

JOB HAZARD ANALYSIS	1. JOB TITLE: Signpost Construction	2. DATE:	<input checked="" type="checkbox"/> NEW <input type="checkbox"/> REVISED
INSTRUCTIONS ON REVERSE SIDE	3. TITLE OF WORKER(S): Maintenance Worker, Backcountry Signs	4. NAME OF ORGANIZATION: Rocky Mountain National Park	ANALYSIS BY:
5. LOCATION: ROMO- all trails	6. DEPARTMENT: Maintenance—Trails	10. SUPERVISOR:	REVIEWED BY:
11: REQUIRED AND/OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT:	Safety/sunglasses, eye protection, gloves, long pants and sleeves, knee pads		APPROVED BY:

7. SEQUENCE OF BASIC JOB STEPS	8. POTENTIAL HAZARDS	9. RECOMMENDED ACTION OR PROCEDURE
Preparing for work: general.	Injury or property damage as a result of lack of knowledge, communication, or poorly maintained equipment.	<p>-Our most important achievement is for every employee to conclude each and every day without personal injury or damage to property.</p> <p>-Employees are provided adequate orientation, equipment and training as per their duties and responsibilities.</p> <p>-Employees participate in and support an environment where all valid safety concerns can be raised and addressed, without judgement or reprisal.</p>
	Injury or property damage as a result of lack of PPE.	-Crew leaders and supervisors are responsible for providing crewmembers with adequate PPE and related training. Refer to block 11.
	Injury or property damage as a result of lack of communication.	<p>-Crew leaders and supervisors will conduct and document weekly safety meetings to discuss safety issues, projects, and other work related topics.</p> <p>-Crew leaders will also conduct, whenever appropriate, ‘tailgate’ safety meetings with crews to provide project orientation, assign work, and avoid miscommunication.</p>
Project/work site safety considerations.	Injuries or property damage resulting from work site hazards such as weather, loose/unstable ground, snags, brush, insects, swift water etc.	<p>-Trail workers should be continually aware of, and prepared for, dynamic and extreme weather The Trail Crew Handbook addresses these topics, and should be readily available to all employees.</p> <p>-Safety is everyone’s primary responsibility, and all employees should take an active role in hazard identification, analysis, and mitigation.</p> <p>-If, at any point, a job is deemed unsafe, workers should feel entitled to stop until the appropriate PPE, engineering controls, equipment, or conditions are available to make the job safe.</p>
Sign post construction, general	Injuries from improper body mechanics, body positioning, etc.	-Each employee should be provided with training on the safe and proper use of the most important, primary tool – the body. Proper techniques of stretching, lifting, bending, moving, tool use, securing good footing, the importance of good nutrition and hydration, etc., should be addressed.
	Muscle strains, pulls, and repetitive motion injuries.	<p>-Each employee will be given time on the job to properly stretch and warm up before and during physical activity.</p> <p>-Employees will be encouraged to switch hands often, and vary the types of activities performed to limit exposure to repetitive-motion injuries.</p> <p>-Logic dictates that if proper body mechanics are employed while using any</p>

		tool, proper tool use should follow.
Felling trees: general	Injuries or property damage from improper cutting operations	-Always thoroughly size up each and every tree, before any cuts are made. -Constantly assess and reassess as you go – things can change! -Never attempt to cut any tree that is unsafe or beyond your skill level.

