

Greetings all. Today's Bulletin is about the **use of cranes in arboriculture**.

The crane industry acknowledges that while arborists may find cranes useful, their application in tree care should be approached with extreme caution.

Ignoring these concerns could lead to catastrophic accidents, property damage, and even fatalities.

But rather than burying our heads in the sand, it is essential to recognise that people will use cranes for this purpose, so they need to be aware of the risks and outline necessary precautions to mitigate them.

The Risks of Using Cranes in Arboriculture

Unlike construction sites where cranes operate in controlled environments with known load capacities, tree work is highly unpredictable.

Trees are organic, non-uniform structures with hidden weaknesses, decay, and unpredictable weight distribution. So when a crane lifts a tree section, it is not the same as lifting a prefabricated steel beam.

Sudden shifts in load weight due to internal rot or irregular branching can cause crane instability, potentially leading to tip-overs or boom failures.

Setting up a crane for arboricultural work also presents unique challenges. Ground conditions in tree removal sites are often uneven, soft, or obstructed by underground utilities.

If outriggers are not correctly positioned, the crane can become unstable under load, and weather conditions, such as high winds or wet ground, further increase the risks associated with lifting heavy tree sections.

The expertise required to safely integrate cranes into arboriculture is another concern.

While crane operators are highly skilled in lifting operations, they may not have the necessary arboricultural knowledge to assess the integrity of tree sections being lifted.

On the flip side, arborists may not have the specialised training required to safely rig loads for a crane or communicate effectively with the crane operator..

This gap in expertise can lead to miscalculations, increasing the likelihood of failure.

Additional Risks Include

1. [Falls from Height](#): The primary risk associated with the crane access method.
2. [Electrical Hazards](#): Contact with energised electric lines poses a significant risk.
3. [Falling Objects](#): Workers and bystanders may be struck by falling branches or debris.
4. [Wildlife Hazards](#): Biting or stinging hazards from insects or animals in the tree.

Precautions for Arborists Using Cranes

Given these risks, it is crucial for those who choose to use cranes in tree work to adopt stringent safety measures:

1. **Proper Training and Certification**
Any arborist involved in crane work should receive specialised training in crane-assisted tree removal. Likewise, crane operators should be familiar with arboricultural rigging techniques to ensure smooth coordination.
2. **Thorough Site Assessment**
Before a crane is brought onto a job site, a detailed evaluation of the ground conditions, tree stability, and surrounding structures must be conducted. The presence of underground utilities, potential obstructions, and emergency escape routes should all be considered.
[A documented site-specific risk assessment](#) must show that the crane access method does not create a greater risk than climbing the tree or using plant specifically designed to lift people (e.g. a cherry picker).
3. **Load Calculations and Pre-Planning**
Every lift should be pre-planned with weight estimations of tree sections based on species, density, and moisture content.

A miscalculation could result in exceeding the crane's capacity, leading to equipment failure

or tipping. Also ensure that there are no suspended loads over people at any time.

The toolbox talk before lifting begins is critical to establish the game plan.

4. **Separation of loads**

Multiple loads should not be slung vertically from a crane in one lifting operation, as this is considered a "high low load" or "Christmas tree load," this is banned in many jurisdictions and is especially dangerous. Never put multiple objects, chains and a person dangling with a chainsaw on the one hook.

5. **Use of Proper Rigging Techniques**

[Secure and balanced rigging is crucial](#) when cutting and lifting tree sections.

Dynamic loads can shift suddenly, so arborists must use industry approved rigging methods and ensure all equipment is rated for the intended loads.

6. **Weather and Environmental Considerations**

Wind speed, rain, and soil saturation must be taken into account before proceeding with a lift. Poor weather conditions can drastically increase the risk of accidents.

7. **Clear Communication and Coordination**

A well-established communication protocol between crane operators, ground crews, and arborists is essential. Miscommunication can result in improper lifts or unexpected load shifts, which can be deadly.

While cranes provide an efficient means of handling large tree removals, they accompany a level of risk that cannot be ignored.

The unpredictable nature of trees, combined with the complexities of crane operation, makes this practice inherently dangerous.

So, it's strongly recommended that arborists explore alternative methods before resorting to cranes. However, if cranes need to be used, they should only be operated under the strictest safety measures, with proper training, planning, and communication.

Failing to recognise these risks could lead to severe consequences, making it imperative to approach crane use in arboriculture with extreme caution and responsibility.

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