

Minimum Safety Equipment Requirements for Tower Access

Introduction

This document provides a guide to the minimum safety requirements for Clubs to ensure the protection of persons climbing towers on race track. The requirements of this document, excludes towers which are stair-well access or have a potential maximum fall of less than 1 metre. The Health and Safety at Work Act 2015 requires us to ensure all facilities are in a safe and healthy condition suitable for prevention of harm to workers and the public. To this end it is important that any facilities used by NZRB staff are maintained in a suitable condition what enables the elimination or minimisation of risk of harm.

Scope:

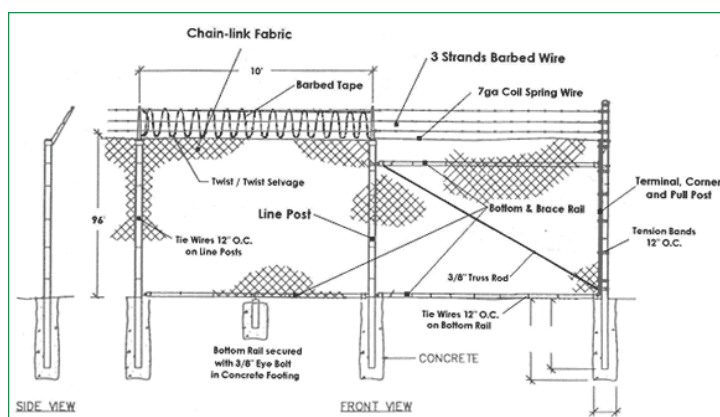
This document applies to all race venues and does not cover the personal protective equipment (PPE) requirements (this is covered in the New Zealand Racing Board Safe Tower Access Procedures).

Security of towers

Towers present a significant hazard of working at heights and a risk of fall from heights. This is increased by acts of public in attempting to access the towers for unauthorised use. This is a primary duty of care under section 37(1) of the Health and Safety at Work Act 2015 re; entering and exiting of premises must be safe from risk of harm.

Restriction of access is essential to prevent harm occurring to the public and other unauthorised persons. A number of methods can be used to prevent unauthorised access, and you should consider applying the controls that will either eliminate or minimise the risk(s), these include;

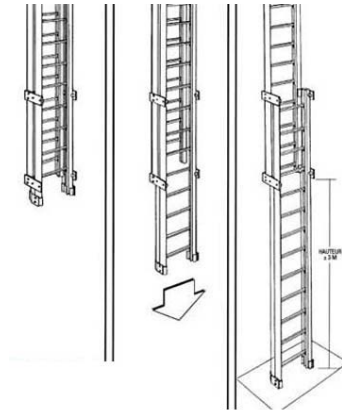
- **Security fencing** – this should be topped with barbed wire to discourage attempts to climb the fence and sign posted warning persons of no-unauthorised access, and potential for harm from fall injury. This is the preferred method as it prevents access to the towers and reduces the ability of unauthorised persons to access, cause damage, and undertake unsafe acts.



Temporary security / construction fencing is acceptable as long as the gating is secured with metal wire reo-ties. Access can be controlled by use of coded padlock or daisy chain locks where each party has their own lock however the first method is best as this requires the persons accessing to have obtained permission and the code.

Or

- **Removable / sliding ladders** – preventing access to the first section of a tower, or



When not in use it is good practice to ensure these ladders are retracted out of reach and locked to prevent ease of access without authority.

Or

- **Ladder locks**

These are covers which prevent persons being able to climb ladders by creating a physical barrier for the first 3 metres of a ladder. This also reduces the ability of a person to access a tower. This does not eliminate unauthorised persons from accessing the tower structure.



- **Signage** – appropriate signage should be placed on towers to advise the public and other persons of the restricted access and risks. These should be visual and well placed to allow people to easily see them and consist of both written instruction and images. It is

recommended signage is easily legible from 5 metres off the tower and placed at key access points.

The best option out of these is to use the security fencing as this will create a physical barrier between the tower and persons wanting unauthorised access to the tower. It is important that appropriate signage is displayed in all cases.

Ladders

- **Type**

Ladders need to be constructed of a suitable type of material and should be compliant to AS/NZS 1891 and either made of aluminium or steel. NZRB staff climbing these structures needs to be able to secure their personal fall arrest devices and fall prevention kits with surety this will hold in the event of accidental fall or rescue.

- **Securing of ladders**

Ladders must be properly secured to the structure. Use of string and rope is only acceptable for construction site temporary securing of ladders and is not considered suitable for tower ladders nor safe. Ladders must be secured using a flange plate or bolts which will securely hold it in place under load. *Use of the following is NOT considered safe practice;*

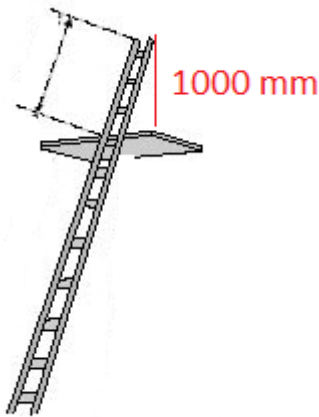
1. String or rope to tie ladders to structures, or
2. Cable ties, or
3. Gardening line etc.

- **Inspection**

Ladders should be inspected a minimum of annually this is to identify any potential defects and ensure the safety and health of those using them. A ladder inspection form has been included in Appendix A for your reference.

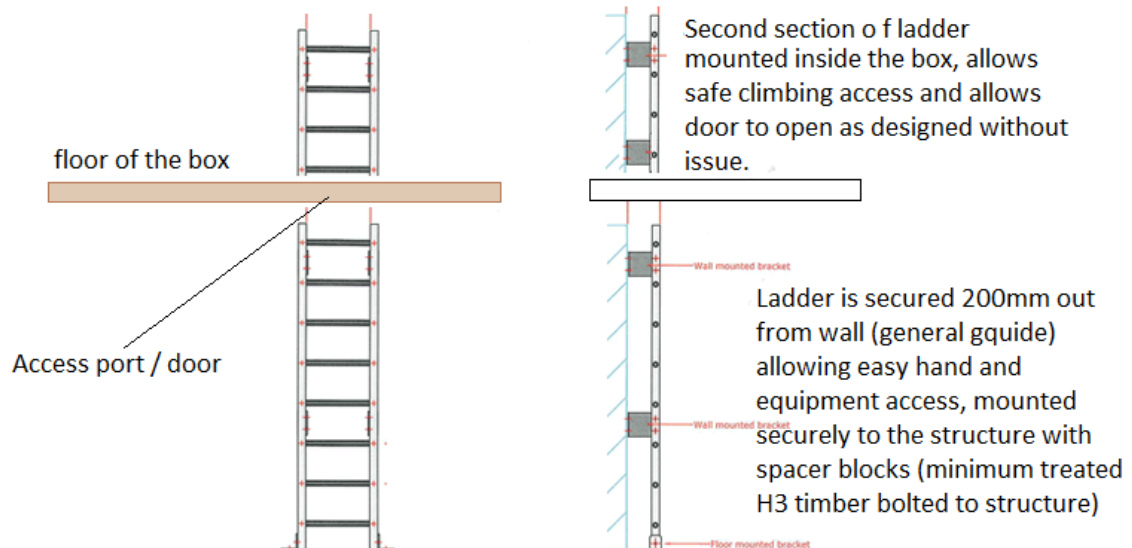
- **Step off points**

This is the section at the top of the ladder and is designed to provide a person climbing any ladder a safe means of exiting the ladder. The practice is an industry standard throughout construction which has been adopted into mainstream practice for all industries. We recognise this is not as easily performed where the access platform is inside a tower box.



What about where the ladder terminates at the box and accesses a trapdoor / access port?

Consider placing a second section of ladder inside the trap door area which will provide safe and easy access once the door is opened.



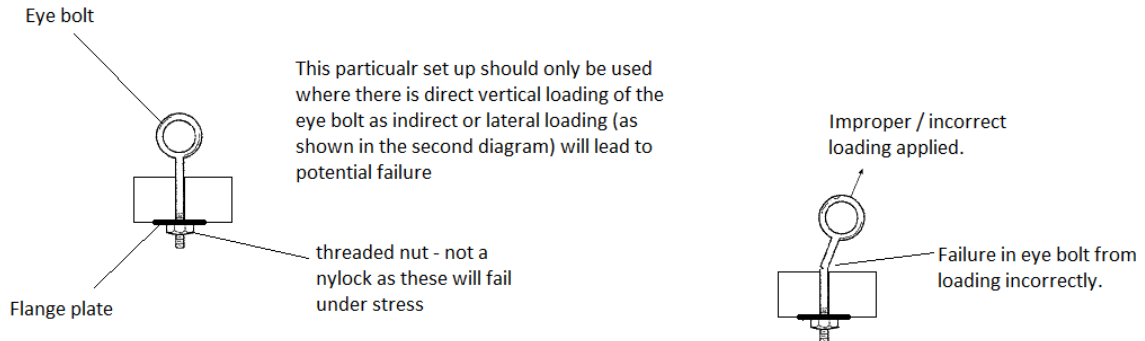
Attachment points

Part of the requirement of providing coverage for races is getting heavy equipment into the towers. This is achieved by hoisting the equipment into position as it is unsafe and not practicable to manually carry this equipment into place. Eye bolt provide a secure means of doing performing work on the towers safely.

Eye bolts should be placed at key intervals for the climber to safely attach to when climbing.



Eye bolts must be of the closed loop type as shown. Open loop types are prone to easy distortion and failure when placed under load – this means the climber can fall or equipment can be dropped causing significant risk of injury, death, and damage. When installing these make sure you have flange plates in the set up if penetrating directly through the structure as shown – these are designed to prevent the bolt pulling out through the structure when under load.



Fitting eye – bolts – must be flanged on both sides to prevent distortion and pull through of the bolt when loaded. They can be used on both wooden and steel structures. Any eye bolts installed should be stamped as load rated to 150 kg or greater.



Important Note: Do not use cupboard door or sliding door handles as attachment points when installing on the tower. These do not meet any safety requirements and will lead to someone being seriously hurt when they fail if loaded.



Tower maintenance;

It is important for health reasons that any tower is maintained in a fit for use state, not only for safety but also to prevent birds from entering the towers. Bird droppings present a serious health risk carrying serious illness that can have long term effect on the health of anyone.

To help prevent birds using the towers for nesting some simple and practicable steps include (but are not limited to);

1. Placing polythene (Heavy duty) around the interior of the box of the tower. This will prevent the birds from having a perch on which to nest.
2. Preventing entry into the tower by closing off gaps which birds may be observed to be using to enter the tower with either expanding urethane foam or scrunched chicken wire.

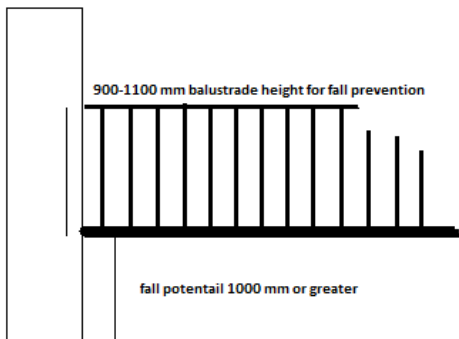
What is a tower is deemed unusable?

As per standing agreements with all clubs, where a tower is identified unsafe or unhealthy for use alternative means should be made such as a certified and current elevated work platform (EWP). Persons who use the EWP should be suitably trained and competent. The person in charge of the operation of the EWP is recommended to hold either a Silver Card in EWP or have completed NZQA EWP unit standards 23960, and 23961, 23963, 23964, depending on the type of EWP being operated. This person should be familiar with the type of the EWP being used. In addition to the above there is a minimum requirement under the WorkSafe 2014 Safe working at heights and Elevated Work Platform Guides.

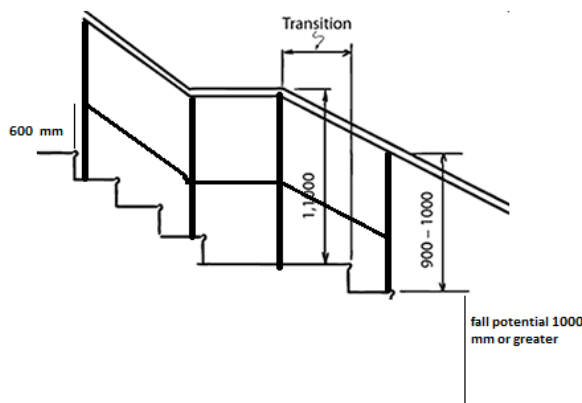
Minimum Safety Requirements for Barriers and Edge Protection

Falls present a significant risk at any location where there is a potential for falls equal to or greater than 1000 mm (1 metre). Under the Building Code F4.3.2 Roofs with permanent access shall have barriers provided and barriers must be;

- (a) Be continuous and extend for the full extent of the hazard,
This means the entire length of the distance to which a person is exposed to a fall hazard must be barriered off to prevent exposure to the fall hazard, where the fall potential is equal to or greater than 1000 mm (1 metre)
- (b) Be of appropriate height,
Barriers and balustrades should be between 900 mm and 1100 mm in height – refer local by-law requirements,
- (c) Be constructed with adequate rigidity,
- (d) Be of adequate strength to withstand the foreseeable impact of people and, where appropriate, the static pressure of people pressing (leaning) against them,
- (e) Be constructed to prevent people from falling through them (this means gaps in the railing and fencing if designed to prevent children accessing or being exposed to a fall hazard should have appropriate (non-climbable) mid rail sections. *E.g. vertical rails should be placed to prevent persons falling between them*



Under section F4 of the Building Code the above also applies where a there is a change in level and suitable hand rails must be provided to prevent exposure to potential falls of 1000 mm or more. *E.g. mid rail is placed at approx. 600 mm.*



Additional references available upon request:

- NZRB maintain a set of safe working practices guide for Race Towers
- NZRB Safe operating of EWP
- NZRB Equipment Hoisting Procedures