

U.S. Department of Agriculture Forest Service		1. WORK PROJECT/ACTIVITY		2. LOCATION		3. UNIT	
JOB HAZARD ANALYSIS (JHA) References-FSH 6709.11 and -12 (Instructions on Reverse)		Trail Maintenance		Cherokee N.F.		Watauga/Unaka R.D.	
		4. NAME OF ANALYST		5. JOB TITLE		6. DATE PREPARED	
		Chad Ingle		Natural Resource Specialist		2-14-2020	
7. TASKS/PROCEDURES		8. HAZARDS		9. ABATEMENT ACTIONS			
1. Travel to the worksite		Road Conditions		Engineering Controls * Substitution * Administrative Controls * PPE			
		Backing		<ul style="list-style-type: none"> Paved roads may be slippery when wet. Monitor road conditions and get out of the vehicle to check if things look different. Tourist traffic and pedestrians are often unaware of traffic on the highway. Drive defensively; allow plenty of space between vehicles. Dirt roads may be narrow and rough with blind corners. Drive cautiously and defensively. "Face the danger". Do not back towards drop-offs. Always use a backer when one is available. If none, thoroughly scout the area from the outside of the vehicle to ensure safe backing. 			
2. Field Work		Working in Remote Areas		<ul style="list-style-type: none"> Maintain visual, voice, cell phone or radio contact with crewmembers. Ensure portable radios or cell phones are charged and functional. Carry extra batteries as capacity is reduced in cold weather. Monitor weather and be prepared to cease field activities if conditions deteriorate. 			
		Encounters with the Public		<ul style="list-style-type: none"> If the public becomes aggressive or physically threatening, leave the area immediately. Move a safe distance away and write down any pertinent information (including vehicle information, license number and identity if known, report immediately) If the public has a concern, have the citizen explain the concern fully, assess the situation and take appropriate action. Do not argue, be as polite as possible. Refer public member to contact the District Office. If you do not know the answers take their name and contact info. and pass it to a FS employee. 			

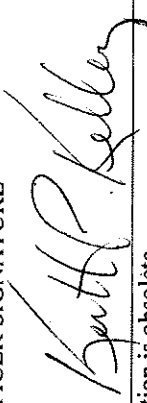
<p>Field work, cont.</p>	<p>Snags and Green Tree Hazards</p> <p>Overhead Branches</p> <p>Cuts and Scrapes</p>	<ul style="list-style-type: none"> • Travel in groups whenever possible. • Be cognizant of your surroundings and anything that appears unusual. • If possible, avoid areas of known conflict. • Be observant of surroundings (i.e. snags that have already fallen or trees that appear to be leaning severely). • Do not take breaks in hazard tree areas. • Be aware of increasing winds or a forecast of increasing winds. • Identify high-risk tree species, such as Hemlocks, that could be standing dead. • Seek shelter in a less dangerous or protected area (i.e. clear-cut or meadow, face into wind and prepare to avoid falling material). • Wear hardhat for overhead hazards. • Be cognizant of broken tops or branches that may be lodged in live or dead limbs. • Wear gloves and long sleeve shirt to protect against briars and other brush.
<p>3. Weather</p>	<p>Severe Weather</p> <p>Lightning Strikes</p> <p>Temperature (Heat Stress or Hypothermia)</p>	<ul style="list-style-type: none"> • Dress appropriately for current and expected weather conditions. • Be prepared for changing weather conditions. • Seek indoor shelter immediately. • If outdoors get into a hard topped vehicle. Stay away from trees, machinery, and fences • If you feel a tingling sensation on your hair or your hair stands on end, immediately crouch and cover your head. DO NOT lie down or place hands on the ground. • Know and watch for the signs of hypothermia and or/heat exhaustion. • Wear proper clothing for the weather conditions. • Drink plenty of fluids. • Be physically fit. • Carry dry spare clothing.

<p>4. Foot travel</p>	<p>Slips, Trips and Falls</p>	<ul style="list-style-type: none"> • Plan ahead, select safe routes, and watch for changes in ground surface, slick spots or unusual hazards. • Don't get in a hurry and always be sure footing is firm, particularly when crossing creeks. • Select each stepping spot carefully and do not shift body weight until you are sure footing is solid. • Know how to fall. Keep flexible with knees slightly bent. Do not stick out arm to break your fall. Roll with the fall. • In heavy undergrowth, lift knees high to clear obstacles. • Avoid walking on logs, step OVER them, not ON them. • While walking downhill, on slippery ground or loose footing, keep your weight on your heels, take shorter strides, keep knees bent, lean slightly backwards and use as much of the inside of your feet as possible. • Wear appropriate footwear as identified with task being performed. • Take appropriate action to protect hot spots, blisters or any other foot tenderness. • Maintain safe walking distance between people. • Avoid walking up a steep slope directly under another person. • Avoid kicking out loose rocks. • Avoid stepping on blow-downs. • Communicate with co-workers.
<p>5. Hand Tools and Equipment</p>	<p>Injury</p>	<ul style="list-style-type: none"> • Check hand tools for sound handles prior to use. • Replace/repair all tool handles that have splits, cracks, or are loose. • Always use a tool sheath when carrying tool. • Keep tools sharp. • Learn and utilize the proper techniques for tool use and sharpening. • Use the right tool for the job. • Wear approved safety glasses, approved hard hat, gloves, long pants, and leather or similar sturdy material boots above the ankle when using hand tools. • Carry tools on the downhill side of the trail, and sharp side down. • Wear gloves when carrying tools. • Always carry hand saws sheathed or closed. • Do not carry tools over the shoulder. • Always secure tools and never carry in same vehicle compartment as personnel.

<p>Hand Tools and Equipment, cont.</p>		<ul style="list-style-type: none"> • Avoid glancing blows. • Avoid contact with sharp edges. • When shoveling, support your upper body by bracing the forearm closest to your body against your thigh as you pivot the blade sideways. • When swinging tools, bend your legs, not your back. • Maintain a safe working distance (10' minimum). • Always be sure what's around you and check the area often. • When using hand tools in the rain, gloves may be removed for better purchase, however, use extreme caution. • For Chain saws, please refer to the JHA on chainsaws.
<p>6. Using power tools</p>	<p>Hearing damage, rock dust inhalation, recoil/whiplash, cuts, burns</p> <p>Cut hands, metal slivers in hands</p>	<ul style="list-style-type: none"> • Always wear ear protection in addition to PPE mentioned above when weed eating, and using other power tools such as rock drills, sawzalls, impact drills, or skill saws. • Be extremely careful with power tools with blades and be aware that some powerful drills can recoil and whiplash your arms. Use your body weight when appropriate to protect your arms. • If using a rock drill, use air respirator mask to protect from dust in addition to regular PPE. • Be aware drill bits will be hot and could burn you after prolonged use – always wear gloves when handling bits. • Always wear gloves and safety glasses when sharpening tools. • Prior to filing, fit the file with a handle and knuckle guard. • When sharpening an axe or Pulaski blade with a stone, work the stone in small circles across and “into” the blade. • Follow sharpening guides carefully. • Never sharpen cutting edges all the way to the footplate.
<p>7. Brushing</p>	<p>Overhead hazards, hearing damage, cuts to arms/hands</p>	<ul style="list-style-type: none"> • Be aware of snags in trees that could be disturbed and fall loose during brushing. • Never fall a tree without proper chainsaw training (refer to chainsaw JHA for hazards). • Wear hardhat, safety glasses, gloves, long pants, sturdy boots (leather or similar material) that come above the ankle when brushing • Avoid holding the branch being cut as saw could slip. • Always wear ear protection in addition to PPE mentioned above when weed eating.

<p>8. Moving logs, Rocks or other objects</p>	<p>Strained muscles, injury</p>	<ul style="list-style-type: none"> • User proper body positioning, firm grip, lift with legs and get assistance when needed. • Be mindful of possible pinch points. • Communicate with others who are helping you move heavy objects.
<p>9. Exposure to Biting, and Stinging Insects and Snakes</p>	<p>Tick Borne illness</p> <p>Allergic Reactions, irritation</p>	<ul style="list-style-type: none"> • Spray clothing with insect repellent as a barrier. • Wear light colored clothing that fits tightly at the wrists, ankles, and waist. • Each outer garment should overlap the one above it. • Cover trouser legs with high socks or boots. • Tuck in shirt tails. • Search the body on a regular basis, especially hair and clothing; ticks generally do not attach for the first couple of hours. • If a tick becomes attached, pull it by grasping at is close as possible to the point of attachment and pull straight out with gentle pressure. Wash skin with soap and water then cleanse with rubbing alcohol. Place the tick in an empty container for later identification, if the victim should have a reaction. Record dates of exposure and removal. • Do not try to remove the tick by burning with a match or covering it with chemical agents. • If you cannot remove the tick, or the head detaches, seek prompt medical help. • Watch for warning signs of illness: a large red spot on the bite area, fever, chills, headaches, joint and muscle ache, significant fatigue, and facial paralysis are reactions that may appear within two weeks of the attack. Symptoms specific to Lyme disease include: confusion, short-term memory loss, and disorientation. • Be alert to hives in brush or in hollow logs. Watch for insects travelling in and out of one location. • If you or anyone you are working with is known to have allergic reactions to bee stings, tell the rest of the crew and your supervisor. Make sure you carry emergency medication with you at all times and that your coworkers know where to find it. • Wear long sleeve shirts and trousers; tuck in shirt. Bright colors and metal objects may attract bees. • If you are stung, cold compresses may bring relief. • If a stinger is left behind, scrape it off the skin. Do not use tweezers as this can squeeze the venom sack, worsening the injury.

