Ropes used for climbing shall be stored away from cutting edges, sharp tools, corrosives, chemicals, gas and oils.
23. Ropes used for climbing shall be coiled or suspended so that air can circulate through the coils during storage. Ropes made unsafe by damage or any other reason shall not be used for climbing.
24. Belay lines should be used during all climbing operations.
25. A warning shall be given by persons on the slope before rocks are released. "Rocks" or "Heads Up" are common terms for this purpose.

Note: Carabiners - All carabiners (D rings & snap hooks) under impact loads shall be of drop-forged steel with corrosion-resistant finish. They shall withstand a 5000-pound (1.5 tonne) tensile test, with out fail. Snap hooks used for positioning only may be of steel rolled stock with a corrosion-resistant finish. Such hooks shall be capable of withstanding a tensile strength of 1500 pounds (0.6 tonne) with a maximum permanent deformation of 1/64<sup>th</sup> inch (0.3 millimeters). Refer to ANSI A10.14-1975.

# Code of Safe Operating Practices

## **CHANGING WEAR PARTS**

**(Plow, loader and grader blades, drag shoes, flights and mower blades)**

### **HAZARD REVIEW**

Back Strain  
Cuts and Abrasions  
Crushing Injuries  
Pinch points

### **SAFE WORK PROCEDURES**

1. Plan the activity and have all necessary tools and replacement parts available before beginning the work.
2. Use safe lifting techniques. Get help or use equipment if necessary.
3. Use safety stands, safety chains, or safely block attachments before attempting wear part replacement. Never work under an attachment or blade without protective devices in place to prevent it from falling.
4. Hearing and eye protection are required while operating air impact wrenches.
5. Use only approved replacement parts. Contact the Equipment Shop or consult the operator's manual for specialized equipment.
6. Use only replacement fasteners that are in good condition. Do not torque fasteners above recommended pressure (ft./lbs.).
7. Wear parts can become very sharp, wear gloves while handling blades, watch for metal splinters and sharp edges.
8. Ensure that engines on equipment that you are working on cannot start. Remove the key if necessary.
9. While changing wear parts on equipment either chock the wheels or otherwise secure the vehicle to prevent movement.
10. Keep hands and fingers clear of pinch points.

# Code of Safe Operating Practices

## MOVING LANE CLOSURES

### HAZARD REVIEW

Moving traffic  
Moving equipment  
Errant Drivers  
Inattentive Motorists

### SAFE OPERATING PROCEDURES

**BEFORE THIS TYPE OF OPERATION IS PERFORMED YOU SHOULD CONSIDER IF THERE IS A SAFER METHOD BY WHICH PROJECTED WORK CAN BE DONE.**

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review all applicable code of safe operating practices.
3. All employees involved in the operation shall receive assignments and instructions before operation begins.
4. Proper communication techniques shall be discussed.
5. Fold up or remove signs before dead heading or when not in use.
6. Distractions, such as use of personal radios, cell phones or headsets are not allowed.
7. Riding on the back of moving equipment will not be allowed unless a specific work operation requires a properly secured operator (i. e., fertilization, hydro-seeding, mist blowing, and tree spraying, etc.).
8. Whenever possible, avoid stopping vehicle in the traveled way.
9. Make repairs or adjustments as far away from the traveled way as possible.
10. Radio communication in all vehicles is required.
11. Refer to Chapter 8 of the Maintenance Manual for additional requirements for moving lane closures.

# Code of Safe Operating Practices

## SHADOWING MOVING OPERATIONS

### HAZARD REVIEW

Hazard Review  
Moving Traffic  
Errant Drivers  
Inattentive Motorists  
Sight Distance  
Excessive Overhang of Attenuator

### SAFE OPERATING PROCEDURES

A shadow vehicle shall be equipped with FAS (flashing arrow sign, arrowboard), TMA (truck mounted attenuator), two-way radio, shoulder restraint, and headrest or high back seat.

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Maintain proper distance (spacing) from work vehicles (review Maintenance Manual, Chapter 8, Section 8.11 (A). Actual spacing should be coordinated prior to performing the work.
3. Where sight distance is limited, additional shadow trucks may be necessary, one to protect the work vehicle, the other to act as an advance warning.
4. Maintain radio contact with work vehicle.
5. Use the appropriate FAS message, use arrow mode when encroaching on an open lane of a multi-lane highway, use the caution mode, if not encroaching on an open lane or when on two-lane highways.
6. When pulling away from guardrails, etc., attenuator will swing wide due to excessive overhang. Move out gradually.
7. Scan rear view mirrors often while shadowing, especially if encroaching on a live lane of traffic. Be ready to move at a moment's notice, even a slight amount of forward movement may avoid a collision, and lessens the impact if hit.
8. Distractions, such as use of personal radios, cell phones, or headsets are not allowed.
9. When an operation is completed, ensure that the shadow truck moves into the lane before the work vehicle when entering an open lane of traffic.

...Cont'd on Page 83

# Code of Safe Operating Practices

10. Do not encroach on a live lane of traffic while shadowing unless in an approved shadow vehicle.
11. If repairs, or adjustments to equipment, become necessary, move as far away from moving traffic as practical. Avoid repairs or adjustments in the median or on the traffic side of the vehicle.

# Code of Safe Operating Practices

## SAFETY IN CHANGING AND CHARGING STORAGE BATTERIES

### HAZARD REVIEW

Explosive  
Visual  
Flying objects  
Sparking

### SAFE WORK PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Battery-charging installations shall be located in areas designated for that purpose.
3. Employees assigned to work with storage batteries shall be instructed in emergency procedures such as dealing with accidental acid spills.
4. The area shall be adequately ventilated to prevent concentrations of flammable gases.
5. Adequate means shall be provided to neutralize or dispose of corrosive liquid spills and overflows promptly and safely.
6. Appropriate lifting and handling devices or equipment shall be provided for handling batteries.
7. Smoking and open flame shall be prohibited in battery-charging area, and signs stating that prohibition shall be posted in the area.
8. Precautions shall be taken to prevent open flames, sparks, or electric arcs in battery-charging areas.
9. Tools and other metallic objects shall be kept away from the top of batteries
10. When charging batteries, the vent caps shall be kept firmly in place to avoid electrolyte spray. Care shall be taken to assure that vent caps are functioning.
11. Fire-extinguishing equipment adequate to cope with the hazards, which may be encountered, shall be provided and maintained close at hand.
12. Face shields shall be worn when measuring storage battery, specific gravity or handling electrolyte.
13. The Supervisor shall ensure that such devices are used by the employees.

...Con't on Page 85

# Code of Safe Operating Practices

## **SAFETY IN CHANGING AND CHARGING STORAGE BATTERIES (Cont'd)**

14. The Supervisor shall also ensure that acid resistant gloves and aprons are worn for protection against acid spattering.
15. Approved personal equipment including face, eye and hand protection is provided and employees are required to use them. Such protective items shall be maintained in a sanitary condition and stored in a dust-free container readily available.
16. Facilities for quick drenching or flushing of the eyes and body shall be provided.
17. When taking specific gravity readings, the open end of the hydrometer shall be covered with an acid resistant material while moving it from battery to battery to avoid splashing or throwing the electrolyte.
18. Check batteries for proper fluid level and corrosion on terminals.
19. Add water only to a used battery. Electrolyte should be added to a new battery only.
20. Connect positive to positive terminals and negative to negative terminals before charging batteries.
21. Allow ample time for fumes to dissipate before connecting or disconnecting batteries to or from battery charger. A spark could cause an explosion.
22. Clean top of battery, removing all dirt and corrosion, before charging battery.
23. Battery charger must be turned off before connecting or disconnecting batteries.
24. Keep tops of batteries clean; moisture and dirt allows batteries to discharge.
25. If battery acid is spilled on skin, neutralize with cool; clean water for five minutes or more. If spilled on clothing or other surfaces, neutralize with baking soda and water. This solution should also be used periodically to keep battery holders, terminals and tools clean.

# Code of Safe Operating Practices

## LUBE RACK

### HAZARD REVIEW

Falling objects  
Slipping hazards  
Visual

### SAFE WORK PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Employees shall be properly trained before using lube rack. Consult manual or operating instructions.
3. Make sure hoist rams are completely down before entering on exiting lube rack.
4. Park vehicle properly centering vehicle over hoist posts on lube rack - rear wheels in depression - adjust movable front axle hoist to proper position - cover open post trench with movable floor panels.
5. Check hoist rams for proper positioning prior to lifting vehicle.
6. Check overhead clearance of vehicle while raising. (Arrow board, antenna, etc.)
7. Be sure all safety devices on vehicles are secure prior to lifting.
8. When guiding vehicle onto lube rack, do not stand between front of vehicle and wall.
9. If the hoist is equipped with a locking safety device, the device must be in the locked position while vehicle is in the raised position. Other hoists not equipped with a locking safety device are equipped with a hydraulic restrictor valve that allows the hoist to come down very slowly.
10. For hoists with independently activated ramps, be sure they are used simultaneously to keep vehicle level.
11. Eye protection shall be worn while servicing vehicles.
12. Spilled oil or grease shall be cleaned up immediately. Cleanup entire area when servicing is completed.
13. Raise bay door all the way up when entering or exiting.

...Cont'd on Page 87

# Code of Safe Operating Practices

## **LUBE RACK (Cont'd)**

14. Insure that there is adequate ventilation while engine is running.
  15. Air operated grease guns create a very high pressure. Be sure hand and all other parts of the body are clear of the gun. Do not point gun at others. Check condition of flexible hoses.
  16. Lift capacity must be posted.
  17. Lift controls must be clearly labeled.
  18. Facilities for quick drenching or flushing of the eyes and body shall be provided.
- NOTE: Hoist lock must be released prior to lowering.

# Code of Safe Operating Practices

## Hand Removal of Log Jam from Steamboat Slough Cable Ferry

### HAZARD REVIEW

Falling Overboard  
Slipping Hazards  
Water Current  
Hidden Hazards  
Heavy Lifting  
Adverse Weather Condition  
Contaminated Water  
Overcrowding of Workers  
Public Contact

### SAFE OPERATING PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Always wear an U.S. Coast Guard approved life jacket when working over water. Spare life jackets are located on the boat.
3. Always be aware of your footing. The Deck is always slippery near the end of the Apron. Debris (which include full-grown trees) in motion can catch a hold of you tripping and/or dragging you into the water.
4. Be aware of the direction of water flow, the boat is located in a tidal zone and water could be moving in either direction. Do not presume the water is flowing towards the bay. The direction of water flow will cause the debris (which include full-grown trees) to react differently to your actions.
5. Chain saw operators must be trained and qualified.
6. Be aware of hidden hazards that may protrude from the debris pile at anytime.
7. Know your limits and do not try to move anything that may injure you.
8. Allow ample room for each employee to work safely.
9. Use extra caution when working in adverse working conditions.
10. Always wash thoroughly after being exposed to river water, as there is possibility of contaminants entering the water flow during heavy run off.
11. Be aware of the public using the Ferry at all times.
12. Stay clear of the roller during rolling operation.

# Code of Safe Operating Practices

## REMOVE/REPLACE TEMPORARY K-RAIL

### HAZARD REVIEW

Moving Traffic  
Moving Equipment  
Equipment Limitations  
Suspended Heavy Loads  
Overcrowding of Workers  
Wedged Objects  
Uneven Terrain  
Tripping Hazards

### SAFE OPERATING PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Determine weight of individual K-Rail sections before attempting to lift or haul. Review equipment limitations on loading, rigging, moving and placing K-Rail.
4. Review all possible tools and rigging needed for the job including their safe condition and limitations. Do not exceed equipment lifting capacity.
5. Review where each piece of necessary equipment is to park for safe loading and unloading of K-Rail.
6. Plan and review site preparation; including grading and cleaning of the K-Rail pad area.
7. Designate two riggers and one primary signal person for rigging, moving and placing K-rail.
8. Review common hand signals between equipment operator and signal person. During operations, only the primary signal person shall direct the equipment operator.
9. All employees shall stand clear of the suspended loads and the loading and unloading areas.
10. All employees shall follow one fore-person's directions while placing and/or fitting each piece into a line; this includes the primary signal person.
11. Watch for tripping hazards and uneven ground.
12. Watch for employees swinging double jacks or utilizing other hand tools.
13. Keep hands and feet clear of pinch points.

# Code of Safe Operating Practices

## INSTALLATION AND REMOVAL OF RAZOR WIRE

### HAZARD REVIEW

Moving Traffic  
Moving Equipment  
Sharp Objects  
Uneven Surfaces  
Working Above Ground  
Poor Footing  
Falling Objects

### SAFE OPERATING PROCEDURES

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
2. Review work area protection procedures and any traffic control requirements.
3. Park in an area suitable for safe entering/exiting of vehicles/equipment and which does not cause a hazard to yourself or others.
4. Employees shall utilize all minimum Personal Protective Equipment (PPE). Additionally “gauntlet” style gloves and long sleeves shall be worn while handling razor wire.
5. Razor wire has the potential to cause severe lacerations. Employees must remain aware of this and exercise care when handling razor wire to avoid injury.
6. Be aware that razor wire can recoil when cut. When cutting, one employee shall firmly hold the wire to contain recoiling/springing.
7. A fully stocked 24 Unit First Aid Kit shall be at the job site and readily accessible to employees.
8. When employees are exposed to falling more than 7 ½ feet, work shall be performed in accordance with APPENDIX G of this code.
9. After removal of wire, store in a place where minimal exposure to employees exist. Do not reach in to truck to remove pieces of wire and use an alternate method.

# Code of Safe Operating Practices

## **SECTION III EQUIPMENT SAFE PRACTICE RULES**

# Code of Safe Operating Practices

## EQUIPMENT

The Code of Safe Practices in the following section is intended to identify the hazards involved in the operation of the various types of equipment currently being used in highway maintenance and to establish prudent operating procedures to avoid accidents (specialized rental equipment may need a special CSOP):

For convenience of review by the operator, each code addresses the hazards peculiar to a single type of equipment. In addition, it is required each operator will observe the following general Code of Safe Operating Procedures.

### **EQUIPMENT GENERAL CODE OF SAFE PRACTICES**

1. Perform required pre-operation and post-operation checks.
2. Know your equipment - be familiar with operator's manual.
3. Do not use any equipment that is unsafe.
4. Observe rules, Chapter 8, regarding traffic control.
5. Drive defensively and observe all Vehicle Code laws.
6. Observe safety orders concerning high voltage proximity rules.
7. Observe rules of construction safety orders concerning earth work and excavating.
8. Employees must wear clothing appropriate for job and use all required protective safety equipment.
9. Employees will stay clear of moving equipment and keep hands and body away from moving parts.
10. Before backing any equipment, make sure the area is clear and use observer when available.
11. Do not work under vehicles supported by jacks or chain hoists without protective blocking that will prevent injury if jack or hoists should fail.
12. Employees should check to see that all guards and other protective devices are in proper places and adjusted, and shall report deficiencies promptly to their supervisor.
13. Vehicles and equipment should be handled with care, especially in precarious areas---- edges of deep fills, cut banks, and steep slopes.
14. Make sure of footing when mounting and dismounting equipment. Use proper mounting and dismounting procedures.

...Cont'd on Page 3

# Code of Safe Operating Practices

## **EQUIPMENT (Cont'd)**

15. Be sure area is clear before operating excavating equipment.
16. Stunt driving and horseplay are prohibited.
17. Use safety stand when working under raised body or bed.
18. Use of seat belts is required on all units so equipped.
19. Do not operate equipment unless trained and qualified.
20. Do not get under a vehicle unless provisions have been taken to prevent the wheels from moving (i.e. wheels are blocked, or other positive means are provided, grader blade is down and set). Do not rely on the parking brake.
21. All aggregate loads above sideboards must be tarped.
22. Vehicles hauling aggregate loads must be equipped with "top to bottom" mud flaps.
23. When new specialized equipment (including rental equipment) is introduced, supervisors shall ensure that employees are trained in the hazards involved in the operation of the equipment and are familiar with the safe operating procedures.

# Code of Safe Operating Practices

## SAFE PRACTICES RULES

### TRUCKS, 1/2 TON THROUGH 3-AXLE

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Keep windshield, side windows, and mirrors clean.
3. Make sure slack adjusters on air brakes are properly adjusted. Watch for air loss.
4. Keep tires properly inflated.
5. Clean windshield before wiper is used.
6. Check brake connections, pintle hook, and safety chain before towing trailer.
7. When mounting and dismounting face machine, use handholds, steps and ladders.
8. Allow engine to reach operating temperature before using at full capacity operation.
9. When operating truck, keep engine below governed speed.
10. Keep pyrometer (when equipped) at proper operating levels.
11. Check instruments for overheating, loss of oil pressure, proper RPM, and road speed.
12. Do not overload truck.
13. Make sure cargo is properly loaded and secured.
14. Always use proper engine speed and gear ratio.
15. Do not coast downhill. Use lower gears.
16. When parking, set emergency brake; consult owner's manual for proper placement of transmission shifter. If not covered in owner's manual, **consult your Supervisor for the Equipment Service Center recommendation on procedure to follow.** Use wheel blocks when potential of rollaway exists.
17. On trucks equipped with air brakes, the air tanks should be drained once a shift.
18. Remove push frame and accessories of plows, that will not be used for an extended time.
19. Use the lube chart when servicing equipment. If in doubt, call the Shop for the most current procedure.
20. Trucks 1 ton and above shall be equipped with automatic backup alarms.
21. Operator and passenger must wear seat belt and harness.
22. Use vehicle ladders to access truck beds. Do not climb on tires.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### TRUCK MOUNTED FUSEE IGNITER

#### HAZARD REVIEW

Hot and molten material  
Flying particles  
Fumes

#### SAFE OPERATING PROCEDURES

1. Pre-op all equipment including the fusee igniter
2. Keep igniter contacts and ejector tube clean and free of residue, corrosion, rust, or any other obstructions.
3. Check wiring for breaks or frays.
4. Wear suitable protective equipment when handling fusees. As a minimum: work gloves, long sleeves and safety glasses (face shields may be used when deemed more appropriate).
5. If repairs or adjustments to equipment become necessary, move as far away from traffic as practical. Avoid repairs or adjustments in the median or on the traffic side of the vehicle.
6. If the fusee does not ignite right away or becomes hung in the ejector tube, do not use hands to dislodge or remove fusee. If necessary use a non-conducting probe such as a wooden sign flag dowel to push fuse through.
7. Disconnect igniter from electrical power source before performing maintenance.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### TRUCK AND GRADER MOUNTED PLOWS INCLUDING DEBRIS PLOWS

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Do not operate a plow unless you are properly trained, qualified and understand how to operate the vehicle and the controls.
3. Inspect plows and components as follows and repair or replace any items found to be deficient:
  - Check plow, plow frame and shear flange for cracks, broken welds or loose bolts.
  - Check shear flange and pins for proper bolt grade, size, tightness and condition.
  - Check safety chains and blade for wear and condition.
  - Check for leaky or damaged hydraulic lines, fittings or cylinders.
  - Check lube points and lube if necessary.
  - Check all controls to ensure smooth and correct operation.
4. Be aware of pinch points when installing or removing plows. Keep your hands away; use a hoist or hydraulic jacks to position plows for installation. Do not lift with your back; you could injure yourself. Get help or use lifting equipment when necessary.
5. Always use safety chains or protective blocking when changing blades or performing other work on plows; **never trust the hydraulic system.**
6. Plows are used on a variety of equipment from 3/4-ton pickups, to 10-yard dumps, and different types of graders. Adjust your plowing speed to the conditions, i.e. traffic volumes, pedestrians, highway conditions, material to be plowed, terrain and visibility.
7. While plowing, watch for bridge joints, slow down, and check angle of the plow. Adjust the angle if necessary to prevent the plow from dropping into bridge joints.
8. While plowing debris, adjust your speed to reflect the object you are plowing; heavy items may damage the plow, light items may fly up and into your vehicle. If you cannot plow the object safely, call for a CHP traffic break.
9. Do not check for hydraulic leaks with your hands, use a piece of cardboard or wood to search for suspected leaks.
10. Check the condition of the plow periodically during the shift using the guidelines provided in number 3 above. You can be held responsible for damage that occurs during your shift.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### TRUCK AND GRADER MOUNTED WING PLOWS

1. Do not operate a wing plow unless you are properly trained, and understand how to operate the vehicle and the controls.
2. An operator not trained to operate a wing plow can operate the carrying unit as long as the wing is not used and the safety chains are in place.
3. Pre-op equipment and be familiar with the operator's manual.
4. As part of the pre-op inspection, check the following items, repair or replace any items found to be deficient:
  - Plow, plow frame and shear flange for cracks, broken welds or loose bolts.
  - Shear flange and pins for proper bolt grade, size, tightness and condition.
  - Safety chains and blade for wear and condition.
  - Leaky or damaged hydraulic lines, fittings or cylinders.
  - Lube points (service per lube chart if necessary).
  - All controls to ensure smooth and correct operation.
  - Tower bolts and angle of tower to the cab.
  - Wing plow lights and mirrors for proper operation and adjustment.
  - Due to the additional thrust caused by wing plow use, frequently check wheels for cracks and lug nuts for looseness.
5. Always use safety chains or protective blocking when changing blades or performing other work on plows; **never trust the hydraulic system.**
6. When operating a wing plow remain constantly alert to traffic and roadside obstacles.
7. Adjust plowing speed to conditions i.e. traffic volume, highway conditions, melting ice pack, grade, alignment and visibility.
8. When using the wing near unpaved surfaces, slow to a safe speed and adjust the wing lift to prevent the wing from digging in to the unpaved shoulder.
9. Use caution when plowing around obstacles, the best way to avoid accidents is to be familiar with the area you are working.
10. It is recommended to use ballast and if needed tire chains.

...Cont'd on Page 8

# Code of Safe Operating Practices

## **TRUCK AND GRADER MOUNTED WING PLOWS - (Cont'd)**

11. Do not park or leave the unit without either securing the safety chain and/or pin, if the wing is up, or lowering the wing to the ground.
12. Check the condition of the plow periodically during the shift using the guidelines provided in number 4 above.
13. The Supervisor/Superintendent should develop a site-specific plan for wing plow operations unique to his/her areas, not covered in this code. (See Appendix F, page 21 section IV.)
14. Be aware that when operating articulating type graders with wings, the angle of the blade will change while plowing or using rear steer.
15. When not using the wing, it should be raised completely. Never leave the wing partially raised.

### **SAFE OPERATING TIPS**

1. Slowing down and downshifting instead of retracting the wing will help maintain your plow pattern and reduce the time to clear the traveled way. If the snow load is too heavy retracting the wing is another option to maintain forward speed.
2. When using a motor grader equipped with a wing plow it is possible to adjust the wing position, and at very slow speed snow banks can be benched and stacked to maintain road width and storage areas.
3. Safety chains are not designed to keep the wing tight against the side of the vehicle. Wings can move out even with safety chains properly attached. This is especially true on ten wheelers and graders. Wings can move out several feet/meters with safety chains attached if the rear ram breaks loose.
4. When operating a wing plow, realize that the truck may lose traction and slide sideways if crowding too closely to a snow bank or windrow.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### TRUCK-MOUNTED ATTENUATORS (TMA)

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. When installing or removing TMA's, keep hands, arms and fingers clear of pinch points.
3. Hook and unhook on level ground.
4. Keep attenuator wheels blocked when it is not mounted to the truck, if so equipped.
5. While operating, be aware of overhang, especially when adjacent to guardrails or other fixed objects. Move out gradually.
6. Be aware of excessive overhang while backing.
7. Understand that the TMA, although it protects our driver and the public, will not lessen vehicle roll-ahead if hit from behind.
8. Keep attenuator in the down position while shadowing, raise, before deadheading.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### LITTER RETRIEVAL (SNIPE) TRUCK

1. Pre-op equipment including rental equipment. Be familiar with operator's manual. Review safe practice rules for applicable operation.
2. Be familiar with all controls before operating this unit.
3. Mounting and dismounting shall be conducted when the vehicle is at a complete stop.
4. Rear seats shall be in the fully raised position while deadheading.
5. Secure gates and cargo before transporting.
6. Watch for pinch points.
7. The dump bed shall not be raised while employees are in the bucket.
8. Make sure all workers remain clear while dumping.
9. Check that tailgate is properly secured after dumping.
10. Do not drive over curbs or raised objects with rear seats lowered.
11. Litter retrieval truck shall not be operated adjacent to moving traffic with a person in the rear seat, without the protection of an approved shadow truck.
12. Transporting workers in the bucket as passengers is prohibited. The only exception is if you will be in a narrow median or other hazardous area, it is permissible to transport a person in the bucket from a nearby safe location to the work zone.
13. Make sure that the area between the bed and the rear seat remain free of debris.
14. Do not attempt to lift heavy or awkward objects (tire caps, etc.) without help. You could injure your back.
15. Do not allow debris to accumulate on the bed next to the employee.
16. Do not retrieve objects that appear hazardous in nature (unknown chemical containers, explosive devices, etc.); call your supervisor.
17. Employees shall not work or ride in the bucket on the traffic side of the vehicle.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### LOADER TRUCK (FROST LOADER)

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Use dump-person when dumping over embankment.
3. Make sure "kill-switch" is in operating condition to prevent lowering bucket arms onto cab doors when they are not tightly closed.
4. Check for overhead clearance before raising bucket.
5. Don't raise bed before first lowering bucket.
6. Don't ram material or overload bucket.
7. Don't overload truck.
8. Keep workers on foot clear when operating bucket.
9. Keep arms and body inside cab when raising and lowering bucket.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### SCISSOR TRUCK

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Check your equipment daily for leaks and check that all controls are properly functioning.
3. Check to see sideboards or safety railing is securely attached when bed or platform is raised.
4. Set parking brakes before leaving cab of truck. Use wheel chock when bed is raised.
5. Always disengage PTO when bed or platform is lowered or when vehicle is moved.
6. If ladder is used to climb into raised bed, make sure it is securely fastened.
7. Do not use ladders or other objects on top of units to gain heights.
8. Do not operate truck unless you have been qualified to do so.
9. Do not allow material accumulation on platform to become a hazard.
10. Inspect work area for clearance before raising bed.
11. Bed or platform must be lowered before changing work locations.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### FENCE REPAIR (BOOM TRUCK)

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. It is unlawful to operate boom within 10 feet of high voltage lines.
3. Check boom for cracks, deformities, oil leaks, loose pins, loose nuts and bolts.
4. Be sure the boom hook isn't spread or cracked, hook pins are secure, and safety catch is working properly.
5. Make a daily check of slings, cables and chains for deformities, kinks, or frayed wire before use. They shall be properly labeled with the correct lifting capacity.
6. Before traveling, check the boom for proper storage position, store boom while not in use.
7. Never travel with PTO engaged.
8. Never exceed the maximum lifting capacity of the boom in its different positions. Refer to load chart.
9. Only one person shall operate the boom and only one person shall signal and assist the operator.
10. Be aware that the hand controls function differently depending which side of the truck the boom is being operated on and when using the remote.
11. Check and use outrigger safety locks and warning lights.
12. Don't use outrigger for lifting.
13. Don't operate boom unless outriggers are down and properly supported with blocks or planks if necessary.
14. Keep outriggers in sight when lowering.
15. Always use a straight pull when using the boom. Don't rock the boom.
16. Use a plank for support under outriggers that are to be put down on soft ground to prevent its sinking.
17. When setting outriggers, check clearance of outriggers to adjacent lane or sidewalk.
18. When swinging boom, change direction slowly.
19. When operating boom over the roadway, maintain safe clearance from passing vehicles or provide traffic control.

