Risk Assessment - Tree Felling and Cross Cutting with Chainsaws

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Assessment Approver: Sarah Clayton

This Risk Assessment also covers pruning using long-reach pole saws. To be read in conjunction with Risk Assessment EST-45594-45 "Working as part of the Lineside Clearance or Drainage Teams".

Department: Lineside Clearance
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Lead Assessor: Paul Fuller (Lineside Clearance)
Team: Infrastructure Manager

Use of chainsaws

Type	Hazard Cause	Persons Affected	Control Measures	L S T Overall	Additional Control Measures	L S T Overall	Owner/Action
Health and Safety	Physical personal injury and/or injury to others. Incorrect use of equipment	Volunteers & Staff	1) CRITICAL - Elimination: Non-essential staff or volunteers not involved with the felling or cutting operations to be kept out of the working area. Appoint a 'watcher' if necessary and agree a method of communication between the two parties. - Effective 2) CRITICAL - Substitution: The need to work at heights should be eliminated or reduced so far as is reasonably practicable by ensuring that all work that can be done at ground level is done at ground level. - Effective 3) CRITICAL - Engineering: The chainsaw should be regularly serviced and maintained by an experienced person. - Effective 4) CRITICAL - Engineering: Switch off the machine when examining the cutting chain. - Effective 5) CRITICAL - Engineering: Ensure safe working distances (2.5 tree lengths when felling; 5m when cutting) and ensure this safe area is maintained at all times. - Effective 6) CRITICAL - Administrative: Only fully-trained, qualified and competent operators should use chainsaws, with their competency being recorded on the Portal. - Effective 7) CRITICAL - Administrative: Chainsaw users must NEVER work alone. - Effective 8) CRITICAL - Administrative: Ensure the chainsaw is in good working order before use. If it shows signs of defects, it must NOT be used until it is rectified. - Effective 9) CRITICAL - Administrative: Always undertake a safety briefing before the work takes place so everyone in the vicinity is aware of what is going on. - Effective 10) CRITICAL - Administrative: Also refer to Risk Assessment EST-45594-45 "Working as part of the Lineside Clearance or Drainage Teams", in particular the section regarding 'Using Chainsaws'. - Effective 11) CRITICAL - PPE: Correct PPE must be worn - including helmets with visor, chainsaw boots, trousers and gloves as well as hearing protection. - Effective 12) CRITICAL - PPE: A 'Forestry First Aid Kit' should be carried with the work group and ideally a first aider should always be present. - Effective	2 x 4 = 8 Medium - Risk to be minimised and controlled so far as is reasonably practical.	1) Elimination: Where any tree climbing operations need to be undertaken, this is to be done using contractors, not volunteers. - Effective 2) Administrative: Do not pick up or carry a chainsaw without permission of the operator. If you pick up the saw then ensure it has its guard in place and wear gloves. Hot exhaust areas can cause burns to unprotected hands. - Effective 3) Administrative: Ensure a 10 minute break is taken after every thank of fuel, and a 30 minute break after every second tank, to reduce the risk of fatigue. - Effective 4) Administrative: First Response Team are available to call if required : 07395 448213 - Effective	2 x 4 = 8 Medium - Risk to be minimised and controlled so far as is reasonably practical.	n/a
Health and Safety	Noise and Vibration risks Using powered machinery	Volunteers & Staff	1) CRITICAL - PPE: Use correct PPE - including ear defenders by the chainsaw users and people working close by. Others working on site should consider using ear plugs if necessary. - Effective 2) CRITICAL - PPE: Gloves should be worn to reduce HAVS risk. - Effective	2 x 2 = 4 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	None	n n n	n/a

