

Risk Register – ENGINEERING OPERATIONS

Vault ID #	Task/Area where hazards exists	Hazard – what can cause harm	Potential outcome – what can happen	Likelihood	Consequences	Risk Rating (Inherent)	Required Control Measures List the control measures required to eliminate or minimise the risk of illness or injury for each hazard identified	Frequency of Monitoring or Action Date	Personnel Responsible The person required to action the control measure	Eliminate	Type Minimisation	Likelihood	Consequences	Risk Rating (Residual)
5234	Road maintenance Restore Build	Traffic Unauthorised entrants Loose material above or below (tree/soil/bank) unstable ground, drop offs, bluffs, tomos, dislodged material poor visibility i.e., from undergrowth/slash, loose stumps & trees	Fatality, serious injuries, plant damage, strains, sprains	C	5	H	<ul style="list-style-type: none"> Pre-operational - prescriptions, mapping, hazard identification and risk assessment. Onsite hazard identification and risk assessment Machinery – maintained and operated as per manufacturers operating manual with protective structures suitable for the task (ie ops, rops, cops) Seat belt and/or 4 pt harness maintained and in use. Doors and/or guards closed in operation. Radio communication established. Approved, experienced and competent operators or operators under training and appropriate supervision. Contractor procedures. PPE as per ACOP Forest Operations. Take 5 - awareness of surroundings and work area. Multiple Operations (proximity) - communicate and plan operations and priority with all contractors. All operations must cease until the priority operation is completed. Approved, experienced and competent operators or operators under training and appropriate supervision. TMP warning signage in use. 	On issue of prescription Daily All times All times All times All times	Pan Pac/ Contractor Contractor Pan Pac/ Contractor Contractor Contractor Contractor Contractor Contractor All persons Operators	X	I, E, A, PPE	D	5	M
5235	Metalling	Traffic Unauthorised entrants Loose material above or below (tree/soil/bank) Access or egress Unstable load, Power lines & overhead hazards	Fatality, serious injuries, plant damage, rollover strains, and sprains	C	5	H	<ul style="list-style-type: none"> Pre-operational - prescriptions, mapping, hazard identification and risk assessment. Onsite hazard identification and risk assessment Competent and qualified operators. Awareness when hoists are up on steep gradients and near overhead hazards. Three points of contact when getting in and out of cabs Maintain and operate the plant and vehicles as per the Manufacturers operating manual. Radio communication established. Approved, experienced and competent operators or operators under training and appropriate supervision. Contractor procedures. PPE as per ACOP Forest Operations. Take 5 – Awareness of surroundings and work area. TMP in place, appropriate warning signage in use. 	On issue of prescription Daily All times All times All times	Pan Pac/ Contractor Contractor Contractor Contractor Operators Operators Contractors Contractor All persons Operators	X	A, PPE	D	5	M

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5236	Earthworks	Traffic Unauthorised entrants Loose material above or below (tree/soil/bank) Access or egress Unstable load, Power lines & overhead hazards unstable ground, drop offs, bluffs, tomos, dislodged material poor visibility i.e., from undergrowth/slash, loose stumps & trees	Fatality, serious injuries, plant damage	B	5	E	<ul style="list-style-type: none"> Pre-operational - prescriptions, mapping, hazard identification and risk assessment. (include consideration of gullies, water courses & remove vegetation where required) Onsite hazard identification and risk assessment. Steep gradient – form pilot track where required. Root balls and rocks stored in a stable location. Machinery – maintained and operated as per manufacturers operating manual with protective structures suitable for the task (ie ops, rops, cops) Seat belt and/or 4 pt harness maintained and in use. Doors and/or guards closed in operation. Radio communication established. Approved, experienced and competent operators or operators under training and appropriate supervision. Contractor procedures. PPE as per ACOP Forest Operations. Take 5 - awareness of surroundings and work area. TMP in place, appropriate warning signage in use. 	On issue of prescription Daily Daily All times All times All times All times All times All times All times All times All times All times	Pan Pac/ Contractor Contractor Contractor Operators Contractor Contractor Operator All persons Contractor Contractor All persons Contractor Contractor	X	E, A, PPE	E	5	M

Type of Minimisation Controls Key: (S = Substitution, E = Engineering, I = Isolation, A = Administration, PPE = Personal Protective Equipment) **XXX** = Additions
General Manager Forests Next Review Date: 30/10/2024 FOR-REG-HS03

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5243	Quarrying – Falling objects	Falling objects from faces, face collapse, vehicle or plant driving off bench	Fatality or serious injuries	B	5	E	<ul style="list-style-type: none"> Preoperational hazard identification and risk assessment, daily tailgate meetings Onsite hazard identification and risk assessment Install 7-metre-wide bench from face and install berm Best practice guidelines for quarrying HSWA regulations for quarries Designated and competent B Grade Quarry Manager Operate perpendicular to face when stripping Qualified and competent operators Machines with applicable protective structures for the task being completed e.g., ops, fops, rops, cops, polycarbonate glass. Maintain and operate the machine as per the Manufacturers operating manual. Contractor procedures PPE as per ACOP Forest Operations Monitoring control measures – quarry audit Communication between all operators and drivers Monitor dust, noise, man vs machine interaction 	On issue of prescription Daily All times All times All times All times All times All times X 2 weekly All times All times	Pan Pac/ Contractor Contractor Contractor Pan Pac/ Contractor Pan Pac Contractor Contractor Contractor Contractor Contractor All persons Pan Pac Contractor All persons	X	I, E, A	D	5	M
5244	Quarrying - Vehicles	Interaction between vehicle's on working face and stockpiles resulting in vehicle-on-vehicle accident	Fatality, serious injuries, plant damage	C	4	H	<ul style="list-style-type: none"> Preoperational hazard identification and risk assessment. Onsite hazard identification and risk assessment Machines with applicable protective structures for the task being completed e.g., ops, fops, rops, cops, polycarbonate glass. Maintain and operate the machine as per the Manufacturers operating manual. Radio communications when entering working floor Qualified and competent operators Contractor procedures PPE as per ACOP Forest Operations Stockpile management planning Signage/information board with RT channels and operators/foremen names 	On issue of prescription Daily All times All times All times All times All times All times All times All times	Pan Pac/ Contractor Contractor Contractor Contractor All persons Contractor Contractor All persons Pan Pac/ Contractor Contractor	X	E, A	D	4	M

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(new)	Quarry processing (screening, crushing)	Machinery; Access/egress Drawing in Crushing Dust	Death, serious injury including amputation or crushing, long term illness	B	5	E	<ul style="list-style-type: none"> Preoperational hazard identification and risk assessment. Prestart inspection Machines with applicable protective structures for the task being completed e.g., ops, fops, rops, cops, polycarbonate glass. Maintain and operate machine as per As, AS/NZ Standards (4024, 5537, 1657) Maintain and operate the machine as per the Manufacturers operating manual. E-stops and lockouts in working order Qualified and competent operators Contractor procedures PPE as per ACOP Forest Operations 	All times	Contractor / Operator Operator Contractor Contractor / Operator Contractor / Operator Operator Operator Contractor Operator	M	E, A	D	5	M
(new)	Quarry Management	Traffic Face collapse Bench collapse Other contractors	Death	B	5	E	<ul style="list-style-type: none"> Quarry Manager - B Grade, registered with Worksafe Application of mining requirements Geotechnical assessment and reviews as required Principal Management Plan Operational Management Plan Protection of waterways etc as per NES-CF Council and Iwi consent in place (as applicable) 3rd party operations by agreement and procedure TMP and signage in place Lone worker procedures in place PPE as required across all activities Potential health impact for Silica & rock dust (needs to be quantified) 	All times All times As required All times All times All times All times As required All times As required All times All times (TBD)	Contractor Contractor Contractor Pan Pac Contractor PP / Contractor Pan Pac PP / Contractors PP / Contractor Contractor Operator (TBD)	M	A, E	E	5	M

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(new)	Culvert cleaning	Traffic, Uneven ground, High pressure water, Debris, Pooling water, Fall during access/egress,	Death, serious injury, Struck by vehicle, Eye damage from debris, Strain, sprain Hydrogen sulphide, Drowning,	C	5		<ul style="list-style-type: none"> Pre-operational - prescriptions, mapping, hazard identification and risk assessment. Onsite hazard identification and risk assessment Machinery - regularly maintained in good order, COF/WOF Pump – regularly maintained in good order with settings as per standard fire requirements Traffic Management Plan & signage RT communications Personnel do not enter any culvert, pipe Ensure secure footing and stable body position 3 points of contact maintained during machine access/egress PPE – inclusive of face shield/goggles, bibbed overalls as required 	On issue of prescription Daily All times All times All times All times All times All times All times	Pan Pac/ Contractor Contractor Contractor Contractor Operator All persons All persons All persons	X	A	E	5	M