

Extreme 25	Extreme 23	Extreme 20	High 16	High 11	А	Almost Certain	Is expected to occur in most circumstances
Extreme 24	Extreme 21	High 17	High 12	Moderate 7	В	Likely	Will probably occur in most circumstances
Extreme 22	Extreme 18	High 13	Moderate 8	Low 4	С	Possible	Might occur at some time
Extreme 19	High 14	Moderate 9	Low 5	Low 2	D	Unlikely	Could occur at some time
High 15	High 10	Moderate 6	Low 3	Low 1	E	Rare	May occur only in exceptional circumstances
5	4	3	2	1		Frequency	Likelihood
Catastrophic	Major	Moderate	Minor	Insignificant	Probability		
Multiple deaths	Single fatality	Medical treatment	First aid treatment	Near miss	Consequence		

	ALARP MODEL ACTIONS
Extreme Residual Risk	Unacceptable, activity must not commence Eliminated hazard or introduce further controls to reduce to ALARP, Do not proceed with design until level of risk has been reduced.
High Residual Risk	Implement strict control measures reduce hazard to ALARP Activity must not commence without Management approval and appropriate Supervision present Review process
Moderate Residual Risk	Implement strict control measures reduce hazard to ALARP Management must determine appropriate level of supervision required
Low Residual Risk	Tolerable, with monitoring, Manage and carryout activity in accordance with identified controls.





			Ri	sk Ranki	ng		Responsibility For	sponsibility For nplementation Implemented Residual Risk Cons. Freq. I 4 E I 4 E I 4 E I 5 E I	isk		
Hazard or Hazardous Event	Cause	Consequence	Cons.	Freq.	Risk	Controls to Prevent Hazardous Event	Implementation	Implemented	Cons.	Freq.	Risk
Mobile plant to mobile plant interaction or accident	Poor communication No Traiffic management/traffic management insufficient Inclement weather conditions Deconfliction of works Operator error Insufficient maintenance regime/pre- start checks	Death Serious personal injury damage to plant and equipment damage to reputation effect on schedule site closure constrictive ambulance ramp access	4	С	E18	Seat belts worn at all times during operation All warning Devices (Reversing Beacon) are working and regularly maintained Traffic management devices to be in place prior to use Communication to be maintained between work groups ticketed operators Spotters and demarcated work areas			4	E	H10
Mobile plant and light vehicle interaction or accident	No Traiffic management/traffic management insufficient Inclement weather conditions Operator error Insufficient maintenance regime/pre- start checks	Death Serious personal injury damage to plant and equipment damage to reputation effect on schedule site closure constrictive ambulance ramp access	4	С	E18	Seat belts worn at all times during operation All warning Devices (Reversing Beacon) are working and regularly maintained Traffic management devices to be in place prior to use Daily pre-start checks prior to operation Communication to be maintained between work groups			4	E	H10
Mobile plant rollover	Work on uneven surfaces	Death Serious personal injury damage to plant and equipment damage to reputation effect on schedule site closure constrictive ambulance ramp access	5	C	E22	Roll Over Protection (ROP'S) Fall Over Protection (FOP'S) Alternate form of mechanical fail safe-gyropscopic cut out, controlled areas of use eg flat surafaces only. if installed-jacks to be lowered when lift/shift/lowering Plant risk assessment Ticketed operators Regular maintenance and prestart checks Traffic control resources Workforce monitoring SWMS audits Seat belts worn at all times during operation Plant equipment is to be lowered to the ground & lever lock engaged Site familiarity and checks Pre-start meetings Lift study/plans SWMS			5	E	H15
Mobile plant and personnel interaction or accident	No segregatilon poor visibility plant poorly maintained-warning devices	Death Serious personal injury damage to plant and equipment damage to reputation effect on schedule site closure constrictive ambulance ramp access	4	С	E18	Plant equipment is to be lowered to the ground & lever lock engaged All warning Devices (Reversing Beacon) are working and regularly maintained Traffic management devices to be in place prior to use Communication to be maintained between work groups Work areas demarcated, exclusion zones/spotters PPE-high vis worn by all persons within site areas Persons on site to be inducted or escorted by inducted persons at all times Ticketed operator			4	E	H10
Mobile plant fire	Poor maintenance and pre-start checks Smoking in the cab Overheating of electrical equipment inexperienced operator	Death Serious personal injury damage to plant and equipment damage to reputation effect on schedule site closure constrictive ambulance ramp access	4	С	E18	Fire suppression system in the engine compartment Train relevant employees as a Fire Warden's Daily pre-start checks prior to operation Reporting system regular maintenance Ticketed operators			4	E	H10



