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|  | **R6-FS-6700-7 (08/12)** |
| **U.S. Department of Agriculture****Forest Service** | **1. WORK PROJECT/ACTIVITY****Crosscut Saw Operations - bucking, limbing & felling** | **2. LOCATION**USFS - Forest Wide | **3. UNIT**Region 6 |
| **JOB HAZARD ANALYSIS (JHA)****References-FSH 6709.11 and -12****(Instructions on Reverse)** | **4. NAME OF ANALYST**Back Country Horsemen of Washington | **5. JOB TITLE**BCHW Safety Committee | **6. DATE PREPARED**March 2017 |
| **7. TASKS/PROCEDURES** | **8. HAZARDS** | **9. ABATEMENT ACTIONS****Engineering Controls \* Substitution \* Administrative Controls \* PPE** | **10. POST ABATEMENT****ACTION RISK RATING****(Severity/Probability Matrix)** |
|  | Severity | Probability | Risk Code |
| General Crosscut Saw Operation | Serious potential injury during crosscut saw operation to sawyer(s), crew members or public trail users  | Maintain Required Qualifications:Crosscut saw operation certification in accordance with FSM 2358Must operate within the limits of certification First aid / CPR certification | l l I - Marginal | D - Seldom | 4 - Low |
| Personal Protective Equipment (PPE) | Serious potential personal injury from falling limbs, flying debris, or sharp tools  | Operaters are responsible for having proper PPEs:Hard hat, eye protection, gloves, long sleeve shirt, long pants, and bootsBoots must be leather or cut-resistant, with non-skid soles and have ankle support See PPE FSH 6709.11,21,13First aid kit located on the jobsite OSHA standard 1910.266 App. A. | l l I - Marginal | D - Seldom | 4 - Low |
| Tailgate Safety Meeting----------------------------------------------------------------Travel to worksite | Communication between Trail Work Leader and crew members is important to avoid injuries --------------------------------------------------Potential personal injury during transport of sharp crosscut saw(s) and trail tools | Trail Work Leader and crew members must participate in a Tailgate Safety Briefing at the start of the project.See Tailgate Safety GuideCrew members MUST fill out a Medical Decleration FormDiscuss communication proceedures Discuss Emergancy Action Plan (EAP)Discuss tasks and proceedures for the projectSawyers MUST NOT work alone------------------------------------------------------------------------------Use covering sheath for crosscut bladeUse tool guards for trail toolsUse proper transport for saws and tools carried on trail stockFoot traffic must travel 10 feet apart.Carry crosscut saw with teeth facing outward from your bodyRemove rear handle of saw when walking to worksite | l V - Negligible-------------l l l - Marginal | E - Unlikely-----------D - Seldom | 4 -Low------------4 - Low  |
| Equipment | Potential personal injury with improper use of sharp crosscut saw(s) and trail toolsCuts and lacerations | Follow safety, operation and maintenance recommendations for crosscut sawsHave on hand an axe, wedges, maul, or single bit axeWhen not cutting always have the crosscut teeth protected and away from workforce | I V - Negligible | D - Seldom | 4 - Low |
| Worksite----------------------------------------------------------------Worksite Safety  | Potential worksite injuries must be discussed between Trail Work Leader and trail crew before project starts Overhead hazards Down logs in escape route Brush and limbs in worksite Log movement during cutting Slippery and uneven worksite--------------------------------------------------Potential worksite injuries must be discussed between Trail Work Leader and trail crew throughout the project Log movement during and after cutting Cut piece track after cuttingPotential personnal injury from rain, snow and / or wind conditions | Make worksite hazard assesment prior to sawing.Check for overhead hazards and NEVER work under overhead hazards.Determine escape routesClear area around work site of hazardsPay close attention to footingPay close attention to log movement during cuttingPost lookouts to alert trail users moving through the area------------------------------------------------------------------------------Space workers so the activities of one will not create a hazardWorkers not essential for the project must keep outside the safety circleExcept for sawyers have workers work on the same contour rather than some working above othersDo not saw in the dark or under hazardous weather conditions  | I V – Negligible--------------I V - Negligible | D - Seldom--------------D - Seldom  | 4-Low------------4 - Low |
| Crosscut OperationCut Plan----------------------------------------------------------------Communications | Serious potential personnel injury during improper crosscut sawing techniques  Binds trapping crosscut saw Log drop when cutting limbs Rolling log pieces Splintering saplings and limbsNot notifying a NO-GO decissiionHazardous trail conditions left for other trail usersSerious potential personnel injury during crosscut sawing from unplanned log movemnt---------------------------------------------------Critical information must be available for personnel in case of an injuryDelays in getting prompt medical aid for seriously injured  | Anticipate log tensions and compressions, then plan mitigationUse caution when cutting limbs supporting logs off the groundUse caution when sawing on the downhill side of a logespecially a second sawyer on a crosscut saw.Do not saw logs on steep slopes with workers belowCarefully relieve tension on saplings and limbs before cuttingAsses all potential hazards using GO/NO-GO checklistNever leave a hazardous situation, such as a half cut or hung up logMitigate cut sequence for potential binds based