

RISK ASSESSMENT FOR GO APE CONTINUOUS BELAY

SUBJECT: Continuous Belay		RISK ASSESSMENT NUMBER: CB/01/2018
Reviewed by: Operations Team and Health and Safety Manager – January 2018		REVIEW DATE: February 2019

Assessing risks is simple in principle. It involves identifying hazards or examining what in a particular situation could cause harm or damage and then assessing the likelihood that harm will actually be experienced by a specified population and what the consequences would be (i.e. the risk). The overall objective is to obtain a view on how to manage the risk or to compare the risk with other risks. At a conceptual level, it has proved useful to make a distinction between an assessment of the risks (the evaluation of the likelihood of harm and its consequences for populations or individuals as described above) and risk control (the prioritisation of risks and the introduction of measures that might be put in place to reduce, if not prevent, the harm from occurring). This stems from the belief that an assessment of risks by and large can be scientific and objective but risk control less so because it integrates the results of an assessment of risks with other critical inputs.

Step 1. Identify the Hazards.

Step 2. Identify “Who may be harmed?”

Course User	People who are taking part in the High Wire Activity Course
Employees	All Adventure Forest Ltd Staff.
Public	The general public who are not actually taking part in the course (spectators or forest users).
Contractors	People working for a company or individual contracted by Go Ape to work on or around the course, etc.

Step 3. Evaluate the Risk.

LIKELIHOOD

Very low	Definitely will not happen
Low	Unlikely to happen
Medium	Moderate chance of accident happening
High	Quite likely to happen
Very high	Likelihood will happen

CONSEQUENCE

Very low	Injury very insignificant i.e. splinters
Low	Injury fairly minor i.e. minor cut, grazes, bruising
Medium	Injury would stop casualty continuing with task
High	Serious injury requiring medical assistance i.e. fractures
Very high	Very serious injury or possible fatality

Step 4. Existing Control Measures ². These are the measure we have put in place to keep the risk to an acceptable level. The Residual Risk (RR) is the level of risk that remains after putting all the control measures into practice.

RESIDUAL RISK

Very low	Minimal risk, control measure more than necessary
Low	Control measures satisfactory
Medium	Control measures adequate
High	Control measure requires constant supervision. Re-assess situation
Very high	Control measures inadequate. Stop activity

Step 5. The Review Process. Go Ape risk assessments will be reviewed when it is suspected that the assessment is no longer valid or there has been a significant change. In addition they will be thoroughly reviewed annually.

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SER	HAZARD	LHD	CON	WHO MIGHT BE HARMED	EXISTING CONTROL MEASURES	FURTHER CONTROL MEASURES	RR
001a	<p>Falling to the ground, onto another person, onto another part of the course or another object due to:</p> <ul style="list-style-type: none"> • Deliberately removing equipment or unclipping from the safety system then slipping, jumping or falling, either unintentionally or intentionally • Being attached on to the safety cable (system) incorrectly • Failure of part of the course infrastructure • PPE failure, incorrect selection, use, fitting, etc • Tree/Pole failure, falling over or onto the course, etc • Slips and trips <p>This could happen whilst opening or closing the course, operating the course, participating on the course, carrying out inspections or carrying out a rescue.</p>	Low	V High	<p>Employees Course Users Contractors Onlookers Trespassers</p>	<ul style="list-style-type: none"> • Continuous Belay Safety System does not require Customer Course Users to Remove their Trolley at any point. • In harness set up the maillions will have Loctite applied and will be spanner tight to prevent tampering. • Instructors to attach customers to safety system on the ground. • On Junior Courses Minimum height of 1m wearing footwear to enable users to move their safety line around the safety system. Height markers installed. Instructors carry out check if unsure. • Under 6 year olds to be accompanied by an adult (1:2) to assist with safety lines. • On Adventure Courses minimum height 1m_40 and minimum age 10. • Maximum weight of 20.5 stone / 130 kg due to load limits of course (Altus load testing advice). Scales provided at sites. Information provided to customers on booking confirmation documents, RAD and website. • Anyone who is deemed to be under the influence of alcohol or drugs is not permitted access onto the course. • Anyone who does not have the correct footwear (e.g. sandals) or clothing that may lead to a slip or a trip will not be allowed onto the course. • Instructors will access the course using the standard Go Ape Self Belay Safety Lines and system of use (see Training below). • Only trained and assessed instructors will be allowed to supervise the Continuous Belay Courses this is to ensure they can handle difficult groups when under pressure. • Instructors to be trained and assessed in moving customers on the Continuous Belay course. GAD “Transfer Method Statements” 		Low
001b					<p style="text-align: center;">Training</p> <ul style="list-style-type: none"> • Instructors must be competent at working on the course. GAD “Opening and Closing the Course”. WAH regs. See note 2 below re Instructor Training 		Low

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					<ul style="list-style-type: none"> • Instructors trained in rescue procedures (see separate risk assessment for this and associated procedures). WAH regs. • Instructors trained in the correct fitting and inspection of PPE to ensure they are safe for course participants and they cannot fall out of the harness and the harness is in good order and will not break. • Site Managers must undergo a 1 day PPE inspection course so they are competent to inspect the relevant PPE. 		
001c					<p align="center">Course inspections and checks</p> <ul style="list-style-type: none"> • Pre-use course checks and routine visual inspections are carried out by instructor when opening up the course to ensure the course is safe to use and no overnight damage has occurred. This is completed from the base of the zip wire where possible so any overnight vandalism can be checked. This includes checking correct functioning of stopfalls and condition of the safety system and obstacles. WAH regs. EN(2). Opening up procedure TM. • Periodic site operational checks (2 monthly) are carried out and recorded by the Site Manager or a competent person appointed by the Site Manager. The course check reports are regularly reviewed by the AM. EN(2). Ops team audit checks. • Wooden and metal poles used as part of the safety system are inspected monthly as part of the periodic site inspections (2 monthly) and also annually by an appropriately qualified Type A inspection body (ISO 17020). EN(1) • Annual periodical inspection of the course, including the Tarzan Swing, ladder halos, all anchor points and points used for rescues, by a competent person / company (Type C, ISO 17020). A qualified inspector carries out this inspection, and a report is submitted. LOLER & PUWER regs. EN(2). • Records of inspections and examinations, maintenance, testing and certificates of conformity are maintained. Daily Report and Monthly Course Inspection. WAH regs. Ops team audit checks. • Following high winds, snow and lightning the course must be checked thoroughly for any damage, initially from the ground and then on the course, prior to opening the course to participants. Hazards Caused by Cold Weather. OD. Advice to Duty Managers on Damage to Courses. OD. • Inspection records are audited by the AM when sites are 		Low

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					<ul style="list-style-type: none"> open. Ops team audit checks. 		
001d					<p style="text-align: center;">PPE provision and checks</p> <ul style="list-style-type: none"> Effective procurement and management system, using reputable suppliers to ensure all PPE is of the correct standard (CE marked, etc) and design and has correct information provided for use and is therefore safe and appropriate for its intended use. PPE regs. Advice on selection of correct PPE that is fit for purpose and use must be sought from industry experts and suppliers. All equipment must be / is used correctly as directed by manufacturers' guidelines. A copy of each new batch of PPE's manufacturing guidelines is to be kept on record. EN(2). PPE compatibility policy (where more than 1 item of PPE is being worn); PPE compatibility policy (where more than 1 item of PPE is being worn) is to be checked by the Head of Technical Training, who must have / has undertaken the 4 day PPE inspection course and who must seek advice from reputable suppliers on compatibility. This ensures that it is safe for two pieces of PPE to be used together in a system and applies to chest harnesses and fall arrest lanyards, etc. PPE regs. PPE must be / is assembled correctly and correct procedures are included in the OD. SM check. Site Managers undergo a 1 day PPE inspection training course so they can identify problems with PPE. Site Managers must then train their instructors in PPE inspection and the identification of likely problems. The PPE inspection poster is to be displayed at all sites as a reminder. Daily recorded checks confirming all of the trolleys closed. All PPE must be checked for faults prior to first use (from the manufacturer) PPE regs.SM check PPE inspections are carried out and recorded every two months by the Site Manager or a trained person appointed by the Site Manager. The equipment reports are regularly reviewed by the AM. Where PPE is thought to be defective it is placed in the quarantine box until examined by a qualified PPE inspector. Faulty PPE is returned to the supplier for repair or replaced. PPE Policy. PPE regs. PPE is visually checked prior to and after each use by instructors. This includes harnesses and rescue equipment, 		Low

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				<p>which is inspected by a trained instructor to ensure it, is safe to use. PPE regs. EN(2B).</p> <ul style="list-style-type: none"> • PPE is to be stored in a dry, clean area, away from any chemicals. PPE must be cleaned and dried as detailed in the manufacturers guidelines. PPE Policy. PPE regs. EN(2B) • All PPE must be identifiable, documented and thoroughly examined annually by a competent and trained person who has attended an appropriate 4 day PPE course. PPE regs. (Note that an examination and inspection are different.) • All PPE is documented and logged by the Site Manager, including inspection and maintenance records. These records are checked periodically during the site audit by the Ops team. PPE regs. EN(2B). • The Site Managers ensure that all instructors are trained in the correct fitting of PPE, its operation and its operating limits, inspection of the PPE and record the training on the individual staff "Training Record Sheet". PPE regs. • A selection of lanyards are break tested periodically to ensure that they are still strong enough and suitable for the purpose. This is controlled by the Operations Team. • PPE replacement is to follow manufacturers guidelines. • A trained instructor must check all course participants' harnesses before they go onto the course to ensure they are correctly fitted. EN(2). TM. • If a course user removes or adjusts their harness, they are instructed to inform a member of staff that their harness must be checked for correct fitting prior to the course user returning onto the course. SB • Patrolling instructors carry out visual checks to ensure that PPE is still fitted correctly and has not slipped or moved so that it is unsafe. • 3 styles of harness are used for the Continuous Belay Courses. Small Full Body Harnesses for those up to 40kg, Sit Harnesses for those over this weight and large Full Body Harnesses for larger customers who's center of gravity may be higher.. • Full Body harnesses are to be fitted to course users who have little or no hip definition whereby a normal sit harness may slip off their hips (this includes course users with large bellies or slim hips). BTC. EN(2). • Only PPE approved by the Head of Technical Training is used on a Go Ape course. Personal PPE must not be / is not used, (except in exceptional circumstances by a 	
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				<p>contractor – clearance for this is required from the Head of Technical Training).</p> <ul style="list-style-type: none"> • Helmets are worn for all construction work, rescue training and when moving off the normal customer route to carry out inspections, maintenance and repairs (to mitigate a fall or objects falling onto the rescue participants and workers). • A number of senior managers are competent to carry out thorough examinations of PPE and to that end must have attended a 4 day PPE inspection course. Head of Technical Training check. • Site Managers complete a 1 day PPE inspection training course so they can identify problems with PPE. Site Managers then train their instructors in PPE inspection and the identification of likely problems. The PPE inspection poster is displayed at all sites as a reminder. Ops team audit check. • Builders and contractors using their own PPE are responsible for ensuring it is fit for use and ensure that there is no scope for a fall due to faulty or incorrect PPE. They must provide a written undertaking that their PPE and systems of use meet PPE and WAH requirements. • Maillons on sit harnesses are tightened with a spanner so they cannot be undone by hand. • A PPE quarantine system is in place at each site so PPE identified unfit for use on the course does not enter circulation. AM check. TM. • Full body harnesses were used instead of chest harnesses in 2006 but they were found to have problems, which could lead to a fall, and therefore the decision was taken to revert to the combination of chest and sit harness. A new style of full body harnesses reintroduced in 2016. • Builders and contractors PPE should be visually checked when being used on the course. 		
001e				<p>Operation systems and controls of the course All customers on the course will use the continual belay system.</p> <ul style="list-style-type: none"> • Instructors to use a system for clipping onto the safety system throughout the course that has a backup, so that a “junction” can be passed without completely unclipping. Therefore two lanyards must be used. Likewise in rescues there must always be a back up safety system. GAD Rescue Procedures. • In lightning, high winds, heavy ice and snow, the course must be evacuated and closed. Duty Manager Guidelines 		Low

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					<p>and Emergency Evacuation Procedures. OD. DMT</p> <ul style="list-style-type: none"> • Whilst on the course, the use of mobile phones as telephones is not permitted as this can lead to distraction. Mobile phones can be used to take photographs but should be / are secured to the user to prevent them falling. Cameras should be / are also secured. Lanyards available. This is at the managers discretion. SR. SB. Instructor check. • When the course is “closed” or is to be left unmanned access stairs should be secured. • Any tasks being undertaken apart from the normal day to day running of the course (opening, closing) must be carried out by a minimum of two people; this includes any work involving moving obstacles or moving off the normal route of the course (platforms and wires). GAD method statements. • Whistles are supplied on harnesses to allow customers to alert instructors if there are problems. SB. • First aid supplies are available and there is a minimum of 1 First Aid qualified member of staff on duty each day (mitigate fall). First Aid regs. First Aid Policy. • Emergency evacuation procedure are produced by Site Managers for each course and included in the training to ensure safe course evacuation should it be required. • Guidelines are available for organisations wishing to conduct filming at height. Filming Guidelines OD. • Area Managers standardise operating procedures, conduct site audits and checks and to advise Site Managers to ensure high levels of compliance to training and operating procedures 		
001f					<p style="text-align: center;">Trees/Poles</p> <ul style="list-style-type: none"> • Prior to a new course opening all trees that form part of the course are to be inspected for stability and disease by a qualified arboriculture expert. • All trees are to be inspected annually by an arboriculture expert and a written report of these inspections is to be kept. EN(1). • System for monitoring trees where a potential problem has been identified by the arboriculturalist, including a photographic record where necessary. Tree Monitoring and Reporting OD. • Measures are taken to protect tree roots from compaction (e.g. using woodchip or fencing off). EN(1). • Wooden and metal poles used as part of the safety system 		Low

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					are inspected as part of the periodic site inspections (2 monthly) and also annually by an appropriately qualified inspection body (ISO 17020). EN(1)		
002	Falling objects <ul style="list-style-type: none"> from the course onto the course 	Medium	Medium	Course users Employees Contractors Public	<p style="text-align: center;">Retainers and Lanyards</p> <ul style="list-style-type: none"> Course users must attach all loose items to themselves (such as cameras) or have them secured within pockets. Information must be supplied to course users through the safety rules and advice and checked during the Safety Brief. When instructors are carrying out maintenance tasks at height, tools must be retained by using a retaining cord or lanyard. All individual PPE, including pulleys, must be attached to the course user. Instructors Pulleys must be attached to the harness by using a pulley retaining lanyard. (introduced in 2003). Equipment used for moving customers must be attached at all times. In moving a customer the MK1 trolley must be attached to the instructor while it is being removed from the wire. GAD Transfer Method Statement <p style="text-align: center;">Trees</p> <ul style="list-style-type: none"> All course trees should be visually checked daily, by the instructor opening the course, for loose and broken branches that may become dislodged and fall. Deadwood likely to fall onto the course should be removed so it does not fall onto course users. 	•	Low

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003	<p>Impact including:</p> <p>Course users swinging into something solid</p> <ul style="list-style-type: none"> • On the course • At the landing (e.g. resulting in lower leg injury) <p>Being struck by parts of the course</p> <p>Collision</p> <ul style="list-style-type: none"> • On Zip Wires <p>At Zip landing</p>	Low	High		<p style="text-align: center;">Course design</p> <ul style="list-style-type: none"> • Design of the course must take into consideration the possibility of impact problems. Materials are finished to provide smooth, surfaces. Zip Wires and landing areas are designed at an angle and sag to arrive at an optimum landing speed. • Landing sites are constructed to provide a soft and moveable surface of woodchip or wood peel. • Where applicable; Zip landing sites are fenced to discourage members of the public and children wandering into them. <p style="text-align: center;">Operating Procedures</p> <ul style="list-style-type: none"> • Landing areas are to be prepared (raked or dug) on a regular basis to ensure they comply with guidelines (GAD landing sites). • Only 1 course participant is allowed on the zip wire at any one time. Safety Brief & Written Safety Rules and Advice. • If the instructor at the zip wire take off platform needs to leave their position whilst the course is in operation they must attach the zip stop rope to stop customers descending the zip wire. <p style="text-align: center;">Provision of Information</p> <ul style="list-style-type: none"> • Provision of suitable and sufficient information and training to course participants to ensure they are safe when crossing obstacles and descending zip wire. Written Safety Rules and Advice which must be read or read to all course participants, Instructors Safety Brief given to all course participants, e.g. Course participants informed on landing technique to minimise risk of injury when completing a zip wire. <p>Course participants recommended to wear suitable footwear. (Open toed footwear is not allowed)</p>		Low
004	Head impact on metal brackets at junctions	Low	Med	Course Users Employees	Handrails only constructed on one side of crossings to eliminate the need to duck. Padding to be added to junctions to draw attention to their position and provide protection.		Low

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005	Entanglement in ropes nets, cables or chains and body parts trapped in moving parts of the course <ul style="list-style-type: none"> • Zip wire 	Low	High		<p style="text-align: center;">Course Design</p> <ul style="list-style-type: none"> • Course designed to minimise the risk of entanglement or entrapment. <p style="text-align: center;">Operating Procedures</p> <ul style="list-style-type: none"> • Long hair tied up. • Suitable clothing • Effective supervision 		Low
006	Unsuitable PPE: Incorrect assessment of loadings including premature failing or malfunctioning of PPE	Low	V High		<p>See Point 001d</p> <p style="text-align: center;">Damage to PPE</p> <ul style="list-style-type: none"> • No smoking whilst wearing harnesses • No use of chemicals near PPE • Use of experienced and competent course designers • Records of materials 		Low
007	Inadequate Supervision <ul style="list-style-type: none"> • Incompetence • Children rushing ahead • Distracted attention of adult • Distance between supervisor and children • Inadequate patrolling 	High	Medium	Course Users Employees	<ul style="list-style-type: none"> • Booking Terms and Conditions • Instructor check • Written Safety Rules and Advice • Training <p style="text-align: center;">Supervision on Junior Courses</p> <ul style="list-style-type: none"> • 1 to 2 for under 6s • 1 to 8 recommended for over 6s either on the ground or participating on the course • Additional adults advised for larger groups • 2 to a crossing, only one to be an adult • 3 on a platform • Instructors present on the main platform • Instructor to communicate with staff if leaving the platform <p style="text-align: center;">Supervision on Adventure Courses</p> <ul style="list-style-type: none"> • 10- 15 year olds must be accompanied 1 to 2 • 1 to a crossing • 3 to a platform <p style="text-align: center;">Supervision at Battersea</p> <ul style="list-style-type: none"> • 10-12 year olds must be accompanied max 1 to 4 • 13- 15 year olds must be supervised from the ground • 1 to a crossing • 3 to a platform 		Low
008	Rowdy Groups	Medium	High	Course users	<ul style="list-style-type: none"> • Instructors to monitor from platform • Advice to supervising adults • Exclusion from course where necessary • Written Safety Rules and Advice 		Low

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009	Unauthorised Users	Low	V. High	Public	<p style="text-align: center;">Access to course</p> <p>Stairs to be</p> <ul style="list-style-type: none"> ○ Secured overnight ○ Secured when the course is unattended during the day ○ A gate to be installed on the ground to control access to the stairs. <p style="text-align: center;">Access to Brief Site</p> <p>The low brief site may be accessed by non authorised users at any time either during opening hours or when closed.</p> <ul style="list-style-type: none"> ○ Brief Site to be built low to the ground (1.5m max) ○ Surrounding area to be cleared of hazards in the event of a fall ○ Surface to be covered with wood peel to provide a fall surface 		Low
Refs	<p>HSW Act 1974, MHSW regs amend 1999, WAH regs 2005, PUWER 1998, LOLER 1998, PPE regs 1992, Workplace HSW regs 1992, H&S (Safety Signs) regs 1996, First Aid regs 1981, Occupiers Liability Act 1984, HSE 5 Steps to Risk Assessment INDG 163, HSE A Guide to Risk Assessment requirements INDG 218, EN 15567-1:2015 (Construction and safety requirements) and EN 15567-2:2015 (Operation requirements), GAD = Go Ape documents</p>						

Note 1: Control Measures - Where a control measure has been identified, it is only included once and not repeated under every serial number. Therefore for a specific hazard identified, a control measure in a serial above may apply to that hazard. (HSE RA guidance.)

Note 2: Instructors Training - Go Ape instructors must pass through a rigorous training and assessment programme before they can instruct on Go Ape. To be selected for training prospective instructors must demonstrate they have the requisite aptitude and experience. They then undergo training in safety instruction and procedures, operational limits on the use of the course, course inspections during daily course opening and closing, patrolling techniques, personal protective equipment, harness fitting and inspection, emergency operations, health and safety and customer management. Only instructors with climbing experience and the correct aptitude are selected for additional training in rope rescue techniques. Instructors are First Aid trained. Go Ape’s training objectives and rescue procedures have been developed in conjunction with an external specialist technical advisor who holds the Mountaineering Instructors Certificate and the European Mountain Leader Award (rescue procedures updated in 2005 by Berwyn Evans MIC). Assessment of rescue trained instructors is only carried out by our trained and qualified persons, who have been formally assessed as competent to do so by the Operations Manager responsible for training.