Hazard or Hazardous Event Cause Consequence Risk Ranking Controls to Prevent Hazardous Lifting equipment/hydrauchic failure lack of inspection and maintenace checks Execution Fing. Risk Risk Controls to Prevent Hazardous Uffing equipment/hydrauchic failure lack of inspection and maintenace checks Serious personal injury Fing. Risk Regular Pre-start, plant maintenace undertaken Hazard Risk Assessment communication Mobile Equipment Striking structures Poor positioning of Cranes, booms operator error Poor visibility Poor positioning of Cranes, booms operator error Poor visibility Serious personal injury damage to plant and damage to reputation error error Poor visibility Serial C E22 Codeed Radio communication/line of site Trained operator/screw Site lamiliarisation/prestart/induction supervised/managed work schedules Pre-start meeting/communication workers unfamiliar with site Mobile plant fire Poor maintenace Smoking in the cab Smoking in the cab Smoking in the cab Smoking of electrical equipment occess Death Serious personal injury damage to reputation effect on schedule atic closure constrictive ambulance ramp access 4 C E18 Fire suppression system in the angle comparison workplace manage/managed work schedules Pre-start meeting/communication schedule deconfliction Mobile plant fire Heat stress Physical strains Prisplical strai	Controls to Broyont Hazardous Event	Event Responsibility For		Re	isk						
Hazard or Hazardous Event	Be Event Cause Consequence Heat Remitty Controls to Prevent Hazardous Event Responsibility For Implementation Implementation Implementation disk of Inspector and maintenace of edge Question and maintenace of edge Question and maintenace of edge Data Cons Files 652 Question and maintenace of edge Question and maintenace of edge Cons Files 652 Regular Pie start, plant maintenace undertaken Hazad Piet Assessment Prevent Hazardous Event Prevest Prevest Prevest <th>Cons.</th> <th>Freq.</th> <th>Risk</th>	Cons.	Freq.	Risk							
Lifting equipment/hydrauchlic failure	lack of inspection and maintenace checks Operator error Inexperienced operator Working outside of swms	Death Serious personal injury Property damage damage to reputation effect on schedule site closure constrictive ambulance ramp access	5	С	E22	Regular Pre-start, plant maintenance undertaken Hazard Risk Assessment communication SWMS Ticketed workers exclusion zones/spotters Site induction		Yes	5	4	H15
Mobile Equipment Striking structures	Poor positioning of Cranes, booms Operator error Poor visibility Adverse weather poor communication workers unfamiliar with site	Death Serious personal injury damage to plant and equipment damage to reputation effect on schedule site closure constrictive ambulance ramp access	5	С	E22	Closed Radio communication/line of site Trained operators/crew Site familiarisation/prestart/induction Supervised/managed work schedules Pre-start meetings/communication schedule deconfliction workplace management			5	4	H15
Mobile plant fire	Poor maintenance Smoking in the cab Overheating of electrical equipment	Death Serious personal injury damage to plant and equipment damage to reputation effect on schedule site closure constrictive ambulance ramp access	4	С	E18	Fire suppression system in the engine compartment Train relevant employees as a Fire Warden's Daily pre-start checks prior to operation Daily plant pre start checks document on plant Log Book reporting system Trained operators			4	E	H10
Persons Falls from height	Heat stress Physical strains Failure of access equpiment Equipment in poor condition/poorly maintained operator/crew error Poor site security	Death Serious personal injury damage to plant and equipment damage to reputation effect on schedule site closure constrictive ambulance ramp access	4	С	E18	Handrailed access route Plant well maintained Trained operator/crew adequate weather conditions for works adequate footwear Ticketed operator/crew PPE-Harness up where required			4	E	H10
Falling objects	Loose objects Failure to secure equipment Damage of structure or equipment Equipment checks, maintenance poor/not undertaken	Death Serious personal injury damage to plant and equipment damage to reputation effect on schedule site closure constrictive ambulance ramp access	4	С	E18	No loose materials to be stored on the plant deck Ticketed operator daily pre-start checks/maintenance Exclusion zones PPE-Hard hats			4	E	H10







PROJECT RISK ASSESSMENT - ELECTRICAL

Heneral on Heneraleure Frank	Nous Event Cause Consequence Risk Ranking Controls to Prevent Hazardous Event Responsibility For Implementation Implementation ity during site Contact with overhead electrical Electrocution 4 C E18 Barricade work zone Authorised personnel only to enter zone Power sources to be isolated prior to works being undertaken Site safety induction for all personnel carrying out works Yes with live Unidentified Terminated Cables Electrocution 4 C E18 Authorised personnel only to enter zone Power sources to be isolated prior to works being undertaken Site safety induction for all personnel carrying out works Yes	Implemented	Re	sidual R	isk						
Hazard of Hazardous Event	Cause	Consequence	Cons.	Freq.	Risk	Controls to Prevent Hazardous Event	Implementation	For ionImplementedRe Cons.Yes4Yes4Yes4Yes4Yes4Yes4Yes4Yes4Yes3Yes3Yes3Yes3Yes3Yes3Yes2	Freq.	Risk	
Interaction with electricity during site temporary power setup	Contact with overhead electrical cables	Electrocution	4	С	E18	Barricade work zone Authorised personnel only to enter zone Power sources to be isolated prior to works being undertaken Site safety induction for all personnel carrying out works		Yes	4	E	H10
Unplanned Interaction with live electricity	Unidentified Terminated Cables	Electrocution	4	С	E18	Authorised personnel only to enter zone Power sources to be isolated prior to works being undertaken Lockout/ tag out for all temporary electrical equipment and leads Inspections to verify power disconection from source Project drawings are to be referenced prior to starting works Clearly identify live electrical cables		Yes	4	E	H10
Contact with live electricity	Working with electrical tools	Electrocution	4	В	E21	Battery powered tool used instead of tool with electrical lead Power isolation on all electrical sources during maintenance RCD Protection on all temporary power supply Equipment inspections for suitability and serviceability Lead stands and hooks for running temporary power cords and leads Electrical testing & tagging within 3 month period		Yes	4	E	H10
Contact with live electricity	Digging trenches and holes	Electrocution	4	В	E21	Power source isolation Dial before you dig documents to be sourced prior to any excavations Warning signs to be posted to identify all hazardous areas Site safety induction for all workers and visitors Power source isolation		Yes	4	E	H10
Contacting electrical cables and underground services	Digging hole or trenches without approval	Electrocution	4	В	E21	Equipment inspections for suitability and serviceability Electrical testing & tagging within 3 month period Power source isolation RCD Protection on power supply Dial before you dig		Yes	4	E	H10
Unplanned Interaction with live electricity	Unidentified Terminated Cables	Electric Shock	3	В	H17	Authorised personnel only to enter zone Power sources to be isolated prior to works being undertaken Lockout/ tag out for all temporary electrical equipment and leads Inspections to verify power disconection from source Project drawings are to be referenced prior to starting works Clearly identify live electrical cables		Yes	3	E	M6
Contact with live electricity	Working with electrical tools	Electric shock	3	В	H17	Battery powered tool used instead of tool with electrical lead Power isolation on all electrical sources during maintenance RCD Protection on all temporary power supply Equipment inspections for suitability and serviceability Lead stands and hooks for running temporary power cords and leads Electrical testing & tagging within 3 month period		Yes	3	E	M6
Contacting electrical cables and underground services	Digging hole or trenches without approval	Electric shock	3	В	H17	Equipment inspections for suitability and serviceability Electrical testing & tagging within 3 month period Power source isolation RCD Protection on power supply Dial before you dig		Yes	3	E	M6
Contact with live electricity	Digging trenches and holes	Electric shock	3	В	H17	Power source isolation Dial before you dig documents to be sourced prior to any excavations Warning signs to be posted to identify all hazardous areas Site safety induction for all workers and visitors Power source isolation		Yes	2	D	L5





Harrison and Harrison and Friend	0	0	Ri	sk Ranki	ing	Controls to Present Uncerdance Frank	dous Event Responsibility For Implementation Implemented Responsibility For Cons. work on site contractors' safety performance rith each other Yes 4 the project work on site her's work alse at the same time without Yes 4 blved in the project her one else at the same time Yes 4 blved in the project her one else at the same time Yes 4	d Residual R		isk	
Hazard or Hazardous Event	Cause	Consequence	Cons.	Freq.	Risk	Controls to Prevent Hazardous Event	Implementation	Implemented	Cons.	Freq.	Risk
Wet weather working at height	Slippery surfaces	Death	4	В	E21	Scaffolding the entire building Edge protection Training is provided to all persons undertaking work on site Project supervision in place to monitor the subcontractors' safety performance Trades have been sequenced not to interfere with each other		Yes	4	E	H10
Working with heavy steel	Erecting structural steel while working at height	Death	4	В	E21	Edge protection Regular consultation with all parties involved in the project Training is provided to all persons undertaking work on site Trades sequenced not to interfere with each other's work Personnel not to work above or below anyone else at the same time without adequate protection		Yes	4	E	H10
Working at height without fall protection	Erecting formwork for suspended slab	Death	4	В	E21	Handrail edge protection Regular consultation occurs with all parties involved in the project Trades sequenced not to interfere with each other Personnel are not to work above or below anyone else at the same time without adequate protection		Yes	4	E	H10
Installing electrical cables at height	Working off the ground	Death	4	В	E21	Regular consultation occurs with all parties involved in the project Trades sequenced not to interfere with each other Personnel are not to work above or below anyone else at the same time without adequate protection EWP Mobile scaffold Platform ladders		Yes	4	E	H10
Air-conditioning installation	Working at height installing air- conditioning ducting	Death	4	В	E21	Regular consultation occurs with all parties involved in the project Trades sequenced not to interfere with each other Personnel are not to work above or below anyone else at the same time without adequate protection EWP Mobile scaffold Platform ladders		Yes	4	E	H10
Working at height	Installing ceiling grid and tiles	Death	4	В	E21	Regular consultation occurs with all parties involved in the project Trades sequenced not to interfere with each other Personnel are not to work above or below anyone else at the same time without adequate protection EWP Mobile scaffold Platform ladders		Yes	4	E	H10
Roofing objects falling from height	Roofing activities	Death	4	С	E18	Erect barriers and no go zones Scaffolding erected for work required at height Elevated work platforms will be used Trained and ticketed personnel used to construct scaffolding		Yes	4	E	H10





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Hazard or Hazardous Event	Cause	Consequence	Cons.	Freq.	Risk	Controls to Prevent Hazardous Event	Implementation	Implemented	Cons.	Freq.	Risk
Blocks and masonry objects falling from height	Blockwork	Death	4	С	E18	Erect barriers and no go zones for workers under areas Scaffolding erected for work required at height All access equipment is of adequate height Scaffolding erected for work required at height, mobile scaffolds will be used Elevated work platforms will be used Scaffolding weight limits Physical barriers		Yes	4	E	H10
Laying Formwork at height	Erecting suspended formwork	Death	4	С	E18	Erect barriers and no go zones for workers under areas where works are being undertaken Scaffolding erected for work required at height Mobile scaffolds will be used Elevated work platforms will be used Hard rail barricades to live edges		Yes	4	E	H10
Objects falling from the crane at height	Climbing crane tower	Death	4	С	E18	Cage surrounding tower ladder preventing fall Ladder weight limits Licensed tower crane operator Certified training Maintenance schedules Routine maintenance		Yes	4	E	H10
External cleaning objects falling from height	Cleaning external windows	Death	4	С	E18	Scaffolding the entire building Edge protection physical barriers Scaffolding erected for work required at height Harness and lanyards		Yes	4	E	H10
Painting objects falling from height	Painting building façade off the ground	Death	4	С	E18	Scaffolding the entire building Edge protection		Yes	3	E	H13
Working from unstable surfaces while installing Scaffold	Installing scaffolding	Death	4	С	H18	Barricade off areas under construction Physical barriers for areas not to be used 225mm from the building the inside standards have to be placed Workplace inspections carried out by qualified scaffolder Scaff Tag sign off notices Monthly inspection reports Scaffold erecting plan/engineered		Yes	4	E	H10
Wet weather working at height	Slippery surfaces	Physical injury	3	В	H17	Scaffolding the entire building Edge protection Training is provided to all persons undertaking work on site Project supervision in place to monitor the subcontractors' safety performance Trades have been sequenced not to interfere with each other		Yes	3	E	M6
Working with heavy steel	Erecting structural steel while working at height	Physical injury	3	В	H17	Edge protection Regular consultation with all parties involved in the project Training is provided to all persons undertaking work on site Trades sequenced not to interfere with each other's work Personnel not to work above or below anyone else at the same time without adequate protection		Yes	3	E	M6
Working at height without fall protection	Erecting formwork for suspended slab	Physical injury	3	В	H17	Handrail edge protection Regular consultation occurs with all parties involved in the project Trades sequenced not to interfere with each other Personnel are not to work above or below anyone else at the same time without adequate protection		Yes	3	E	M6





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Hazard or Hazardous Event	Cause	Consequence	Cons.	Freq.	Risk	Controls to Prevent Hazardous Event	Implementation	Implemented	Cons.	Freq.	Risk
Installing electrical cables at height	Working off the ground	Fall resulting in a physical injury	3	В	H17	Regular consultation occurs with all parties involved in the project Trades sequenced not to interfere with each other Personnel are not to work above or below anyone else at the same time without adequate protection EWP Mobile scaffold Platform ladders		Yes	3	E	M6
Air-conditioning installation	Working at height installing air- conditioning ducting	Physical injury	3	В	H17	Regular consultation occurs with all parties involved in the project Trades sequenced not to interfere with each other Personnel are not to work above or below anyone else at the same time without adequate protection EWP Mobile scaffold Platform ladders		Yes	3	E	M6
Working at height	Installing ceiling grid and tiles	Physical injury	3	В	H17	Regular consultation occurs with all parties involved in the project Trades sequenced not to interfere with each other Personnel are not to work above or below anyone else at the same time without adequate protection EWP Mobile scaffold Platform ladders		Yes	3	E	M6
Roofing objects falling from height	Roofing activities	Physical Injury	3	В	H17	Erect barriers and no go zones Scaffolding erected for work required at height Elevated work platforms will be used Trained and ticketed personnel used to construct scaffolding		Yes	3	E	M6
Blocks and masonry objects falling from height	Blockwork	Physical Injury	3	В	H17	Erect barriers and no go zones for workers under areas Scaffolding erected for work required at height All access equipment is of adequate height Scaffolding erected for work required at height, mobile scaffolds will be used Elevated work platforms will be used Scaffolding weight limits Physical barriers		Yes	3	E	M6
Laying Formwork at height	Erecting suspended formwork	Physical injury	3	С	H13	Erect barriers and no go zones for workers under areas where works are being undertaken Scaffolding erected for work required at height Mobile scaffolds will be used Elevated work platforms will be used Hard rail barricades to live edges		Yes	3	E	M6
Objects falling from the crane at height	Climbing crane tower	Physical injury	3	С	H13	Cage surrounding tower ladder preventing fall Ladder weight limits Licensed tower crane operator Certified training Maintenance schedules Routine maintenance		Yes	3	E	M6
External cleaning objects falling from height	Cleaning external windows	Physical injury	3	Ċ	H13	Scaffolding the entire building Edge protection physical barriers Scaffolding erected for work required at height Harness and lanyards		Yes	3	Ē	M6
Painting objects falling from height	Painting building façade off the ground	Physical injury	3	С	H13	Scaffolding the entire building Edge protection		Yes	3	E	M6





Hozard or Hozardous Event	Cause	Consequence	Risk Ranking		ing	Controls to Prevent Hazardous Event	Responsibility For	Implemented	Re	sidual R	isk
Hazard of Hazardous Event	Cause	Consequence	Cons.	Freq.	Risk		Implementation	implemented	Cons.	Freq.	Risk
Working from unstable surfaces while installing Scaffold	Installing scaffolding	Physical injury	3	С	H13	Barricade off areas under construction Physical barriers for areas not to be used 225mm from the building the inside standards have to be placed Workplace inspections carried out by qualified scaffolder Scaff Tag sign off notices Monthly inspection reports Scaffold erecting plan/engineered		Yes	3	E	M6
Access / Egress	Access / Egress ways are not clearly maintained	Physical Injury Fatality	ţ	S C	E22	Scaffolding the entire building Edge protection physical barriers Scaffolding erected for work required at height Harness and lanyards Housekeeping Toolbox all design changes to access / egress		Yes	5	E	H15





PROJECT RISK ASSESSMENT - EXCAVATION WORKS

Hazard or Hazardous Event Falling in to a trench Flooding trench Engulfment from trench wall collapse Slips, trips, strains and falls	Cause	Consequence	Risk Ranking		Controls to Prevent Hazardous Event	Responsibility For	Implemented	Re	sidual R	isk	
	Cause	Consequence	Cons.	Freq.	Risk		Implementation	Implemented	Res Cons. 3 3 3 3 8	Freq.	Risk
Falling is to a transfer											
Falling in to a trench	Open unprotected trenches	Serious physical injury	3	С	H13	Barricade trench perimeter			3	E	M6
						Bench, batter or shore any trench over 1.5M					
						Licensed operators on all plant and equipment					
						Warning signs to indicate hazardous areas					
Flooding trench	Contact with in ground water services	Physical injury	3	В	H17	De-watering of trench			3	E	M6
						Dial before you dig serch & documentatiation					
						Warning signs to indicate hazardous areas					
Engulfment from trench wall collapse	inexperience, unsupervised, unplanned	Physical injury	3	С	H13	Bench, batter or shore any trench over 1.5M			3	E	M6
	works					Traffic management personnel					
						Warning signs/barricade/exclusion zone to indicate hazardous area					
Slips, trips, strains and falls	Poor housekeeping	Physical injury	9	В	E26	Licensed operators for all plant and equipment			8	E	M11
						Daily inspections and prestart inspections on all plant and equipment					
						Competency to operate all plant and equipment					
						Training for new equipment					
						Qualified personnel employed for designated plant and equipment					
						Clear and level paths of travel and work surfaces					
						Ground surfaces and pathways maintained in good condition					
						Grates or covers are in good condition with nonslip surfaces					
						Regular housekeeping as part of daily work activities					

Hazard or Hazardous Event	Cause	Conseguence	Dick D	anking		Controls to Prevent Hazardous Event	Posponsibility For	Implemented	Posidu	al Piek	
	Cause	consequence	Cons		Rick		Implementation	implemented	Cons		Rick
			Cons.	Fieq.	INISK				Cons.	Fieq.	IN ISK
Sharp objects	Lack of housekeeping Lack of attention No human traffic control No demarcation zones	Severe personal injury Personal injury Loss of production	4	D	H14	DRABCD action plan Pad and bandage Contact emergency services Suitable equipment for first aid treatment First aid kits on site Senior first aid trained Halikos personnel ECO authorised for the worksite		Yes	4	E	H10
Allergic reaction Dust Asthma attack	High wind Cutting with no Vaccuum	Lack of oxygen Unconsciousness Anaphylaxis	4	D	H14	DRABCD action plan Contact emergency services Suitable equipment for first aid treatment First aid kits on site Senior first aid trained Halikos personnel ECO authorised for the worksite		Yes	4	E	H10
Fitness for work & Health issues	Circulatory failure Respiratory failure Aneurysm Personal weight - restricted movement	Severe pain Death in the workplace Loss of production	4	С	E18	DRABCD action plan Contact emergency services Suitable equipment for first aid treatment First aid kits on site Senior first aid trained Halikos personnel ECO authorised for the worksite		Yes	4	E	H10
Breathing irritation	Working with tools that produce dust or fumes	Physical injury	3	С	H13	Dust mask Respirator Workers must be trained in their proper use and maintenance of respirators First Aid Officers trained		Yes	3	E	M6
Burns	Undertaking hot work on site Being in the vacinity of Hot Work Hot work being conducted above Hot work being conducted with no fire fighting equipment Heat transfer from hot work being conducted	Fatality / Multiple Serious Personal injury Personal Injury Property Damage	5	A	E25	Hot work Permits Portable fire extinguishers are checked prior to permit issue Competent Workers only are to conduct hot work on site Signage (When working above) Signage (When hot work is in progress)		Yes	3	D	M9
Cut / Lacerations	Sharp edges No PPE being worn Incorrect storage	Serious Personal Injury Personal Injury Medical treatment Injury First Aid Injury	4	С	E18	No Sharp edges are to protrude outwards towards human traffic flows All workers are to wear correct PPE All off cuts are to be appropriatley stored in the storage areas		Yes	4	D	H14
Eye Damage	Cutting / Grinding Cutting / Grinding in restricted areas High Winds No PPE Cutting / Grinding above work areas	Serious Personal Injury Personal Injury Medical treatment Injury First Aid Injury	3	с	H13	All workers are to wear appropriate PPE No cutting or Grinding is to be undertaken without signage No working above levels without signage		Yes	3	D	M9
Sprains and Strains	trip, slip,falls Poor houseeeping Manual handling	personal injury LTI MTI FAI	3	В	H17	Spatial awareness Lighting housekeeping Workplace briefings on workplace changes Correct PPE Knowledge of swms Risk Assessments Site Induction		Yes	3	D	M9
Heat illness	dehydration overexposure to hot environments Lack of air flow workplace fatigue	dehydration fatigue LTI MTI FAI	4	С	E18	Induction Site Hydration facilities Site awareness Urine colour charts Reporting system Known exposure limits Workforce rotation		Yes	4	D	H14





PROJECT RISK ASSESSMENT - RISK REGISTER



	R	isk Ratir	na		Re	sidual R	isk
Hazard or Hazardous Event	Cons.	Freq.	Risk	Controls to Prevent Hazardous Event	Cons.	Freq.	
Mobile concrete boom collapse	5	D	E19	Traffic management crew Firm ground and set up area Routine maintenance Licenced Operator At induction, establish operators have necessary credentials Experienced trades person Supervised trainees Formwork engineering plan Human traffic control	4	E	H10
Operating plant and equipment	4	С	E18	Cperator only to conduct daily pre-start checks All work equipment is to be lowered to the ground & lever lock engaged Qualified mechanic only to carry out repairs Adhere to the maintenance regime for the Plant / equipment Communication to be maintained between operator & other work groups Traffic management personnel JSA/SWMS to be conducted prior to use Special request to Labour hire company of trade quals needed	4	E	M6
Placing personnel in jobs or on tasks that they have never done before	4	С	H10	No short term employees will carry out this type of task Selected experienced trades people or labourers Regular consultation occurs with all parties involved in the project Training is provided to all persons undertaking work on site Supervision to monitor the subcontractors' safety performance Trade de-confliction Special request to Labour hire company of trade quals needed	4	E	H10
Mobile plant and light vehicle interaction or accident	4	С	E18	No work under or no raising of boom & bucket over other workers, hospital personnel and the public Work equipment is to be lowered to the ground & lever lock engaged Daily plant pre start checks & document on mobile plant Log Book Qualified mechanic only to carry out repairs Adhere to the maintenance regime for the Plant / equipment Communication to be maintained between operator & other work groups Traffic management personnel Competency assessments JSA to be conducted pre set-to-work	4	E	H10
Mobile plant operation	4	С	E18	Licenced Operator Work equipment is to be lowered to the ground & lever lock engaged Conduct daily plant pre start checks & document on plant Log Book Qualified mechanic only to carry out repairs Adhere to the maintenance regime for the Plant / equipment Communication to be maintained between operator & other work groups JSA to be conducted pre set-to-work	4	E	H10
Fitness for work & Health issues	4	С	E18	Workers to be screened at induction for existing medical conditions DRABCD action plan Contact emergency services Suitable equipment for first aid treatment First aid kits on site and in Alimacs Senior first aid trained Halikos personnel ECO authorised for the worksite	4	E	H10
Sharp objects	4	D	H14	DRABCD action plan Pad and bandage Contact emergency services Suitable equipment for first aid treatment First aid kits on site and in Alimacs Senior first aid trained Halikos personnel ECO authorised for the worksite	4	E	H10
Allergic reaction Dust Asthma attack	4	D	H14	DRABCD action plan Contact emergency services Suitable equipment for first aid treatment First aid kits on site and in Alimacs Senior first aid trained Halikos personnel ECO authorised for the worksite	4	E	H10
Chemical exposure	4	С	H18	PPE Ventilation Storage areas MSDS guidance and instructions First aid measures	4	E	H10
Meliodosis	4	D	H10	Correct footwear Toolbox meeting awareness Safety alerts and notices Rubber gloves	4	E	H10
Mobile plant accident	4	С	E18	Licenced Operator 0 (zero) blood alcohol level Breath test analysis if effects of alcohol suspected Seat belts worn at all times during operation Daily pre-start checks prior to operation Daily plant pre start checks document on plant Log Book Qualified mechanic carry out repairs Communication to be maintained between work groups	4	E	H10





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Hazard or Hazardous Event	R	Erec	1g Dick	Controls to Prevent Hazardous Event	Re	Sidual R	isk
Mobile plant to mobile plant interaction or accident	4	C	E18	Licenced Operator 0 (zero) blood alcohol level Breath test analysis if effects of alcohol suspected Seat belts worn at all times during operation Traffic management devices to be in place prior to use Communication to be maintained between work groups	4	E	H10
Mobile plant and light vehicle interaction or accident	4	С	E18	Licenced Operator 0 (zero) blood alcohol level Breath test analysis if effects of alcohol suspected Seat belts worn at all times during operation Traffic management devices to be in place prior to use Daily pre-start checks prior to operation Daily plant pre start checks document on plant Log Book Communication to be maintained between work groups	4	E	H10
Mobile plant rollover	4	С	E18	Licenced Operator 0 (zero) blood alcohol level Breath test analysis if effects of alcohol suspected Roll Over Protection (ROP'S) Fall Over Protection (FOP'S) Seat belts worn at all times during operation Plant equipment is to be lowered to the ground & lever lock engaged	4	E	H10
Mobile plant and personnel interaction or accident	4	С	E18	Plant equipment is to be lowered to the ground & lever lock engaged Traffic management devices to be in place prior to use Communication to be maintained between work groups	4	E	H10
Mobile plant fire	4	С	E18	Portable fire exstinguishers/fitted suppression system where fitted to the plant Fire suppression system in the engine compartment Train relevant employees as a Fire Warden's Daily pre-start checks prior to operation Daily plant pre start checks document on plant Log Book	4	E	H10
Cranage	3	В	H17	Gantry erected over walkway adjacent to worksite Establish loading bays	3	E	M6
Crane collapse	5	С	E22	Competent installation of Mobile Crane Competent operator only to conduct daily pre-start checks	4	D	H14
Crane Striking structures	5	С	E22	Licensed Operator SWMS Crane Lifting Plan Closed Radio communication Designed positioning of Mobile crane to avoid structues being within lift radius Competent operator only to conduct daily pre-start checks	4	D	H14
Objects falling from the crane at height	4	С	E18	Cage surrounding tower ladder preventing fall Ladder weight limits Licensed tower crane operator Certified training Maintenance schedules Routine maintenance	4	E	H10
Interaction with electricity during site temporary power setup	4	С	E18	SWMS Crane Lifting Plan Barricade work zone Authorised personnel only to enter zone Power sources to be isolated prior to works being undertaken Site safety induction for all personnel carrying out works	4	E	H10
Unplanned Interaction with live electricity	4	С	E18	Authorised personnel only to enter zone Power sources to be isolated prior to works being undertaken Lockout/ tag out for all temporary electrical equipment and leads Inspections to verify power disconection from source Project drawings are to be referenced prior to starting works Clearly identify live electrical cables by 3rd party services locating company	4	E	H10
Contact with live electricity	4	В	E21	Battery powered tool used instead of tool with electrical lead Power isolation on all electrical sources during maintenance RCD Protection on all temporary power supply Equipment inspections for suitability and serviceability Lead stands and hooks for running temporary power cords and leads Electrical testing & tagging within 3 month period Temporary power to be labelled Dial before you dig documents to be sourced prior to any excavations Warning signs to be posted to identify all hazardous areas Site safety induction for all workers and visitors	4	E	H10
Wet weather working at height	4	В	E21	Scaffolding the entire building Edge protection Training is provided to all persons undertaking work on site Project supervision in place to monitor the subcontractors' safety performance Trades have been sequenced not to interfere with each other Harnesses where appropriate Working at heights training No work without permit being issued	4	E	H10



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Hazard or Hazardous Event	R	ROJECT RISK ASSESSMENT - RISK REGISTER Risk Rating Controls to Prevent Hazardous Event Re Cons. Freq. Risk Cons. Cons. <td< th=""><th>sidual R</th><th>isk</th></td<>		sidual R	isk						
Working with heavy steel	4	Freq. B	Risk E21	Edge protection	4	Freq. E	H10				
				Training is provided to all persons undertaking work on site Training is provided to all persons undertaking work on site Trades sequenced not to interfere with each other's work Personnel not to work above or below anyone else at the same time without adequate protection SWMA Lifting Device Traffic Control							
Working at height without fall protection	4	В	E21	Communication Signs Handrail edge protection Regular consultation occurs with all parties involved in the project	4	E	H10				
		D	504	Personnel are not to work above or below anyone else at the same time without adequate protection							
nistannig electrical cables at neight	4	В	EZI	Trades sequenced not to interfere with each other Personnel are not to work above or below anyone else at the same time without adequate protection EWP Mobile scaffold Platform ladders	4	L	ню				
Air-conditioning installation	4	В	E21	Regular consultation occurs with all parties involved in the project Trades sequenced not to interfere with each other Personnel are not to work above or below anyone else at the same time without adequate protection EWP Mobile scaffold Platform ladders	4	E	H10				
Working at height	4	В	E21	Regular consultation occurs with all parties involved in the project Trades sequenced not to interfere with each other Personnel are not to work above or below anyone else at the same time without adequate protection EWP Mobile scaffold Platform ladders	4	E	H10				
Objects falling from height	4	С	E18	Erect barriers and no go zones and shade cloth if required Scaffolding erected for work required at height Elevated work platforms will be used Trained and ticketed personnel used to construct scaffolding	4	E	H10				
Blocks and masonry objects falling from height	4	С	E18	Erect barriers and no go zones for workers under areas where works are being undertaken Scaffolding erected for work required at height All access equipment is of adequate height Scaffolding erected for work required at height, mobile scaffolds will be used Elevated work platforms will be used Scaffolding weight limits Physical barriers Mobile scaffolds will be used Elevated work platforms will be used Elevated work platforms will be used Hard rail barricades to live edges Edge protection physical barriers Harness and lanyards	4	E	H10				
Working from uneven surfaces while installing Scaffold	4	С	H18	Barricade off areas under construction Physical barriers for areas not to be used 225mm from the building the inside standards have to be placed Workplace inspections carried out by qualified scaffolder Scaff Tag sign off notices Monthly inspection reports Scaffold erecting plan/engineered	4	E	H10				
Slips, trips, strains, falls	3	С	H13	Mount & dismount maintaining 3 points of contact at all times Good housekeeping to be maintained in operating area Traffic management personnel Demarcation zones to be advertised during induction Clear and level path Access ways that are slip resistant in the wet or sheltered from rain Ground surfaces and pathways maintained in good condition Grates or covers are in good condition with nonslip surfaces Report and clean up spillages on site Site spacial awareness is to be advised	3	E	M6				
Heavy rain	3	A	E20	Clear project site of all loose material that could blow about Power isolated at source W alls, roof and eaves of the property are secure Site and property loose material tie down Vehicles under solid shelter, hand brake on and in gear Shutters or board-up or heavily tape all windows and lock doors Close the work site to all personnel Shut down all site power Send personnel home Hoarding (IL4 Rating) must withstand heavy/rain wind	3	E	M6				



PROJECT RISK ASSESSMENT - RISK REGISTER											
Hazard or Hazardous Event	R	isk Rati	ng	Controls to Prevent Hazardous Event	Residual Risk						
	Cons.	Freq.	Risk		Cons.	Freq.					
Airbourne debris as a result of strong destructive winds	4	A	E23	See Project Cyclone Plan Clear project site of all loose material that could become airbourne debris Power isolated at source Walls, roof and eaves of the property are secure Site and property loose material tied down and made secure Vehicles under solid shelter, hand brake on and in gear Shutters, board-up or heavily tape all windows and lock doors Close the work site to all personnel Send personnel home	3	E	M6				
Hazardous substance spill	3	C	H13	Persons are to be trained as fire warden to aid in evacuations Evacuation drills must be conducted Emergency contact list must be displayed An evacuation muster point must be established clear of the project Suitable equipment for first aid treatment, first aid kits Senior first aid trained Halikos personnel	3	E	M6				