on bearing points and lie of logDetermine mechanics of removing the cut piecesExecute cut plan Brief swampers Remove springpoles first Observe kerf closely to determine if behavior of log corresponds to perdicted bind Insert wedges on compression side as soon as possible When double-bucking, move second sawyer from offside for the release cut------------------------------------------------------------------------------Trail Work Leader must have a Trailhead Communication Plan (TCP) and an Emegancy Action Plan (EAP) for the trail crew.Communication equipment as specified in TCPIf trail crew divides into multiple teams, a copy of the TCP and EAP must accompany each team.Two-way radios and / or mobile phones for communication between sperate teamsCheck in and check out before and after project in accordance with TCPIf an EAP is acctivated contact BCHW and land management agency | I V –NegligibleI V –Negligible-------------I I I -Marginal | C - Occa-sional D - Seldom-------------D - Seldom | 4 – Low4 – Low--------------4 – Low |
| Felling Operations---------------------------------------------------------Securing Felling AreaFelling Cut | Serious potential injury to sawyer(s), crew or public trail usersStruck by snags, down trees, widow makersRot on the stump affecting holding woodTripping/struck due to poor escape route-----------------------------------------------Serious potential injury to sawyer(s), crew or public trail usersPotential fatal injury to sawyer(s). crew or public trail usersSerious potential injury to sawyer(s), crew or public trail usersSerious fatal injury to sawyer(s), crew or public trail users | SIZE UP (Situational Awareness)From a short distance, walking 360 degrees around tree, look up for widow makers, conk, slipping bark. Don’t move from the escape route towards the felled tree until all movement has stopped.Detect solid or sponge wood by “sounding” with falling axe. If needed bore into stump looking for coloring in the sawdustAlways look for and clear out escape routes 45 degrees away from tree. Walk out both the escape route and where the tree is to be felled looking for such hazards as snags, down logs, jill pokes, rocks, stumps, hang ups and low hanging limbsSituational Awareness/Individual Complexity Form--------------------------------------------------------------------The faller has the responsibility and authority to identify, secure, and manage the felling area. A MINIMUM OF 2-1/2 TIMES THE HEIGHT OF MATERIAL BEING FELLED IN ALL DIRECTIONS MUST BE SECURED. No one shall be allowed in the secured felling area without the authorization of the fallerIn addition on the entire downhill side will be included in the secure area on hillsides with steep slopes where material can roll for long and unpredictable distances A safety zone will be established outside the secured area and everyone must remain there until all felling is completed and the "all clear" has been given by the fallerOne person shall be appointed and responsible to maintain reliable communications with the faller and the crew members in the safety zone to ensure nobody enters the secured falling areaA road or trail guard will be set up on all roads and trails entering and leaving the secured felling area Effective communications must exist between the guards and the fallerBefore leaving the felling area the faller needs to ensure that no hazards remain such as hang ups, unusable logs, or other dangersTo protect the lives of employees, contractors, and the public it is the responsibility of the faller to see that these standards are firmly adhered to It is the responsibility of the supervisors and all employees engaged in chainsaw operations to understand and follow these established standardsMake the horizontal cut of the face 1/3" the diameter of the stumpAlways match the sloping cut and horizontal cut together, use 2" stump shot (this means make the back cut 2" higher than the horizontal cut Look up as you make all cuts to treeUse a wedge on all back cuts unless the tree has a heavy lean, or the tree is to small to insert a wedge.Use adequate felling axe for fellingAlways lookup after each time of wedge has been driven into treeBe aware of wind direction and speedAlways leave a minimum of 2" of holding wood across the stump.(DEPENDING ON THE SIZE OF TREE BEING FELLED AND OR CONDITION OF TREE BEING FELLED) Do not cut corner woodAlways give a warning shout before you start the back cut, NEVER BE AFRAID TO SAY NO |  I - Catastro-phic---------------- l –Catastro-phic l – Catastro-phic | D -Seldom----------------D –SeldomD –Seldom | 2 -High----------------2 –High2 – High |
| **10. LINE OFFICER SIGNATURE**      | **11. TITLE**BCHW President | **12. DATE**      |
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| **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 official approving the JHA. The official 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 suspected 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.Work Leaderc. 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 values for Severity, Probability and the overall Risk Assessment Code (RAC) will correspond to the Risk Management Matrix. When completing this form using a computer, simply use the pull down feature to populate these cells. If completing by hand, use the Risk Matrix to determine these values.**Block 11**: The JHA must be reviewed and approved by the appropriate manager / supervisor as identified in the Risk Decision Authority Matrix.**Blocks 12 and 13**: 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.**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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