<p>Exposure to Biting, and Stinging Insects and Snakes, cont.</p>	<p>Snake Bites</p>	<ul style="list-style-type: none"> • If the victim develops hives, asthmatic breathing, tissue swelling, or a drop in blood pressure, seek medical help immediately. Benadryl or a similar antihistamine will often help ease symptoms until help arrives. • Learn what venomous snakes live in the area and how to identify them. • Be alert for snakes at all times during warm weather. • Use extra caution when moving rocks or logs that may have snakes under them. • Do not attempt to pick up or otherwise move any snake. • Give snakes on the trail a wide berth. • If someone is bitten, don't panic. Immobilize the bitten extremity and call for medical assistance. Do not tourniquet above the bite.
<p>10. Working in Bear Country</p>	<p>Bear Encounters</p> <p>Cubs</p> <p>Bear food cache – smell or see rotted carcass</p>	<ul style="list-style-type: none"> • DO NOT RUN: When you run you may look like prey to the bear. • Do not threaten the bear and force it to fight back. • Talk to the bear in low, soft tones and slowly back away. • Pretend you are not afraid. • Be aware of wind direction. If the wind is in your face the bear may not smell you. • Avoid sows with cubs when at all possible. • Back away slowly but deliberately, in the direction from which you came and at slight angle so that you are moving across her vision. Bear depth perception is poor and if you move directly backwards it may look to her like you are moving towards her. • Continue to avoid the area. • Backtrack immediately and quickly. Do not investigate. • Do not force a bear to defend its meals from you. • Avoid the area.

<p>11. Working with treated wood</p>	<p>Exposure to Alkaline Copper Quaternary (ACQ)</p>	<ul style="list-style-type: none"> • Avoid frequent or prolonged inhalation of sawdust from treated wood. • Sawing, sanding and machining of treated wood should be performed outdoors while wearing personal protective equipment (PPE). PPE consists of goggles, gloves, earplugs if using power tools, leather boots, long sleeve shirt and long pants. • Because preservative or sawdust may accumulate on clothes, launder before reuse. • Wash work clothes separately from other household clothing. • Wear gloves when handling treated wood. • Wash exposed areas thoroughly after working with treated wood and before eating, drinking, or using tobacco products.
	<p>Improper disposal and cleanup of ACQ treated wood</p>	<ul style="list-style-type: none"> • All sawdust and construction debris should be cleaned up and disposed of. Dispose of treated wood by ordinary trash collection. • Do not burn in open fires or in stoves, fireplaces or residential boilers because toxic chemicals may be produced as part of the smoke and ashes. • Sweeping up of sawdust should be performed while wearing PPE.
	<p>Improper use of ACQ treated wood</p>	<ul style="list-style-type: none"> • Do not use treated wood where the preservative may become a component of food or animal feed (mulch, counter tops, beehives, containers for storing animal feed, etc). • Only treated wood that is visibly clean and free of surface residue should be used for patios, decks and walkways. • Do not use treated wood where it may come in to direct or indirect contact with drinking water except for uses involving incidental contact.
<p>10. LINE OFFICER SIGNATURE</p> 		<p>11. TITLE</p> <p>DISTRICT RANGER</p>
<p>Previous edition is obsolete</p>		<p>12. DATE</p> <p>3/2/2020</p>
<p>(over)</p>		

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
_____	_____	_____	_____
_____	_____	_____	_____
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