...Cont'd on Page 14

# Code of Safe Operating Practices

## **FENCE REPAIR (BOOM TRUCK) - (Cont'd)**

20. Do not pull objects directly toward the operator position; use remote control for the boom. Maintain a clearance from end of boom at all times.
21. When lifting heavy loads, use approved slings or cables, do not use chain and grab hooks (see load chart). Do not extend or swing load to a position that will overload booms.
22. Operators shall be trained and qualified on truck.
23. Do not use boom swing to straighten posts.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### DIGGER TRUCK

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Do not operate digger or boom within 10 feet of high voltage lines.
3. Call USA before digging any holes.
4. Make a daily check of slings, cables and chains for deformities, kinks, or frayed wire before use. They shall be properly labeled with the correct lifting capacity.
5. Keep employees a safe distance from auger when in motion.
6. Secure outriggers before moving trucks.
7. Use outriggers at all times. Be sure they are properly supported.
8. Do not lower or raise power tool from bucket by live power cord.
9. Do not load basket or boom beyond its rated capacity.
10. Do not drill or cut hole in basket.
11. Do not stand or reach from steps in basket.
12. Do not move truck while PTO is engaged.
13. Do not operate truck without proper qualification and training.
14. Basket capable of reaching 30 feet in height or over shall not be operated without at least two persons: one of which shall be on the ground for assistance.
15. When lifting heavy loads, see load chart. Do not extend or swing load to a position that will overload booms.
16. Never swing loads over other employees.
17. Store boom properly before traveling.
18. While working in basket, always use personal fall protection. See fall protection, (Appendix G).
19. Be aware the basket is not mechanically self-leveling, but free swinging, gravity leveling. To stabilize the basket, use the friction brake when the basket is stationary and work is being done.
20. Be aware when the friction brake is applied the basket will no longer swing free and gravity level itself, but will remain in the position it was locked into as the elevation of the boom changes.
21. In the event of an emergency and the person in the basket cannot operate the controls and the friction brake has been applied, the ground person operating the controls needs to be aware of the level of the basket as it's lowered to the ground.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### TANKER

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Check air brake hoses for proper connections.
3. Examine for worn or frayed hoses.
4. Keep fifth-wheel clean and lubricated.
5. Allow for room to compensate for trailer "cheating" when turning.
6. Be aware of possible load surge when turning/braking.
7. Allow for additional stopping distance required when loaded.
8. Any truck/trailer combination over 40 feet must have a 5 BC fire extinguisher.
9. Do not enter tanker unless following confined spaces, rules and procedures.
10. Check hoses and connections before unhooking trailer.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### COMPACTOR TRUCK

#### **Loading:**

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. The operators shall be trained and instructed in the safe operation of the compactor unit prior to operation.
3. Avoid working on traffic side.
4. Set parking brakes
5. Load compactor bucket so nothing extends over rim.
6. Load only brush and paper type trash; never heavy metal or concrete, or large unbreakable branches.
7. All employees must stand clear of and be off of machine during operation to eliminate the possibility of being thrown or struck.
8. Keep hands away from machinery when loading cycle is activated.
9. If you suspect a safety hazard at any time, push stop button.
10. Before transporting load, lower tailgate safety door.
11. No employee shall be permitted to ride on a loading sill.

#### **Unloading:**

1. Set parking brake.
2. Check behind, above and about vehicle at dumpsite.
3. Before extracting load, have people stand clear of rear of compactor
4. Make sure that the extracted load will not interfere with the closing of the tailgate. This can be accomplished by driving the truck forward for a short distance.

#### **Cleaning/Repairing:**

1. When any component capable of vertical movement is raised to perform any maintenance it will be properly safety blocked.
2. Before cleaning, repairing, servicing or adjusting collection equipment it shall be properly safety locked. This shall include (relaxing hydraulics, installing safety stands, turning off engines and removing keys from ignition) and placing a safety lock out tag on ignition to prevent accidental start up.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### VACTOR TRUCK

1. Pre-op equipment including rental equipment, be familiar with the operator's manual.
2. Use adequate personal protective equipment; footwear, snug fitting clothing, eye, hearing (must be enrolled in the hearing conservation program) and head protection devices.
3. Check and make sure the Vactor is full of water prior to use.
4. Make a visual inspection of the high-pressure hose during and after use for any frayed portions of the hose. Hose with worn or damaged areas showing cord should be repaired prior to use.
5. Do not exceed manufacture's recommended engine RPM's for both the Vacuum and high-pressure portion of the Vactor.
6. Stay clear of culvert or pipe ends while cleaning with the high-pressure hose. Rocks and debris come out at high speeds.
7. Check all accessories to be sure they are secure and properly tied down prior to moving the equipment.
8. Make sure all clamps and pipes are properly fitted and tight.
9. Use caution to not run over the high-pressure hose.
10. Use caution with the reel operation; keep it under control at all times.
11. Wind hose on the reel slowly and smoothly, as kinks or a loose hose can result in hose damage. As you are rewinding hose keep fingers far enough away from reel so they don't become pinched between the hose and reel.
12. Never run out of water while using the high-pressure line as this could cause pump damage.
13. When swinging boom, change directions slowly.
14. Only one person should operate the boom at a time.
15. Do not over load the Vactor with material. Be aware of possible load surge when turning or stopping.
16. Only dump gathered material in an approved dump location.
17. Keep cab clean of debris.
18. Do not tow the pick-up when the Vactor is full of material. Only tow the pick-up when the Vactor is empty.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### PAINT STRIPER

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Check paint valves and hoses for wear and leaks.
3. Be sure there is no pressure on paint system when setting up, cleaning, pulling filters, or servicing guns.
4. Choose place for setting up away from traffic, if possible.
5. Keep 20 BC Fire extinguishers in handy known location.
6. No smoking allowed in immediate area of pumping paint.
7. When securing at end of day, bleed entire system of pressure. Never leave pressure in system.
8. Be sure truck is equipped with functioning ground strap.
9. Do not use pressurized air to clean yourself.
10. Have a communication system between driver and operator.
11. Use appropriate DOT hazard-class placard for material being used.
12. Release pressure on bead tank before removing lid.
13. Use ground strap between vehicles when pumping paint.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### **THERMOPLASTIC STRIPER AND PRE-HEATER (BIG MAC)**

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. On C# 3333 thermoplastic striper, flip the propane safety switch in back of cab.
3. Turn on propane tank on side.
4. Turn thermostat to around 250° F (121° Celsius).
5. Turn valve for propane at the thermostat.
6. Press red pilot light button on thermostat.
7. Flip striker switch until pilot is lit.
8. Hold red button, about 30 seconds.
9. Release button and burners should light.
10. If burner does not light, turn everything off, wait a couple of minutes and do process again.
11. Turn thermostat to around 450° F (232° Celsius).
12. To shut down at night, turn materials off and blow air through all material lines.
13. Reverse all lighting procedures at end of day.
14. Replenish propane every third day.
15. NEVER LEAVE MATERIAL IN LINES OR IN TANK AT NIGHT!

### **C# 3334 Thermoplastic Pre-heater:**

1. Turn all three propane tanks on.
2. No smoking within 25 feet (7.6 meters) of LPG tank opening vents and while filling tanks.
3. Turn thermostat valves on.
4. Set thermostat at 400° F (204° Celsius).
5. Press red buttons on thermostats (one at a time).

...Cont'd on Page 21

# Code of Safe Operating Practices

## **THERMOPLASTIC STRIPER AND PRE-HEATER (BIG MAC) – (Cont'd)**

6. Always use a long handled igniter to light burners on Pre-heaters.
7. All gauges should be checked each morning to be sure of good working conditions. Leaks of any kind should be repaired immediately.
8. One person on ground using small propane torch lights pilots.
9. Hold red button depressed for about one minute.
10. Release button and burners should ignite.
11. If burner does not come on, turn everything off, wait a few minutes and start the process over.
12. After all burners are lit, turn thermostat to 600° F (315° Celsius).
13. When thermoplastic is 400° F (204° Celsius), turn thermostat to between 400° and 450° Fahrenheit (204° and 232° Celsius), depending on weather and wind.
14. A lookout shall remain with equipment at all times while lit due to possibility of a fire.
15. Never travel outside of project with pre-heater or applicator burners lit.
16. Reverse procedure at shift's end to shut equipment down.
17. Replenish propane every third day.
18. Pre-heaters should be loaded and unloaded with care to prevent splashing of hot material. Leave about 6 inches (152 millimeters) below top while filling to leave room for material to move when deadheading vehicle.
19. Preheaters should be heated to approximately 275° F (135° Celsius) before agitators are engaged. Operators should stand below the top of kettle when engaging agitators for the first time in A.M.
20. Leave kettles full overnight. When this is done, there is less chance of fire.
21. Lift properly. Periodically review "Proper Lifting" video in Maintenance Employee Safety Orientation series for specific instructions on correct lifting practices.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### STENCIL MARKING TRUCK (PAINT)

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Check paint valves and hoses for wear and leaks.
3. Be sure there is no pressure on paint system when setting up, cleaning, pulling filters, or servicing guns.
4. Don't drop paint hoses or guns in dirt.
5. Keep 20 BC fire extinguishers in a handy location.
6. When securing at end of day or when changing work locations, bleed entire system of pressure.
7. No smoking allowed during operation.
8. Properly secure all equipment and miscellaneous items before leaving yard or job site.
9. When positioning truck to work, be extra cautious of personnel and other equipment in work area.
10. Be sure truck is equipped with functioning ground trap.
11. Do not use pressurized air to clean yourself.
12. Use appropriate DOT hazard-class placard for material being used.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### STENCIL MARKING TRUCK, THERMOPLASTIC

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. When working with hot thermoplastic materials, a 20-pound BC dry chemical fire extinguisher shall be available in a handy and known location.
3. Smoking is prohibited near LPG tank openings, vents and when changing tanks, to reduce fire hazard.
4. Long-handled light must be used to ignite burners: use manufacturers specified lighting procedure.
5. Material should not be heated beyond recommended temperature.
6. Pre-heater should be filled with care to prevent splashing of hot material
7. Pre-heater should not be overfilled.
8. All gauges should be checked periodically.
9. Any oil leaks should be repaired immediately.
10. When moving, applicator shall be secured.
11. In case of fire, stop all engines.
12. Truck bed should be kept clean.
13. Backing movements should be controlled by someone outside of vehicle.
14. Be sure truck is equipped with a functioning static ground strap.
15. Extinguish fire before moving in transit.
16. Lift properly. Periodically review "Proper Lifting" video in Maintenance Employee Safety Orientation series for specific instructions on correct lifting practices.

# Code of Safe Operating Practices

## SAFE PRACTICES RULES

### BITUMINOUS DISPENSING MACHINE

#### HAZARD REVIEW

Moving traffic  
Skin irritation  
Flying objects  
Hazardous material  
High noise level  
Lifting

#### SAFE OPERATING PROCEDURES

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. All workers, while loading Bituminous material into melting tank shall wear:
  - 100% cotton coveralls or smocks
  - Safety glasses
  - Hard hat with plastic face shield
  - Approved gloves
  - Appropriate footwear with hard soles and leather uppers

**NOTE: Failure to wear or enforce the wearing of the above safety items is grounds for adverse action.**

3. A 20-pound BC dry chemical fire extinguisher shall be carried on all bituminous applicator trucks. Operators of said trucks shall check charge and condition of fire extinguisher as part of their daily pre-operational check. Leadworker or Supervisor shall sign off monthly fire extinguisher check.
4. A five-gallon container of fresh water must be on the truck for first- aid in case of burns.
5. Never open electrical control panel while generator is running or machine is plugged into an outside power source.
6. Material shall never be overheated beyond manufacturers recommended temperature.

...Cont'd on Page 25

# Code of Safe Operating Practices

## BITUMINOUS DISPENSING MACHINE (Cont'd)

7. Avoid placing wet material in the tank.
  8. Melting tank should be loaded with care to prevent splashing of hot material. Tank should be filled to three inches from the top to leave room for material to move when deadheading.
  9. Two employees are assigned to operate the bituminous applicator truck. For the CSOP they will be designated as the driver, (drives the truck while deadheading and installing markers) and the operator (operates the dispenser, places the markers, monitors the temperature, and level of material in the tank).
  10. The driver is responsible for the daily pre-op and operation of the truck, i.e., engine oil, water check, headlights, wipers, tires, etc.
  11. The operator is responsible for all materials needed for the installation of markers, bituminous material, markers, and safety equipment. A pre-op checklist will be filled out and signed off by the Leadworker or Supervisor. The driver will assist the operator in stocking the truck, clean up, and all phases of the operation.
  12. In case of fire, all engines, pumps, and valves should be shut off (if possible).
  13. Air tank must be drained at the end of each shift.
  14. Never allow personnel not trained in safe operation of the bituminous unit to operate it.
  15. The applicator should be stored properly during transit.
  16. Any necessary adjustments or repairs shall not be made in a moving operation - move to the shoulder or other safe area.
- NOTE:** Machine will not operate until temperature reaches 340° Fahrenheit. Do not dispense until tank temperature reaches 390° F.
16. Be sure truck is equipped with functioning static ground strap.
  17. While servicing or filling tanks, make sure all pressure is released before removing lids of disconnecting lines.
  18. Do not drive on uneven ground with carriage in down position.
  19. Employees shall not ride on lift gate.
  20. Use caution when operation approaches a signal or non-signal controlled intersection.

...Cont'd on Page 26

# Code of Safe Operating Practices

## **BITUMINOUS DISPENSING MACHINE (Cont'd)**

21. Check operational condition of adjustable carriage and watch for pinch points.
22. Wear adequate clothing to protect from burns. Long sleeve shirts or coveralls, heat resistant gauntlet type gloves and face shields are required.
23. Do not overfill the tank. Leave 3 to 4 inches below top of tank.
24. Close opening securely when in transit.
25. Always check for water in tank and never allow water inside bituminous tank.
26. Oil valve gauge should register full at each pre-op.
27. Do not heat above flash point of material.
28. Keep hose and fittings in good condition and free of leaks.
29. Keep equipment and bituminous tank clean.
30. Do not heat material in non-ventilated areas.
31. Use correct process when loading brick material to avoid splashing hot material. Do not drop material into tank.
32. Do not use air blower near pedestrians or bituminous material.
33. Smoking is prohibited near tank opening.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### SWEEPERS

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Stop elevators and rear broom whenever repairing, adjusting, or removing obstructions.
3. While driving, always scan the entire area for possible hazardous situations.
4. When backing, use your mirrors or get out and check if you are in doubt.
5. Keep cab clean.
6. Use safety stand when working under raised hopper.
7. Drive carefully when deadheading, especially when loaded.
8. Take extra caution when changing or adjusting gutter brooms, to avoid injuring self with steel bristle.
9. Use hand and footholds when climbing onto and off sweeper or hopper.
10. Don't attempt to sweep an unidentified substance.
11. All repairs or adjustments should be made away from the traveled way.
12. Do not load hopper beyond marked capacity.
13. Use water to control dust.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### TOW TRUCKS

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Keep windshields, side windows, and mirrors clean.
3. Keep tires properly inflated.
4. Mounting and dismounting: face vehicle, use handholds, steps and ladders.
5. Allow engine to reach operating temperature before using full capacity operation.
6. Check instruments for overheating, loss of oil pressure, proper RPM and road speed.
7. Do not overload truck.
8. Always use proper engine speed and gear ratio.
9. When parking set hand brakes; put truck in gear or park. Use blocks when potential of rollaway exists.
10. Operator and passenger must wear seat belt and harness.
11. Never travel with the power take-off control engaged.
12. Never use a control unless you understand its purpose and how to operate it.
13. Never disengage the wrecker service drum engagement control when the cable is loaded.
14. Cars with anti-theft steering locks should never be towed on their front wheels while locked in the turned position.
15. Never apply lubricant or perform any kind of maintenance while tow truck equipment is operating.
16. For sling type towing, always unlatch the hood of the disabled vehicle when lifting its front end. Leave the safety catch engaged.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### HYDRO CRANE

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Operator and signal person shall have agreed on clearly understood visual and audible signal before beginning any work.
3. Workers shall not be allowed under boom operation.
4. All unauthorized persons shall be kept clear of the operation.
5. Position drop-line as near to directly over the balance point of piece being removed as possible.
6. Crane shall *never* be worked without first properly setting all outriggers.
7. Every step necessary shall be taken to ensure adequate traction for outriggers whenever slippery conditions prevail.
8. Truck shall be made level before beginning work.
9. Slack shall not be allowed to get in drop line, because to do so may cause the line to become fouled on the drum. Take special care not to run drop line out when pull weight is off drop line.
10. Crane shall be operated within the limits, set by manufacturer and cable used for drop line. See load chart.
11. Make a daily check of slings, cables and chains for deformities, kinks, or frayed wire before use. They shall be properly certified for correct lifting capacity.
12. Truck deck shall be kept clean and free of debris and obstruction at all times.
13. Climbing (safety) ropes and basket lanyards shall not be used to handle branches, wood or equipment of any description or weight.
14. Do not operate digger or boom within 10 feet of overhead high voltage lines.
15. Secure outriggers before moving truck.
16. Do not operate truck without proper qualification.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### PERSONNEL HOIST

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Personnel Hoist operators shall be trained and qualified.
3. Prior to the daily use of an aerial-lift device, a visual inspection and operational check shall be made in accordance with the manufacturers and owner's instructions.
4. Personnel Hoist Operators shall follow all operating instructions in the operator's manual. The operator's manual shall be available during operation, service, inspection and repair.
5. Read safety placards before operating controls.
6. Check safety switches and dead man controls prior to use.
7. The combined load, including workers, material, and tools, shall not exceed the rated lift capacity as stated by the manufacturer.
8. Prior to use, fiberglass booms and basket shall be inspected for cracks or damage.
9. The insulated portions of the boom and bucket shall be kept clean and free of conductive materials, including dirt, oil, and metal objects.
10. Workers shall not drill holes in aerial-lift buckets.
11. An additional person qualified in aerial rescue shall be at all work sites involving aerial tree work.
12. Wheel chocks shall be installed before using an aerial lift on an incline. Be sure brakes are set and locked before leaving cab of truck.
13. Booms shall not be operated unless outriggers, if equipped, are down. Follow operator's manual before operating on a slope of 5 degrees or more.
14. When setting outriggers, make sure the area is clear when lowering. Outriggers should be kept in sight when lowering. Use support under an outrigger that is to be put down on soft ground to prevent it from sinking.
15. While working at elevated locations, employees must use personal fall protection. See fall protection (Appendix G).

...Cont'd on Page 31

# Code of Safe Operating Practices

## **PERSONNEL HOIST (Cont'd)**

16. While working in basket, have tools in proper place or keep a secure grip on them while maneuvering.
17. When operating an aerial-lift device, the operator shall look in the direction of travel of the bucket and be aware of the booms in relation to all other objects and hazards. Operate controls smoothly.
18. When booms are operated over roads, safe clearances from passing vehicles shall be maintained or traffic control shall be provided.
19. Personnel hoist operators shall maintain proper clearance from overhead utility lines.
20. When moving from one area to another, the boom must be cradled.
21. Riding in a basket when moving within a work area is permitted only when the boom is cradled and speed is limited to less than 3 miles per hour.
22. Before traveling, make sure the outriggers are secured and the safety hooks are in place if so equipped.
23. Do not sit or climb on edge of basket to gain height.
24. Keep a 5-pound BC fire extinguisher on unit at all times.
25. Keep body parts away from areas where they may be pinched between basket and other objects.

# Code of Safe Operating Practices

## SAFE PRACTICES RULES

### **GRADALL (BADGER)**

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Before operating read Operator and Safety Manuals.
3. Operator is responsible for safe operation and ground personnel.
4. Familiarize yourself with all controls before operating.
5. Be sure everyone is in the clear before operating Gradall.
6. Clear loose objects off machine before operating.
7. Check counterweight swing clearance before operating.
8. Check for high voltage lines, and observe electrical proximity rules at all times.
9. Do not operate with other people on machine.
10. Before operating upper structure, be sure controls are properly set in carrier unit.
11. Keep machine as level as possible.
12. Never operate machine on unstable ground.
13. Never drive too close to the edge of a ditch or excavation.
14. Check for underground utilities before digging and contact supervisor if not sure.
15. Before moving be sure of a clear path and sound horn.
16. Never allow anyone to work under raised boom.
17. Use a signalman if visibility is limited.
18. Only one person at a time should give signals.
19. Before adjusting or servicing, rest the boom on ground, stop engine and set brakes.
20. Never reach into boom holes unless the boom sections are securely anchored together with heavy timber or chains.

...Cont'd on Page 33

# Code of Safe Operating Practices

## **GRADALL (BADGER) – (Cont'd)**

21. Escaping fluid under pressure can have sufficient force to penetrate the skin, causing serious personal injury. Before disconnecting lines, be sure to relieve all pressure. Before applying pressure to the system, be sure all connections are tight and that lines, pipes and hoses are not damaged. Fluid escaping from a small hole can be almost invisible. Use a piece of cardboard or wood, rather than hands, to search for suspected leaks.
22. If injured by escaping fluid, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately.
23. Always operate engine at full throttle to keep cylinders full of oil and operating properly.
24. Keep foot away from clutch when digging brake is engaged.
25. Secure bucket to boom, and boom to boom rest, before roading.
26. Before leaving cab, leave boom in boom rest or on the ground, set parking brake and shut engine off.
27. Do not attempt to operate Gradall unless you are certified.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### ROTARY PLOW

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Check lights, tires, chains, windshield wipers, wear blades, auger box shoes, auger fan and blades for deficiencies.
3. Disengage augers and shut off engine when replacing shear bolts.
4. Use safety pins while replacing auger box shoes.
5. Insert auger box safety pins before deadheading.
6. Do not leave augers in gear when leaving cab or when persons are around the auger box.
7. Repair cross chains immediately. Broken cross-chains can damage brake lines.
8. It is usually safer, to stay in cab if caught in a snow slide, another slide may develop. Use radio to call for assistance.
9. If buried by an avalanche, shut down the engine to prevent suffocation.
10. Use extreme caution while backing. Be sure your path is clear.
11. Use extreme caution when blowing snow, especially across the road.
12. Drain water from the fuel and air tanks daily.
13. Keep steps and walkways cleared of snow and ice.
14. Lock rear steering for traveling.
15. Be aware of buried cars, guardrails, etc.
16. Hearing protection may be required.

# Code of Safe Operating Practices

## SAFE PRACTICES RULES

### FORKLIFT AND INDUSTRIAL TRUCKS

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Only operators certified by the employer and trained in the safe operations of industrial trucks, within the last three years, shall be permitted to operate.
3. Rated capacity must be stated on forklift, and it shall not be loaded in excess of that amount.
4. Riders shall not be permitted on forklifts or on forks of lift trucks.
5. Loaded forklifts shall not be moved until load is safe and secure.
6. Seat belt (if equipped) must be worn at all times.
7. All unattended forklifts shall have mast at vertical position; forks in the down position; engine shut down; and parking brake set.
8. Forklifts shall not be driven up to anyone standing in front of a bench or other fixed object where such person could be caught between the forklift and object.
9. Operators shall look in the direction of travel and shall not move forklift until certain that all persons are clear.
10. The forks shall always be carried as low as possible, consistent with safe operation.
11. Forklifts shall not be driven into and out of highway trucks and trailers at unloading docks, until such trucks are securely blocked and brakes set.
12. Employees shall not place any part of their body outside the running lines of the forklift or between mast uprights or other parts of the unit where shear or crushing hazards exist.
13. 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. (Industrial Safety Orders §3664. Operating Rules (6))
14. The operator shall slow down and sound the horn at all locations where visibility is obscured or obstructed. If the load being carried obstructs forward view, the operator (unless uphill) shall be required to travel with the load trailing.
14. Extreme care shall be taken when tilting loads. Tilting forward with forks elevated, shall be prohibited except when picking up a load. Tilting elevated loads forward shall be prohibited, except where the load is to be deposited on a storage rack or equivalent.
15. Special precautions shall be taken in the securing and handling of loads by forklifts equipped with special attachments, and during the operation of these trucks after loads have been removed.

