Crane Safety for Tree Crews

When tree workers are working on a job site utilizing a crane to remove trees, safety and efficiency are most important.

1. Site Assessment:

1. Assess the site for potential hazards, such as **overhead power lines, structures, pinch points, hard targets, soft targets, ground debris**.
2. Ensure the **ground is stable** and can support the crane's weight.

2. Equipment Inspection:

1. Conduct a thorough **Pre- Op Inspection** of the crane and all associated equipment to ensure they are in good working condition.
2. Check for any signs of **wear, damage, or malfunction, missing parts**.

3. Qualified Personnel:

1. Ensure that all personnel involved are **qualified and trained** to operate the crane and perform tree removal tasks. **Crane Operator, Arborist Aloft, Arborist in Charge, Ground Worker, Signal Person**

4. Permits and Regulations:

1. Verify that all necessary **permits and permissions** have been obtained.
2. **Comply with local, state regulations** related to tree removal and crane operation.

5. Communication:

1. Establish clear communication protocols between the crane operator, ground crew, and tree workers.
2. Use **hand signals, radios**, or other effective communication methods.

6. Safety Gear:

1. Ensure that all personnel are wearing appropriate personal protective equipment (PPE), including **helmets, gloves, Z87 safety glasses, harnesses, hiviz clothing**

7. Rigging and Attachments:

1. Inspect all **rigging, slings, and attachments** for wear and tear.
2. Ensure proper rigging techniques are used to secure the tree and its branches

8. Tree Assessment:

1. Evaluate the tree's **condition 360 degrees , including tree size, weight, and structural integrity.**
2. Identify any potential hazards such as dead branches or decay.

9. Clearance Zones:

1. **Establish clear drop zones** for landing sections of the tree.
2. Ensure that no personnel or equipment are within these zones when load is suspended above.

10. Emergency Response:

1. Have a **well-defined emergency response plan** in place, including procedures for addressing accidents, injuries, or equipment failures.

11. Weather Conditions:

1. Monitor weather conditions. **wind speed and precipitation**, which can affect crane/load stability and effective load weight.

12. Proper Technique:

1. Ensure the **crane is setup level** according to manufacturer's specification with **necessary pads and dunnage.**
2. Use the crane to lift and lower tree sections carefully to prevent **dynamic force, swinging or sudden movements**.
3. **Avoid overloading** the crane's capacity.

13. Public Safety:

1. Consider the safety of nearby **pedestrians, vehicles, and neighboring properties**.
2. Use **barriers and warning signs** as necessary.

14. Post-Job Cleanup:

1. Clean up the job site thoroughly, **removing all debris and equipment**.
2. Restore the site to its original condition whenever possible.

15. Documentation:

1. Maintain records of equipment inspections, permits, and safety measures taken. **JSA, JHA, Lift Planning, Critical Lift 75%, Training Records**
2. Document any incidents or accidents for future reference.

16. Training and Continuing Education:

1. Ensure that workers **receive ongoing training** in tree removal and crane use.

By following this checklist and prioritizing safety, tree workers can carry out crane-assisted tree removal jobs with reduced risks and increased efficiency.

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- **Tree Care Industry Association (TCIA):** The TCIA is an industry association that provides resources, safety guidelines, and training for tree care workers. Their website and publications are valuable sources of information..
- **State/ City Regulations:** Depending on your location, there may be specific local or state regulations related to tree removal and crane operation. Check with your local government or relevant state agencies for specific requirements and permits.
- **Crane Manufacturer's Guidelines:** Consult the manufacturer's guidelines and recommendations for the specific crane equipment you are using. These guidelines will include information on safe operation and maintenance.
- **Training and Certification Programs:** NJ Crane Expert offers training and certification programs for tree care and crane operation safety. These programs often include comprehensive resources and guidelines.

Common Crane Hazards
There are many aspects of crane operation that can lead to accidents and injuries. Most reported accidents involving crane use in general construction/ demolition (not tree work) are listed below, in descending order of frequency:
• Contact with power lines causing electrocution hazards
• Overturns from exceeding load and radius limits
• Mechanical failures from lack of maintenance or inspection
• Caught-in, compressed or crushing hazards
• Struck-by hazards