



RISK ASSESSMENTS

ROUTESETTING OPERATIONS

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RISK ASSESSMENT:
ROUTESETTING OPERATIONS



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This risk assessment identifies hazards present at 270 Climbing Park related to routesetting. It assesses potential hazards, who it affects and how. For each risk, control measures have been put in place with the aim to decrease the chance of it occurring as well as the severity of the hazards.

This risk assessment is provided to anyone working as part of the Routesetting Operations team at 270 Climbing Park.

For the purposes of this document, anyone working in a role that means that they may be working at height, will be referred to as a Routesetter. Within 270 Climbing, there are varying levels of routesetter, including strippers. Washers and testers are not defined as routesetters.

Acronyms: HMV - Hold's, Macro's, Volumes | USC - Ultrasonic Cleaner

THE ROUTESETTER

Hazard	Who can get hurt	How	Control measures
Lack of ongoing competency	Routesetters, Climbers	Fall from height	Selection of the right Routesetters, induction to and monitoring of compliance with the '270 Climbing - Standard Operating Procedures - Routesetting Operations' by the Head setter. Only deploy routesetters that are suitably experienced and competent for the task that is expected of them. Additional training / disciplinary processes for internal staff not following these procedures. External routesetters not invited back.
Lack of fitness	Routesetters	Overworking Lacking strength to safely set	Routesetters should be deemed fit enough to confidently work at height. Any medical conditions should be noted to the Head Routesetter. Heavy HMV's should not be attached from extended arm positions, use positioning instead to set in front of you. When boulder setting, consider attaching large HMV's using multiple people.
Personal Injury	Routesetters	Overreaching Hearing damage Eye damage Suspension shock Sports Injury	Routesetting workloads and timescales will be appropriate to avoid rushing and cutting corners. All Routesetter will be provided with adequate PPE including gloves, ear defenders and safety glasses. There is an expectation of the Routesetters conducting a suitable warming up before testing, starting with easy climbs and only testing at a grade you are comfortable with.
Manual Handling	Routesetters	Lifting a load away from your centre of mass Lifting a load that is too heavy for person Tripping whilst carrying load Impact with person from HMV moving / falling	Correct Manual handling techniques should be used when lifting. Crates will be loaded with the relevant sized holds, i.e. XS holds in XS crates and so on. If crates are too heavy for one person to lift, asking for assistance is required. All paths to and from the place of work should be clear of obstruction. Crates should be deposited from within the cordon rather than over the top. Crates should not be overfilled; the holds

			should stay below the lip of the crate. Route Setters should check the stability of the items in the crate before attempting to handle it.
Distractions – external/internal	Routesetters	Routesetters not being correctly attached resulting in a fall from height. Items being dropped HMMs not being attached correctly.	Routesetters to identify to Head Routesetter when they are feeling overwhelmed due to personal distractions. Workload adjusted appropriately.
Environmental Conditions			
Temperature	Routesetters	Becoming too hot Becoming too cold Dehydration	If the temperature in the area where work will be completed rises above 38 degrees celsius, all routesetting work will stop. Appropriate clothing for the conditions should be worn. Routesetters are recommended to take sufficient breaks and hydrate throughout the day.
Washing Unit			
Water	Washer	Slip on a wet floor Water damage to control panels resulting in malfunction	Ensure slip proof matting is in place. Avoid overflowing USC and rinse table. Do not leave water running whilst you are away from the container.
USC	Washer	Discomfort / stinging whilst the machine is operating Long term exposure causing arthritis	Turn off the machine whilst moving items in or out.
Cleaning Liquid	Washer	Dropping items onto person due to the cleaning liquid making items slippery	Wear rubber gauntlets whilst handling items.

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The Environment Itself	Washer	Becoming too hot Dehydration	If the temperature in the area where work will be completed rises above 38 degrees celsius, all washing work will stop. Appropriate clothing for the conditions should be worn. Routesetters are recommended to take sufficient breaks and hydrate throughout the day.
Noise	Washer	Hearing damage	Ear defenders are necessary when operating the USC and washing booth.
Roped Setting			
Technical Climbing Equipment Failure	Routesetters	Fall from height. Impact with object, wall or floor Being hit by something falling	Selection of the correct equipment for the situation. All PPE is always purchased new and stored as per manufacturer's recommendations. Ideally stored securely and can't be accessed other than by authorised staff. Staff trained in pre-use equipment inspections. Regular documented additional ongoing inspections as determined by Competent Person to meet PUWER and LOLER regulations. External Route setters may use their own equipment, if it can be demonstrated that it has a sufficiently documented inspection regime. If not, they will need to use 270 Climbing's equipment.
Double Rope System not set up correctly.	Routesetters	Fall from height. Impact with object, wall or floor	Routesetters need to be deemed competent in setting up the double rope system as per the '270 Climbing Park - Routesetting Operations' document. Regular monitoring to occur by the Head Routesetter. Ongoing competency assessment will be undertaken annually. It is essential that routesetters perform a functionality check before ascending, ensuring your rig, ascender and backup device are working and correctly attached.

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Double Rope System not used correctly.	Routesetters	Fall from height. Impact with object, wall or floor Entanglement	Routesetters need to be deemed competent in using the Double rope system as per the 270 Climbing Park - Routesetting Operations document. Regular monitoring to occur by the Head Setter. Ongoing competency assessment will be undertaken annually. Backup devices should always stay above the waist, in both ascent and descent When testing routes on work positioning lines, minimise the amount of slack in the system.
Hauling system not correctly set up.	Routesetters	Dropping equipment	Routesetters need to be deemed competent in using a haul system as per the '270 Climbing Park - Routesetting Operation' document. Regular monitoring to occur by the Head Setter. Ongoing competency assessment will be undertaken annually.
Route Setters dropping HMV's on to themselves during the attachment / removal process	Routesetters	Impact / injury / head injury	Poor condition bolts and screws should not be used and discarded when next possible. HMVs should be attached using both hands. Routesetters should position themselves to adequately reach the desired placement; they should not be overreaching or climbing to reach the desired placement. Volumes in particular should always be connected to something, so that they may not fall during the attachment process.
Items falling from above	Anyone on the ground or below the Route Setter	Impact / injury / head injury	Ensure no one underneath the route setter. An appropriately sized cordon used, both in height and space around the route setters workspace, to take into account the bounce of the floor. If someone needs to enter the cordon, work stops above them / helmets used. Appropriate self-locking hauling systems used. Hold bags of sufficient strength to support the load. No items, equipment or fixings should be thrown to the floor. Care taken when attaching or removing HMVs, to minimise the chance of dropping them or their fixings.

Ladder Setting			
Ladder failure	Routesetters	Fall from height, Impact with climbing surface, impact with the ground.	Selection of the correct category of Ladder for a commercial or professional use. All ladders are always purchased new and stored as per manufacturer's recommendations. Stored securely and can't be accessed other than by authorised Staff. Staff trained in pre use equipment inspections. Regular documented additional ongoing inspections as determined by Competent Person to meet PUWER and LOLER regulations
Incorrect Ladder Use	Routesetters	Fall from height, Impact with climbing surface, impact with the ground.	Ensure proper training – (define what this training is and by who). Monitoring Route Setter to ensure that they are following their training. Use the correct ladder for the job, ensure extension ladder does not go beyond a 75 degree angle (1:4 rule) – what about step ladders? Ensure the correct length ladder is used, decreasing the need for having the ladder close to the wall. Move the ladder instead of reaching away. Ensure the ladder is flat to the wall and can't pivot, consider attaching the ladder to the wall, when attaching or removing large awkward holds/volumes. Keep CofM between the ladder rails. Maintain a minimum 3 points of contact when ascending / descending. When the angle of the wall is too steep to safely use extension ladders, consider using the stepladder or work platform.
Tool Use			
Overuse injuries	Routesetters	Vibration Syndrome Stabbing hand when attaching	Oil-pulse driver should be used when setting. Good condition bits, bolts and screws should be used when setting,

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		holds, macros or volumes	discarding any broken or poor condition items.
Dropping tools	Routesetters	Tool falling from height	When setting on a rope, all tools should be attached to your harness using a suitable lanyard. When setting on a ladder, no-one should walk underneath you.
Incorrect tool use	Routesetters	Trapping finger behind hold Trapping glove in screw being drilled Drill bit breaking / exploding causing wound	Only people signed off according to the '270 Climbing Park - Routesetting Operations - Sign Off Checklists' should be permitted to use any impact driver. The condition of your gloves should be maintained, discarding any worn or with holes. Drill bits should be checked before first use, discarding any broken or poor condition items. Glasses
Noise	Routesetters	Hearing damage	Ear defenders are provided to anyone part of the Routesetting Operations team. Oil-pulse drivers should be used for setting. Ear defenders must be worn when stripping.
Testing			
Climbing	Routesetters, Testers	Falling on equipment Hold, macros and volumes not being properly attached Injury from inappropriate climbing Impact with person from debris (bolts, screws) left in wall	Before testing, the climbing area should be cleared and all equipment placed at the perimeter of the cordon. Routes should be checked before / during climbing for adequate pinning. No climbing should take place if there is any risk of falling near naked bolts or screws left in the wall.
Tweaking	Routesetters, Testers	Climber falling into person tweaking Items dropped whilst person is tweaking	No climbing should take place whilst anyone is in the fall area. You should not stand underneath anyone tweaking unless you are the belayer with a helmet.

THE ROUTES THEMSELVES FOR CLIMBING IN GENERAL

Hazard	Who can get hurt	How	Control measures
Personal Injury	Anyone	Climber hitting a hold, volume or macro whilst falling Inappropriate climbing for the grade	No large holds, macros or volumes should be placed in likely fall zones. The climbing intensity should be appropriate to the grade; it should not put climbers at risk of a fall / injury.
Fall when climbing	Anyone	Hold spinning HMV's breaking HMV's not attached properly	HMV attachment should follow the guidelines set out in the '270 Climbing Park - Routesetting Operations - Standard Operating Procedures'. A pin check is required before a newly set area is opened to the general public. HMV's should be checked for any wear or damage prior to attachment.
Dynamic moves	Anyone	Propelling yourself towards the wall or a HMV. Slipping during the move	Dynamic movements should be assessed for danger by the Head Routesetter. They should not direct climbers towards hazardous HMV's. Dynamic moves should be appropriate for the grade.
Cracks / Jams / ringlocks	Anyone	Climber becoming stuck	Cracks / Jams should not be set where there is any likelihood of becoming stuck. They should flare out at the bottom allowing room for dropping / escaping. Ringlocks should not be set.
Inverted Moves	Anyone	Falling on your head	Moves where you are fully inverted, with your head pointing to the floor, should not be set.

THE ROUTES THEMSELVES FOR ROPED CLIMBING

Hazard	Who can get hurt	How	Control measures
Fall when roped climbing	Anyone	Inappropriate climbing for grade in first 2 clips Inappropriate clipping positions	The first 2 clips of a route should be secure and appropriate to the grade. The first 3 clips should not be set with any cruxes. Clipping positions throughout the route should be appropriate to the grade.
Rope wear / damage	Anyone	HMV's positioned where rope will run through Inappropriate climbing / clipping positions causing large falls	Holds, macros and volumes should not be placed in a position where it is likely to rub against the rope or quickdraw. You should not set sequences resulting in run out situations.

THE PROBLEMS THEMSELVES FOR BOULDERING

Hazard	Who can get hurt	How	Control measures
Fall when bouldering	Anyone	Climbing into a position that can't be reversed	The climbing for the grade should be appropriate. A climber of that grade should not find themselves in an unsafe position where they cannot reverse the move or down climb. Down climb holds should be placed at the top of routes as exits towards easier problem, or controlling your position once the climber has finished a route.

SPECIFIC IDENTIFIED ISSUES WITH THE PART OF THE WALL

Hazard	Who can get hurt	How	Control measures
Structural Beams (B1)	Anyone	Collision with person climbing Routesetters setting movement that directs you towards beams	You should not set within the defined exclusion zones. You should not set movement directed towards the structural beams. The structural beams will be visually marked and padded, with warning signs communicating that they are not for climbing.
Exclusion Zones (B1 + B2)	Anyone	Climbing into exclusion zones and falling	Exclusion zones should be visually marked. Routesetters should understand where all the exclusion zones are before commencing setting. No setting should be done within the exclusion zones. Movement should not be directed towards the exclusion zones.
Topping out onto mezzanine (B2)	Anyone	Lack of downclimbs, encouraging people to topout instead of downclimbing	Sufficient easy downclimb problems / downclimbs jugs should be placed to encourage climbing down rather than topping out. The top of the panel will be visually marked, with adequate warning signs communicating that the climber should not top out.
Grabbing top of the wall (B1 + B2)	Anyone	Holds positioned too close to / overlapping the top of the panel Lack of downclimb jugs, encouraging climbers to use top of the wall	Routesetters should not place any holds where a climber will reach beyond the top of the panel. No holds should sit above the top of the panel. Sufficient downclimb jugs should be placed to encourage climbers to downclimb, avoiding using the top of the panel for support.

RESCUES

Hazard	Who can get hurt?	How can you get hurt?	Control Measures
Inability to complete a rescue in a timely manner	Routesetter, Tester	Suspension shock Medical complications Injuries not being treated	Routesetters / trained staff members must be signed off according to the '270 Climbing Park - Routesetting Operations - Sign Off Checklists' to perform a rescue. Practice rescues will be completed once a month.
Lack of rescue practice	Routesetter, Tester, Rescuer	Fall from height Worsening the complexity of the rescue situation	Routesetters / trained staff members must be signed off according to the '270 Climbing Park - Routesetting Operations - Sign Off Checklists' to perform a rescue. Practice rescues will be completed once a month.
Complicated / incorrect systems	Routesetter, Tester	Suspension shock from increased rescue time	Anyone WAH must follow the standard practices for routesetting according to the '270 Climbing Park - Routesetting Operations - Standard Operating Procedures'. Routesetters must use a haul line when routesetting and must not go into a hard attachment at any point.

AFTER SETTING

Hazard	Who can get hurt?	How can you get hurt?	Control Measures
HMV's	Anyone	Bolts not properly threaded Missing screws for screw-on holds, macros and volumes Holds not sufficiently pinned Broken holds, macros or volumes not spotted during routesetting process	Only people signed off according to the '270 Climbing Park - Routesetting Operations - Sign Off Checklists' should be permitted to routeset. Bolts should thread out the back of the panel by 2 clear threads. Screw on HMV's should be attached using all attachment points, using washers where necessary. All broken holds should not be used and set aside, informing the Head Routesetter.
Items left on the mat	Anyone	Falling / being lowered on bolts or screws left on the mat Impact with items (screws, snapped screws, bolts) left in the wall after routesetting Falling on equipment (including holds, macros, volumes, tools, ladders, crates) left behind on the mat	Equipment should be cleared away before completing any mat checks. You must check the mats are clear of all items and equipment before opening up to the general public.
Transporting equipment	Anyone	Impact with person when moving holds, macros and volumes back to the hold store Impact with person when equipment is being transported back to the hold store	The public has the right of way when you are transporting equipment to and from the work area. Ensure all crates are not overfilled and stacked correctly.
Routesetting needing to be done once an area has been opened	Anyone	Impact with person when transporting equipment back to work area Increased risk of people colliding with cordon due to increased business.	All routesetting should be done during the allotted time. If it is necessary that work must be done after the cordon has been taken down, ensure the area is cleared of the general public, re-place the cordon and perform any required work. You must ensure no-one climbs or stands near the cordon.

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