Type	Hazard Cause	Persons Affected	Control Measures	L S T Overall	Additional Control Measures	L S T Overall	Owner/Action
Health and Safety	Exhaust fumes Emissions from petrol engines	Volunteers & Staff	1) CRITICAL - Elimination: Do not work in confined spaces. - Effective	1 x 2 = 2 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	None	n n n	n/a
Health and Safety	Release of, and/or ignition of petrol fumes Use of petrol machinery, especially during re-fuelling process.	Volunteers & Staff	1) CRITICAL - Elimination: Do not have naked flames near fuel at any times (smoking, vaping or bonfires, etc.). - Effective 2) CRITICAL - Engineering: Ensure the chainsaw is switched off and the engine is cool before attempting re-fuelling operations. - Effective 3) CRITICAL - Administrative: Keep fuel stored in secure containers away from fire sites, out of direct sunlight, away from water courses and the working area. - Effective 4) CRITICAL - Administrative: Observe COSHH assessments for fuel and two-stroke additive. - Effective	2 x 1 = 2 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	1) Administrative: Clear up any spillages immediately. - Effective	2 x 1 = 2 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	n/a
Health and Safety	Manual handling Including making repetitive movements	Volunteers & Staff	1) CRITICAL - Elimination: Follow correct manual handling procedures. - Effective 2) CRITICAL - Elimination: Ensure good posture at all times. Do not twist your upper body. - Effective 3) CRITICAL - Engineering: Use the lightest chainsaw available suitable for the job. - Effective 4) CRITICAL - Administrative: Do not carry more than it is safe and comfortable to do so, and ask colleagues for assistance if required. - Effective	2 x 2 = 4 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	1) Substitution: Alternate tasks if possible. - Effective 2) Administrative: Take regular breaks. - Effective	2 x 2 = 4 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	n/a
Health and Safety	Use of supplementary hand tools Additional tools which may be required for the task	Volunteers & Staff	1) CRITICAL - Administrative: Refer to EST-45594-45 "Working as part of the Lineside Clearance or Drainage Teams" risk assessment, particularly the section "Using Hand Tools" - Effective	2 x 2 = 4 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	None	n n n	n/a

Felling of trees

Type	Hazard Cause	Persons Affected	Control Measures	L S T Overall	Additional Control Measures	L S T Overall	Owner/Action
Health and Safety	Diseased trees Sudden shedding of branches. Collapse of tree. Unpredictable felling.	Volunteers & Staff	1) CRITICAL - Elimination: Do not fell trees with systemic disease which have a diameter greater than the qualified diameter of the chainsaw operator. - Effective 2) CRITICAL - Engineering: Take extra caution when working with ash trees. - Effective	2 x 3 = 6 Medium - Risk to be minimised and controlled so far as is reasonably practical.	None	n n n	n/a

Type	Hazard Cause	Persons Affected	Control Measures	L S T Overall	Additional Control Measures	L S T Overall	Owner/Action
Health and Safety	Personal injury Falling trees. Falling debris.	Volunteers & Staff	1) CRITICAL - Engineering: Ensure the safe and correct use of specialist tools to assist with felling operations, such as a felling lever, wedges and wood tongs which should be used where necessary. - Effective 2) CRITICAL - Administrative: Ensure safe working distances (2.5 tree lengths when felling; 5m when cross-cutting). Exclusion zone to be maintained by a 'watcher' if necessary. - Effective 3) CRITICAL - PPE: Correct PPE to be worn - including safety helmet and gloves. - Effective 4) CRITICAL - PPE: First aid kit to be carried/available at all times. - Effective	3 x 2 = 6 Medium - Risk to be minimised and controlled so far as is reasonably practical.	None	n n n	n/a

Working environmental factors

Type	Hazard Cause	Persons Affected	Control Measures	L S T Overall	Additional Control Measures	L S T Overall	Owner/Action
Health and Safety	Electrocution Shock from electric cables (overhead, underground or buried in undergrowth)	Volunteers & Staff	1) CRITICAL - Elimination: Check the working area for any exposed electric or power cables before starting work. - Effective 2) CRITICAL - Elimination: Ensure the weather conditions and wind direction will not affect the control of the felling direction. - Effective 3) CRITICAL - Elimination: Only fell trees parallel to or away from power lines (assume they are always live). - Effective 4) CRITICAL - Engineering: No trees to be felled if any part of the machine or the tree can come within two tree lengths of power lines. - Effective 5) CRITICAL - Administrative: Refer to the "Look Out! Look Up" booklet for a guide on where overhead power cables run alongside or across GWSR property. - Effective 6) CRITICAL - PPE: Do not handle any electrical equipment with wet hands (even with gloves on) as moisture significantly increases the risk of shock. - Effective	2 x 3 = 6 Medium - Risk to be minimised and controlled so far as is reasonably practical.	None	n n n	n/a
Health and Safety	Weather conditions Sunburn, sunstroke, dehydration, hypothermia.	Volunteers & Staff	1) CRITICAL - Elimination: Cancel tree felling operations if high winds or heavy rain is forecast. - Effective 2) CRITICAL - Elimination: Stop work if the weather conditions deteriorate, in particular with regard to wind speed and rain. - Effective 3) CRITICAL - Engineering: Carry water, waterproof clothing, hat and suncream for use if necessary. Protect against the weather. - Effective	2 x 1 = 2 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	None	n n n	n/a
Health and Safety	Damage to ecosystems and wildlife Felling trees inappropriately.	Volunteers & Staff	1) CRITICAL - Administrative: Check for nesting birds prior to starting work. - Effective 2) CRITICAL - Administrative: Check for animal or insect nests which may be affected. - Effective 3) CRITICAL - Administrative: Do not use machines in nesting areas during nesting season. - Effective 4) CRITICAL - Administrative: Do not fell trees during growing season, unless there is an operational requirement to do so. - Effective 5) CRITICAL - Administrative: Avoid contact with livestock. - Effective	2 x 1 = 2 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	None	2 x 1 = 2 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	n/a