...Cont'd on Page 36

# Code of Safe Operating Practices

## **FORKLIFT AND INDUSTRIAL TRUCKS (Cont'd)**

16. If lifting employees with a forklift:
  - a. Use an approved basket and appropriate fall protection. See Fall Protection, (Appendix G).
  - b. Operator at the controls at all times.
  - c. Basket secured to the forks.
  - d. Mast-guard in place.
  - e. Mast kept in a vertical position.
17. When forks are empty, and when ascending or descending grades, mast should be tilted to the rear to prevent tips of forks from contacting ground.
18. Grades should be ascended and descended slowly.
19. Employees shall not ride on forks of lift truck.
20. The forks shall be placed in such a manner that the load will be securely held or supported.
21. Forklifts shall not be operated if any employee is in a position where they can be struck by the load if any part of it falls or slides from the forks.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### POWER MOWER (RIDE-TYPE)

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Check condition of drive-belts before starting.
3. Check area, clear rocks and debris before mowing.
4. Clear all persons from path of potential flying objects.
5. Avoid entangling blade in wires, ropes, or cables.
6. Make sure seat is properly secured to machine.
7. Make sure mower is in neutral before starting.
8. Do not carry passengers on mower.
9. Use mower only for its designed purpose.
10. Use care while operating over uneven terrain.
11. Do not dismount machine unless stopped.
12. Disengage mower when not cutting.
13. Hearing and eye protection are required.
14. Keep feet and hands clear of mower blades.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### HIGHWAY MOWERS

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Don't start tractor from ground. Always be in the seat and check gear selector before starting.
3. Watch traffic when driving around guide markers, signs, culverts, etc.
4. Don't mow too close to fences and be alert for utility pole guide wires.
5. Use caution when mowing on steep slopes. Mower could tip over.
6. Use caution when mowing downhill on wet or green grass, as brakes are less effective.
7. Shut off tractor when working on mower.
8. Keep area clear of personnel on foot.
9. Always carry fire suppression equipment.
10. Do not dismount unless motor is off, blades have stopped, and brake is set.
11. Hearing and eye protection is required. Respiratory protection is recommended.
12. Review wheel tractor COSP.

### FLAIL OR ROTARY

1. Never work under mower unless properly secured with safety stand or safety chain.  
Keep mower adjusted to proper height above ground (not less than 4") to prevent throwing rocks and debris. This will also cause less damage to the mower.
2. Don't run side mount flail when in the "UP" position.
3. Replace missing flail knives to maintain balance.
4. Ensure debris guard is place.

# Code of Safe Operating Practices

## SAFE PRACTICES RULES

### TRACTOR, WHEEL

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Never leave the machine unattended with the engine running.
3. Do not leave attachments in the raised position when it is not in use. Always lower to the ground.
4. Travel slowly when moving over rough terrain.
5. Never allow anyone to work under raised attachments without proper safeguards in place and secured.
6. Never drive too close to the edge of a ditch or excavation.
7. Watch for overhead wires.
8. Reduce speed before turning or applying brakes. Couple the brake pedals together when traveling at high speed. Be sure that both wheels are braked simultaneously when making an emergency stop. Drive at speeds slow enough to ensure your safety, especially over rough ground.
9. When driving out of a ditch, gully or up a steep slope, engage the clutch slowly. Be prepared to de-clutch promptly if the front wheels rise off the ground. Use the same care if rear wheels mire in soft ground or drop into hole. Back the unit out of these spots if at all possible.
10. Never attempt to start or operate the machine except from the operator's station.
11. Protect PTO drive with master guard and shield.
12. Do not oil, grease or adjust the unit while it is in motion.
13. Operator must wear lap belt.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### BACKHOE

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Never leave the machine unattended with the engine running.
3. Do not leave attachments in the raised position when equipment is not in use. Always lower them to the ground.
4. When in operation, only one person, the operator, should be permitted on the machine.
5. Keep loading area as level as possible.
6. Do not change relief valve settings.
7. When operating on a slope, use caution when swinging the backhoe bucket to the downhill direction. Dump on the uphill side.
8. Be sure outriggers are properly set before operating backhoe.
9. Carry the loader bucket low at all times, especially when working on a hillside or backing up an incline.
10. After stopping engine, turn steering wheel until the hydraulic system accumulator fails to activate the power steering.
11. Travel slowly when moving over rough terrain.
12. Never allow anyone to work under a raised bucket.
13. Never drive too close to the edge of a ditch or excavation.
14. It is unlawful to operate boom within 10 feet of overhead high voltage power lines.
15. Don't dig close to outriggers. Soft ground or sandy soil might cause cave-in.
16. Be sure area is clear of personnel before lowering stabilizers or moving the boom.
17. Use swing and boom locking pins when transporting the backhoe.
18. Be sure to remove locking pins before operating the backhoe.
19. Do not use the loader as a battering ram.
20. Shift to low gear when loading downhill.

...Cont'd on Page 41

# Code of Safe Operating Practices

## **BACKHOE (Cont'd)**

21. Always discharge accumulator by operating control levers before disconnecting any oil lines and hoses.
22. Escaping fluid under pressure can have sufficient force to penetrate the skin, causing serious personal injury. Before disconnecting lines, be sure to relieve all pressure. Before applying pressure to the system, be sure all connections are tight and that lines, pipes and hoses are not damaged. Fluid escaping from a small hole can be almost invisible. Use a piece of cardboard or wood, rather than hands, to search for suspected leaks.
23. If injured by escaping fluid, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately.
24. Reduce speed before turning or applying brakes. Couple the brake pedals together when deadheading. Be sure that both wheels are braked simultaneously when making an emergency stop. Drive at speeds slow enough to ensure your safety, especially over rough ground.
25. When driving out of a ditch, gully, or up a steep slope, engage the clutch slowly. Be prepared to de-clutch promptly if the front wheels rise off the ground. Use the same care if rear wheels mire in soft ground or drop into a hole. Back the unit out of these spots if at all possible.
26. Never attempt to start or operate the machine except from the operator's station.
27. Reduce boom lift speed when raising loaded bucket to full height.
28. Avoid deadheading. Trailer whenever possible. Chain down boom when trailering.
29. Before digging, review Appendix D, Trenching and Excavation Safety Guide.
30. Avoid contacting outriggers with boom while digging.

# Code of Safe Operating Practices

## SAFE PRACTICES RULES

### LOADER

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Always park loader with bucket on ground.
3. Do not leave cab with motor running, except as specified by manufacturer for pre-operational inspection.
4. Engage safety steering lock while trailering and before working on loader, if equipped.
5. Work pressure off steering before leaving cab of articulated type loaders equipped with accumulator.
6. Always set parking-brake and turn off engine before leaving machine.
7. Let no one stand on steps or ride in bucket while machine is being operated.
8. Carry loaded bucket low to ground.
9. Stop loader with brakes, not transmission.
10. Do not operate the loader or controls from any position other than the operator's seat.
11. Do not lower the loaded bucket with the control lever in the float position.
12. Never back up unless you are sure the way is clear.
13. Always lock the loader properly when parking overnight or for extended periods.
14. Do not swing bucket over truck cab or ground crew.
15. Use extreme care when working down slope.
16. Build berm prior to dumping over banks.
17. Operator must wear lap belt.
18. When operating loader with fork attachment:
  - a) Do not exceed the manufacturer's weight capacity rating ( must be stamped on the fork attachment);
  - b) When forks are attached to the loader bucket, a signal person shall be assigned to assist loader operator;
  - c) Employees ( including the signal person ) shall not walk or stand where they can be struck by the load if any part of it falls or slides from the forks;
  - d) All repairs of fork attachments must be completed by Equipment Service Center personnel;
  - e) Prior to operating loader forks, operators shall review Safe Practice Rules for Forklift.
19. Personnel baskets SHALL NOT be used with forks mounted on a front-end loader.

# Code of Safe Operating Practices

## SAFE PRACTICES RULES

### LOADER BUCKET ATTACHED PAVER BOX

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Do a complete pre-op of the asphalt paver box including chains, skids, and hooks.
3. Do not ride on paver box.
4. Never stand near the front or rear of paver box when in motion. This action could cause serious injury if one is pinned or pinched between loader and paver box. Loader must come to a complete STOP before working on or near paver box.
5. Operator must be extra cautious of personnel on the ground. When in doubt, STOP machine.
6. Always operate paver box on a solid, supportive surface, never on soft or unstable ground.
7. Always come to a complete STOP before lifting the paver box from within paving motion.
8. Hearing protection is required for those on the ground nearby during paving.

# Code of Safe Operating Practices

## SAFE PRACTICES RULES

### GRADER

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Be sure to watch fingers when removing inspection panels.
3. When traveling, make sure blade is properly positioned under grader.
4. Never leave grader unattended without putting blade down.
5. When operating grader next to edge of slope or bank, be sure of footing.
6. Don't extend blade into front or rear tires or transfer case.
7. When operating grader, be aware of protruding or overhanging objects or limbs.
8. Be on the lookout for hazards in or on traveled way, such as bridge joints, bridge abutments, curbs and manhole covers.
9. When backing grader, be extra cautious of personnel and equipment in the area.
10. Don't open doors when grader is in motion.
11. When cutting pack on supers, lighten up on blade pressure to avoid slipping into other lane of traffic.
12. Review controls before starting engine on unfamiliar graders.
13. When dismounting from grader, back out of cab using safety rails and steps, do not jump from cab.
14. Operator must wear lap belt.

# Code of Safe Operating Practices

## SAFE PRACTICES RULES

### DOZER

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Make visual inspection of area before starting.
3. No one on machine other than operator while tractor is in motion.
4. When parking, set foot brakes, lock transmission, let the dozer down, leave in full float position. Turn off switch and remove key.
5. When operating machine on side hill, never allow anyone to remain down-slope while machine is in motion.
6. Never allow machine to coast downhill with transmission in neutral.
7. When working machine in unfamiliar terrain, heavy brush, trees or areas with poor visibility, operator should enlist the assistance of an observer on the ground. The observer must stay clear of falling trees and limbs.
8. **NEVER** back up without first looking to the rear.
9. Operator must wear lap belt

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### PAVEMENT GRINDER

#### HAZARD REVIEW

Moving equipment  
High noise level  
Grinder may lunge  
Moving traffic  
Flying particles  
Poor visibility

#### SAFE OPERATING PROCEDURES

1. Do a complete pre-op of the machine and cutting teeth before operating. Be familiar with the operator's manual and controls (including rental equipment).
2. Start and operate the machine only from the operator's platform, never from the ground.
3. Do not allow riders.
4. Never stand near the front or rear of the machine when the engine is being started or pavement is being ground. Grinders may lunge rearward unexpectedly.
5. Be extra cautious of personnel on the ground.
6. Always operate the grinder on a solid, supportive surface, never on soft or unstable ground.
7. Always come to a complete stop and also stop grinder head before reversing the direction of the machine.
8. Never grind in reverse gear.
9. Always use caution when turning or crossing near traffic, the machine moves slow and requires more time to maneuver than a loader.
10. Always align the rear wheels with the frame when roading the machine.
11. Hearing and eye protection are required for the operator and those on the ground nearby during grinding.

...Cont'd on Page 47

# Code of Safe Operating Practices

## **PAVEMENT GRINDER (Cont'd)**

12. Always use water while grinding.
13. Never grind in dirt or base rock as this could damage the grinder teeth and drum.
14. Before adjusting, lubricating, changing wear parts or fueling, move the grinder drum engagement lever to the off position, set the brake, shut off the engine and block the wheels if on an incline. Review COSP, Changing Wear Parts.
15. Always use two employees when loading or unloading from a trailer or transport.
16. Park on the trailer with a block of wood beneath the grinder head. Shut off the engine before dismounting from the operator's seat.

# Code of Safe Operating Practices

## SAFE PRACTICES RULES

### EMULSION AND ASPHALT HEATING KETTLES

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Wear adequate clothing to protect from burns. Long sleeve shirts or coveralls, gloves and face shields are required.
3. Do not overfill, keep 6 to 8 inches below top of tank.
4. Close valves and openings securely when in transit.
5. Do not leave kettle unattended when burners are lit.
6. Do not heat above flashpoint of material.
7. Keep hoses and fittings in good condition and free of leaks.
8. Keep kettles and equipment clean.
9. Raise spray bar when in transit.
10. Keep shafts and gears guarded.
11. Keep 20-pound BC fire extinguisher available at all times.
12. Burner(s) shall be off when in transit.
13. Smoking is prohibited near tank openings, vents and during refueling. Use caution when using the hand torch--do not hold the torch close to vents as flashback may occur.
14. Guard propane bottle valve and pressure regulator and keep bottles properly secured.
15. Do not light burners inside of buildings.
16. Beware of vapor hazards when using the Crafcro Kettle (rubberized asphalt-heating kettle).
17. Use correct process when loading-in brick material bags to avoid splashing hot material. Do not drop-in material!

# Code of Safe Operating Practices

## SAFE PRACTICES RULES

### RUBBERIZED ASPHALT HEATING KETTLES

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Read operator's manual, make sure operator is familiar with the machine. The operators shall follow all safety instructions.
3. High operating temperatures of sealant and machine require the wearing of all applicable protective clothing (i.e. eye, ear, protection, gloves, hardhat, etc.)
4. Observe all caution and warning signs posted on machine.
5. For Crafcoc, avoid the entrance of water into any part of the machine. Water will displace heat transfer oil or sealant, which could be hazardous to personnel surrounding the machine when it reaches operating temperatures.
6. A visual inspection shall be performed on all hoses, fittings and joints. Worn, frayed or split hoses shall be replaced. All fittings and joints shall be leak-proof.
7. Always keep a fire extinguisher near the unit. It should be a 20-pound unit rated BC.
8. Perform a pre-operation check and the pre-start procedure outlined in the operator's manual. Do not over-fill heat transfer oil or spilling will occur when machine reaches operating temperatures, use only recommended heat transfer oil.
9. Follow operating instructions for starting and shutting down burners. Shut down burners and engine prior to refueling. Do not operate in a closed building or confined space.
10. Keep hands, feet, and clothing away from all moving parts.
11. Do not exceed 500° F for heat transfer oil temperature.
12. Avoid bodily contact with hot sealant material or heat transfer oil, serious burns may result. When adding solid material to sealant tank, stop auger, lift lid, lower material into tank, and close lid before restarting auger. Hot material could splash and cause serious burns if procedure is not followed. Do not overfill.
13. Keep all shafts and gears guarded.
14. Burners shall be shut down during transit.

# Code of Safe Operating Practices

## SAFE PRACTICES RULES

### **ROLLERS, TOWABLE, POWERED, & HAND OPERATED**

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Use caution when operating roller on steep grades.
3. Keep area clear when operating roller.
4. Shut off motor, set brake, and use blocks when working on roller.
5. Always completely stop roller before changing directions.
6. When rolling patches or edges, don't get too close to the edge of banks as the roller can easily tip over.
7. Don't roll over raised pavement markers.
8. Remain in seat while operating. Wear seatbelt if equipped with rollover protection.
9. When possible, use two employees to hook up the roller to the truck.
10. Always set roller hand brake when backing truck to roller. This will prevent bending hydraulic foot.
11. Hook up and unhook roller on stable, level ground. Use blocks if on a slope.
12. Don't start motor from the ground (except when hitched to truck).
13. Use locking pins when wheels are in "up" or "down" position.
14. Allow clearance for towing wheels - remove if necessary.
15. When towing, observe conditions and adjust speed to road accordingly.
16. After disconnecting, rear roller drum should be on ground.

### **Rollers, Powered, Hand Operated:**

1. When possible use two employees to hook up the roller to truck.
2. Hook up and unhook roller on level ground. Use blocks if on a slope.
3. Don't roll over raised pavement markers.
4. Make sure tailgate is secured before attaching roller.
5. Use proper body position when turning.
6. Adjust hooks for adequate ground clearance.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### SWEEPER, TOW

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Check frame for cracks, and loose bolts.
3. If visual obstruction, due to sweeping, causes potential traffic hazard, use traffic control.
4. Check for proper hook-up of sweeper to towing vehicle and use safety chain. Check chain before leaving yard.
5. Operator shall be cautious of persons on foot during sweeping operations.
6. Keep hands and feet clear when adjusting sweeper angle.
7. While driving, always scan the entire area for possible hazardous situations.
8. When dead heading make sure broom is raised and locked in place.
9. Use water to control dust.
10. Protect towing vehicle from rock damage.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### TRAILER-MOUNTED FLASHING ARROW BOARD

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Check for oil residue build-up in engine compartment. Keep clean.
3. Check frame for cracks, and loose bolts.
4. Use jacks to stabilize operating flashing arrow board.
5. Make sure locking pins are used and secure when jacks are down or up.
6. When towing, jacks shall be up.
7. Check for frayed electrical wires and cables.
8. Check for proper hook-up of trailer to vehicle and use safety chain. Check before leaving yard.
9. If equipped, release hand brake when towing and secure when parked.
10. Check that arrow board is down when towing and secure with hold-down fastener.
11. Keep fingers out of pinch points when raising and lowering flashing arrow sign and when connecting or disconnecting from towing vehicle's pintle hook.

# Code of Safe Operating Practices

## SAFE PRACTICES RULES

### EQUIPMENT TRANSPORT TRAILER

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Back up to trailer with the assistance of another person when possible.
3. After trailer is secured to truck, raise trailer stand and lock it in the up position.
4. Check for wear or damage to the following while securing trailer to truck:
  - a. Hitch connection
  - b. Safety chains
  - c. Electrical lines
  - d. Air lines
    - Be sure there are rubber washers in air-lines and glad hands.
5. After the trailer is secured to the truck, and air-lines, electrical lines and safety chains are secured, switch air lever in the cab of truck. When proper air pressure is obtained, check air-lines for leaks.
6. Check trailer brakes, release brakes in cab and move truck and trailer and apply trailer brakes.
7. Never load or unload trailer unless hooked to a truck.
8. Check both winch cables for damage or wear.
9. Never use small winch cable for pulling load on the trailer. Always use the large cable winch for pulling loads on the trailer.
10. Never use small cable winch to lower the bed of trailer while bed is up and loaded.
11. Drive equipment on trailer slowly to avoid damage when trailer bed tilts to down position.
12. Know the weight of your load. Do not overload your vehicle.
13. After loading equipment, lock bed in down position.
14. Use loading ramps when applicable.
15. Secure articulator lock on loader and grader.
16. Be sure load is properly secured with chains, cables, ropes, etc. Use META guidelines for proper securing requirements.
17. Always check the height of the load before transporting equipment.

...Cont'd on Page 54

# Code of Safe Operating Practices

## **EQUIPMENT TRANSPORT TRAILER (Cont'd)**

18. Pull trailer with a truck suitable to handle the weight of the load.
19. The weight of the load should be centered according to the manufacturer's recommendation; 10% to 20% is the maximum weight allowed on the hitch.
20. After parking trailer, drain the air tanks, if equipped with spring brake chambers.
21. When towing trailer, observe trailer and adjust speed to weight of load and road conditions.
22. Caution should be exercised when transporting equipment with a high center of gravity.

# Code of Safe Operating Practices

## SAFE PRACTICES RULES

### LAYTON PAVER MODEL-505

#### SELF-LOADING TRAILER

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Do not load until you have received proper training.
3. Pre-op before using, i.e.: chains, cables, tires, and batteries.
4. Always use haul truck suited for safe towing.
5. Use of another person for hook-up is advisable.
6. Driver is responsible that proper hook-up is made and all items are secure for towing.
7. Do not load paver onto trailer until trailer is hooked to truck.
8. Check brake adjustment.
9. Do not use "Break-away" system as a parking brake.
10. Secure "Raising Stand" before towing.
11. One person only operates loading controls.
12. Secure paver on trailer before towing.
13. Tow only at a safe speed allowing for road conditions (45 mph per hour maximum).
14. Always wear proper apparel, especially gloves when handling cables.
15. Have worn parts replaced immediately, (frayed cables, worn tires, broken chains, etc.)
16. Do not place fingers near trailer tilt latch until the towing vehicle has stopped.

# Code of Safe Operating Practices

## SAFE PRACTICES RULES

### LAYTON PAVER MODEL-505

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Do not operate without proper training.
3. Pre-op before using---i.e. hoses, oils, leaks, cables, etc.
4. A 5-pound BC fire extinguisher shall be available at all times.
5. Check propane tanks for leaks or loose connections.
6. No smoking near LP tanks.
7. Use of proper cleaning agents is imperative.
8. Never leave heaters burning unattended or on while in transit.
9. Ensure that battery is hooked up properly.
10. Keep hands and tools away from augers when in operation.
11. **ONE PERSON ONLY** shall direct truck drivers backing into or leaving paver.
12. Do not make repairs or attempt to remove parts unless you are qualified and have read the manufacturer's instructions.
13. When work is completed turn off propane at tanks, and let gases burn off, and then turn engine keys to off.
14. Keep all parts as clean as possible, especially the walking platform at rear of paver.
15. Always wear proper apparel; i.e.: hardhat, gloves, safety glasses, orange vests, coveralls or long sleeves are recommended when working with hot plant mix.

# Code of Safe Operating Practices

## SAFE PRACTICES RULES

### SPREADER, CHIP

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Follow factory instructions when installing or removing the spreader hopper. Avoid pinch points and make sure chains and hooks are properly positioned.
3. Deadhead spreader with hopper empty or no more than 1/4 full.
4. Two operators shall be used to operate spreader.
5. Operator only shall ride on the spreader when deadheading. Use seatbelt.
6. Material feed belts should be checked for centering, adjustment and condition.
7. Check for proper function of all electrical switches and hydraulic valves prior to receiving first load of material.
8. Coordination between spreader operators and truck drivers is essential. A pre-job discussion will increase efficiency and reduce accident potential. One person shall be designated to direct truck drivers.
9. Caution shall be used when starting and stopping on grades.
10. Keep ground personnel clear of spreader when in operation.
11. Do not ride on front of material hopper while spreader is in motion.
12. Shut off engine and set brake when spreader is not in use.
13. Do not jump off spreader. Use steps and handrails when mounting or dismounting spreader.
14. Do not mount or dismount spreader while in motion.
15. Use caution when installing or removing spreader hopper. Properly secure load. Avoid pinch points.
16. Safety rails shall be 42 inches high with mid-rail and tow-board.
17. Chain on safety rails shall be in place during operation.
18. Load and tie the machine down properly.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### MUDJACK MACHINE

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Position equipment to protect workmen on foot.
3. Secure materials before traveling.
4. Wash skin which contacts materials. Skin barrier cream can be used.
5. High-pressure hoses should not be kinked. Check hose fittings for proper connection.
6. Operator should never leave machine while pumping is in progress.
7. Operator must coordinate work with ground crew. Only nozzle operator will direct the pump operator when to start the pump.
8. Make sure all hoses and nozzles are in good condition.
9. Do not stand over hoses or plugged holes.
10. Watch for tripping/slipping hazards in work area.
11. Protect from blow when removing nozzle from pressurized holes.
12. Use proper lifting procedures, especially when moving hose and lifting bagged material.
13. Clean machine properly and thoroughly at end of shift (or more often if needed).

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### CHIPPER

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Eye and hearing protection, shall be worn by the operator and workers, in the immediate area. Workers not involved in the chipping operation, shall not approach the chipper, without personal protective equipment.
3. Gauntlet-type gloves, shall not be worn by a chipper operator.
4. The wearing of jewelry is prohibited. Jewelry includes, but is not limited to, rings, watches, neck chains and key chains on belts.
5. The chipper operator's manual shall be available to workers operating or servicing the chipper.
6. Before any trailer chipper is towed, the hitch, safety chain and electrical connection shall be properly attached. No one shall ride on any part of the chipper.
7. The brush chipper emergency safety shutdown mechanism shall be tested periodically.
  - a. If the chipper was not used by the same crew on the previous day (chipper was idle or used by others), an actual shutdown test shall be made by the operator with engine running at idle or just above as part of daily pre-operation check.
  - b. If the same crew operated the chipper on the previous day, and an actual shutdown test was made, then a static shutdown test with engine off is required.
  - c. Chippers with a 'drop plate' mechanism shall be checked daily.
8. A chipper shall never be operated without proper guards in place.
9. The chipper ignition shall be locked and the key removed whenever the unit is left unattended.
10. Cutting bar and blades shall be kept sharp, properly adjusted and otherwise maintained in accordance with the manufacturer's recommendations.
11. Safety cover or guard shall be placed on rotor knives before adjustment or blade change.
12. Disengage the spring-loaded over-center cocking mechanism, on brake master cylinder when servicing chipper emergency shutdown brake service.

...Cont'd on Page 60

# Code of Safe Operating Practices

## CHIPPER (CONT'D)

13. All workers shall be kept clear of the exhaust chute when the chipper is running.
14. Rotary drum or disk-type brush chippers shall be fed from the side of the feed table, and the operator shall immediately turn away from the feed table when the brush is taken into the rotor.
15. Workers shall never place hands, arms, feet, legs, or any other part of the body on the feed table when the brush chipper is in operation or the rotor is turning.
16. Small pieces of brush or wood shall be pushed through the chipper with a stick or branch--never with the hands, feet or work tools.
17. Materials such as stones, nails, sweepings, etc., shall not be fed into the brush chipper.
18. Trailer chippers detached from trucks shall be chocked or otherwise secured.
19. Never attempt to turn rotor drum with hands, use a push-stick.
20. Brush chipper operator must be trained and qualified.
21. The engine, particularly the manifold and exhaust area, shall be kept free of chips and sawdust to prevent fire.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### STUMP CUTTER

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Review equipment operation portion of Operators Manual.
3. The Operator's Manual shall be available to workers operating or servicing the cutter.
4. Check daily for loose or worn teeth, hoses, or belts.
5. Familiarize yourself with the operation of cutter and the shut down procedure before using.
6. Review work site and clear all debris away from stumps (rocks, bottles, metal, etc).
7. Before starting cutter, make sure all safety guards are in place.
8. Wear hard hat and gloves. Use face shield over safety glasses to protect against flying debris. Hearing protection is required. Respiratory protection may be required when working under dusty conditions.
9. An additional person should be used as necessary to keep spectators and others from approaching the work area and being struck by debris.
10. Avoid forcing cutting wheel into stump.
11. After shutting down stump cutter do not approach cutting wheel until it completely stops turning.
12. Check cutting teeth before cutting next stump.
13. Locate underground facilities prior to cutting stumps. Contact Underground Services Alert (USA).