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Felling trees: general, cont'd.	Injuries or property damage from improper cutting operations, cont'd.	-Never attempt to cut any tree when conditions aren't right or are too hazardous, <i>e.g.</i> high winds, deep snow, etc. -Always establish escape routes and safety zone prior to making any cuts. --- -Clear all debris and hazards from escape routes. -Watch the kerf – it is a good indicator of tension and compression – if the cut opens, it's under tension; if it closes, it's under compression. -Look up, down, and all around – don't focus on one thing and neglect to watch for other hazards.
	Injury from tree: tree may barberpole and fall in an unintended direction; tree may get hung up in another tree; tree may kick back or spring back.	-Size up tree and reassess it throughout operation. -Clear escape route of all debris and obstacles. -Limb all branches within reach prior to dropping the tree.
	Injury from saws.	-Always wear gloves when working with saws. -Place saw on the ground, cutting surface down during brief lapses in cutting operations. -Store saw in sheath when not in use.
	Injury to passersby.	-Work far enough away from trails that your activity will not draw passersby to investigate. -Keep a constant vigil during the cutting operation and especially when you are about to drop the tree. -Politely warn anyone who approaches the work area of the danger.
	Dangers to wildlife and nests.	-Carefully select a tree with less dense branches in order to see any active nests. -Observe selected tree for bird or squirrel activity while preparing tools and PPE.
Preparing signposts.	Cuts from sharp edges (saw, hatchet, draw knife)	-PPE should include gloves, long pants and sleeves, and kneepads. -All edges should be sharp.
	Back injury.	-Work on the ground, close to the post, while beaver-topping, notching, and removing sub-grade bark. -When carrying post to installation site, lift it properly and carry it close to the body.
	Injury to passersby.	-Work away from trails so that flying wood chips won't strike others.
Planting SignPosts.	Back injury from bending, eye injury from rock chips, pinched fingers.	-Use tools of appropriate length to avoid low-back injury. -Wear gloves to avoid obvious pinch points.

	Injury to passersby, wildlife, horses.	<ul style="list-style-type: none">-Never leave an open posthole unattended.-Mound dirt on trail side of hole, whenever possible, as a barrier.-Place shovel and rockbar in the hole when briefly away from it to retrieve the nearby post.-If the hole must be left unattended for longer periods (overnight or while assisting someone) fill it with rocks.-Be aware that horses often spook easily. Stand in the open as they approach, greet the riders loudly, remain still, keep backpack out of view.
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JSA Instructions

The JSA shall identify the location of the work project or activity, the name of employee(s) writing the JSA, the date(s) of development, and the name of the appropriate line officer approving it. The supervisor acknowledges that employees have read and understand the contents, have received the required training, and are qualified to perform the work project or activity.

Blocks 1, 2, 3, 4, 5, and 6: Self-explanatory

Block 7: Identify all tasks and procedures associated with the work project or activity that have potential to cause injury or illness to personnel and damage to property or material. Include emergency evacuation procedures (EEP).

Block 8: Identify all known or suspect hazards associated with each respective task/procedure listed in block 7. For example:

- a. Research past accidents/incidents.
- b. Research the Health and Safety Code or other appropriate literature.
- c. Discuss the work project/activity with participants
- d. Observe the work project/activity
- e. A combination of the above

Block 9: Identify appropriate actions to reduce or eliminate the hazards identified in block 8. Abatement measures listed below are in the order of the preferred abatement method:

- a. Engineering Controls (the most desirable method of abatement). For example, ergonomically designed tools, equipment and furniture.
- b. Substitution. For example, switching to high flash point, non-toxic solvents.
- c. Administrative Controls. For example, limiting exposure by reducing the work schedule.
- d. PPE (least desirable method of abatement). For example, using hearing protection when working with or close to portable machines (chain saws, rock drills, portable water pumps)
- e. A combination of the above.

Block 10: The JSA must be reviewed and approved by a supervisor.

Block 11: List all recommended and required PPE relevant for job/activity.

Emergency Evacuation Instructions

Work supervisors and crew members are responsible for developing and discussing field emergency evacuation procedures (EEP) and alternatives in the event a person(s) becomes seriously ill or injured at the work site.

Be prepared to provide the following information:

- a. Nature of the accident or injury (avoid using victim’s name).
- b. Type of assistance needed, if any (ground, air or water evacuation).
- c. Location of accident or injury, best access route into the work site (road name/number), identifiable ground/air landmarks.
- d. Radio frequency(s).
- e. Contact person.
- f. Local hazards to ground vehicles or aviation.
- g. Weather conditions (wind speed & direction, visibility, temp).
- h. Topography.
- i. Number of person(s) to be transported
- j. Estimated weight of passengers for air/water evacuation.

The items listed above serve only as guidelines for the development of emergency evacuation procedures.

JSA and Emergency Evacuation Procedures Acknowledgement

As supervisor I acknowledge that the following employees have participated in the development of this JSA, accompanying evacuation procedures and have also been briefed on the provisions thereof:

Supervisor’s Signature:
