

RISK ASSESSMENT

Location: 3 Maruata Road - Glenbervie Forest - Whangarei

RISK	HAZARD ORIGIN	CAUSAL FACTOR (1)	Potential Casualties (2)	CONTROL MEASURES
Slipping or	Obstacles on	Env.	A	Pathways cleared from
stumbling	ground (roots,		low	obstacles
	dead branches)			Regular maintenance
	Slipping on wet	Env.	A	Warning sign at the entry to the
	ground	D 1	low	park
Fall	Ignorance of	People	SU	Safety briefing compulsory for
	safety techniques		high	each user, each visit
				Assessment of competence by
				staff during the practice and test circuit
	User is stressed	People	U	Staff to reassure, help and
	Peer pressure	reopie	low.	assist
	(e.g. forcing user		low.	Maximum 2 people per
	to take part)			platform/1 person per activity
	to take part)			Escape routes
	User is tired	People	U	Rest areas provided between
		1	low	circuits
				Staff to advise on circuits' level
				of difficulty
				Escape routes to avoid the
				difficult activities
				Supplementary information to users with special needs
	User's lack of	People	U	Safety briefing, practice and
	understanding	_	high	test circuit before each session
				Use of pictograms
				understandable by all
				Coloured marks on safety lines
				and flying fox wires
				Additional signage and/or staff
				supervision for technical
				activities



the pulley		Income at	Do and :	T T	The multiple many ded in
Failure of safety line Failure of safety line Failure of safety line Belaying on guy wire Belaying on tail ends Falling objects Falling		Incorrect use of	People	U	The pulley provided is
Safety briefing before each session Specific introduction to the use of pulley during practice and test circuit Coloured marks on flying fox wires Karabiners to be clipped on flying fox wires sa pulley backup Belaying on guy wire Belaying on tail ends ends Falling objects Fall		the pulley		IOW	
Session Specific introduction to the use of pulley during practice and test circuit Coloured marks on flying fox wires Karabiners to be clipped on flying fox wires as pulley backup					• •
Failure of safety line height unsuitable Faulty fastening system Belaying on guy wire Belaying on tail ends support trees Dead branches					, -
Failure of safety line Failure of safety line height unsuitable Belaying on guy wire Belaying on tail ends Iow Falling objects Falling objects Use of unsuitable support trees Use of unsuitable lequ. Dead branches Env. A Annual tree health assessment Pruning of support trees and adjacent trees Object falling from users Object falling from users Object falling from users Pulley or People A lanyards cannot be unfastened by user Cameras and cell phones not allowed on circuits Pulley or People A Lanyards cannot be unfastened by user Cameras and cell phones not allowed on circuits Pulley or People A Lanyards cannot be unfastened by user Captive pins fitted on karabiners Unsuitable PPE Equ. U U Staff trained to check PPE PPE checked on regular basis Maintenance recorded on PPE register Large person sliding out of harness Equipment risks Construction material not suitable for the Equipment low structural design by qualified engineer					~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
Falling objects Falling objects Falling objects Palling objects Falling objects Palling objects Falling objects Falling objects Falling objects Object falling from users Object falling from users Object falling from users Pulley or karabiner dropping Farabiner Equ. Iow Summing at reception safety by user dropping Palley or karabiner Equ. Iow Safety by from users Pele (Personal Protection Equipment) risks Pele (Personal Large person sliding out of harmess) Equipment risks Construction Safety line height unsuitable support trees and aligned by user captive pins fitted on karabiners Equ. U Summing at reception safety by user Captive pins fitted on karabiners Pele (Personal Large person sliding out of harmess) Equipment risks Construction Safety fores and support trees on sliding out of harmess Equipment risks Construction Safety fores and support trees on support safety by user Captive pins fitted on karabiners Construction Safety briefing Captive pins fitted on karabiners Equipment risks Construction Safety briefing Captive pins fitted on karabiners Equ. U Staff trained to check PPE PPE checked on regular basis maintenance recorded on PPE register Compusory chest harness for large users. Equipment risks Construction Material not suitable for the suitable for the suitable of suitable engineer					
Falling objects A Annual tree health assessment Prunning objects objection objection objection objection objection objection objection object					
Failure of safety line Failure of safety line Failure of safety line Failure of safety line Safety line height unsuitable Faulty fastening system Belaying on guy wire Belaying on tail ends Belaying on tail ends Belaying on tail ends Belaying on tail ends Falling objects Falling objects Falling objects Falling objects Use of unsuitable Equ. SU Sccuring all tail ends Iow Scuring all tail ends Iow Calculation notes and structural design by qualified engineer. A Annual tree health assessment Calculation notes and structural design by qualified engineer. Dead branches Env. A Annual tree health assessment Pruning of support trees and adjacent trees Object falling from users Object falling People A Warning at reception Safety briefing Cameras and cell phones not allowed on circuits Pulley or People A Lanyards cannot be unfastened by user Captive pins fitted on karabiners Protection Equipment) risks PPE (Personal Protection Equipment) Falling out of harness Equipment risks Construction Material not suitable for the Support trees Captive pins fitted on PPE register Compulsory chest harness for large users. Equipment risks Construction Material not suitable for the Support trees Captive pins fitted on Support trees and Support trees Captive pins fitted on Required to Compulsory chest harness for large users.					
Failure of safety line Safety line height unsuitable Faulty fastening system Belaying on guy wire Belaying on tail ends Use of unsuitable support trees Dead branches Dead branches Dead branches Dead branches Env. A low Pruning of support trees and adjacent trees and adjacent trees and adjacent trees and adjacent trees Object falling from users Object falling People A karabiner Equ. low day user Pulley or karabiner dropping Pepe (Personal Protection Equipment) risks Damaged PPE Equ. U SU Warning sign and blocking device on accessible guy wires Securing all tail ends low Annual tree health assessment Calculation notes and structural design by qualified engineer. Annual tree health assessment Calculation notes and structural design by qualified engineer. A nanual tree health assessment Calculation notes and structural design by qualified engineer. A nanual tree health assessment Pruning of support trees and adjacent trees A nanual tree health assessment Calculation notes and structural design by qualified engineer. A nanual tree health assessment Calculation notes and structural design by qualified engineer. A nanual tree health assessment Calculation notes and structural design by qualified engineer. A nanual tree health assessment Calculation notes and structural design by qualified engineer. A nanual tree health assessment low Calculation notes and structural design by qualified engineer. Users to use only the PPE provided by AFL. Users to use only the PPE per checked on regular basis Maintenance recorded on PPE register Large person sliding out of harness Equipment risks Construction material not unsuitable for the Nama device on accessible and structural design by qualified engineer					
Failure of safety line Failure of safety line height unsuitable Faulty fastening system Belaying on guy wire Belaying on tail ends Falling objects Fallin					
Failure of safety line Failure of safety line Failure of safety line Safety line height unsuitable Faulty fastening system Belaying on guy wire Belaying on tail ends Use of unsuitable support trees Bead branches Dead branches Object falling from users Pulley or karabiner dropping Per (Personal Protection Equipment) risks PPE (Personal Protection Equipment risks Construction Large person sliding out of harness Equipment risks Construction Equipment risks Equipment risks Construction Equipment risks Equipme					
Failure of safety line leight unsuitable Faulty fastening system Belaying on guy wire Belaying on tail ends ends Falling objects Falling					
line					_
Safety line height unsuitable Faulty fastening system Belaying on guy wire Belaying on tail ends Use of unsuitable Dead branches Object falling from users Object falling or users Pulley or karabiner dropping Protection Poer (Personal Protection) Poer (Personal Protection) Equipment) risks Pulay or large person sliding out of harness Pequipment risks Construction material not suitable unsuitable support trees Equipment risks Construction material not suitable lends Faulty fastening system Regular maintenance Regular maintenance Regular maintenance Negular maintenance Regular maintenance A purp sign and blocking device on accessible guy wires Su Securing all tail ends Annual tree health assessment Calculation notes and structural design by qualified engineer		•	Equ.		
Safety line height unsuitable Faulty fastening system Belaying on guy wire Belaying on tail ends ends Falling objects Falling objects Use of unsuitable support trees Dead branches Dead branches For users Object falling from users Pulley or karabiner dropping Per (Personal Protection Equipment) risks Pulle yor Alarabiner and the surabiner dropping Per (Personal Protection Equipment) risks Equipment risks Equipment risks Construction material not suitable system Equipment risks Equipment risks Equipment risks Equipment risks Regular maintenance Auxoring sign and blocking device on accessible guy wires Securing all tail ends Annual tree health assessment Calculation notes and structural design by qualified engineer. A Annual tree health assessment Pruning of support trees and adjacent trees Warning at reception Safety briefing Cameras and cell phones not allowed on circuits Language and blocking Warning sign and blocking device on accessible guy wires Scuring all tail ends Annual tree health assessment Calculation notes and structural design by qualified engineer		line		low	_
Unsuitable Faulty fastening system Belaying on guy wire Belaying on tail ends Belaying on ta					-
Faulty fastening system Belaying on guy wire Belaying on tail ends Falling objects Falling objects Falling objects Falling objects Dead branches Object falling from users Pulley or karabiner dropping People karabiner Drung or dropping People (Brosonal Protection Equipment) risks Pequipment risks Large person sliding out of harness Equipment risks Equipment risk					Regular maintenance
System Belaying on guy wire Equ. SU Warning sign and blocking device on accessible guy wires		unsuitable			
System Belaying on guy wire Equ. SU Warning sign and blocking device on accessible guy wires		77 1. 6			
Belaying on guy wire Equ. Iow device on accessible guy wires					
wire Belaying on tail ends Falling objects Use of unsuitable support trees Dead branches Object falling from users Pulley or karabiner dropping Perotection Equipment) risks PPE (Personal Protection Equipment) risks Construction Equipment risks Construction Equipment risks Vise of unsuitable ends Equ. S U S Curing all tail ends S U Securing all tail ends Annual tree health assessment Calculation notes and structural design by qualified engineer. A Annual tree health assessment Pruning of support trees and adjacent trees A Warning at reception Safety briefing Cameras and cell phones not allowed on circuits Pulley or People A Lanyards cannot be unfastened by user Captive pins fitted on karabiners Unsuitable PPE Equ. U Staff trained to check PPE PPE checked on regular basis Maintenance recorded on PPE register Large person Sliding out of harness Equipment risks Construction material not suitable for the Iow S U Technical expertise and structural design by qualified engineer		•	Г	CII	XX7 · · · 111 1·
Belaying on tail ends Falling objects Use of unsuitable support trees Dead branches Object falling from users Pulley or karabiner dropping Per (Personal Protection Equ. Damaged PPE Large person sliding out of harness Equ. Damaged PPE Large person sliding out of harness Equ. Damaged PPE Large person sliding out of harness Equ. Damaged PPE Equ. Damaged PPE Large person sliding out of harness Equ. Damaged PPE Equ. Damaged PPE Equ. Damaged PPE Large person sliding out of harness Equipment risks			Equ.		
Falling objects Falling objects Use of unsuitable support trees Dead branches Object falling from users Object falling from users Pulley or karabiner dropping PPE (Personal Protection Equipment) risks Pamaged PPE Large person sliding out of harness Equipment risks Construction Equ. Dadd branches Equ. A chanual tree health assessment Calculation notes and structural design by qualified engineer. A chanual tree health assessment Calculation notes and structural design by qualified engineer. A chanual tree health assessment Pruning of support trees and adjacent trees Warning at reception Safety briefing Cameras and cell phones not allowed on circuits Paulley or karabiner Equ. low by user Captive pins fitted on karabiners Users to use only the PPE provided by AFL. Equ. U Staff trained to check PPE PPE checked on regular basis Maintenance recorded on PPE register Large person sliding out of harness Equipment risks Construction material not suitable for the Equ. S U Technical expertise and structural design by qualified engineer			Г		<u> </u>
Falling objects Use of unsuitable support trees Support t			Equ.		Securing all tail ends
support trees Support trees	E 11' 1' '		Г		A 1, 1, 1,1
Dead branches Dead branches Dead branches Dead branches Env. A Annual tree health assessment Pruning of support trees and adjacent trees Object falling from users Object falling from users People A Warning at reception Safety briefing Cameras and cell phones not allowed on circuits Pulley or karabiner dropping People A Lanyards cannot be unfastened by user Captive pins fitted on karabiners Captive pins fitted on karabiners PPE (Personal Protection Equipment) risks Damaged PPE Equ. U Users to use only the PPE provided by AFL. Equipment or brain trained to check PPE PPE checked on regular basis Maintenance recorded on PPE register Large person sliding out of harness Equipment risks Construction material not suitable for the Dance design by qualified engineer. A Compulsory chest harness for low structural design by qualified engineer	Falling objects		Equ.		
Dead branches Dead branches		support trees		IOW	
Dobject falling from users		D 11 1	Б		- , ,
Object falling from users Object falling from users Object falling from users Pulley or People A Lanyards cannot be unfastened allowed on circuits Pulley or Requ. Iow by user Captive pins fitted on karabiners PPE (Personal Protection Equipment) risks Damaged PPE Equ. U Users to use only the PPE Iow provided by AFL. Equipment) risks Damaged PPE Equ. U Staff trained to check PPE Iow PPE checked on regular basis Maintenance recorded on PPE register Large person sliding out of harness Equipment risks Construction material not suitable for the Equ. S U Technical expertise and structural design by qualified engineer		Dead branches	Env.		
Object falling from users Object falling out of harness Equipment risks Object falling out of harness Object falling out of suitable People A Lanyards cannot be unfastened by user Captive pins fitted on karabiners Unsuitable PPE Equ. Users to use only the PPE provided by AFL. Staff trained to check PPE PPE checked on regular basis Maintenance recorded on PPE register Large person sliding out of large users. Equipment risks Construction material not suitable for the Object falling Safety briefing Cameras and cell phones not allow allowed on circuits Equipment passed that the provided by user Captive pins fitted on hards and captive pins fitted on				low	
from users Safety briefing Cameras and cell phones not allowed on circuits		01: + 6 11:	D 1		· ·
Cameras and cell phones not allowed on circuits Pulley or karabiner Equ. low by user Captive pins fitted on karabiners PPE (Personal Protection Equipment) risks Damaged PPE Equ. U U Staff trained to check PPE low PPE checked on regular basis Maintenance recorded on PPE register Large person sliding out of harness Equipment risks Cameras and cell phones not allowed on circuits Lanyards cannot be unfastened by user Captive pins fitted on karabiners Users to use only the PPE provided by AFL. Staff trained to check PPE PPE checked on regular basis Maintenance recorded on PPE register Large person sliding out of low large users. Equipment risks Construction material not suitable for the low structural design by qualified engineer			People		-
Pulley or karabiner dropping Equ. low by user Captive pins fitted on karabiners PPE (Personal Protection Equipment) risks Equipment risks Equipment risks Equipment risks Construction Equ. Equ. U U Staff trained to check PPE PPE checked on regular basis Maintenance recorded on PPE register Large person sliding out of harness Equipment risks Construction Equ. S U Technical expertise and structural design by qualified engineer		110111 users		10W	
Pulley or karabiner Equ. low by user Captive pins fitted on karabiners PPE (Personal Protection Equipment) risks Damaged PPE Equ. U Users to use only the PPE provided by AFL. Equipment) risks Damaged PPE Equ. U Staff trained to check PPE pPE checked on regular basis Maintenance recorded on PPE register Large person sliding out of harness Equipment risks Construction Equ. S U Technical expertise and material not suitable for the structural design by qualified engineer					•
karabiner dropping Equ. low by user Captive pins fitted on karabiners PPE (Personal Protection Equipment) risks Damaged PPE Equ. U Users to use only the PPE provided by AFL. Equipment) risks Damaged PPE Equ. U Staff trained to check PPE low PPE checked on regular basis Maintenance recorded on PPE register Large person sliding out of harness Equipment risks Construction material not suitable for the Ray U Compulsory chest harness for low large users. S U Technical expertise and structural design by qualified engineer		D 11	D 1		
dropping PPE (Personal Protection Equipment) risks Damaged PPE Equ. U Users to use only the PPE provided by AFL. Equipment) risks Damaged PPE Equ. U Staff trained to check PPE PPE checked on regular basis Maintenance recorded on PPE register Large person sliding out of harness Equipment risks Construction material not suitable for the Captive pins fitted on karabiners U Users to use only the PPE provided by AFL. Compulsory check harness for large users. S U Technical expertise and structural design by qualified engineer			_		-
PPE (Personal Protection Protection Equipment) risks Damaged PPE Equ. U Users to use only the PPE provided by AFL. Equipment) risks Damaged PPE Equ. U Staff trained to check PPE PPE checked on regular basis Maintenance recorded on PPE register Large person sliding out of harness Equipment risks Construction material not suitable for the Rarabiners U Users to use only the PPE provided by AFL. U Compulsory checked on regular basis Maintenance recorded on PPE register Large person sliding out of low large users. Equipment risks S U Technical expertise and structural design by qualified engineer			Equ.	low	
PPE (Personal Protection Equipment) risks Damaged PPE Equ. Users to use only the PPE provided by AFL. Use		dropping			
Protection Equipment) risks Damaged PPE Equ. Damaged PPE Equ. Equ. U Staff trained to check PPE low PPE checked on regular basis Maintenance recorded on PPE register Large person sliding out of harness Equipment risks Construction material not suitable for the Su Technical expertise and structural design by qualified engineer	DDE (D	**	_		
Equipment) risks Damaged PPE Equ. U Staff trained to check PPE PPE checked on regular basis Maintenance recorded on PPE register Large person sliding out of harness Equipment risks Construction material not suitable for the Damaged PPE Equ. U Compulsory chest harness for large users. S U Technical expertise and structural design by qualified engineer		Unsuitable PPE	Equ.	_	
low PPE checked on regular basis Maintenance recorded on PPE register Large person sliding out of harness Equipment risks Construction material not suitable for the low PPE checked on regular basis Maintenance recorded on PPE register U Compulsory chest harness for large users. S U Technical expertise and structural design by qualified engineer					
Equipment risks Construction material not suitable for the Maintenance recorded on PPE register U Compulsory chest harness for large users. S U Technical expertise and structural design by qualified engineer	Equipment) risks	Damaged PPE	Equ.		
Equipment risks Construction material not suitable for the Targe person Equ. U Compulsory chest harness for large users. Bequipment risks Technical expertise and structural design by qualified engineer				low	· ·
Large person sliding out of harness Equipment risks Construction material not suitable for the Equ. U Compulsory chest harness for large users. S U Technical expertise and structural design by qualified engineer					
sliding out of harness Equipment risks Construction material not suitable for the SU Technical expertise and structural design by qualified engineer			_		Č
Equipment risks Construction material not suitable for the Equ. S U Technical expertise and low structural design by qualified engineer			Equ.		_ •
Equipment risks Construction Equ. S U Technical expertise and structural design by qualified engineer		_		low	large users.
material not low structural design by qualified engineer					
suitable for the engineer	Equipment risks		Equ.		
				low	
					•
activity Components to industrial		activity			Components to industrial



	Product toxicity Construction error		N/A	standards Safety audit before opening by independent expert
Fire risks	Due to equipment Due to staff, users or visitors	Equ. People	A low	No ignition source on site No smoking area Warning sign at the entry Reminder during safety briefing Extinguisher available on site Fire depot at Rayonier Headquarters
Electrical risks Biological risks	Equipment soiled or contaminated by users	Equ. People	N/A U low	No power supply on site Regular cleaning of harnesses and helmets
	Insect bites and stings	Env.	A low	Daily check of installations Repellent available for users First aid kit on site
	Sharp leaves and branches	Env.	A low	Pathways cleared Pruning of support trees and adjacent trees
	Septic waste discharge	People	A low	Toilet facilities provided near the site
Risk from staff	Lack of training	People	S U high	Induction training of staff Regular staff practices: briefings, rescue, emergency situations, PPE checking Written instructions issued to each operator
	New staff	People	S U high	Specific training for new staff New staff to be accompanied by experienced one during practice period
Injury risks	Fall from slippery platform	Equ.	S U low	Use of non slippery decking Routine cleaning of platforms Daily check of installations
	Insufficient free space on activity Fall factor too high	Equ.	U low	Technical expertise by qualified engineer
	Collision between user and visitor	Equ. People	U V low	Signposts on pathways Pathways designed for visitors to keep clear of installations Fence around dangerous areas e.g. flying fox landing zones.



	G 111 1 1	- ·	**	
	Collision between users	People	U high	One person maximum on each activity
				Two people maximum on each platform
				(Except young users and
				people with special needs who
				must be closely supervised by
				responsible adult: two people
				on each activity and three
				people on platforms)
				Staff to monitor user behaviour
				Circuit to be temporarily
				closed in case of overload, or
				stuck user.
	Obstacles	Equ.	U	Rounded edges on platforms
			low	Pruning of trees
				Technical expertise from
				qualified engineer
				Protection pads wherever
				needed
	User not belayed	People	U	Bright covers on guy wires
	Oser not belayed	reopie	_	Safety briefing Patrolling staff
			high	Children under 12 to be
				accompanied by an adult on the
				circuits
	Hair jammed in	People	U	Precise instruction for tying
	pulley	•	high	hair during safety briefing
				Helmet to be worn at all times
				Hair ties supplied
	Finger jammed in	People	U	Precise instruction for placing
	pulley		high	hands on pulley lanyard during safety briefing
				Specific introduction to the use
				of pulley during practice and
				test circuit
Wilful	Flying fox used	People	U	Safety briefing compulsory for
misbehaviour	upside down		high	each user before entering the
	YY 1 111 1			circuits
	User deliberately			Behaviour assessment by staff
	belays to a device			during the practice and test
	not designed for safety			circuit Patrolling staff
	Sarcty			Access denied or user expelled
	User shaking the			in case of inappropriate
	rigging			behaviour
	Intoxicated user			
Risks of	Destruction of or	People	A	Equipment checked daily
vandalism	damage to safety		med	before opening
	system			Access to platforms lifted and
				secured when park is closed



Unsuitable clothing	User is barefoot or wears jandals	People	U low	Advice during safety briefing Checking by staff Spare shoes provided
Risk to trespassers	Person using the installation without PPE	People	T high	Warning signs at the entry and on fences Access to starting platforms lifted and secured when park is closed
Meteorological risks	Strong winds Gusts Lightings Thunderstorms Heavy rain	Env.	A high	Weather forecast checked daily Update obtained when changing weather or when bad weather signs appear Park or highest circuits closed in case of bad weather
Risk of stagnant water	Pond/puddle formation due to heavy rain	Env.	V S low	Advice during safety briefing Signpost near damped areas
Risks of mass evacuation	Panic	People	A low	Emergency procedure plan Evacuation training

Keys

(1) Casual factors: Env. = environnement, Equ. = equipment, People

(2) Potential casualties: S=employees/contractors, U=park Users, V=Visitors/Spectators, T=trespassers, A=all

Risk level: Low, High, Med (Medium) PPE: Personal Protective Equipment

Reviews as per SOP.