Type	Hazard Cause	Persons Affected	Control Measures	L S T Overall	Additional Control Measures	L S T Overall	Owner/Action
Health and Safety	Biohazards Skin irritation, allergic reaction, disease (including Lyme disease, Tetanus and Weil's disease)	Volunteers & Staff	1) Administrative: Be familiar with and check for potentially poisonous plants. - Effective 2) CRITICAL - Administrative: Check for bees nests or wasps nests in trees in and around the working area before starting work. - Effective 3) CRITICAL - Administrative: Advise fellow volunteers if you have any known allergies and what medication you carry. - Effective 4) CRITICAL - Administrative: Stop work and seek medical advice if you start to feel unwell during, or after a session. - Effective 5) CRITICAL - PPE: Cover arms and legs during all felling and chainsaw operations. - Effective 6) CRITICAL - PPE: Clean and cover any skin lacerations prior to starting works. - Effective 7) CRITICAL - PPE: Wash hands before eating and drinking. - Effective	2 x 2 = 4 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	None	n n n	n/a
Health and Safety	Working near the highway Risk of trees falling onto roadway or passing car	Public	1) CRITICAL - Elimination: If tree felling is required to be undertaken near to the public highway, a specialist contractor must be used with the appropriate insurances. - Effective	1 x 3 = 3 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	None	n n n	n/a
Health and Safety	Slips trips and falls Undulating uneven terrain. Tools and general housekeeping rules.	Volunteers & Staff	1) CRITICAL - Administrative: All persons working in the area must help keep the site, equipment and tools tidy. - Effective 2) CRITICAL - Administrative: Have a clear escape route planned for when felling trees with a chainsaw, in case of an emergency. - Effective 3) CRITICAL - Administrative: Be conscious of the surrounding area - holes, ditches, slopes, stumps etc. - Effective 4) CRITICAL - Administrative: Mark or cover any particular hazards. - Effective 5) CRITICAL - PPE: Wear appropriate footwear. - Effective	2 x 2 = 4 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	None	n n n	n/a
Health and Safety	Working in remote areas Working where trees need to be felled at any location on GWSR property	Volunteers & Staff	1) CRITICAL - Administrative: Ensure the Infrastructure Manager is aware of planned tree felling and has given permission for the works to be carried out. - Effective 2) CRITICAL - Administrative: Ensure you have a working mobile phone with you in case of emergency. - Effective 3) CRITICAL - Administrative: An entry should be made on the Ops Daily Notices of any planned tree felling works. - Effective 4) CRITICAL - Administrative: Chainsaw users must NEVER work alone. - Effective 5) CRITICAL - Administrative: Be aware of the nearest access point for emergency services should they be needed. - Effective	2 x 2 = 4 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	None	n n n	n/a

Risk to the Operational Railway

Type	Hazard Cause	Persons Affected	Control Measures	L S T Overall	Additional Control Measures	L S T Overall	Owner/Action
Health and Safety	Working near a live railway line Tree falling across the tracks and being struck by passing train	Everyone	1) CRITICAL - Elimination: Tree felling which needs to be taking place where there is a risk of any part of the tree encroaching within 6ft of the running line must not be undertaken whilst the line is live. Work can only be done under a possession or a line block or on a non-operational day with the appropriate blocks in place. - Effective 2) CRITICAL - Engineering: Only fell trees parallel to or away from the operational line. - Effective 3) CRITICAL - Administrative: Ensure the weather conditions and wind direction will not affect the control of the felling direction. - Effective	2 x 2 = 4 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	None	n n n	n/a

COSHH Assessments

The following COSHH assessments are applicable to this risk assessment:

• COSHH-43991-20 - Petrol (Euro95 unleaded)

Reference Documents

• AFAG301 Using petrol-driven chainsaws leaflet - HSE publication, also available on the Volunteer Portal, along with other HSE publications relevant to the safe use of chainsaws.

Ends