Appalachian National Scenic Trail	**1. WORK PROJECT/ACTIVITY** **Ladder Operations**	**2. LOCATION** **Trail Wide**	Includes work performed on lands of National Park Service, and various states' park and lands
JOB HAZARD ANALYSIS (JHA) **References-FSH 6709.11 and -12** **OSHA** **(Instructions on Reverse)**	**3. NAME(S) OF ANALYST(S)** **Keith Stegall**	**4. Work Supervisor** **Various**	**5. DATE PREPARED** **5/24/2021**

Required Standards and General Notes:	OSHA 1926.1053
Required Personal Protective Equipment	Hard hat, long pants, gloves, appropriate shoes for task
Tools and Equipment	first aid kit, ladder,
Available Training	Review OSHA regulations above and 1926.1060 and GAR model

7. TASKS/PROCEDURES	**8. HAZARDS, POTENTIAL HAZARDS / INJURY SOURCE**	**9. ABATEMENT ACTIONS OR PROCEDURES** **Engineering Controls * Substitution * Administrative Controls * PPE**
Pre-operation inspection of equipment	Injury due to improper training and/or assessment	• Perform a GAR Model (GREEN-AMBER-RED) risk assessment of the task to be performed prior to beginning work. If the task requires working at height (10' or higher) for a long period (30 minutes or more) and/or moving about at height you should consult the parks safety officer for guidance on appropriateness of ladder use. • Read and follow all instructions, labels/markings. • Ladder set up/assembly must be performed under the guidance of a **competent person**.
	Injury due to poor condition of equipment	• Ladders shall be inspected for defects prior to each day's use, and after any occurrence, such as a fall, which could damage the ladder. • Ensure key components such as rungs, cleats, steps, rails, bolts, rivets, fastenings and ropes are not defective. • Repair or replace any piece of equipment that has been deemed damaged or unfit for use.
	Injury due to improper selection of ladder type	• Check weight load capacity; • Use of ladder shall not exceed the rated load. Self-supporting ladders should be Type 1 (250lbs), type 1A (300lbs), or Type 1AA (375lbs). Type III ladders should not be used • Use appropriate ladder for job….extension ladder when leaning against building etc., free standing ladder otherwise. • Use only non-conductive (wood or fiberglass) insulated ladder for electrical work.

		• Ladders shall be fitted with slip-resistant bases and secured at top or bottom to prevent the ladder from slipping.
Transporting equipment to work site	Injury due to dropping material on foot	• Wear appropriate boots. • Clear clutter from the intended path. • Use good communication techniques with co-workers.
	Pinched fingers	• Gloves are recommended.
	Injury due to lifting materials	• Get assistance when carrying and setting up large ladders, do not attempt to carry by oneself. • Use legs not back. • Do not twist while lifting.
	Injury due to unsecure materials	• Tie down load securely.
Setting up ladder	Injury due to collapse due to improper setup.	• Follow all OSHA and manufacturer's regulations and guidelines. • Keep hands away from moving parts and crushing action of ladder when closing. • The proper angle for setting up an extension ladder is to place its base a quarter of the working length of the ladder from the wall or other vertical surface. • Be sure that all locks on an extension ladder are properly engaged. • Individual sections from different multi-sectional ladders or two or more single straight ladders shall not be tied or fastened together to achieve additional length. • Make sure ladder legs are opened fully and locked into position, ladder is planted firmly with feet the proper distance from the structure. Consider securing the ladder. • Make sure ground is even and level and clear of moisture. • Only equipment approved by the manufacturer or qualified person may be used to support ladder bases. • Items such as barrels, boxes, loose brick, stones or concrete blocks, shall not be used to support ladders. • Ladders should be erected as close as possible to the work area to allow working without overextending arms. • Ladders shall not be used as guys, braces, skids, platforms, runaways, or scaffolds. • An extension or straight ladder used to access an elevated surface must extend at least 3 feet above the point of support.

	Injury due to electrocution	• Avoid electrical hazards! – Look for overhead power lines before handling a ladder. Avoid using a metal ladder near power lines or exposed energized electrical equipment.
Using Ladder	Injury due to falling from ladder	• Hard hats are required. • When reaching to the sides, keep hips between the side rails of the ladder. • Only one person on a ladder at a time. • Use caution when climbing or descending. • Always face towards the ladder when using it. • Always maintain a 3-point (two hands and a foot, or two feet and a hand) contact on the ladder when climbing. • Do not move or shift a ladder while a person or equipment is on the ladder. • Do not stand on the three top rungs of a straight, single or extension ladder. • Do not stand on or above the top step of the step ladder. • Be aware of placement of feet when climbing or descending ladder.
	Injury due to changing environmental conditions	• Use extra caution in wet or windy conditions. • Do not use ladders during thunderstorms or lightning events.
	Injury from falling objects	• Hard hats are required. • Use good communications with co-workers. • Ensure no one is working directly underneath a ladder. • Secure all loose tools.

10. OFFICIAL SIGNATURE	11. TITLE	12. DATE
KURT SPEERS Digitally signed by KURT SPEERS Date: 2021.09.02 12:04:33 -04'00'	**Acting Chief Ranger**	**9/2/21**

JHA Instructions (References-FSH 6709.11 and .12)

The JHA shall identify the location of the work project or activity, the name of employee(s) involved in the process, the date(s) of acknowledgment, and the name of the appropriate line officer approving the JHA. The line officer 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, FSH 6709.11 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; establishing appropriate procedures and practices.**
- **d. PPE (least desirable method of abatement). For example, using hearing protection when working with or close to portable machines (chain saws, rock drills, and portable water pumps).**
- **e. A combination of the above.**

Block 10: The JHA must be reviewed and approved by a line officer. Attach a copy of the JHA as justification for purchase orders when procuring PPE.

Blocks 11 and 12: Self-explanatory.

Emergency Evacuation Instructions (Reference FSH 6709.11)

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 worksite.

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 worksite (road name/number), identifiable ground/air landmarks.**
- **d. Radio frequencies.**
- **e. Contact person.**
- **f. Local hazards to ground vehicles or aviation.**
- **g. Weather conditions (wind speed & direction, visibility, temperature).**
- **h. Topography.**
- **i. Number of individuals to be transported.**
- **j. Estimated weight of individuals for air/water evacuation.**

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

JHA and Emergency Evacuation Procedures Acknowledgment

We, the undersigned work leader and crew members, acknowledge participation in the development of this JHA (as applicable) and accompanying emergency evacuation procedures. We have thoroughly discussed and understand the provisions of each of these documents:

SIGNATURE	DATE	SIGNATURE	DATE

	_____	_____