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### **CHEMICAL SPRAY, TRUCK, TRAILER OR SKID MOUNTED**

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Check connections for leaks.
3. Check for kinked or frayed hoses. Do not use damaged hoses.
4. Check packing glands on agitator shafts for leaks.
5. Avoid splashing, do not overfill tank.
6. On trailer mount, check frame for cracks and loose bolts.
7. Check for proper hook-up of trailer to vehicle and use safety chain--check before leaving yard.
8. Chemical containers including spray rigs must be labeled.
9. Safety shut-off valves shall be installed on all outlets.
10. Test pump and system and calibrate before adding chemical.

# Code of Safe Operating Practices

## **SAFE PRACTICE RULES**

### **CHEMICAL SPRAY BOOM**

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Properly secure boom while not in use.
3. Watch for side clearance and conflict with fixed or moving objects while using or adjusting boom.
4. Check packing glands on agitator shafts for leaks.
5. Avoid splashing do not overfill tank.
6. On trailer mount, check frame for cracks and loose bolts.
7. Check for proper hook-up of trailer to vehicle and use safety chain--check before leaving yard.
8. Chemical containers including spray rigs must be labeled.
9. Safety shut-off valves shall be installed on all outlets.
10. Test pump and system and calibrate before adding chemical.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### MIST BLOWER, FERTILIZER SPREADER

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Keep body away from moving parts.
3. Keep personnel clear of chute while blowing fertilizer.
4. Have chute pointed in the right direction before starting the spreader.
5. Be sure all safety guards are in place and nuts and bolts are tight.
6. Be sure bed of truck is kept clean to avoid slipping.
7. Hearing protection is mandatory while using this unit.
8. Safety rails on the truck bed shall be used.
9. Be sure truck is equipped with a functional ground strap.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### HIGH PRESSURE CULVERT CLEANER

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Check to see if tank is full of water.
3. Make visual inspection of hose first thing in morning and last thing at night. Minor scrapes should be wrapped with tape provided. Check for full water flow before pressurizing hose. Hose with worn or damaged areas showing cord should be replaced.
4. Do not exceed manufacturer's recommended engine RPM or water pressure.
5. Wear face shields, hard hat, and rubber gloves when operating jet rodder.
6. Stay clear, of culvert or pipe ends, when cleaning as rocks and debris come out at high speed.
7. Start auxiliary engine and obtain proper operating temperature prior to using.
8. Check all accessories to be sure they are secure and properly tied down.
9. Make sure all clamps and pipes are properly fitted and tight.
10. Caution must be exercised to keep from running over hoses.
11. Use caution with reel operation, keeping it under your control at all times.
12. Wind hose on reel smoothly, as kinks or a loose hose can result in hose damage and will make the operation more difficult.
13. Never run out of water. Pump will be damaged if run dry.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### IN BED SALT AND SAND SPREADER

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Keep hands and body away from all moving parts and be aware of pinch points.
3. Never make any repairs on the unit while it is in operation.
4. All personnel must keep clear of spread area.
5. Depressurize all lines before disconnecting.
6. Do not exceed weight limitations.
7. Properly secure to truck.
8. Shut down engine and relieve all pressure from hydraulics before attempting to remove debris from any moving part.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### SNOW POLE DRIVER

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Be aware of possible pinch points.
3. Check for proper hose connections, kinked or frayed hoses.
4. Watch for swing and vertical clearance when positioning driving derrick.
5. Use caution when inserting pole into driver because machine has strong magnet.
6. Pole drive is very noisy and walkie-talkies could be used for improving communications between driver and man on back of truck.
7. Don't insert pole until truck comes to a complete stop.
8. Continually check for loose bolts.
9. Hearing protection is required.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### GUARDRAIL STRAIGHTENER

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Persons handling rails must wear gloves. Watch for sharp burrs.
3. Two persons must be assigned to lift rails for feeding into machine. Watch for pinch points. Keep clear of ends during straightening.
4. Machine must be thoroughly inspected before operating.
5. Inspection mirrors must be properly adjusted when straightening rails.
6. Machine should be placed on relatively level terrain.
7. Severely damaged rails should not be run through machine.
8. Caution should be exercised when towing straightener; allow additional stopping distance.
9. Make sure brake control is connected to towing vehicle, and safety chains are hooked.
10. Use jack to raise and lower machine to proper position for hook-ups.
11. Don't operate machine if observers are within area of potential harm.
12. Keep those not involved in the work clear of the machine.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### TRENCHING MACHINE

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Have all persons stand clear when machine is started and operating.
3. Clear area to be trenched.
4. Locate and mark any underground utilities or water lines before trenching.
5. Keep all persons out of path of machine when trenching.
6. Secure machine properly before transporting.
7. Unload machine at a location protected from traffic exposure.
8. Obtain assistance when necessary to physically handle machine.
9. Don't overwork small machine on large jobs; obtain proper size machine for respective jobs.
10. Before digging, review Appendix D, Trench and Excavation Safety Guidelines.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### HEDGE TRIMMER

1. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks. Be familiar with the operator's manual.
2. Use standard personal protective equipment. Gloves and long-sleeved shirts, adequate footwear, snug-fitting clothing, and chain saw chaps. Hearing protection required.
3. Always use the following precautions when handling fuel and refueling the trimmers:
  - a) Store fuel in approved container.
  - b) Do not smoke while handling fuel.
  - c) Always stop engine of the trimmer to refuel.
  - d) Beware of static electricity and sparks between trimmer and fuel cans. Avoid spilling fuel and oil.
  - e) Do not remove fuel cap when engine is running.
  - f) Move trimmer at least 10 feet away from the fueling point before starting trimmer's engine.
4. Always use properly mixed fuel in trimmers.
5. Before starting engine, make sure trimmer's head is not contacting any object.
6. Do not allow other persons to be near the trimmer when starting or cutting.
7. Always hold trimmer firmly with both hands when you are operating.
8. Keep all parts of the body away from the trimmer blades when it is being operated.
9. Do not operate a trimmer that is damaged or improperly assembled.
10. All trimmers shall be equipped with a muffler and a spark arrestor.
11. Operate trimmers only in well ventilated areas.
12. Be aware of hidden objects when trimming.
13. Always keep the trimmer's handles clean of fuel and oils.
14. Do not wear jewelry when operating the trimmer.

...Cont'd on Page 71

# Code of Safe Operating Practices

## HEDGE TRIMMER (Cont'd)

15. Use caution when operating trimmer on rocky/uneven terrain. Watch for tripping hazards.
16. When possible, keep the trimmer in the upright position to keep from spilling fuel.
17. Operate the trimmer at full throttle when cutting hedges/light brush. Use a slow swinging motion as this will maximize the trimmer service life and avoid premature clutch failure.
18. Do not allow blade or teeth to make contact with concrete, metal, chain link fence, cables, rocks, bottles or other objects.
19. Clean air element, also remove and clean the spark plug after ten hours of use, or sooner if recommended by the manufacturer.
20. Grease the trimmer head after every fifty hours of use, or sooner if recommended by the manufacturer.
21. Do not attempt to dislodge wedged objects with your hands.
22. Keep hands and fingers clear of pinch points.
23. Cutting teeth and wear parts are sharp, wear gloves while handling blades, watch for metal splinters and sharp edges.
24. Workers on foot shall stay out of the way of operating equipment until the area is safe and clear for hand work.
25. Allow ample space for each employee to work safely. Avoid “bunching of workers”.
26. The use of worker leg protection (chaps, legging pants, etc.) is required for all hedge trimming operations. Brush pullers who are pulling vegetation out of the operator’s path shall also wear chaps.
27. Only properly trained employees may operate the hedge trimmer.
28. Special program persons are not allowed to operate power equipment.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### GRASS TRIMMER

1. Pre-op equipment, including rental equipment. Be familiar with the operator's manual.
2. Use adequate footwear; snug fitting clothing, eye, hearing and head protection devices.
3. Always use the following precautions when handling fuel and refueling the trimmers;
  - Store fuel in approved container
  - Do not smoke while handling fuel
  - Always stop engine of the trimmer to re-fuel
  - Beware of static electricity and sparks between trimmer and fuel cans
  - Avoid spilling fuel and oil
  - Do not remove fuel cap when engine is running
  - Move trimmer at least **10 feet (3 meters)** away from the fueling point before starting trimmers engine
4. Always use properly mixed fuel in trimmers.
5. Before starting engine, make sure trimmer's head is not contacting any object.
6. Do not allow other persons to be near the trimmer when starting or cutting.
7. Always hold trimmer firmly with both hands when you are operating.
8. Keep all parts of the body away from the trimmer when the trimmer is being operated.
9. Do not operate a trimmer that is damaged or improperly assembled.
10. All trimmers shall be equipped with a muffler and a spark arrestor.
11. Operate trimmers only in well ventilated areas.
12. Be aware of hidden objects when trimming.
13. Always keep the trimmer's handles clean of fuel and oils.
14. Do not wear jewelry when operating the trimmer (rings, watches, neck chains, or key chains).
15. Use caution when operating the trimmer on rocky or uneven terrain.
16. Keep the trimmer in the upright position to keep from spilling fuel.
17. Operate the trimmer at full throttle when cutting grass. Use a slow swinging motion and cut with the tip of the trimmer line (this will maximize the trimmer line service life and avoid premature clutch failure).
18. Do not bang or bounce the trimmer head on the ground when operating the trimmer.
19. Clean air element every ten hours of use also remove and clean spark plug.
20. Every fifty hours of use grease the trimmer head.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### CHAIN SAW

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Use adequate footwear; snug fitting clothing, and eye, hearing and head protection devices.
3. Always use the following precautions when handling fuel and refueling the chain saw:
  - a. Always store gasoline in an approved container.
  - b. Do not smoke while handling fuel.
  - c. Always stop the engine to refuel the tank.
  - d. Beware of static electricity and sparks between saw and fuel cans (metal and plastic).
  - e. Avoid spilling fuel or oil. Spilled fuel should always be wiped up.
  - f. Do not remove fuel tank cap when engine is running.
  - g. Move the chain saw at least 10 feet (3 meters) from the fueling point before starting the engine.
  - h. Keep the handles dry, clean and free of oil or fuel mixtures.
4. Before you start the engine, make sure the saw chain is not contacting any object.
5. Never start the chain saw until you are at the location where you intend to use the saw.
6. Do not allow other persons to be near the chain saw when starting or cutting. Keep bystanders out of the work area.
7. Never start cutting until you have a clear work area and secure footing.
8. Always hold the chain saw firmly with both hands when the engine is running. Use a firm grip, with thumb and fingers, encircling the chain saw handles.
9. Keep all parts of body away from the saw chain when the engine is running.
10. Do not operate a chain saw that is damaged, improperly adjusted or not completely and securely assembled. Be sure that the saw chain stops moving when the throttle control trigger is released.
11. Do not cut with the chain saw above your head to guard against kickback and to help prevent back injuries.
12. Always shut off the engine before setting down a saw.

...Cont'd on Page 74

# Code of Safe Operating Practices

## CHAIN SAW (Cont'd)

13. Use extreme caution when cutting small size brush and saplings because slender material may catch the chain saw and be whipped toward you or pull you off balance.
14. When cutting a limb that is under tension, be alert for spring back so that you will not be struck when the tension in the wood fibers is released.
15. All saws shall be equipped with a spark arrestor, when required.
16. Operate the chain saw only in well ventilated areas.
17. The wearing of jewelry is prohibited. Jewelry includes, but is not limited to, rings, watches, neck chains and key chains on belts.
18. Do not operate a chain saw unless you have been trained and qualified to do so.
19. The use of chain saw leg protection is required for all ground level chain saw operation.
20. Do not operate if fatigued.

## KICKBACK

Kickback may occur when the nose or tip of the guide bar touches an object, or when the wood closes in and pinches the chain saw in the cut. Tip contact in some cases may cause a lightning-fast reverse reaction, kicking the guide bar up and back toward the operator. Pinching the saw chain along the top of the guide bar may push the guide bar rapidly back toward the operator. Either of these reactions may cause you to lose control of the saw, which could result in serious personal injury. Only use replacement bars and chains specified by the manufacturer.

Follow the manufacturer's instruction for sharpening and maintenance of the chain saw.

# Code of Safe Operating Practices

## **SAFE PRACTICE RULES**

### **HAND POWER EDGER**

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Operator should wear face shield and eye protection. Hearing protection is required.
3. Keep feet and hands clear of blade while starting and operating.
4. Never leave attended while running.
5. Never work around the blade without disconnecting spark plug wire.
6. Never refuel while engine is running.
7. Always check area for rocks, bottles or other objects that could be thrown.
8. Do not operate without safety devices.
9. Gas should always be stored in a clearly marked container designated for such a purpose.
10. Do not operate while others are in close proximity.

# Code of Safe Operating Practices

## **SAFE PRACTICE RULES**

### **AUGER, HAND HELD POWER**

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Inspect auger for loose nuts and bolts and damaged bits (bits shall be sharp).
3. Locate underground utilities prior to digging. Contact utilities Underground Service Alert (USA).
4. Do not apply direct pressure to auger. Let the auger go down by itself.
5. Use a minimum of two people to operate the auger, keep a firm grip.
6. Be sure of footing and watch for kickback.
7. Allow engine to cool before refueling.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### CONCRETE SAW

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Check blade for flaws do not use blades with chips or cracks.
3. Use correct amount of water to keep blade cool while operating saw.
4. Check all water hoses for cuts and leaks.
5. Keep all safety guards in place while operating.
6. Check blade nuts for tightness.
7. Do not force or bind blade in slot being sawed.
8. Do not raise protective shield from around blade when operating saw.
9. Do not use blade with chips or cracks.
10. Eye and hearing protection is required.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### MIXER (CONCRETE)

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Keep clear of pinch points.
3. Use proper lifting procedures.
4. Keep mixer and tools clean.
5. Ensure that chutes are properly placed before dumping.
6. Secure mixer and attachments before moving to new locations.
7. Do not use frayed or worn power cords on electric mixers.
8. Allow ample space for each employee to work safely.
9. Never reach into drum while mixer is running.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### AIR TOOLS

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Select tool of right size and type for job.
3. Operating handles must be in off position before opening air valve on compressor.
4. Use hearing, face, hand and foot protection as necessary.
5. Inspect tools periodically for loose nuts and bolts. Inspect steel locking devices for wear and cracks. Do not use defective tools.
6. Inspect all air-lines and connections. Always use safety clips on air connections. Frayed or work air hoses shall not be used.
7. Avoid pinch points.
8. Use proper lifting methods.
9. When drilling concrete slabs, use starter blocks and get help when using long steel. Keep tool bits sharp.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### AIRLESS PAINT SPRAYER

1. Read and follow the operator's manual for the particular sprayer you are using.
2. Keep fingers and hands away from spray nozzle. Never direct the spray gun towards any part of your body. Paint could enter your skin, causing serious injury.
3. Do not change nozzle tip without shutting pump off and releasing the pressure. Lock spray gun trigger open.
4. Do not leave sprayer unattended unless it is shut off and the pressure released.
5. Check hoses to ensure that there are no kinks, bends or abrasions. Periodically check hose condition to ensure that ruptures will not occur.
6. When making repairs or replacements, use only high-pressure fittings designed for use with high-pressure sprayers.
7. Do not operate the gun without a tip guard.
8. When cleaning the unit, spray at minimum pressure with nozzle tip removed. Static electricity buildup may result in an explosion if flammable vapors are present.
9. Ensure that all machine guards are in place, if equipped.
10. Do not spray any paint without proper ventilation or respiratory protection.
11. No smoking or open flame within 50 feet of the sprayer when using solvent-based paints.
12. Have at least a 5-pound BC fire extinguisher nearby when using solvent-based paints.
13. Do not check for leaks with your hands. Use a piece of cardboard or wood to detect small leaks; fluid under pressure can enter your skin, causing serious injury.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### SAND BLASTER

#### **Main Tank (Reservoir):**

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Check all fittings for leaks and alignments.
3. Be careful not to overfill sand reservoir.
4. Make sure all valves are properly opened or closed before activating blaster.
5. Drain water from the separator.
6. Stand clear and avoid looking towards sand reservoir after filling.
7. Keep unauthorized personnel out of immediate sandblast area.
8. Check blasting hoses for rips, tears, soft spots, and any connections. Do not use detective hoses.
9. Check nozzle for wear.
10. Check nozzle shut-off for proper operation prior to sandblasting. Shut-off must be controlled by the operator.
11. Do not run over hose with tires of truck.
12. Avoid dragging hoses.

#### **Positive Pressure Air Hood:**

1. Adjust helmet headband and chinstrap to proper size.
2. Make sure hood skirting is fitted down over shoulder and snaps are fastened.
3. The waist belt for helmet air hose should be worn on the outside of skirting so the adjustment knob can be reached.
4. Supervisor shall ensure that supplied air system is operating properly.
5. Hearing and eye protection is required.
6. A positive pressure air hood is required. A cartridge type respirator (HEPA filter) may be used for jobs of less than 2 hours duration.

...Cont'd on Page 82

# Code of Safe Operating Practices

## SAND BLASTER (Cont'd)

### **Hazardous Material Warning:**

1. When removing paints from structures by sandblasting be mindful that red lead has been used in many major structural paint jobs and when removed by sand blasting the grit which results is a hazardous material and is extremely hazardous to your health. Removal work will require that workers use special respiratory protection and other protective clothing and equipment (Contact your supervisor and office of employee Safety and Health for correct guidance before doing the work!). Sand blasting grit containing any hazardous materials, shall be containerized for correct storage, pickup, transportation, and, disposal or treatment in a recycling process.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### WELDER, OXYGEN AND ACETYLENE

#### SAFETY IN CUTTING

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Never use a cutting torch where sparks will be a hazard.
3. If cutting is to be over a wooden floor, sweep the floor clean and wet it down before starting the cutting. Provide a bucket or pan containing water or sand to catch the dripping slag.
4. Keep a fire extinguisher nearby whenever any cutting is done.
5. Whenever possible, perform cutting in wide-open areas, so sparks and slag will not become lodged in confined crevices or cracks.
6. If cutting is to be done near flammable materials and the flammable materials cannot be moved, suitable fire resisting guards or partition screens must be used.
7. In areas where a dirty or gassy atmosphere exists, extra precautions should be taken to avoid explosions resulting from electric sparks or open fire during the cutting or welding operation.
8. Eye protection is required.
9. Coveralls or long sleeved shirts and leather gloves are required.
10. Respiratory protection may be required. Do not carry lighters in your pockets.
11. Do not cut in unventilated areas.

#### SAFETY IN OXY/ACETYLENE WELDING CYLINDERS

1. Never move a cylinder by dragging, sliding or rolling it on its side. Keep protective cap in place. Avoid striking it against an object that might create a spark.
2. Never permit grease or oil to come in contact with cylinder valves. Although oxygen is in itself non-flammable, if it is allowed to come into contact with any flammable material, it will quickly aid combustion.
3. Blow out cylinder valves before attaching the regulator.
4. Release regulator screw before opening valve.

...Cont'd on Page 84

# Code of Safe Operating Practices

## **WELDER, OXYGEN AND ACETYLENE (Cont'd)**

5. Open cylinder valve slowly.
6. Cylinders shall not be exposed to open fires or sparks from a torch.
7. Cylinders shall not be allowed to lie in a horizontal position nor should the valve protector cap be used for lifting cylinders.
8. Acetylene valve should not be opened more than one-quarter turn.
9. Do not attempt to repair cylinder valves. If the valves do not function properly, or if they leak, discontinue use and notify the supplier.
10. Oxygen shall never be used as a substitute for compressed air to operated pneumatic tools, blow out pipelines, or dust clothing because a serious accident may result.
11. Cylinders shall be properly secured to prevent them from being knocked over.
12. When operating cylinder valves, always stand to one side and away from the regulator. A defect in the regulator may cause the gas to flow through, shattering the glass.
13. Oxygen and acetylene cylinders must be stored at least 20 feet apart, or separated by a two hour-fire wall.
14. Cylinders shall not be transported unless equipped with safety cap and properly secured.
15. Release pressure on regulators when welding or cutting is completed.
16. **Do not** compress acetylene in a free state of pressure higher than 15 PSI.
17. Light the acetylene gas before opening the oxygen valve on the torch.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### WELDER, ELECTRIC

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. A welding machine shall be equipped with a power disconnect switch which is conveniently located at or near the machine so the power can be shut off quickly.
3. Never make repairs to welding equipment unless qualified to do so. The high voltage used for arc welding machines can inflict severe or fatal injuries.
4. Welding machines must be properly grounded. Stray current can cause severe shock when ungrounded parts are touched.
5. The polarity switch shall never be changed when the machine is under a load. Wait until the machine idles and the circuit is open. Otherwise, the contact surface of the switch may be burned and the resulting arcing could cause an injury.
6. Welding cables shall not be overloaded or a machine operated with poor connections.
7. Damp areas should be avoided, and hands and clothing shall be kept dry at all times.
8. Do not strike an arc if someone without proper eye protection is nearby. If other persons are in the work area, a welding screen shall be placed to protect them from the arc welding flash.
9. Suitable spark shields must be used in arc welding.
10. Keep the non-insulated portion of the electrode holder from touching the welding ground when the current is on. This will cause a flash.
11. Keep welding cables dry and free from oil and grease.
12. Do not carry welding cables coiled around the shoulders.
13. Welding hoods shall be inspected before use and comply with ANSI standards.
14. Protective clothing, leathers or long sleeved coveralls shall be worn. Leather gloves are required.
15. Hearing and respiratory protection may be required.
16. Do not weld in unventilated areas.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### STEAM CLEANER

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Read instructions for specific machine before use.
3. Check general condition before and after each use.
4. Make sure all valves are properly identified.
5. Inspect hoses, gauges, fittings, water and solution tanks before operating.
6. Make sure cleaning solutions (if used) are properly proportioned and mixed.
7. To avoid overheating, be certain water is on prior to and after applying heat to boiler.
8. Wear proper protective clothing and equipment while using machine. Face shield and gloves are required. Consider use of apron and rubber boots.
9. Do not allow machine to reach excessive temperature or pressure. Check instructions for working temperature and pressure; watch gauges.
10. While machine is on, do not leave steam gun unattended. Secure properly during heat-up and cool down.
11. Water conducts electricity. Keeps wet hands from touching electrical equipment and wear Personal Protective Equipment (PPE) such as rubber gloves and boots.
12. Do not attempt repairs without training.
13. When cleaning is completed, perform housekeeping duties and properly store materials/equipment used.
14. Do not run over hose.
15. Check Material Safety Data Sheet (MSDS) for cleaning agent used. Wear protective clothing as required by MSDS. Avoid skin contact.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### WORK BOAT

Back boat into water, submerge trailer fenders, disconnect boat from trailer connection.

#### **Before launching boat, check for the following:**

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Provide a life jacket in good condition for each occupant.
3. Fire extinguisher.
4. First aid box-check for additional safety items such as boat hooks and paddle.
5. Mooring lines.
6. Portable radio.
7. Brief "first timers" on location of life jackets, fire extinguisher and everything else necessary from safety aspect.
8. Be sure drain plugs are in place.
9. Have sufficient fuel on board for trip.
10. Be sure bowline is attached to boat and secured by some means before backing down launch ramp. Use the backup person to handle this line.
11. Make radio check to maintenance yard when in water.

#### **After launching boat:**

1. When fueling, extinguishing all flames, avoid overflow.
2. Check for water leakage from hull or engine.

#### **Boat trailer:**

1. Back up to trailer with assistance of another person whenever possible.
2. Check for wear or damage to the following while securing trailer to truck:
  - a. Hitch connection.
  - b. Safety chains.

...Cont'd on Page 88

# Code of Safe Operating Practices

## **WORK BOAT (Cont'd)**

- c. Electrical lines.
- d. Hitch connection on the trailer for boat.
- 3. Check winch cable for damage and wear.
- 4. Check winch for locked position before moving trailer when boat is on trailer.
- 5. Check for proper alignment of boat on rollers and V-block of trailer.
- 6. Check boat wheel bearings for problems.
- 7. Check that brakes work, if so equipped.
- 8. Report noisy, loose or unusual movement of wheels to Supervisor.
- 9. Always have backup person, backup operator.
- 10. Be sure boat is secure before moving.

### **Before starting engine:**

- 1. Visual check of hull, deck, cabin, vents, and hatches.
- 2. Open cabin. Turn on engine room vent.
- 3. Visual check of cabin interior.
- 4. Examine life rings and life jackets to be sure there is one for each occupant.
- 5. Check fire extinguishers and first aid boxes.
- 6. Check mooring lines (deck hand).
- 7. Examine bilge for excess water or fuel oil.
- 8. Examine engine room deck for oil or grease.
- 9. Examine forward hole for proper stowage of gear.
- 10. Examine fire pump sea-suction valve and main engine sea-suction valve.
- 11. Examine rudder posts and propeller shafts, for leaks.
- 12. Check engine oil and drive oil levels.

### **After starting engine:**

- 1. Observe gauges. Check radio.

...Cont'd on Page 89

# Code of Safe Operating Practices

## **WORK BOAT (Cont'd)**

2. Visual check of over-board discharge.
3. Check bilge pump.
4. Have deck hand remove mooring lines.
5. Slowly pull away from dock looking in all directions.
6. Always observe maritime safety "Rules of the Road".

**When docking, secure all mooring lines.**

**Note:** During storm periods, periodically check mooring lines to be sure the boat is secure.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### SPIDER STAGING

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Check the wire rope for damage or wear each time it is run out.
3. Rig properly to prevent severe pull in. Pull-in will cause extreme pressure contact of the rope against the fair lead resulting in flattening and thus weakening of the wire rope. Flattened wires will give the rope a bright and shiny appearance.
4. Lubricate the wire rope as needed to prevent rust.
5. Keep the wire rope wound properly on the drum.
6. Do not allow the wire rope to kink.
7. Do not bend the wire rope over any sharp edges.
8. Do not use sharp, snap on tools (vise grips) on the wire rope.
9. Watch the wire rope for broken wires.
10. Keep clear of all power lines.
11. Do not over-lead (1,000lb. load capacity), or over-extend. The staging has at least 125 feet of 5/16-inch wire rope.
12. Wear safety belts at all times when in the spider.
13. Use a safety wire rope to hold the spider, in case the main hoist line should break.
14. Check the oil level in the hoist--fill with Mobil-Almo oil #1 or equal.
15. Check and clean the oil filter at least once a day.
16. Check worm-gear lube level--use Mobil 600W cylinder oil.
17. Keep the floor of the spider staging clean.
18. Keep the floor of the spider staging clean.
19. Replace the hoist wire rope once a year, or more often if need be.
20. Do not hook the safety belt lanyard to the spider.
21. Hook the safety belt lanyard to the personnel safety- -lifeline.
22. Report any unusual noise, vibration or malfunction immediately.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### HYDROSEEDER

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Be sure all safety guards are in place and secure.
3. Only trained employees shall be authorized to operate this equipment.
4. Check packing glands/bearings on agitator shafts for leaks.
5. Ensure the safety/warning horn system is operative. If horn sounds during operation, shut down the machine immediately and troubleshoot the problem.
6. Communication between the hydroseeder operator and support vehicle operator is required at all times. Discuss, arrange and agree upon signals beforehand, including an "Emergency All Stop Signal" (Communication may include; hand signals, voice, warning horn, two-way hand-held radios, etc.)
7. Hearing and eye protection shall be worn while equipment is in operation.
8. Use steps and handrails when mounting and dismounting. Use the "three-point method".
9. Do not mount, dismount, or load hydroseeder while in motion.
10. Always make sure the one-way gate is closed when working from the platform.
11. If operator is riding on machine, speed shall not exceed 5 MPH.
12. Do not open safety grate in material tank while agitator is turning.
13. Use proper lifting techniques when loading heavy materials.
14. Use caution if using cutters or knives to open bagged materials.
15. When loading, do not overfill tank. Avoid dust and splashing.
16. Keep platforms clean to avoid slipping.
17. Test pump and system with clean water before adding hydroseeding materials; either the re-circulation valve or the discharge spray gun must be open to test.
18. Never engage the clutch when the re-circulation and discharge valves are both in the closed position. Overheating may occur risking personal injury and/or equipment damage.
19. Watch for overhead obstructions. Do not spray power lines, transformers, or other electrical sources.
20. Keep personnel clear of spray gun and target area while spraying material. Point spray gun at target before engaging. Do not spray over ground personnel.
21. Properly secure hydroseeder discharge spray gun before leaving platform.
22. Exercise caution while utilizing powered hose reel to avoid entanglement with hair, clothing, etc.
23. Rinse out hydroseeder at the end of the shift.
24. Lock out equipment before doing any maintenance or repairs.
25. Follow good personal hygiene practices. Wash hands and face before eating, drinking, using tobacco, or using the restroom.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### STRAW BLOWER

1. Pre-op equipment including rental equipment. Read the operator manual and safety decals. A copy of the operator manual should be with the machine.
2. Check that all safety guards and switches are in-place, secure, and working.
3. All employees operating or feeding this machine must be trained prior to working.
4. Communication between the truck driver, loader, and blower operator is required. Discuss the procedures before starting work, including an “Emergency Stop” signal. Hand signals, voice, warning horn, 2-way radios, headsets, etc. may be used.
5. Wear appropriate personal protective equipment. In addition to standard PPE, hearing protection and safety goggles are required. Dust masks may be necessary. Be careful with hay hooks, wear hay apron (chaps) if available.
6. Keep unauthorized workers away, only the operator and loader can be near the machine during operation.
7. Use steps and handrails [“Three Point Method”] when mounting and dismounting.
8. During straw blower operations follow these rules:
  - Survey the work area and identify obstructions, dips, and rough ground
  - Limit travel speed to 5 mph or less
  - Use fall protection (guardrail, harness & lifeline, etc.) to keep bale loader inside truck bed.
  - Keep truck bed as clear as possible of spilled straw to prevent slipping.
  - Maintain communication between loader and driver.
  - Never place hands, feet, or parts of body in feed chute during operation.
  - Do not wear loose clothing, watches, or rings during bale loading.
9. Use proper lifting techniques (bend knees, straight back) when loading straw bales.
10. Cut and remove bale strings or wire and other harmful materials (rocks, dirt, and metal) before the bale hits the feed chain.
11. Use cutters or knives carefully, keep fingers clear during cutting.
12. Be careful with blowing material. Do not blow towards power lines or transformers. Be careful not to cover electrical boxes and sprinkler controllers. Be careful in windy conditions near traffic. Do not blow material towards or over ground personnel.
13. Remove safety pins and point blower discharge at target before engaging clutch.
14. Keep machine clean. Remove accumulations of straw that may create a fire hazard. Shut machine off and remove key during cleaning, maintenance, or repairs.
15. Feed chains and drive belts shall be adjusted and maintained according to manufacturer’s instructions. Blades shall be kept sharp.
16. Properly stow and secure discharge chute before leaving operator position.
17. Be sure grounding strap has good contact before operating machine.
18. Check for proper hook-up of machine to tow vehicle. Use safety chains.
19. Strawblower shall be equipped with a 20-pound ABC fire extinguisher.
20. When disconnecting from tow vehicle, set brake, chock wheels, and remove the key.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### MULCH BLOWER

1. Pre-op equipment including rental equipment. Read the operator manual and safety decals. A copy of the operator manual should be with the machine.
2. Check that all safety guards and controls are in-place, secure, and working.
3. All employees operating, feeding, or spreading mulch with this machine must be trained prior to working.
4. Communication between the blower operator and those loading and spreading mulch is required. Discuss the procedures before starting work, including an “Emergency Stop” signal. Hand signals, voice, warning horn, 2-way radios, headsets, etc. may be used.
5. Wear appropriate personal protective equipment. In addition to standard PPE, gloves, hearing protection and safety goggles are required. Dust masks may be necessary.
6. Use water mister to reduce dust. Check nozzle for plugging on regular basis.
7. Keep unauthorized workers away, only those involved in the operation can be nearby.
8. Use steps and handrails [“Three Point Method”] when mounting and dismounting.
9. Lower the feed conveyor before using machine. Adjust legs for solid support. Properly stow and secure discharge chute and install feed hopper safety brace before moving machine.
10. During mulch blower operations follow these rules:
  - DO NOT KINK THE DISCHARGE HOSE – hold it firmly
  - Load material into hopper slowly, avoid clumps.
  - Never place hands, feet, or parts of body in conveyor feed hopper or hammermill chute during operation.
  - If material bridges on feed conveyor, use a shovel or pitchfork to dislodge it.
  - Never stick anything into hammermill during operation.
  - Never feed rocks, boards, metal, etc. into this machine.
  - Do not wear loose clothing, watches, or jewelry during hand loading.
  - The hammermill will continue to turn after power is disconnected. Be sure that movement has stopped before removing any covers.
11. Be careful with blowing material. Do not blow towards power lines or transformers. Be careful not to cover electrical boxes and sprinkler controllers. Be careful in windy conditions near traffic. Do not blow material towards or over ground personnel.
12. Point blower discharge at target before engaging clutch.
13. Keep machine clean. Remove accumulations of mulch that may create a fire hazard.
14. Shut machine off and remove key during cleaning, maintenance, or repairs.
15. Feed and drive belts shall be adjusted and maintained according to manufacturer’s instructions. Blades shall be kept sharp.
16. Check for proper hook-up of machine to tow vehicle. Use safety chains. A tow vehicle of 2 ton or larger capacity is required.
17. When disconnecting from tow vehicle, set brake, chock wheels, and remove key.
18. Mulchblower shall be equipped with a 20-pound ABC fire extinguisher.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### SCREEN-ALL, CV-40-D

1. Perform daily pre-op of equipment, fluid checks, and lube checks. Start engine, observe gauges. Be familiar with operator's manual.
2. Wear Personal Protective Equipment (PPE). Hearing protection is required while working in close proximity to the machine.
3. Check for loose, worn or damaged screens.
4. Make sure all controls are in their neutral position before starting engine.
5. Make sure all personnel are clear of machine before raising or lowering screener.
6. Do not stand on the low side of machine when it is running. This is where the spoils are deposited.
7. Do not overload the screen with material.
8. Do not drop material from high above the screen – this action could result in damage to the screen and shaker had assembly.
9. Do not hit bottom of deck with the loader bucket – this action could result in damage to the shaker head assembly and the loader bucket.
10. Do not allow screened material to build up to the bottom of the shaker head cavity. Three-fourths full works the best.
11. Stop engine before re-fueling.
12. Always remove all debris from the screener deck before moving the screener.
13. Never move screener while the deck is shaking material.
14. Make sure both axle lock bars are in place and locked before moving screener.
15. Be sure to lock all compartments prior to leaving the screener in the field unattended.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### DEWEESE ALL TERRAIN MOWER

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Check lights, tires, oil, hydraulics, gauges, blade wear, grease fittings.
3. Hearing and eye protection are required at all times while operating. If mowing where excessive dust exists, respiratory protection may be required.
4. Always wear seat belt before starting or operating mower.
5. Never attempt to operate the mower except from the operator's station.
6. Familiarize yourself with all controls before operating.
7. Check area, clear rocks and debris before mowing.
8. Travel slowly when moving over rough terrain.
9. Never drive close to the edge of a ditch line or excavation.
10. This mower is equipped with an automatic leveling system; familiarize yourself before operating.
11. When mowing slopes always mow from side to side, never mow up or down slopes.
12. Watch for traffic when mowing around guide markers, signs, culverts, etc.
13. Don't mow too close to fences and be alert of utility pole guide wires.
14. Never allow anyone to work under raised attachments without proper safeguards in place.
15. Shut off tractor when working on mower.
16. Disengage mower when not cutting.
17. Always carry fire suppression equipment.
18. Do not dismount unless motor is off and brake is set.
19. Do not attempt to operate this piece of equipment without proper training.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### JOHN DEERE GATORS

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Wear all appropriate safety gear, hard hat, safety glasses and hearing protection.
3. Do not start tractor from ground. Always be in the seat and check gear selector before starting.
4. Never leave the machine unattended with the engine running. When parking, set brake, turn off engine and remove key.
5. Travel slowly when moving over rough terrain.
6. Never allow anyone to work under raised attachments without proper safeguards in place and secured.
7. Never drive too close to the edge of a ditch or excavation.
8. Reduce speed before turning or applying brakes. Drive at speeds slow enough to ensure your safety, especially over rough ground.
9. Be aware that loads reduce turning radius.
10. Never attempt to start or operate the machine except from the operator's station.
11. Operator must wear lap belt, if equipped.
12. Do not overload. Keep loads below guards and inside of cargo box. No riders inside cargo box.
13. Engage differential lock at slow speeds; disengage differential lock before turning.
14. Keep feet on platforms and arms inside of running lines of gator.

#### **WHEN USING CHEMICAL SPRAY RIG REVIEW THE FOLLOWING CSOP:**

##### SECTION II

##### **PEST MANAGEMENT**

Page 27

##### **VEGETATION MANAGEMENT (CHEMICAL)**

Page 28

##### SECTION III

##### **CHEMICAL SPRAY, TRUCK, TRAILER OR SKID MOUNTED**

Page 63

##### **CHEMICAL SPRAY BOOM**

Page 64

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### POLARIS 4WD/6WD ATV

1. Pre-op equipment including rental equipment. Be familiar with operator manual.
2. Use of seat belts is required.
3. Helmets and eye protection are recommended.
4. Use caution while on slopes/hills or when encountering obstacles while braking or during turns. Under no circumstances should you climb, descend or traverse hills greater than 15 percent.
5. Never leave the machine unattended with the engine running.
6. Never attempt to start or operate the machine except from the operator's station.
7. Travel slowly when moving over rough terrain. Improperly crossing hills or turning on hills can be dangerous. Avoid crossing the side of a steep hill.
8. Keep feet on floorboards while operating vehicle.
9. Operation on slopes/hills when loaded can be dangerous.
10. Use off road only-unit is not made for operation on pavement
11. Never operate at excessive speeds.
12. Use caution while traveling in reverse, steering becomes difficult, avoid backing downhill, avoid turning at sharp angles while in reverse.
13. Throttle linkage and brakes may stick in freezing weather. Dirt, mud and water may also affect operation of controls.
14. Never exceed the stated load capacity for this vehicle. (GVW 2920) Cargo should be properly distributed and securely attached. Reduce speed and follow instructions in this manual for carrying cargo or pulling a trailer (trailer maximum of 1500 lbs.). Allow greater distance for braking.
15. Never carry riders in cargo box (maximum cargo capacity of 1000 lbs.).
16. See COSP for Vegetation Management (pg. 28) and Chemical Spray, Truck, Trailer or Skid Mounted (pg. 63) when using 50 Gal. Skid Mount Sprayer.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### MOVEABLE BARRIER

1. Do not operate this equipment unless specifically trained for this unit.
2. Perform required pre-operation and post-operation checks.
3. Know your equipment - be familiar with operating instructions.
4. Be familiar with and follow deployment and stowage instructions.
5. Review written operating instructions before leaving the yard.
6. Back up to trailer with the assistance of another person when possible.
7. Barrier is equipped with laser aligning device. **Do not** allow bodily contact with beam.
8. NO employees on foot near or around barrier while it is being deployed or stowed.
9. Do not stand on traffic side of beam.
10. Employees will stay clear of moving equipment and keep hands and body away from all moving parts.
11. Be aware and keep clear of all pinch point areas.
12. Check for wear or damage to the following:
  - Fifth Wheel to King Pin connection
  - Electrical wiring
  - Air lines
  - Hydraulic hoses
  - Actuating arm to beam connection for loose bolts, weld conditions, etc.
13. Ensure all safety locks are engaged before moving the unit.
14. If trailer must be moved while in the barrier mode, do not exceed 5 mph. **Workers are not to be inside the protection zone while the barrier is in motion.**
15. Make sure of footing when mounting and dismounting equipment. Use proper mounting and dismounting procedures.
16. When new specialized equipment (including rental equipment) is introduced, supervisors shall ensure that employees are trained in the hazards involved in the operation of the equipment and are familiar with the safe operating procedures.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### LIGHT TOWER

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Light tower operators shall be properly trained and review this CSOP before operating this unit.
3. Prior to the daily use of a light tower, a visual inspection and operational check shall be made in accordance with the manufacturer's instructions.
4. Operators shall follow all operating instructions in the operator's manual. The operator's manual shall be available during operation, service, inspection and repair.
5. Be aware that light tower may effect steering, handling, and stability of vehicle.
6. Read safety placards before operating controls.
7. Check safety switches prior to use.
8. Prior to use, the light tower's telescoping mast shall be inspected for damage.
9. The vehicle shall be located on level terrain before raising light tower. Watch the vehicle level indicators while raising to spot instability.
10. Before and during raising or lowering the light tower, the operator shall observe the masthead and be sure that no overhead obstructions will be contacted. During darkness, the masthead will be illuminated during raising or lowering.
11. The light tower mast and head shall be kept at the proper clearance (at least 10 ft. for voltages up to 50,000) from overhead lines and obstructions. See the warning placard on the vehicle for required clearances at higher voltages.
12. If an overhead line is contacted **DO NOT ATTEMPT TO MOVE THE VEHICLE.** Jump free; do not contact the vehicle and ground. Stay well clear of the vehicle. Beware of step and touch potential.
13. If a downed power line occurs, **STAY CLEAR, DO NOT TOUCH OR APPROACH LINE.** Beware of step and touch potential.  
**NOTE:** "Step Potential" is the voltage between the feet of a person standing near an energized grounded object, based on the distance each foot is from the "electrode". Merely standing close to the grounding point could shock a person. "Touch Potential" is the voltage between the energized object and the feet of a person in contact with the object.

Cont'd on Page 100

# Code of Safe Operating Practices

## LIGHT TOWER (Cont'd)

14. Do not raise the light tower telescoping mast when vehicle is in motion. Do not attempt to move the vehicle while the mast is elevated or the mast alarm or warning light is on.
15. Do not raise light tower during high wind, lightning, and other severe weather conditions.
16. Keep body parts away from areas where they may be pinched between the telescoping mast or the lamp fixtures and other objects.
17. Lamps are extremely hot when in use and should not be touched or allowed to touch combustible materials.
18. Do not look directly into the lights when they are illuminated. Temporary impairment of vision could occur.
19. Use care when positioning so that lights are not pointed directly towards oncoming traffic or create glare for approaching motorists.
20. In case of contact with overhead lines or other emergency, follow the established emergency contact plan for your District.

# Code of Safe Operating Practices

## SAFE PRACTICES RULES

### EXCAVATOR

1. Pre-op equipment including rental equipment. Be familiar with operator's Manual.
2. Before operating, read Operator and Safety Manuals.
3. Operator is responsible for safe operation and ground personnel.
4. Familiarize yourself with all controls before operating.
5. Be sure everyone is in the clear before operating.
6. Clear loose objects off machine before operating.
7. Check counterweight swing clearance before operating.
8. Check for high voltage lines and observe electrical proximity rules at all times.
9. Do not operate with other people on machine.
10. Never operate machine on unstable ground.
11. Never drive too close to the edge of a ditch or excavation.
12. Check for underground utilities before digging and contact supervisor if not sure.
13. Before moving be sure of a clear path and sound horn.
14. Never allow anyone to work under a raised boom.
15. Use a signal person if visibility is limited.
16. Only one person at a time should give signals.
17. Before adjusting or servicing, rest boom on ground, stop engine.
18. Escaping fluid under pressure can have sufficient force to penetrate the skin, causing serious personal injury. Before disconnecting lines, be sure to relieve all pressure. Before applying pressure to the system, be sure all connections are tight and that lines, pipes and hoses are not damaged. Fluid escaping from a small hole can be almost invisible. Use a piece of cardboard or wood, rather than hands to search for suspected leaks.
19. If injured by escaping fluid, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately.
20. Always operate engine at full throttle to keep cylinders full of oil and operating properly.
21. Before leaving cab, leave boom on the ground and shut engine off.
22. Do not attempt to operate excavator unless you have been trained.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### ARK SYSTEM CONTAINMENT TRAILER

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Back up to trailer with the assistance of another person when possible.
3. After trailer is secured to truck, raise trailer stand and lock it in the up position.
4. Check for wear or damage to the following while securing trailer to truck:
  - a. Hitch connection
  - b. Safety chains
  - c. Electrical lines
  - d. Air lines – Be sure there are rubber washers in air-lines and glad hands.
5. After the trailer is secured to the truck, and air-lines, electrical lines and safety chains are secured, switch air lever in the cab of truck. When proper air pressure is obtained, check air-lines for leaks.
6. Check trailer brakes, release brakes in cab and move truck and trailer and apply trailer brakes.
7. The following moving parts should be secured before transport:
  - a. Leveling jacks
  - b. Removable extension ladder
  - c. Hand rails
  - d. Containment wings
8. The auger should be free of debris when transporting trailer.
9. The generator should be off while transporting trailer.
10. When working on the ark system the following safety devices shall be implemented:
  - a. Leveling jacks are down and locked in position
  - b. Safety rails are up and secured with accompanying pins
  - c. Wing walls are extended
  - d. Safety chains up
  - e. After reaching desired height place securing pin back into hydraulic platform lifts
  - f. Side access ladder mounted and secured with safety bar, included with ARK
  - g. Employees working on the ARK shall wear all appropriate personal protective gear

Cont'd on Page 103

# Code of Safe Operating Practices

## **ARK SYSTEM CONTAINMENT TRAILER (Cont'd)**

11. All personnel should be off the deck and on the ground while raising or lowering.
12. Never raise the front or rear lifting frames more than 12 inches ahead of each other.
13. Turn off hydraulic pump. Do not let hydraulic unit run once the platform is pinned in the working position.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### CEC SCREEN-IT, MODEL 4101

1. Perform daily pre-op of equipment. Start engine, observe gauges. Be familiar with operator's manual.
2. Wear Personal Protective Equipment. Hard hats and hearing protection is required when working in close proximity to the machine.
3. Note all warning labels. Observe all caution and warning signs posted on machine.
4. Carefully follow proper startup and shut down procedures as outlined in operators' manual and video.
5. Machine shall never be operated without proper guards in place.
6. When operating screen check for loose bolts and fittings and loose, worn or damaged screens and conveyor belts.
7. Do not rely on minimum/maximum lines on auto lube system. Visually check inside for grease level and fill as needed.
8. Machine shall be placed on relatively level terrain. A level, compact site and sound hardwood blocking will avoid undue plant vibration, inefficient screening, welds breaking and down time. Shimming of blocking may be necessary during the first couple of weeks as the site settles.
9. Do not stand around hopper when it is being loaded.
10. Watch for falling rock around shaker area.
11. Check and adjust conveyor belts only when loaded with material.
12. Loader operator should only operate grizzly by remote. If operated from ground controls when loader is loading hopper, the grizzly could catch the loader bucket and flip it over.
13. Keep hands and body away from all moving parts. Be aware of pinch points.
14. Never make repairs on the unit while in operation. Use Lock Out/Tag Out Procedures.
15. Be sure to lock all compartments prior to leaving the screen-it in the field. The ignition shall be locked and the key removed whenever the unit is left unattended.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### MOWER REAR AUGER 3 POINT HITCH

1. Pre-op this attachment to the mower as part of the mower pre-op using the DME-0283, Pre-Operation Inspection, Post Operation Report and Repair Request (Trucks & Construction Equipment).
2. Become familiar with the vehicle's operator manual.
3. Be sure all safety guards are in place and secure.
4. Only trained employees shall be authorized to operate this equipment along with the auger attachment.
5. Call the Underground Service Alert "U.S.A." at 1-800-CALL-USA before digging any holes with the auger.
6. Let the auger do the work, don't over apply down pressure to the auger.
7. Keep employees a safe distance from the auger when it is being moved or in use.
8. To avoid damage to the mower or auger, make sure the auger is above ground level prior to moving the mower.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### AIR COMPRESSOR, PORTABLE And TRUCK OR TRAILER MOUNTED

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Review manufacturer's safety precautions.
3. Read and follow all warning labels posted on machine.
4. Use hearing protection. Wear eye, face, and foot protection as necessary.
5. Locate and observe gauges. Be sure air pressure gauges are working properly.
6. Inspect all air lines and connections for damage or leaks. Always use safety clips on air connections if equipped.
7. Note MAXIMUM air pressure on air hoses. Frayed or weak air hoses shall not be used.
8. Do not exceed manufacturer's MAXIMUM air pressures for compressor, hoses, and tools used.
9. Close air line supply valve before starting compressor.
10. Do not modify or disable regulating devices on compressor or power source.
11. Only trained personnel shall make repairs to compressor.
12. Do not use compressed air for breathing; it may contain oil.
13. Do not direct compressed air at yourself or other persons for any reason.
14. Make sure compartment doors, guards, and panels are secure.
15. Shut down engine before checking or adding fluids.
16. Do not refuel while engine is running.
17. Follow manufacturers shut down procedure.
18. Close compressor air service valves and bleed air tools before disconnecting hoses.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### SICKLE BAR TOPPER-HEDGER

1. Pre-op equipment including rental equipment, paying special attention to the hydraulic lines that connect between the tractor and the sickle bar. Be familiar with the operator's manual.
2. Do not start tractor from ground. Always be in the seat and check gear selector before starting, and ensure that the gear selector is in neutral.
3. Operator needs to be aware of any possible blind spots that may be present once the sickle bar is attached to a specific piece of machinery.
4. Inspect the area to be topped/hedged for obstructions prior to performing the work.
5. Watch traffic when driving around guide markers, signs, culverts, etc.
6. Do not trim brush too close to fixed objects and be alert for utility pole guide wires and power lines.
7. Use caution when trimming on steep slopes as tractor could tip over.
8. Use caution when trimming downhill on wet or green grass as brakes are less effective.
9. Do not operate in proximity to on-foot personnel. Keep workers clear.
10. Before dismounting the tractor, turn off the sickle bar and lower the overhead assembly, turn off the tractor engine and set the parking brake.
11. Do not work on the sickle bar while tractor is running. The sickle blades are very sharp, use caution.
12. Avoid working under the sickle bar. If you must, make sure it is properly secured with safety stand and/or safety chain.
13. Keep all covers and guards in place.
14. Review **Wheel Tractor** Code of Safe Operating Practices, Section III.
15. Review **Mechanical Vegetation Management** Code of Safe Operating Practices, Section II.
16. When transporting tractor with sickle bar attachment on an equipment trailer, lower attachment to the bed of the trailer and tilt the hedger bar back towards the cab of the tractor and secure with chain and binder to the deck of the trailer. Check overall height before transporting. Check proposed route for low objects/structures before transporting.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### CORE DRILL

1. Do a complete pre-op of the machine and cutting teeth before operating. Become familiar with the manufacturer's operating manual.
2. Inspect power cords, water lines and connections. If any damage is found to the power cord, water lines, cutting teeth or connections, do not operate until the defects are repaired or replaced.
3. The use of power cords equipped with ground fault interrupters (GFIs) for any power connection associated with this machine is mandatory. This includes power vacuums used to capture water runoff and cut material. When the machine is used outdoors, it is mandatory to use power connections marked for outdoor use.
4. Hearing and eye protection are required for the operator and those working nearby.
5. Contain long hair while operating the core driller.
6. Non-skid footwear and rubber gloves are recommended to be worn by the operator.
7. Avoid breathing dust generated during coring operations.
8. Call Underground Service Alert (USA) or Dig alert before drilling any holes.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### TOWABLE SOLAR ARROW BOARDS

1. Review safe practice rules for applicable equipment and perform pre-operational checks.
2. Become familiar with the vehicle's operator manual.
3. Review work area protection procedures and any traffic control requirements before starting job at work site.
4. Park towing vehicle in such a manner to allow for safe exiting vehicle in traffic.
5. Use jacks to stabilize flashing arrow board and be mindful of jacks for tripping hazards.
6. Keep fingers out of pinch points when raising or lowering arrow board or disconnecting or connecting from towing vehicle.
7. Minimize time between towing vehicle and trailer in case of errant vehicle coming through lane closure.
8. Wrap bright colored padding around corners to protect face and head from sharp edges on arrow board in case of contact.
9. Be aware of over-hanging branches or structures from over-height sign before parking trailer.
10. Be mindful of correct orientation of arrow before leaving set-up at control panel.
11. Allow enough time for erecting or folding sign (Erects in approximately 47 seconds, folds down in 37 seconds).
12. Check that the arrow board is down when towing and secure with hold-down fasteners.

# Code of Safe Operating Practices

## SAFE PRACTICES RULES

### MOTORIZED SHOULDER MACHINE

1. Pre-op equipment including rental equipment. Be familiar with operator's manual and the equipment operational guidelines.
2. Follow factory instructions when moving the spreader hopper wing. Avoid pinch points and make sure chains and hooks are properly positioned.
3. Operator only shall ride on the spreader when deadheading. Seat belt use is always recommended by the manufacture.
4. Material feed belts should be checked for centering, adjustment and condition.
5. Check for proper function of all electrical switches and hydraulic valves prior to receiving first load of material. After approx. 5 minutes warm up at 1100 RPM then move throttle speed to 2000 RPM (at least) for normal operation.
6. Coordination between spreader operators and truck drivers is essential. A pre-job discussion will increase efficiency and reduce accident potential. One person shall be designated to direct truck drivers.
7. Caution shall be used when starting and stopping on grades.
8. Keep ground personnel clear of spreader when in operation.
9. Do not ride on front of material hopper while spreader is in motion.
10. Shut off engine and set brake when spreader is not in use. When stopping or parking for extended periods of time, lower the strike off blade to the ground.
11. Do not jump off spreader. Use steps and handrails when mounting or dismounting spreader.
12. Do not mount or dismount spreader while in motion.
13. Use caution when loading and securing on trailer. Back unit on trailer using additional ramping extension (2 X 12 X 36 lumber) to avoid unit hopper from dragging on pavement. Have a ground person for guidance during loading and unloading operations. Properly secure unit on trailer.
14. Check width and height when hauling for legal compliance.
15. Check for debris or material that could fall off during transporting.

# Code of Safe Operating Practices

## SAFE PRACTICES RULES

### CUT-OFF SAW

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Use adequate footwear; snug fitting clothing, in addition to eye, hearing and head protection.
3. Always use the following precautions when handling fuel and refueling the cut-off saw:
  - a. Always store gasoline in an approved container.
  - b. Do not smoke while handling fuel.
  - c. Always stop the engine to refuel the tank.
  - d. Beware of static electricity and sparks between saw and fuel cans (metal and plastic).
  - e. Avoid spilling fuel or oil. Spilled fuel should always be wiped up.
  - f. Do not remove fuel tank cap when engine is running.
  - g. Move the cut-off saw at least 10 feet from the fueling point before starting the engine.
  - h. Keep the handles dry, clean and free of oil or fuel mixtures.
4. Before you start the engine, make sure the saw blade is not contacting any object.
5. Never start the cut-off saw until you are at the location where you intend to use the saw.
6. Do not allow other persons to be near the cut-off saw when starting of cutting. Keep bystanders out of the work area.
7. Maintain good balance and footing at all times. Never cut while standing on a ladder.
8. Always hold the cut-off saw firmly with both hands when the engine is running. Use a firm grip, with thumb and fingers, encircling the cut-off saw handles.
9. Keep all parts of the body away from the cut-off saw blade when the engine is running.
10. Do not operate a cut-off saw that is damaged, improperly adjusted or not completely and securely assembled.
11. Do not over-reach or cut above shoulder height.
12. Always shut off the engine before setting down.
13. Operate the cut-off saw only in well ventilated areas.
14. Do not operate if fatigued.
15. Avoid loose fitting jackets, scarves, neckties, jewelry, flared or cuffed pants, unconfined long hair or anything that could become caught on any obstacles or moving parts of the unit.
16. Loose objects may be thrown toward the operator by the cutting tool.
17. Wear dust mask when cutting masonry, concrete and other materials that create dust.
18. Sparks from cutting metal can create a fire hazard. Do not cut near flammable materials such as fuel or dry brush. Keep water sprayer available in case of metal sparks causing grass fire.
19. Avoid standing in direct line with the wheel.
20. Make sure material being cut is properly secured and stable and will not move and cause saw kickback during the entire cut. Do not hold parts by hand.

### PULL-AWAY, CLIMBING, PINCHING AND ROTATIONAL FORCES

When the bottom of the cutting wheel contacts the material, the cut-off saw will try to pull away from the operator. If the contact is at the front of the wheel, the wheel may attempt to climb the object being cut. Pinching occurs when the piece being cut closes on the wheel. If the wheel is severely pinched at the front, especially in the upper quadrant, the wheel may be instantly thrown up and back towards the operator with a great force in a rotational motion. Avoid cutting with the upper quadrant of the wheel where possible. Do not remove or modify the blade guard.

# Code of Safe Operating Practices

## SAFE PRACTICES RULES

### ROLL OFF BODY

1. Pre-op equipment including rental equipment. Be familiar with operator's manual.
2. Follow Division of Equipment's instructions when installing or removing the roll off. Avoid pinch points and make sure chains and hooks are properly positioned.
3. A minimum of two people are required for the task of changing roll off beds.
4. Empty truck of any load and clean bed.
5. Check cable routing over roller.
6. Align truck with body when loading.
7. Do not stand behind body while loading or unloading.
8. Disconnect hydraulic lines, electrical plugs, and air lines. **Secure** in safe position during removal of unit.
9. Before unhooking cable from body, check that cable tensioner will hold cable in place and look for worn or frayed areas on the cable.
10. Raise drop box and latch safety hook. Control lever on back of plow console in cab. (Sander unit only).
11. Secure hoses and plugs in PIN-OFF clamp.
12. Pull bad release handle all the way outboard and secure with pin. If handles won't pull easily, wait until bed is raised. You can use the remote to jog the bed and free pins.
13. Attach remote for winch and then release any locking devices holding unit in place. At this time **no one is allowed to enter the area near the rear** of the vehicle for the remainder of the operation.
14. Install remote winch control plug into socket behind license plate. Notice missing pin alignment on socket and plug.
15. Raise bed, winch out cable to lower unit from vehicle.

Cont'd on Page 113

# Code of Safe Operating Practices

## **ROLL OFF BODY (Cont'd)**

16. Raise body 'Till third stage' just starts to deploy. All the way up for Dump Body or it will tip on rollers. (You can feel the bump, and notice the speed of the body lift, at each stage).
17. Lower body on rails with remote until rollers contact. Lower section of vertical lift rails using remote. This allows you to watch all areas from a safe distance.
18. Stop at this point and lower legs. Secure with pins. Lower body into legs, release hook from clevis. Inspect clevis on unit to ensure it is in safe condition, if not, replace it.
19. Clean frame rails (lubricate with anti-sieze or spray equivalent), inspect winch cable to ensure it is in good condition, check hook for wear or cracks, check locking clip for smooth operation.
20. Check winch mounting hardware.
21. Do not use the truck to tow the body while hooked to the winch cable.

### **TO INSTALL, REVERSE PROCEDURES.**

When loading body, pull body fully forward before lowering hoist the last 12". (This will prevent damage to the exhaust system.)

# Code of Safe Operating Practices

## SAFE PRACTICES RULES

### **DEBRIS REMOVAL VEHICLE (DRV)**

1. Pre-op equipment including rental equipment. Be familiar with operator's manual and the equipment's operational guidelines.
2. This is an unusual vehicle that has complex controls and a right-hand driving position. Do not operate the DRV unless you have been properly trained.
3. Use caution when two employees are riding in the DRV. Steering, brakes, and throttle work continuously from both sides; the passenger must not touch the controls.
4. Before starting the vehicle, make sure the transmission selector switch is in the proper operating position (right or left side).
5. Check for leaks and loose fittings on the pickup assembly.
6. Before moving the pickup arm from the stowed position, ensure that there are no ground personnel or obstacles within 10 feet of the DRV.
7. Check for proper function of all electrical switches, controls, and hydraulic valves prior to operating.
8. Do not exceed load capacity of the clam or hopper while loading material and debris.
9. Use caution to secure the pickup assembly in the stowed position before entering the flow of traffic. Make sure the warning light is off.
10. Caution shall be used when starting and stopping adjacent to moving traffic.
11. Use caution while backing and before dumping hopper. Use a spotter if necessary.
12. Make sure tailgate latches are secure, there is no loose debris hanging that could fall off while driving, and that the pre-crusher door is lowered before traveling.
13. Shut off engine and set brake when DRV is not in use. Make an effort to park in an area where backing will not be necessary to leave the site.
14. Use steps and handrails when mounting or dismounting the vehicle.

# Code of Safe Operating Practices

## SAFE PRACTICE RULES

### ARDVAC LITTER RETRIEVAL TRUCK

1. Pre-op equipment including rental equipment. Be familiar with operator's manual and the equipment's operational guidelines.
2. This is an unusual vehicle that has complex controls. Do not operate the Ardvac unless you have been properly trained.
3. Before starting the vehicle, make sure the boom and nozzle are properly stored.
4. Check for leaks and loose items on the boom and nozzle assembly.
5. Before moving the boom from the stowed position, ensure that there are no ground personnel or obstacles within 10 feet of the machine.
6. Check for proper function of all electrical switches, controls, and hydraulic valves prior to operating.
7. Secure the boom and nozzle assembly in the stowed position before entering the flow of traffic.
8. Caution shall be used when starting and stopping adjacent to moving traffic. Do not allow boom to swing into traffic while operating.
9. **Do not** retrieve/vacuum objects that appear hazardous in nature (unknown chemical containers, explosive devices, etc.); call your supervisor.
10. If the operation of the vacuum is creating excessive dust that reduces traffic visibility, stop the operation and move to a safer area.
11. If while working, the Ardvac encroaches onto the traveled way and takes up more than two feet of the adjacent traffic lane, a shadow truck shall be utilized.
12. Use caution while backing and before dumping hopper. Use a spotter if necessary.
13. Make sure tailgate latches are secure, there is no loose debris hanging that could fall off while driving, and that the boom is properly stowed before traveling.
14. Shut off engine and set brake when Ardvac is not in use. Make an effort to park in an area where backing will not be necessary to leave the site.
15. Use steps and handrails when mounting or dismounting the vehicle.



# Code of Safe Operating Practices

## **SECTION IV SPECIAL PURPOSE CODES**

# Code of Safe Operating Practices

## GENERAL OPERATING PROCEDURES

### For Special Program People

1. Think Safety: Plan your work - report hazards to your Crew Leader/Supervisor.
2. Report any injury to Crew Leader/Supervisor immediately.
3. Safety equipment, i.e. hard hat, vest to be worn, at all times. Safety glasses and gloves to be worn when instructed by the crew leader.
4. **DO NOT** go out onto traveled way for **ANY** reason unless closed to traffic. **DO NOT** cross the freeway lanes!
5. In the event of a traffic accident, **DO NOT** try to help. The crew leaders may assist.
6. Work facing traffic whenever practical, staying as far from moving traffic as possible.
7. No horseplay.
8. No outside visitors.
9. No jumping from vehicles, or equipment.
10. Assistance should be summoned before attempting to lift excessively heavy or bulky objects.
11. Should you require assistance (water, restroom, injury, etc.), contact your crew leader.
12. All persons occupying State vehicles shall wear seat belts and/or harness when vehicle is in operation.
13. No one is authorized to ride on the running boards or in the open bed of a vehicle.
14. All electronic personal devices are not allowed when working near traffic and may also be prohibited at other times.
15. Appropriate clothing (i.e. shirt, long pants) and appropriate footwear (i.e. hard-soled work shoes - **NOT** thongs, slippers, etc.) shall be worn at all times.
16. Allow ample working space to work safely. Do not bunch up.
17. Beware of unstable terrain (gopher holes, oily spots etc.) at all times.
18. Place tools in a safe position so that sharp points are not exposed.
19. Use caution when handling bags for they may contain broken glass or other sharp objects.

...Cont'd on Page 3

# Code of Safe Operating Practices

## For Special Program People (Cont'd)

### HAZARDOUS MATERIALS WARNING

20. Beware of substances in containers that bear either hazardous placards, or no placards, that lay along the shoulders or in the landscaped areas; these may be extremely hazardous substances. Other potential hazards are pools of liquids, piles of colored powders, broken bags, residues from illegal labs, biological wastes, etc. **DO NOT** attempt to remove any such materials. Warn other workers of the possible danger and notify your Supervisor immediately.

### HYPODERMIC NEEDLES

Follow district policy on who is to pick up hypodermic needles. Whoever picks up the discarded needles should follow these general guidelines.

- Under no circumstances should you pick up discarded hypodermic needles with your hands. Use a litter-picker or other device. Needles can puncture leather gloves.
- Place hypodermic needles in a leak-proof, rigid, puncture-resistant container ("Sharps Container" provided by your Supervisor). Do not hand hold container while placing needles inside with a litter picker; YOU MAY ACCIDENTLY PUNCTURE YOUR HAND. Place the open container on the ground before attempting to put the needle inside the Sharps container. Containers must be labeled as a biohazard.
- Do not carry or store Sharps containers in the cab of your vehicle or anywhere where they may accidentally come in contact with another person, your clothes or foodstuffs. Your supervisor will store containers at the shift's end.
- If you feel you may have come in contact with any item that may be infectious, notify your Supervisor. Wash the contaminated area immediately with soap and water.
- Store containers with needles in a secure location, where they will not be disturbed or contacted by employees (suggestion: properly labeled salvage drum) until they are mailed to American Environmental Management Corporation or otherwise properly disposed of.

Towelette preps in the first aid kit may also be used to disinfect the hands.

### Handling Medical and Biological (Human) Wastes

1. Employees shall be informed of the potential health hazards involved with contact of biological (human) wastes and should be trained regarding proper hygienic procedures.

...Cont'd on Page 4

# Code of Safe Operating Practices

## **For Special Program People (Cont'd)**

2. Use standard personal protective equipment. In addition, impermeable (rubber) gloves, boots, and rain gear or Tyvek coveralls are required while working with biological wastes. An approved half-mask respirator with organic vapor cartridges may also be desirable.
3. Do not eat or smoke while working with biological wastes. Wash thoroughly with clean water and soap before eating, drinking or smoking. Safe drinking and wash water and soap shall be provided at the work site.
4. Plan the task to minimize public and employee contact with potentially infectious substances and to prevent environmental damage. Contain the waste with earth berms if possible, or use absorbent materials.
5. Carry spray containers (such as auto windshield spray) filled with chlorine bleach to disinfect small quantities or Hudson Sprayer size for larger quantities.
6. Use motorized equipment (loader, backhoe, vactor, etc.) whenever possible.
7. An adequate first aid kit should be available.
8. For large quantities, the services of a contractor may be warranted. Contact the Local County Health office for assistance if you are cleaning up these wastes.
9. Safe drinking and wash water and soap shall be provided at the work site. Wash thoroughly with clean water and soap before eating, drinking, smoking or using the restroom.

# Code of Safe Operating Practices

## GENERAL OPERATING PROCEDURES

### For Volunteer Groups

1. Think Safety: Plan your work: report hazards to your Crew Leader/Supervisor.
2. Report any injury to Crew Leader/Supervisor immediately.
3. Safety equipment i.e. hard hat, vest to be worn, at all times. Glasses and gloves to be worn when instructed by the crew leader.
4. **DO NOT** go out onto traveled way for **ANY** reason unless closed to traffic. **DO NOT** cross the freeway lanes!
5. In the event of a traffic accident, **DO NOT** try to help. The crew leaders may assist.
6. Work facing traffic whenever practical, staying as far from moving traffic as possible.
7. No horseplay.
8. No jumping from vehicles or equipment.
9. Assistance should be summoned before attempting to lift excessively heavy or bulky objects.
10. Should you require assistance (water, restroom, injury, etc.), contact your crew leader.
11. No one is authorized to ride on the running boards or in the open bed of a vehicle.
12. Appropriate footwear (i.e. hard-soled work shoes - **NOT** thongs, slippers, etc.) shall be worn at all times.

### Handling Medical and Biological (Human) Wastes

1. Employees shall be informed of the potential health hazards involved with contact of biological (human) wastes and should be trained regarding proper hygienic procedures.
2. Use standard personal protective equipment. In addition, impermeable (rubber) gloves, boots, and rain gear or Tyvek coveralls are required while working with biological wastes. An approved half-mask respirator with organic vapor cartridges may also be desirable.
3. Do not eat or smoke while working with biological wastes. Wash thoroughly with clean water and soap before eating, drinking or smoking. Safe drinking and wash water and soap shall be provided at the work site.

...Cont'd on Page 6

# Code of Safe Operating Practices

## For Volunteer Groups (Cont'd)

4. Plan the task to minimize public and employee contact with potentially infectious substances and to prevent environmental damage. Contain the waste with earth berms if possible or use absorbent materials.
5. Carry spray containers (such as auto windshield spray) filled with chlorine bleach to disinfect small quantities or Hudson Sprayer size for larger quantities.
6. Use motorized equipment (loader, backhoe, vactor, etc.) whenever possible.
7. An adequate first aid kit should be available.
8. For large quantities, the services of a contractor may be warranted. Contact the Local County Health office for assistance if you are cleaning up these wastes.
9. Safe drinking and wash water and soap shall be provided at the work site. Wash thoroughly with clean water and soap before eating, drinking, smoking or using the restroom.

# Code of Safe Operating Practices

## APPENDIX A

### PROPANE TANK HANDLING AND USE HAZARD REVIEW

Fire  
Explosion  
Eye Injury  
Freeze Burn  
Overfilling  
Asphyxiation

1. Always wear gloves, which will not absorb propane liquid, when changing or filling tanks. Do not use cotton or leather. Remove any clothing that becomes saturated with propane.
2. Always wear eye protection when changing or filling tanks. Use chemical safety goggles meeting the spec. ANSI Z87.1 when connecting or disconnecting lines under pressure.
3. Smoking is prohibited within 50 feet when changing or filling tanks.
4. Tanks must be transported in the position in which they are to be used, and in a secure manner that will prevent them from falling over.
5. Before refilling, check the propane tank certification. Portable propane tanks are required to have a DOT number and the date of manufacture or last certification stamped on them. Portable propane tanks are required to be re-certified 12 years after the dated of manufacture, and again at 7 years if followed by and 'S' or 5 years if followed by and 'E'. During the required certification testing have the vendor remove and inspect the product delivery valve and the dip tube.
6. Any propane tank that leaks or has external corrosion, denting, bulging or fire damage shall be removed from service. Special attention shall be paid to the bottom of the cylinder.
7. Do not use propane tanks that are overfilled. To check for overfilling, crack open the main valve and check for vapor coming out before installing the pressure regulator. If liquid appears the tank is overfilled, and should not be used. Always point the valve opening away from your body when performing this test.

...Cont'd on Page 8

# Code of Safe Operating Practices

## PROPANE TANK HANDLING AND USE (Cont'd)

8. During the daily equipment pre-op, inspect all propane valves, hoses and connections, especially those that are located close to any ignition sources (such as the kettle burner). Look for leaks, cracked hoses, broken gauges, and damaged regulators. Use a soap and water solution to check for leaks. When replacing hoses use approved propane hoses.
9. All new propane tanks must be purged before being filled for the first time; the vendor can do this.
10. All propane tanks not in use, or being transported, must have a plug or regulator installed in the product delivery valve and have the appropriate hazard warning decal.
11. Tanks being used on a towed vehicle must have the product delivery valve protective device turned toward the towing vehicle to protect the valve from damage.
12. A valve protection device shall be installed on all propane tanks that do not have a guard around the valve.
13. Regulators need to be installed at a 45-degree angle to keep water from entering the vent hole. Regulators need to be replaced after 15 years. All propane tanks shall have a regulator for product delivery.
14. Be aware of the effects that changes in temperature and elevation have on pressurized propane tanks. The pressure in a tank filled in the morning, when the ambient temperature is cool, may increase in the afternoon when the temperature increases. The pressure in a tank, which is filled at a low elevation, will also increase when the tank is transported to a higher elevation. When a propane tank is full, these pressure changes may be beyond the capability of pressure relief valve. This could cause the pressure safety valve to release propane into the atmosphere, with disastrous results if an ignition source is close. If the safety valve releases, replace the valve.
15. Employees that fill portable tanks shall receive training in tank filling procedures. This training is usually available at propane vendors.
16. Storage areas shall be well protected and secure. They shall be well ventilated, free of heat and ignition sources and at least 20 feet (6 meters) away from any combustible material such as oil, grease or adhesives. When tanks are being stored, you must indicate if a tank is empty or full with a proper tag or marking. **Short term storage of equipment with propane tanks is allowed in a truck shed if the tanks are turned off at the main valve and a 20 foot (6 meters) clearance of all ignition sources and combustible material is maintained.**
17. Review material safety data sheet for propane.
18. See Equipment CSOP for specific equipment safety instructions.

# Code of Safe Operating Practices

## APPENDIX B

### CONFINED SPACE ENTRY PROCEDURES

**CONFINED SPACES INCLUDE STRUCTURES OR FACILITIES, SUCH AS: TANKS, BINS, CULVERTS, MOBILE TANKERS, VAULTS, PUPM HOUSES, DEEP TRENCHES, BRIDGE CELLS, OR SIMILAR LOCATIONS.**

#### HAZARD REVIEW

Explosive Hazards  
Oxygen Deficient Atmosphere

#### SAFE OPERATING PROCEDURES

1. All employees, including standby persons, shall be trained in the operating and rescue procedures, including instructions in the hazards they may encounter. Refer to Safety Manual, Confined Spaces, Chapter 14.
2. Employees entering confined spaces should be in good physical condition and psychologically suited for the job.
3. Before entering a confined space, a "Confined Space Pre-Work CheckList" shall be posted at the work site and must be completed and signed by all employees involved in entry into the confined space. Notify regional dispatcher prior to entry and when exiting a confined space.
4. Smoking or open flames shall not be permitted in the immediate area of the confined space.
5. Atmosphere tests using a Gastech (or equivalent) air sampling and monitoring instruments must be conducted by a trained and qualified person prior to any employee entering confined space. The instrument shall be tested prior to use by a qualified person who can ensure that the unit is functioning properly and that the batteries are not low. Low batteries will result in false readings that could be dangerous or fatal. If it is determined from the initial test, that the lower explosive level and oxygen levels are within acceptable standards, then entry may proceed. The air shall be continually monitored with an appropriate instrument for combustible gases and oxygen-deficient atmosphere. A record of such tests shall be kept at the job site for the duration of the work.

...Cont'd on Page 10

# Code of Safe Operating Practices

## CONFINED SPACE ENTRY PROCEDURES (Cont'd)

6. If the above conditions cannot be met, no one shall enter the confined space.
7. The area shall be ventilated for a minimum of 15 minutes prior to atmospheric testing and entry. Culverts need not be ventilated if the crew leader determines that the natural ventilation system is sufficient and the required atmospheric tests are satisfactory. **Should the atmospheric-testing instrument's audible alarm or visual indicator, indicate a change reduction in oxygen content or increase of gas, all individuals must evacuate the area immediately.**
8. At least one person shall stand by on the outside of the confined space ready to give assistance in case of emergency.
9. An emergency rescue plan shall be devised and discussed prior to entry into any confined space.

# Code of Safe Operating Practices

## APPENDIX C

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Following are requirements/guidelines for the use of personal protective equipment. The guidelines do not reflect the **only** instances where these devices are to be used. It is not possible that an appendix such as this contains guidelines for every possible situation; unusual circumstances may call for greater protective measures than are outlined here. It is the Supervisor's responsibility to exercise prudent judgement in the application of these requirements/ guidelines and to insure that all employees wear the appropriate personal protective equipment. The standard PPE includes a hard hat, orange vest and safety glasses. Non-compliance could result in needless injuries or corrective action.

#### **Hard hats shall be worn:**

- When working within the right-of-way.
- When there is a clear and present danger of falling objects, which may cause injury.
- When exposed (or reasonably expected to be exposed) to falling or flying materials, contact with electrical hazards, or to hazardous chemical substances.
- At the direction of the Supervisor.

#### **Orange/lime green/fluorescent vests or shirts shall be worn:**

- While working within the right-of-way.
- When exposed to moving traffic.
- At the direction of the Supervisor.

#### **Safety glasses shall be worn:**

- When working near moving vehicles and equipment.
- When there is a risk of injury to the eye, such as punctures, abrasions, or contusions.
- At the direction of the Supervisor.
- While grinding, drilling, sawing or hammering.

...Cont'd on Page 12

# Code of Safe Operating Practices

## PERSONAL PROTECTIVE EQUIPMENT (PPE) – (Cont'd)

- While operating various power tools such as, but not limited to, chain saws, weed eaters, hedge trimmers, leaf blowers, lawn mowers, lawn edgers, augers. Woodworking tools, pipe cutting and threading tools, and powered metal cutting saws.
- While operating trenching machines, pavement breakers, concrete saws, rock drills, rock splitters, chipping and roto-hammers, and concrete mixers.
- While working on energized electrical equipment.

### Safety goggles **shall** be worn:

- When in the judgement of the Supervisor their use would be more appropriate than safety glasses alone.
- When there is a clear and present danger of a foreign object or substance entering through the side of the glasses.
- When there is a need to protect the eye from mists and dusts.
- While engaged in activities such as sandblasting.

### Face Shields **shall** be worn:

- When in the judgement of the Supervisor their use should be more appropriate than goggles. (Sandblasting, etc.)
- When there is a possibility of injury to the face/neck area.
- When there is a danger of splashing chemicals or other hazardous substances. (Use special splash shield)
- When using drills or grinding equipment where safety glasses or goggles alone are not sufficient to prevent materials from injuring the employee.

### Work Gloves **should** be worn:

- During any operation where there is a risk of abrasion, laceration, burns, blisters, or puncture to the hands.

**Note:** Gloves will not protect against all hand injuries, but their use should minimize the number of minor injuries associated with hand work.

...Cont'd on Page 13

# Code of Safe Operating Practices

## PERSONAL PROTECTIVE EQUIPMENT (PPE) – (Cont'd)

Some activities where gloves should be worn include:

- Hot mix paving or patching.
- Fence and guardrail repair (includes gore attenuators).
- Median barrier repair.
- Sign repair.
- Delineation or culvert marker repair or replacement.
- Tree trimming and associated activities.
- Pruning of shrubs and other vegetation.
- Welding and grinding.
- Picking up litter and debris.
- Weeding.
- Operating pneumatic tools.
- Using common digging tools such as shovels, picks, etc.
- Electrical work (when appropriate) example: re-lamping.
- Operating chain saws, weed-eaters and other gas powered tools.

### **Impermeable gloves shall be worn:**

- When working with hazardous chemicals.
- As directed by the MSDS.
- When using cleaning solvents.
- When mixing and applying pesticides.
- When mixing and applying methacrylate.
- When working with isocyanate-based concrete repair products such as Percol or Penatron.
- When welding or cutting.
- When exposed to poison oak.

...Cont'd on Page 14

# Code of Safe Operating Practices

## PERSONAL PROTECTIVE EQUIPMENT (PPE) – (Cont'd)

- When exposed to harmful dusts.
- When mixing and applying certain pesticides.

### **Impermeable coveralls or Caltrans rain gear shall be worn:**

- When mixing and applying certain pesticides.
- When mixing and applying methacrylate.
- When required by either a product label or the MSDS.

### **Rubber boots shall be worn:**

- When mixing and applying methacrylate.
- When mixing and applying certain pesticides.
- When required by the product label or the MSDS.

### **Fall protection devices (approved belt, body belt or body harness equipped with a safety strap or lanyard) shall be used (Safety Manual 12.25, Fall Protection):**

- When in the bucket or basket of any personnel lift.
- While on overhead signs not equipped with safety railings.
- While on fixed ladders over 20 feet (6 meters) in unbroken length without cage protection.
- While working on unguarded work platforms, where you can fall more than 7 1/2 feet (2.2 meters).
- When working in trees.

### **Respirator protection (with the appropriate filters/cartridges) shall be worn:**

- When required by the product label or MSDS.
- When mixing and applying certain pesticides.
- When handling hazardous chemicals.
- When sandblasting lead-based paints, see your supervisor for safe guidance.

...Cont'd on Page 15

# Code of Safe Operating Practices

## PERSONAL PROTECTIVE EQUIPMENT (PPE) – (Cont'd)

**Respirator protection (with the appropriate filters/cartridges) may be required:**

- When welding or cutting on galvanized materials.

**Hearing protection shall be worn:**

When noise levels in the work environment exceed 90 decibels.

Examples are:

- Brush chipping
- Sandblasting
- Operating chain saws, weed eaters, blowers, etc.
- Operating pneumatic tools (pavement breaker, etc.)
- Operating Vactor/Jet rodder
- Using compressed air to blow cracks
- Operating mowers
- Operating Sani-Vac
- During avalanche control operations
- Operating motorized Layton paver
- Operating concrete saw
- Steam cleaning

The operation of motorized equipment such as dozers, graders, loaders, snow blowers, trenchers, gradalls, self-propelled pavers, rollers, pavement grinders, tractors, backhoes, kettles, sweepers, chip spreaders, mist blowers, stump grinders, mudjack machines, and certain trucks may require hearing protection. If the noise level of a particular vehicle appears to be excessive, the actual decibel reading for that piece of equipment should be determined through testing.

A good rule of thumb is: If normal conversation at 3 feet (1 meter) cannot be understood without raising your voice, hearing protection is probably needed.

**White coveralls shall be worn:**

- During all nighttime operations.

...Cont'd on Page 16

# Code of Safe Operating Practices

## PERSONAL PROTECTIVE EQUIPMENT (PPE) – (Cont'd)

### Reflective vests shall be worn:

- While working on or near the right of way at night.
- While exposed to moving traffic during the hours of darkness.

### Clothing not appropriate for Caltrans use

- Cut-offs.
- Tank tops that expose bare shoulders.
- Sandals or canvas shoes.
- Metal hard hats.

# Code of Safe Operating Practices

## APPENDIX D

### TRENCH AND EXCAVATION SAFETY GUIDELINES

These guidelines must be read and discussed before any work is to be done concerning excavations or trenching. The California Code of Regulations, Title 8, Construction Safety Orders, Section 1541-46 contains the detailed information required for shoring, sloping and benching.

1. Before digging, determine whether any underground installations or utilities are likely to be encountered. Call Underground Service Alert (USA) at least 48 hours before digging if you are unsure. The telephone numbers for USA are as follows:
  - **Underground Service Alert - Northern California (USA)**  
**1-(800) 642-2444**
  - **Underground Service Alert - Southern California (USA)**  
**1-(800) 422-4133**
  - **South Shore Utility Coordinating Council (DIGS)**  
**1-(800) 541-3447**

If there are no markers present, or there are facilities, which require power at the site with no visible means of utility lines, call before digging.

2. A qualified person must supervise all work in an excavation.
3. Remove trees, poles, boulders and similar objects, which may be a hazard to workers.
4. Do not work in an area or enter a trench or excavation until a qualified person has determined that there is no hazard from moving ground.
5. Do not enter an excavation 5 feet (1.5 meters) or more in depth without shoring, benching, sloping or equivalent alternative methods of protection. Trenches or excavations in unstable ground shall be shored regardless of depth.
6. Excavated material shall be prevented from falling back into the excavation and shall be kept at least 2 feet (0.6 meters) from the edge.
7. In trenches 4 feet (1 meter) deep or more, a safe and convenient means of access must be provided within 25 feet (8 meters) of any location in the trench.

...Cont'd on Page 18

# Code of Safe Operating Practices

## **TRENCH AND EXCAVATION SAFETY GUIDELINES (Cont'd)**

8. Install crossings with standard guardrails and toe-board when the excavation is more than 7 1/2 feet (2.2 meters) deep. Cross trenches at crossings only.
9. Adequate physical barrier protection shall be provided to prevent employees and the public from falling into excavation at remote work locations.
10. Accumulations of water in excavations, shall be controlled by dikes, ditches, or other means, before the work can continue.
11. When excavating near highways, railroads or other sources of vibration, use additional precautions and bracing to strengthen shorings.
12. Backfill or securely cover temporary excavations when the work is completed. Before back-filling, physically check to assure that no one is in the trench.

# Code of Safe Operating Practices

## APPENDIX E

### CUT SLOPE SAFETY GUIDELINES

#### Cut Slope Safety

The following advisory is the product of an agreement between the Department of Transportation and the Division of Occupational Safety and Health.

A "Qualified Person" must determine what hazards are present at the cut slope work area. The Construction Safety Orders state that a qualified person is a "person designated by the employer who by reason of experience or instruction is familiar with the operation to be performed and the hazards involved."

When considering who is a qualified person, Supervisors should consider the following factors:

1. Previous work experience in slide and rock removal and slope maintenance.
2. The person's understanding of the general effects of rain, temperature changes, wind and freeze-thaw cycles on slope stability and terrain conditions.
3. The person's familiarity with geographical areas, where work is to be conducted.

#### **Orientation required to cover 1, 2, and 3 above.**

It is the Supervisor's responsibility to designate which workers are qualified. This designation may be informal or formal.

Work shall be preplanned. Preplanning means that routine work in rock active areas should be conducted so as to minimize the adverse effects of rain, freeze-thaw, temperature change, traffic conditions, and light conditions. Work crews should be briefed on the operations to be performed and the conditions involved; personnel and equipment appropriate for the work activity should be scheduled and provided.

When working at night, sufficient illumination shall be provided throughout the work area and immediately above the work in rock active work locations.

What is sufficient illumination is dependent on each particular work situation considering the scope of the operation, material involved, and equipment involved. In most cases, normal vehicular headlight and/or spotlight illumination would be considered sufficient.

Safe work practices for moving equipment operations such as snow removal and rock patrol.

...Cont'd on Page 20

# Code of Safe Operating Practices

## CUT SLOPE SAFETY GUIDELINES (Cont'd)

Personnel operating rock plows, snow removal equipment, or other moving equipment operations need not make formal visual inspections of each slope as they pass by. They must, however, be alert to conditions around them and take appropriate precautions to ensure safety to themselves, their equipment, and the public. This may include road closures.

Occasional surveys (e.g., road condition patrol) of areas requiring moving operations shall be made by Supervisors to ensure that appropriate action is taken to safeguard employees in the work activity.

As an additional precautionary measure, units performing moving equipment operations will maintain periodic radio or telephone contact when possible with their base station.

**Note:** All appropriate work crews should be briefed on these provisions and be re-briefed as needed.

If you have questions regarding the application of these provisions to a specific work location or work activity, contact your local District Safety Officer.

Questions regarding broad policy application should be directed to Headquarters Safety or Headquarters Maintenance.

# Code of Safe Operating Practices

## APPENDIX F

### INSTRUCTIONS FOR DEVELOPING INDIVIDUAL AND SITE-SPECIFIC CSOP'S

The following instructions will assist you in developing a Code of Safe Practices, which will be specific to your individual needs. Conditions and situations vary; different geographical locations or physical conditions may require additional safeguards. As you identify the site or situation-specific items, note them for inclusion in the CSOP.

Step number one:

Title the "Code" as to task or location.

**Example:** "Patching potholes on the Cuesta Grade": or "Spraying double fence lines."

Step number two:

Identify the hazards inherent to the particular task or location. List them in order of perceived severity, most severe at the top, utilizing standard CSOP format.

Step number three:

Using the standard CSOP format, identify the methods or equipment, which will be used to minimize or eliminate the hazards mentioned in step two. Hazards identified must have a corresponding resolution listed.

List the type of traffic control procedure, if any, that must be used.

List any personal protective equipment (PPE) that is required or recommended in addition to the standard PPE.

Submit a draft copy to your line managers. Retain a copy in your Code of Safe Practices Manual in the Supervisors office. If the CSOP has an application for statewide use, submit a copy to Headquarters Maintenance for review.

# Code of Safe Operating Practices

## APPENDIX G

### FALL PROTECTION

Fall protection must be used whenever an employee is exposed to falling more than 7 ½ feet to the ground or level below. Fall protection is usually provided by standard guardrails or barriers, which protect the edge. Otherwise, either a personal fall restraint or personal fall arrest system is required. **All employees using aerial lift equipment must use a personal fall protection system.**

#### Standard guardrails

These are the preferred method of fall protection. They prevent the employee from falling.

- Standard guardrails consist of a top rail and mid rail, must be between 42 to 45 inches high, and must protect the edge on all open sides.
- Refer to 8CCR § 3209 for specific construction requirements.

#### Personal fall restraint system

A personal fall restraint system consists of:

- A body belt (or body harness with side D-rings).
- An anchorage point capable of supporting 4 times the intended load.
- A 2 foot lanyard (for situations where a 2 foot lanyard is too short for the employee to reach their work, a longer lanyard may be used but must be rigged to prevent the employee from falling).
- If the fall restraint cannot be rigged in such a way to prevent a fall, such as in transitioning from aerial lift equipment to a work platform, a personal fall arrest system is required.

#### Personal fall arrest system

A personal fall arrest system consists of:

- A body harness with D-ring at the center of the back.
- A 4-foot decelerating/shock-absorbing lanyard (a longer lanyard may be used but must be rigged to limit free fall to 4 feet).
- Adequate clearance to ensure the employee cannot contact the ground, obstructions below, passing traffic, etc. in case of a fall.

**Note:** A shock- absorbing lanyard will lengthen approx. 4 feet during a fall, for a total length of approx. 8 feet (if rigged to allow for only a 4-foot fall as required). If the employee is 6 feet tall, at least 14 feet of clearance is required.

...Cont'd on page 23

# Code of Safe Operating Practices

## FALL PROTECTION (Cont'd)

- An anchorage point designed for a minimum of 5000 pounds or maintains a safety factor of at least two (or means of attaching the lanyard to a substantial member of the structure with equivalent strength).

**Note:** Fall arrest systems cannot be utilized when working in aerial equipment unless that equipment is designed to support at least 5000 pounds or it can maintain a safety factor of at least two. Because most aerial equipment cannot support this load, personal fall restraint is the preferred fall protection system in aerial equipment.

### **Additional fall protection requirements**

- Fall arrest system use requirements
  1. Make provisions for prompt rescue in case of a fall. At least one additional person on site, trained in use of fall arrest equipment, aerial lift, emergency lowering procedures, and the emergency rescue plan will be provided. If an outside agency (i.e. fire department) will provide rescue, advance contact to confirm availability is required.
  2. Position equipment to allow adequate clearance. If working over a traffic lane, the lane must be closed if contact with traffic is possible.
  3. Employees must be secured from falls at all times.
- Standard guardrails are not an acceptable anchorage point for personal fall restraint or fall arrest systems, unless designed for that purpose. (**standard guardrails mounted on Caltrans sign structures are not designed for that purpose**)
- Knots tied in lanyards to shorten the length are not permitted.
- Lanyards shall not be clipped together.
- All personal fall protection equipment shall be inspected daily, before each use, and defective equipment will not be used.
- All personal fall protection equipment must meet ANSI standard A10.14-1991, or Z359.1-1992.

See the Safety Manual Chapter 12, section 12.26 for additional specific information, and requirements on equipment used when working in trees and on cut slopes.

# Code of Safe Operating Practices

## APPENDIX H

### NATURAL OCCURRING ASBESTOS (NOA)

#### HAZARD REVIEW

Asbestos Containing Dust  
Shoulder Backing, Bench Cleaning, Slide Removal, Mowing, Pull Broom,  
Soil Disturbing Operations

**NOTE: This CSOP is based on the current exposure testing information, and takes a conservative approach to protect employees. As additional testing is conducted, additional modifications may be made.**

This CSOP does not apply to activities such as snow removal, pesticide application, paving, and guide marker replacement. If in doubt, contact the District Safety Officer for assistance.

#### **Before work:**

- Determine if soil to be disturbed is expected to contain more than 1 % asbestos by weight. Use actual soil sampling data if possible. Otherwise, refer to the Headquarters GIS NOA post mile database or the District NOA maps to determine where NOA may be expected.

#### **If Asbestos is present:**

- Notify the District Safety Office before work starts.
- Notify the local Air Quality Management District (AQMD) as required.
- Employees shall be given Asbestos Awareness Training including discussion of asbestos hazards, work procedures, and policy. Training will be renewed annually.
- Review the applicable Storm Water activity cut sheets with crew prior to work.
- Establish control over the work area--Keep all unauthorized/untrained workers away.
- No eating, drinking or smoking in the area while soil is being disturbed, in the equipment, or at the disposal site.
- Use work procedures and equipment that will minimize employee exposure to dust.
  - Schedule work when material is naturally wet or after rain/snow – or apply adequate water to keep all NOA material damp during all operations.
  - “NO VISIBLE DUST” – call for more water.
  - Keep speeds in work area below 15 MPH, including pilot car.

...Cont'd on page 25

# Code of Safe Operating Practices

## NATURAL OCCURRING ASBESTOS (NOA) (Cont'd)

- Use improved water system on pull brooms and mobile brooms to eliminate dust. [Contact Equipment Shop for necessary upgrade modifications.]
- Keep broom on paved surface, avoid brooming unpaved shoulders or gutters.
- Consider using a water wash-off instead of brooming if possible – but remember Storm Water requirements.
  
- Use personal protective equipment to minimize asbestos exposure.
  - Wear standard protective equipment (hardhat, vest, and safety glasses).
  - Use disposable or cloth coveralls to keep NOA off personal clothing.
  - Wear cleanable shoes to minimize “take home” NOA.
  - If there is NO visible dust, the use of respiratory protection is not required.
  - If dust cannot be controlled, then the appropriate respiratory protection [A half-face cartridge respirator with N-100/P-100 cartridges.] must be worn when doing these moderate exposure tasks: loader operator, self-propelled or pull broom operator, dozer operator, pilot car driver.
  - Respirators will be provided to any employee who wishes to wear one during NOA operations.
  - All respirator users will follow the Caltrans Respiratory Protection Program – (medical evaluation, training, fit test, approved equipment, no facial hair, etc.). See Chapter 15, Caltrans Safety Manual.
  
- Decontaminate employees to minimize exposure and “take home” NOA before leaving site or eating, drinking, or smoking:
  - Provide onsite washing facilities, including water, soap & towels.
  - Clean shoes first, then remove protective clothing and respirators.
  - Do not blow off or shake out coveralls, that could create NOA dust.
  - Put paper coveralls in trash. Place cloth coveralls in plastic bag for transport or storage.
  - Clean respirator and store properly.
  - Wash hands, face, and neck before leaving.
  
- Clean NOA dirt and mud from equipment before it leaves the site.
  - Use minimal water or wipes.
  - Minimize dust.
  - Observe Storm Water requirements.

# Code of Safe Operating Practices

## APPENDIX I

### LEAD CONTAMINATED SOILS

Testing of soils along some urban freeways indicates that they contain low levels (<3000ppm) of lead. This Code of Safe Practices addresses the possible health risk this contamination poses, and outlines prudent safety measures for employees working in these areas.

Lead enters the body through inhalation or ingestion, it is not readily absorbed through the skin. Based on soil lead levels and expected dust, employee exposures to airborne lead while working with contaminated soil are not expected to exceed 10 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ), well below the Cal-OSHA permissible exposure limit of  $50 \mu\text{g}/\text{m}^3$  (averaged over 8 hours). The main concern is exposure through ingestion. An additional concern is the spread of lead contaminated soil into vehicles, offices, or homes and possible exposure to others, particularly children.

Ingestion typically occurs from eating, drinking or smoking with a dirty face or hands while working in a lead contaminated area. If food, cigarettes, chewing tobacco, makeup, or drinks get contaminated or are handled with dirty hands or utensils, lead ingestion can happen.

Lead is a potent systemic poison that serves no known useful function. It can cause both short and long term health effects, and is of particular concern to young children and women of childbearing age. Once in the body, most lead is filtered out and removed, but it can be stored in the bones and soft tissues, often for extended periods.

To minimize the ingestion of lead and the spread of lead contamination; follow these work practices when working where lead contaminated soil is known or expected:

- 1) Provide employees with lead awareness training discussing the hazards, regulations, and work procedures applicable to lead contaminated soil.
- 2) Minimize visible dust. Modify work procedures to minimize dust, if possible. Work soils wet and/or add water for dust control. Use water spray systems on equipment if available.
- 3) Do not eat, drink, or smoke near active work operations. Store food and water so it will not be contaminated with dust. Wash hands and face before eating, drinking, or smoking.
- 4) Use coveralls or disposable clothing to keep contaminated soils off personal clothing.

...Cont'd on Page 27

# Code of Safe Operating Practices

## LEAD CONTAMINATED SOILS (Cont'd)

- 5) Clean up when leaving work:
  - Remove dirt from coveralls and shoes, wipe or brush off, don't blow or shake.
  - Remove coveralls, throw paper ones away, put cloth ones in plastic bag to control dirt.
  - Wash hands, face, and neck to remove dirt. Shower if necessary.
  - Put cloth coveralls in laundry for cleaning, don't take home.

Note: Notify laundry facility that coveralls contain lead.

LEAVE CONTAMINATED SOIL AT WORK -- NOT AT HOME!!!

- 6) Contact your supervisor if there are any questions.

# Code of Safe Operating Practices

## APPENDIX J

### DUST MASK GUIDELINES

1. Dust Masks are respirators. (Correct term: “filtering facepiece respirator”.)
2. If employees want to wear dust masks (Voluntary Use), they must:
  - a) Be trained in their proper use, fit, limitations, storage and disposal (See Below).
  - b) Comply with the Caltrans facial hair policy. (No facial hair below the upper lip and removal of other hair that interferes with the face-to-facepiece seal.)
  - c) Use only NIOSH (National Institute of Occupational Safety and Health) approved dust masks.
3. If employees are required to wear dust masks (Mandatory Use), they must also:
  - a) Have a respirator medical evaluation.
  - b) Have a respirator fit test with the dust mask they will wear.
4. Dust Mask Training:
  - a) Dust masks are respirators. You must follow these guidelines if you wear one.
  - b) Dust masks only filter the air. They do not provide oxygen. They work only for particulates (dust particles) and will not filter out solvents, vapors, gasses or liquids.
  - c) Dust masks are only good for non-toxic dusts and particulates. They do not provide adequate protection for lead, asbestos, or pesticides.
  - d) Use only NIOSH approved dust masks. They will have a “TC” number on the facepiece or straps. They always have 2 straps. Do not use non-approved dust masks (only have one strap).
  - e) Never modify your dust mask by cutting straps, poking holes, etc. Any modification voids the approval.
  - f) An N-95 dust mask will filter out 95% of particulate down to .3 microns - this is adequate for non-toxic dusts and smoke.
  - g) Wear the mask correctly – before donning bend nose strip over finger – this causes a better fit around bridge of nose – put upper strap over crown of head – lower strap on neck – check fit and re-position if necessary.

...Cont'd on Page 29

# Code of Safe Operating Practices

## DUST MASK GUIDELINES (Cont'd)

- h) If you have breathing problems or exposure symptoms while wearing a dust mask, leave the area immediately. Replace the dust mask before re-entry. If you still have problems, contact your supervisor. Additional protection may be necessary.
  - i) When you are done using a dust mask, discard it in the trash. Do not fold it for later use. Store unused masks in a clean location with ample space so they are not crushed or deformed.
  - j) Training, medical evaluations, and fit testing – if required – must be renewed annually.
5. Document Dust Mask training and review of these guidelines. Use a tailgate meeting form or other documentation.
6. If there are questions about appropriate dust mask use contact your District Safety Officer or the Headquarters Office of Health and Safety Services at (916) 227-2688. For additional information on Caltrans Respirator Policy, see Chapter 15 in the Safety Manual.

# Code of Safe Operating Practices

## APPENDIX K

### CONCRETE PAVEMENT REPAIR USING HAND-MIXED ISOCYANATE-BASED PRODUCTS

#### HAZARD REVIEW

Hazardous materials

#### SAFE OPERATING PROCEDURES

1. Review CSOP for PCC Surface Repair before beginning work.
2. Use standard personal protective equipment (PPE). In addition, use the following PPE when applying isocyanate-based products:
  - Rubber boots
  - Natural rubber or nitrile gloves
  - Safety glasses
  - Tyvek or paper coveralls

In addition use the following when mixing isocyanate-based products:

- Chemical face shield with safety glasses or chemical splash goggles
- Impervious apron

NOTE: Tyvek suits increase heat stress. Take frequent breaks, drink plenty of water, unzip suit when away from material.

3. Specialized safety training is required before using isocyanates. Training includes the hazards and health risks of isocyanates, proper protective equipment, and safe work procedures. Contact the Office of Health and Safety Services or the District Safety Officer for assistance. Crew must have the Material Safety Data Sheets (MSDSs) for the material being used at the work site.
4. Provide wash water and soap, emergency eyewash station, and decontamination shower at the work site, immediately available to applicators. The shower is not required if a plentiful supply of wash water {50+ gallons} is available.
5. Inhalation exposure during concrete repair is minimal, but isocyanates can be absorbed through the skin. Wash hands and exposed areas thoroughly before eating, drinking, smoking or using toilet facilities. If material gets on skin, wash with soap and water immediately. Remove clothing immediately if contaminated with unmixed material. Change Tyvek coveralls daily.

...Cont'd on Page 31

# Code of Safe Operating Practices

## **CONCRETE PAVEMENT REPAIR USING HAND-MIXED ISOCYANATE-BASED PRODUCTS (Cont'd)**

6. Follow the manufacturer's instructions for mixing and applying. During mixing limit drill speeds to 350 rpm or less to minimize splashing. Use caution when opening containers, internal pressure may build up during warm weather.

### **● WARNING ●**

7. You may become allergic to this material and exposure to it could cause asthma. Do not breathe vapors or let material stay on your skin. If you experience chest tightness, shortness of breath, wheezing, or coughing, leave the area immediately and get to fresh air. If the symptoms persist, contact your supervisor and seek medical treatment. Symptoms may be delayed.
8. Do not rely on your sense of smell to warn you of exposure to isocyanates, they have poor warning properties. Eye irritation is a strong indication that you are being overexposed; leave the area.
9. Dispose of waste material properly. Allow mixed material to harden, then throw it away. Spilled components can be sprayed with Windex to react them and then disposed of. Follow the MSDS.

# Code of Safe Operating Practices

## APPENDIX L

### YELLOW TRAFFIC PAINT/STRIPE/MARKINGS REMOVAL

Yellow traffic paint, thermoplastic stripe, and permanent marking tape use lead chromate pigments to achieve their yellow color. White markings do not contain lead. Although some of the new yellow paints do not contain lead, all of the older yellow materials do. When these markings are removed by grinding, scraping, burning, abrasive blasting, or other mechanical methods - the dust that is created can contain lead. The purpose of this Code of Safe Practices is to address the possible health risk this dust poses to Caltrans employees, and to outline the prudent safety measures necessary to protect employees who are exposed to this lead containing dust.

Lead enters the body through inhalation or ingestion of lead-containing materials and is not readily absorbed through the skin. An evaluation of the expected dust levels and the lead content indicates that airborne lead exposures should be well below the Cal-OSHA permissible exposure limit (average of 50 micrograms of lead per cubic meter of air for 8 hours). The primary concerns are exposure through the ingestion or inhalation of contaminated dust, or exposure to others from clothing or shoes that contains lead-contaminated dust from the work area. **Eating, drinking, or smoking in lead contaminated areas or with hands or faces that are contaminated with lead-containing materials is the way ingestion occurs.** If you use food, cigarettes, chewing tobacco, makeup, or drinks that have lead contaminated dust in them or handle these items with lead dust contaminated hands, you could ingest lead.

Once in the body, lead is a potent systemic poison that serves no known useful function. It can cause serious short and long term health effects, including damage to the nervous and blood forming systems, reproductive system, kidneys, and digestive system. Young children absorb lead much easier than adults and can suffer additional severe delayed effects, including slow learning and behavioral problems, from exposure to lead. The length of time lead stays in the body varies, most is eliminated within days or weeks, but some can be stored in tissues or bones for extended periods of time and then released into the body.

To minimize the potential for lead exposure, the following work practices will be adopted for job sites where yellow traffic paint/marking/stripe is being removed by grinding, scraping, burning, abrasive blasting, or other mechanical methods:

- 1) Minimize visible dust. Use water or vacuum attachments to keep dust down. [Vacuums need a HEPA filter on the air discharge to catch lead dust.] Because the dust contains lead, less dust equals less lead exposure. If dust cannot be minimized, grinder operator and others exposed to dust will wear a half-face cartridge respirator with P-100 (magenta color) filter cartridges. Respirator use will follow the requirements of the Caltrans respirator program (Chapter 15 in the Safety Manual.) which requires medical evaluation, training, fit testing, NIOSH approved equipment, and compliance with the facial hair policy.

# Code of Safe Operating Practices

## **YELLOW TRAFFIC PAINT/STRIPE/MARKINGS REMOVAL (Cont'd)**

- 2) Minimize contamination of personal clothing and shoes. Stay away from the dust generation process as much as possible. Use cloth coveralls or Tyvek disposable paper coveralls to keep dust off clothes. Remove coveralls at job site before leaving. Put in plastic bag to prevent spread of contamination. Clean shoes and personal clothing before leaving work area.
- 3) Prevent dust ingestion by not eating, drinking, or smoking in contaminated areas. Observe basic hygiene; wash hands and face before eating, drinking, or smoking. Clean hands, clothing and shoes before entering vehicles or buildings. Store food and water so it will not be contaminated.

### Hazardous Waste Concerns:

Under the California EPA regulations, materials that contain over 1000 parts per million (ppm) or 5 milligrams per liter (mg/l) soluble lead are to be handled, stored, transported, and disposed of as Hazardous Waste. Waste materials with 350 parts per million (ppm) of lead are to be disposed of as "Hazardous Waste". This could include materials generated from yellow paint/stripe/markings removal. Contact your District Hazardous Waste Coordinator or Environmental department for assistance with this issue.

# Code of Safe Operating Practices

## APPENDIX M

### **EMERGENCY EYEWASH/SHOWER INSPECTION PROCEDURES** **(PORTABLE AND STATIONARY)**

#### DEFINITIONS:

- **Combination Unit:** An interconnected assembly of drenching and flushing equipment that is supplied by a single flushing fluid source.
- **Emergency Shower:** An assembly that utilizes a valve that remains open during use to enable the user to have water cascading over the entire body while the hands are free.
- **Eye/Face Wash:** A device used to irrigate and flush both the face and the eyes.
- **Flushing Fluid:** Potable (drinkable) water or other medically acceptable solution.
- **Personal Eyewash:** A supplementary eyewash that supports plumbed or self-contained eyewash equipment by delivering immediate flushing for less than 15 minutes.
- **Plumbed Eyewash:** An eyewash unit permanently connected to a source of potable water.
- **Self-Contained Eyewash:** An eyewash device that contains its own flushing fluid that must be refilled or replaced after each use.

#### PROCEDURES:

- ✚ Immediate and proper use of emergency drenching and flushing is essential to minimizing injury upon injurious chemical contact. It is therefore imperative that proper maintenance and inspection is performed on emergency eyewash/shower units, both portable and stationary.
- ✚ Each unit is to be free from clutter so access is not blocked. The ANSI (American National Standards Institute) standard requires units be accessible within 10 seconds or less of the hazard. In terms of distance it can be calculated as approximately 55 feet.
- ✚ Each unit is responsible for making sure that flushing, inspection, and repair of the emergency eyewash/shower units within their area(s) occurs. This includes changing flushing fluid in portable units at the frequencies recommended by the manufacturer.
- ✚ Individuals in each work area should be designated responsible for the testing and inspection of the (stationary) eyewash unit. The testing and inspection of the (portable) eyewash unit will be part of the equipment pre-op and post-op. The individual is responsible to perform the maintenance and keep a dated and initialed written record.
- ✚ When testing and inspection is performed, any deficiencies will be reported to the supervisor, who will ensure steps are taken to correct.

...Cont'd on Page 35

# Code of Safe Operating Practices

## EMERGENCY EYEWASH/SHOWER INSPECTION PROCEDURES (Cont'd)

- ✚ All individuals assigned maintenance tasks for emergency eyewash units are to be trained in the use and care of the unit.
- ✚ Each supervisor will ensure that personnel who may need to use an eyewash/shower unit are trained on its location and use.
- ✚ Each supervisor is responsible for assigning responsibility to maintain eyewash units and ensuring that procedures are followed. (Checklist attached.)

The following are key specifications from ANSI Z358.1 – 2004:

- 1) Plumbed and self-contained emergency showers:
  - a. Must supply at least 20 gallons per minute (gpm) of flushing fluid at a velocity low enough to be non-injurious to the user.
  - b. At least a 15 minute supply of flushing fluid must be available.
  - c. The flushing fluid supply valve must stay open without the use of the operator's hands.
  - d. Shower head height must be between 82 and 96 inches (84" is optimal) from the user's standing surface.
  - e. Protection from freezing or freeze protected equipment is required where the possibility of freezing exists.
  - f. Shower enclosures (if used) require at least a 34-inch diameter unobstructed area to provide adequate space for the user.
- 2) Plumbed and self-contained eyewash:
  - a. Must supply at least 0.4 gpm of flushing fluid at a velocity low enough to be non-injurious to the user.
  - b. At least a 15 minute supply of flushing fluid must be available.
  - c. Eyewash units must supply flushing fluid to both eyes simultaneously.
  - d. The flushing fluid supply valve must stay open without the use of the operator's hands.
  - e. Nozzles must be protected from airborne contaminants. Nozzle protective device removal must be automatic (not require a separate motion by the user) when the unit is turned on.
  - f. Eyewash units must be placed between 33 and 45 inches from the user's standing surface and at least 6 inches from the nearest wall or other obstruction.
- 3) Eye/Face wash equipment:
  - a. Plumbed and self-contained eye/face wash units must supply at least 3.0 gpm of flushing fluid and at a velocity low enough to be non-injurious to the user.
  - b. At least a 15 minute supply of flushing fluid must be available.
  - c. Eye/Face wash units must supply flushing fluid to both eyes simultaneously.

...Cont'd on Page 36

# Code of Safe Operating Practices

## **EMERGENCY EYEWASH/SHOWER INSPECTION PROCEDURES (Cont'd)**

- d. The flushing fluid supply valve must stay open without the use of the operator's hands.
  - e. Nozzles must be protected from airborne contaminants. Nozzle protective device removal must be automatic (not require a separate motion by the user) when the unit is turned on.
  - f. Eyewash units must be placed between 33 and 45 inches from the user's standing surface and at least 6 inches from the nearest wall or other obstruction.
- 4) Combination units:
- a. Units such as an eyewash and shower combination are ideal in many situations. Installation and performance requirements for these units are as presented for the individual components.
- 5) Personal eyewash equipment:
- a. Personal eyewash equipment, such as bottles and small portable units, are designed for immediate flushing of the eyes without being injurious to the user. These support plumbed and self-contained units, but does not provide adequate replacement.
  - b. Operator instructions must be maintained on personal eyewash equipment.
  - c. Water must be changed out at least once per week when it is used without a preservative. An expiration date must be maintained according to the manufacturer's specifications on equipment containing flushing solutions or preservatives.

## **FLUSHING/INSPECTIONS**

1. Plumbed eyewash and eye/face wash stations must be activated and flushed at least once per week. Flush for at least three minutes.
2. Inspect unit while flushing to make sure that water rises to approximately equal heights, and that fluid flow is sufficient to flush both eyes simultaneously while at a velocity low enough to be non-injurious to the user.
3. In terms of water temperature it should be "tepid". As a general rule, 100-degrees Fahrenheit is probably the highest temperature and the lower end should be 60-degrees Fahrenheit. However, each application and situation must be evaluated on a case by case basis.
4. Water in self-contained units must be replaced with fresh potable water at least once per week. Follow the manufacturer's recommendations for functionality tests and solution replacement when a preserved solution is used in these units.
5. The self-contained eyewash unit should be filled with flushing fluid and then activate. Record the time needed to fill a gallon container. Verify that the water gently flows at 0.4 gpm at similar heights. After 15 minutes of operation, use the water collected to refill the container. Activate the unit again. Beginning 12 minutes after the flow, the it takes to fill the gallon container must be 2 minutes or less.

...Cont'd on Page 37

# Code of Safe Operating Practices

## **EMERGENCY EYEWASH/SHOWER INSPECTION PROCEDURES (Cont'd)**

6. Each unit must be reviewed weekly to make sure components are in place, the unit is readily accessible, and that flushing solution has not passed its expiration date. Also verify that bottles with seals/tamper indicators are sealed, replacing those that are not.
7. Plumbed emergency shower stations must be activated and flushed for 15 minutes at least once per month.
8. Each eyewash or shower unit not passing inspection or requiring repair, must be signed to warn people that the emergency flushing station is not functioning properly. Repair of defective units must be expedited. Alternate measures must be in place until repairs are made.
9. Records of each flush/inspection must be kept. These records may be recorded on tags that are attached to drenching and flushing equipment, by means of a checklist, or by both.

### REFERENCE:

Departmental Safety Manual, Chapter 12, Personal Protective Equipment (PPE),  
SECTION 12.16, EMERGENCY EYEWASH AND SHOWER REQUIREMENTS.

...Cont'd on Page 38

# Code of Safe Operating Practices

## EMERGENCY EYEWASH MAINTENANCE CHECKLIST

Location: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Eyewash stations are to be used exclusively for eyes only.  
Separate wash water is required for hands and face.**

<b>PLUMBED AND PORTABLE UNITS:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
Is unit clean for use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the area surrounding the eyewash station free of all obstructions?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the unit free from sharp projections in the operating area of the unit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the eyewash easily activated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are the nozzles equipped with protective covers?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the water flowing from both eyepieces?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the flow of water of equal height?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the flow of water clear?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the spray pattern deliver a steady stream of water or is the flow further divided?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the water drain properly from the basin/sink?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the water temperature constant and tepid?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has the unit been flushed and inspected at least once a week?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Note:** Review Stormwater Manual for compliance when flushing systems.

### **PLUMBED (FIXED) UNITS ONLY:**

Are the covers removed by activation of the eyewash?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If water not initially clear, does flow become clear after 2 minutes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the water flow continue until the unit is returned to its resting position?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### **PORTABLE UNITS ONLY:**

Is unit positioned on equipment to be readily accessible?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are fasteners with pull-down mechanism in good working order?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Note:**(For extremely high heat areas) If water could become too hot to apply in eyes (above “tepid”), consider adding ice or very cold water at the beginning of shift to control temperature.

# Code of Safe Operating Practices

## APPENDIX M

### HOMELESS ENCAMPMENT CLEANUP

#### HAZARD REVIEW

Moving traffic  
Moving equipment  
Hidden Obstructions  
Overcrowding of Workers  
Unidentified Materials  
Infectious Substances  
Hypodermic Needles  
Body Wastes  
Contact with Unknown Persons  
Environmental Hazards  
Lifting

1. The Supervisor shall conduct a field review/assessment of the area to be cleaned prior to assigning any work. Do not enter a homeless encampment alone. Use the buddy system or go in a group. Be aware that some residents may become upset or combative. Do not argue. If residents make threats or become violent, leave the area immediately and request assistance from the CHP or local law enforcement.
2. After the initial assessment has been made, depending on the size of the encampment and hazards noted, you should contact the local County Health Services Office and/or local County liaison. Consider if the cleanup services of an approved Hazardous Materials Contractor may be prudent.
3. Assign a Maintenance designee (usually the Caltrans Maintenance Supervisor or Superintendent) as the on-site coordinator to direct all operations. In certain instances, during cleanup, a law enforcement presence may be advisable.
4. Plan the task to minimize employee and public contact with potentially infections or hazardous substances to prevent environmental damage. Contain any liquid waste with earth berms or use absorbent materials to minimize off-site movement of materials. Refer to National Pollutant Discharge Elimination Systems Manual, Chapter 2.
5. Review safe practice rules for applicable equipment (including rental equipment) and perform pre-operational checks.
6. Review applicable Codes of Safe Operating Practices prior to starting the work. Applicable Codes may include: Litter Removal Roadside (includes handling biological wastes), and Handling and Disposal of Hypodermic Needles.

# Code of Safe Operating Practices

7. Review work area protection procedures and any traffic control requirements.
8. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others.
9. While on foot, make every effort to perform work *facing* oncoming traffic.
10. Use standard personal protective equipment. In addition, follow requirements found in the applicable Code of Safe Practices and utilize appropriate personal protective gear.
12. Disinfect the area with a 10% household chlorine bleach solution prior to handling the debris. This solution could also be used to disinfect protective gear and equipment.
13. Do not eat, drink, or smoke while handling biological or other hazardous materials. Wash with soap and water prior to eating, drinking, or smoking.
14. Use motorized equipment to perform the work, if possible. Keep workers on foot clear of moving equipment.
15. Beware of hidden obstructions both below and above ground such as trip wires, traps in grassy areas, ground covers, and rodent burrows on unstable terrain.
16. Be alert and watch for weapons, stashed and/or hidden. Immediately report any discovered weapons to the onsite supervisor. Do not touch or move them. Call the CHP or local law enforcement to investigate and remove any weapons.
17. Be observant for any electrical hazards such as temporary/hidden electrical wiring that may have been connected illegally. Contact your Electrical crew for assistance in disconnecting charged wiring.
18. Be careful when handling discarded hypodermic needles. Refer to the Code of Safe Operating Practices for proper handling and disposal.
19. If using plastic bags to dispose of refuse, do not overload the bags. Do not place sharp objects in bags that may cause them to rupture and possibly injure a coworker.
20. Be careful while lifting; lift using the large muscles of your legs instead of your back.
21. An approved first aid kit shall be available on site (See Safety Manual Chapter 9).

# Code of Safe Operating Practices

## **SECTION V ALPHABETICAL INDEX**

# Code of Safe Operating Practices

## ALPHABETICAL INDEX

Page

### SECTION II-- HAZARD REVIEW & SAFE OPERATING PROCEDURES

BITUMINOUS OR EPOXY RAISED PAVEMENT MARKER	
REPLACEMENT AND REMOVAL .....	61
BRIDGE AND PUMP MAINTENANCE .....	37
BRIDGE STRUCTURE MAINTENANCE .....	36
CHANGING WEAR PARTS .....	80
CHIP AND SAND SEAL .....	3
CRACK SEALING .....	2
DISPOSAL OF ANIMAL CARCASSES .....	21
DRAINAGE STRUCTURE CLEANING .....	16
ELECTRICAL TROUBLE WORK AND KNOCKDOWNS	
LIGHTING, SIGNS, SIGNALS, FLASHERS, AND RAMP METERS.....	46-47
FENCE REPAIR .....	14
GRAFFITI REMOVAL .....	26
GUARDRAIL AND MEDIAN BARRIER REPAIR OR REPLACEMENT	
INCLUDES VEHICLE ENERGY ATTENUATOR REPAIR.....	65-66
HAND REMOVAL OF LOG JAM .....	88
HANDLING AND DISPOSING OF HYPODERMIC NEEDLES .....	22
HANDLING AND DISPOSAL URINE WASTE .....	23-24
HOMELESS ENCAMPMENT CLEANUP.....	39-40
INSTALLATION AND REMOVAL OF RAZOR WIRE .....	90
IRRIGATION, WATER SYSTEMS MAINTENANCE AND REPAIR .....	31
LITTER REMOVAL ROADSIDE .....	19-20
LUBE RACK .....	86-87
MACHINE BASE REPAIR.....	6
MACHINE PLACED SURFACING .....	4
MANUAL SURFACING AND/OR BASE REPAIR.....	5
MANUAL AND MECHANICAL VEGETATION MANAGEMENT	
& LANDSCAPE MAINTENANCE.....	27-28
MISCELLANEOUS ELECTRICAL INSTRUCTIONS .....	49-50
MOVING LANE CLOSURES .....	81
NIGHT ELECTRICAL INSPECTION.....	48
PAVEMENT STRIPING AND MARKINGS .....	52-53
PCC BASE REPAIR.....	8
PCC SURFACE REPAIR .....	7
PEST MANAGEMENT.....	29
POTHOLING.....	5
PUBLIC SERVICE FACILITIES.....	34-35
PUMP HOUSE MAINTENANCE .....	38-39
REMOVE/REPLACE TEMPORARY K-RAIL.....	89
ROADSIDE MARKER REPAIR OR REPLACEMENT.....	64
ROADWAY LITTER AND DEBRIS .....	17
ROCK SCALING .....	77-79
<b>SECTION II--HAZARD REVIEW &amp; SAFE OPERATING PROCEDURES (Cont.)</b>	

# Code of Safe Operating Practices

SAFETY IN CHARGING STORAGE BATTERIES .....	84-85
SERVICING PORTABLE RESTROOMS .....	33
SHADOWING MOVING OPERATIONS .....	82-83
SIGN LIGHTING REPAIRS, RELAMPING AND MAINTENANCE .....	45
SIGN MAINTENANCE .....	62-63
SLOPE AND EMBANKMENT MAINTENANCE	
INCLUDES REMOVAL OF SLIDES, SLIPOUTS AND ROCKFALL .....	74-76
SNOW REMOVAL AND ICE CONTROL .....	68-69
SNOW REMOVAL IN AVALANCHE AREAS .....	72
STAFFED CHAIN CONTROL .....	70-71
STORM PATROL .....	73
SURFACE DRAINAGE CLEANING .....	15
SWEEPING .....	18
THERMOPLASTIC PREHEATER .....	56-60
THERMOPLASTIC STRIPER AND PREHEATER (BIG MAC) .....	54-55
TOW SERVICE .....	41-42
TRAFFIC ACCIDENTS/EMERGENCY RESPONSE .....	51
TRAFFIC SIGNALS, FLASHING BEACONS & RAMP METERING, MAINTENANCE AND INSPECTIONS, REPAIRS, RELAMPING, FIELD INSPECTIONS AND MODIFICATIONS .....	43-44
TREE TRIMMING OR REMOVAL .....	10-13
TUNNEL AND TUBE MAINTENANCE .....	40
UNSURFACED AREA GRADING .....	9
UNIDENTIFIED HIGHWAY SPILLS .....	25
USING RECLAIMED WATER .....	32
VEGETATION MANAGEMENT (CHEMICAL) .....	30
WORKING IN TRUCK ESCAPE RAMPS .....	67

## SECTION III – EQUIPMENT SAFE PRACTICE RULES

AIR COMPRESSOR, PORTABLE AND TRUCK OR TRAILER MOUNTED .....	106
AIR TOOLS, GENERAL .....	79
AIRLESS PAINT SPRAYER .....	80
ARDVAC LITTER VACCUUM .....	115
ARK SYSTEM CONTAINMENT TRAILER .....	102-103
AUGER, HAND HELD POWER .....	76
BACKHOE .....	40-41
BITUMINOUS DISPENSING MACHINE .....	24-26
CHAIN SAW .....	73-74
CHEMICAL SPRAY BOOM .....	63
CHEMICAL SPRAY, TRUCK, TRAILER, OR SKID MOUNTED .....	62
CHIPPER .....	59-60
CONCRETE SAW .....	77
CORE DRILL .....	108
CRASH CUSHIONS, TRUCK-MOUNTED .....	9
CULVERT CLEANER, HIGH PRESSURE .....	65

# Code of Safe Operating Practices

## SECTION III – EQUIPMENT SAFE PRACTICE RULES (Cont.)

CUT-OFF SAW .....	111
DEWEESE ALL TERRAIN MOWER.....	95
DOZER.....	45
DEBRIS REMOVAL VEHICLE .....	114
EDGER, HAND POWER.....	75
EMULSION AND ASPHALT HEATING KETTLES .....	48
EQUIPMENT GENERAL CODE OF SAFE PRACTICES.....	2-3
EXCAVATOR .....	101
FLASHING ARROW BOARD, TRAILER-MOUNTED .....	52
FORKLIFT AND INDUSTRIAL TRUCKS .....	35-36
FUSEE IGNITER, TRUCK MOUNTED .....	5
GRADALL (BADGER).....	32-33
GRADER .....	44
GRASS TRIMMER .....	72
GUARDRAIL STRAIGHTENER .....	68
HEDGE TRIMMER.....	70-71
HYDRO CRANE .....	29
HYDROSEEDER.....	91
IN BED SALT AND SAND SPREADER.....	66
JOHN DEERE GATORS.....	96
LAYTON PAVER MODEL – 505 .....	56
LAYTON PAVER MODEL – 505, SELF-LOADING TRAILER .....	55
LIGHT TOWER.....	99-100
LOADER.....	42
LOADER BUCKET ATTACHED PAVER BOX.....	43
MIST BLOWER, FERTILIZER SPREADER.....	64
MIXER (CONCRETE) .....	78
MOTORIZED SHOULDER MACHINE .....	110
MOVEABLE BARRIER .....	98
MOWER, HIGHWAY .....	38
MOWER, POWER (RIDE-TYPE) .....	37
MOWER, REAR AUGER 3 POINT HITCH .....	105
MUDJACK MACHINE.....	58
MULCH BLOWER.....	93
PAINT STRIPER .....	19
PAVEMENT GRINDER .....	46-47
PERSONNEL HOIST .....	30-31
PLOWS, INCLUDING DEBRIS PLOWS, TRUCK & GRADER MOUNTED .....	6
PLOWS, WING, TRUCK & GRADER MOUNTED .....	7-8
POLARIS 4WD/6WD ATV.....	97
ROLL OFF BODY .....	112-113
ROLLERS, TOWABLE, POWERED, & HAND OPERATED.....	50
ROTARY PLOW .....	34

# Code of Safe Operating Practices

## SECTION III – EQUIPMENT SAFE PRACTICE RULES (Cont.)

RUBBERIZED ASPHALT HEATING KETTLES.....	49
SAND BLASTER .....	81-82
SCREEN-ALL, CV-40-D .....	94
SCREEN-IT, CEC, MODEL 4101 .....	104
SICKLE BAR TOPPER-HEDGER .....	107
SPIDER STAGING.....	90
SPREADER, CHIP .....	57
STEAM CLEANER.....	86
STRAW BLOWER.....	92
STUMP CUTTER.....	61
SWEEPERS .....	27
SWEEPER, TOW.....	51
TOWABLE SOLAR ARROW BOARDS .....	109
TRACTOR, WHEEL .....	39
TRAILER, EQUIPMENT TRANSPORT.....	53-54
TRENCHING MACHINE .....	69
TRUCK, COMPACTOR .....	17
TRUCK, DIGGER .....	15
TRUCK, FENCE REPAIR (BOOM TRUCK) .....	13-14
TRUCK, LITTER RETRIEVAL (SNIPE).....	10
TRUCK, LOADER (FROST LOADER).....	11
TRUCK, SCISSORS.....	12
TRUCK, SNOW POLE DRIVER.....	67
TRUCK, STENCIL MARKING, PAINT .....	22
TRUCK, STENCIL MARKING, THERMOPLASTIC.....	23
TRUCK, TANKER .....	16
TRUCK, THERMOPLASTIC STRIPER AND PREHEATER (BIG MAC).....	20-21
TRUCK, TOW .....	28
TRUCK, VACTOR (Formerly Vacuum).....	18
TRUCKS, 1/2 TON THROUGH 3-AXLE .....	4
WELDER, ELECTRIC .....	85
WELDER, OXYGEN AND ACETYLENE .....	83-84
WORK BOAT.....	87-89

## SECTION IV – SPECIAL PURPOSE CODES

### APPENDIX A

PROPANE TANK HANDLING AND USE .....	7-8
-------------------------------------	-----

### APPENDIX B

CONFINED SPACE ENTRY PROCEDURE .....	9-10
--------------------------------------	------

### APPENDIX C

PERSONAL PROTECTIVE EQUIPMENT (PPE) .....	11-16
---	-------

### APPENDIX D

TRENCHING SAFETY ORDERS.....	17-18
------------------------------	-------

# Code of Safe Operating Practices

## SECTION IV – SPECIAL PURPOSE CODES (Cont'd)

<b>APPENDIX E</b>	
CUT SLOPE SAFETY .....	19-20
<b>APPENDIX F</b>	
INSTRUCTIONS FOR DEVELOPING SITE-SPECIFIC CODES OF SAFE PRACTICES .....	21
<b>APPENDIX G</b>	
FALL PROTECTION .....	22-23
<b>APPENDIX H</b>	
NATURAL OCCURRING ASBESTOS (NOA) .....	24-25
<b>APPENDIX I</b>	
LEAD CONTAMINATED SOILS .....	26-27
<b>APPENDIX J</b>	
DUST MASK GUIDELINES .....	28-29
<b>APPENDIX K</b>	
CONCRETE PAVEMENT REPAIR USING HAND-MIXED ISOCYANATE-BASED PRODUCTS .....	30-31
<b>APPENDIX L</b>	
YELLOW TRAFFIC PAINT/STRIPE/MARKINGS REMOVAL .....	32-33
<b>APPENDIX M</b>	
EMERGENCY EYEWASH/SHOWER INSPECTION .....	34-38
(PORTABLE & STATIONARY)	
<b>APPENDIX N</b>	
HOMELESS ENCAMPMENT CLEANUP .....	39-40
GENERAL OPERATING PROCEDURES FOR SPECIAL PROGRAMS PEOPLE ...	2-4
GENERAL OPERATING PROCEDURES FOR VOLUNTEER GROUPS .....	5-6