Dust exposure	3	С	H13	Exhaust fans Water suppression Dust extraction fans and funnels P1 Dust Mask Isolate detectors	3	E	M6
Low level lighting	3	С	H13	Program permanent lighting to follow close behind main structure Temporary Lighting Luxometer Hours of work during daylight hours	3	D	M9
Chemical exposure	3	С	H13	Ventilation fans Storage areas MSDS guidance and instructions First aid measures Use of low VOC (Volatile Organic Compound) products	3	E	M6
Windy Conditions	4	D	H14	Monitoring weather Wind o meter checks and readings Tower Crane shutdown if there is excessive wind above 72km Project Emergency Response Plan Evacuation in tropical cyclone	3	D	M9
Biological Substances	3	D	M9	First aid equipment checks by third party contractor First aid training for key personnel on site Sharps containers Rubber gloves	3	E	M6
Scaffolding works	3	С	H13	All Scaffold work is to be conducted by trained and licenced scaffolders	3	E	M6
Objects falling from height	5	D	E19	Hard Hat Signage Tool Lanyards Worksite isolation Incompatible Operations	5	E	M6
Wokers falling from height	5	E	H15	Training for all personel in the use of fall protection equipment Full body harness Fall arrest devicE Personnel are to be trained and Qualified in working at heights	3	E	M6
Concrete mobile boom	3	С	Parameter of the second sec		3	E	M6
Airbourne projectiles	3	С	H13	anes device sonnel are to be trained and Qualified in working at heights d Hat ety glasses igles e shield ding shield		E	M6
Welding ark eye burns	3	С	H13	Welding shield Welding curtains	3	E	M6
Breathing irritation	3	С	H13	Dust mask Respirator Workers must be trained in their proper use and maintenance of respirators	3	E	M6
Interaction with workers	3	С	H13	High visibility vest	3	E	M6
Excessive noise	3	С	H13	Ear plugs Ear muffs	3	E	M6
Feet, foot injuries from walking around site	3	С	H13	Steel toed shoes	3	E	M6
Mobile plant accident	3	С	H13	Seat belts worn at all times during operation Daily pre-start checks prior to operation Daily plant pre start checks document on plant Log Book Qualified mechanic carry out repairs Communication to be maintained between work groups	3	E	M6
Mobile plant to mobile plant interaction or accident	3	С	H13	Seat belts worn at all times during operation Traffic management devices to be in place prior to use Communication to be maintained between work groups	3	E	M6
Mobile plant and light vehicle interaction or accident	3	С	H13	Seat belts worn at all times during operation Traffic management devices to be in place prior to use Daily pre-start checks prior to operation Daily plant pre start checks document on plant Log Book Communication to be maintained between work groups	3	E	M6
Mobile plant rollover	3	С	H13	Roll Over Protection (ROP'S) Fall Over Protection (FOP'S) Seat belts worn at all times during operation Plant equipment is to be lowered to the ground & lever lock engaged	3	E	M6

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Roofing objects falling from height

halikos PROJECT RISK ASSESSMENT - RISK REGISTER												
Hazard or Hazardous Event	R Cons	isk Ratin	g Risk	Controls to Prevent Hazardous Event	Cons	sidual R	isk					
Mobile plant and personnel interaction or accident	3	C	H13	Plant equipment is to be lowered to the ground & lever lock engaged Traffic management devices to be in place prior to use Communication to be maintained between work groups	3	E	M6					
Mobile plant fire	3	С	H13	Fire suppression system in the engine compartment Train relevant employees as a Fire Warden's Daily pre-start checks prior to operation Daily plant pre start checks document on plant Log Book	3	E	M6					
Crane fire	4	С	E18	Fire suppression system in the engine compartment Competent operator only to conduct daily pre-start checks Train relevant employees as a Fire Warden's	3	E	M6					
Crane Electricution	4	С	E18	Regular maintenance All faults reported immediately Competent installation Competent operator only to conduct daily pre-start checks	3	E	M6					
Crane Falls from height	4	С	E18	Handrail erected around crane deck Enclosed access route Regular rest decks installed on the access route Competent operator only to conduct daily pre-start checks	3	E	M6					
Crane Falling objects	4	С	E18	No loose materials to be stored on the crane deck Competent operator only to conduct daily pre-start checks	3	E	M6					
Unplanned Interaction with live electricity	3	В	H17	Authorised personnel only to enter zone Power sources to be isolated prior to works being undertaken Lockout/ tag out for all temporary electrical equipment and leads Inspections to verify power disconection from source Project drawings are to be referenced prior to starting works Clearly identify live electrical cables	3	E	M6					
Contact with live electricity	3	В	H17	Battery powered tool used instead of tool with electrical lead Power isolation on all electrical sources during maintenance RCD Protection on all temporary power supply Equipment inspections for suitability and serviceability Lead stands and hooks for running temporary power cords and leads Electrical testing & tagging within 3 month period	3	E	M6					
Contacting electrical cables and underground services	3	В	H17	Equipment inspections for suitability and serviceability Electrical testing & tagging within 3 month period Power source isolation RCD Protection on power supply Dial before you dig	3	E	M6					
Wet weather working at height	3	В	H17	Scaffolding the entire building Edge protection Training is provided to all persons undertaking work on site Project supervision in place to monitor the subcontractors' safety performance Trades have been sequenced not to interfere with each other	3	E	M6					
Working with heavy steel	3	В	H17	Edge protection Regular consultation with all parties involved in the project Training is provided to all persons undertaking work on site Trades sequenced not to interfere with each other's work Personnel not to work above or below anyone else at the same time without adequate protection	3	E	M6					
Working at height without fall protection	3	В	H17	Handrail edge protection Regular consultation occurs with all parties involved in the project Trades sequenced not to interfere with each other Personnel are not to work above or below anyone else at the same time without adequate protection	3	E	M6					
Installing electrical cables at height	3	В	H17	Regular consultation occurs with all parties involved in the project Trades sequenced not to interfere with each other Personnel are not to work above or below anyone else at the same time without adequate protection EWP Mobile scaffold Platform ladders	3	E	M6					
Air-conditioning installation	3	В	H17	Regular consultation occurs with all parties involved in the project Trades sequenced not to interfere with each other Personnel are not to work above or below anyone else at the same time without adequate protection EWP Mobile scaffold Platform ladders	3	E	M6					
Working at height	3	В	H17	Regular consultation occurs with all parties involved in the project Trades sequenced not to interfere with each other Personnel are not to work above or below anyone else at the same time without adequate protection EWP Mobile scaffold	3	E	M6					

Erect barriers and no go zones Scaffolding erected for work required at height Elevated work platforms will be used Trained and ticketed personnel used to construct scaffolding

Platform ladders

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PROJECT RISK ASSESSMENT - RISK REGISTER



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Hazard or Hazardous Event	R	isk Ratir	ng Diak	Controls to Prevent Hazardous Event	Re	sidual R	isk
Blocks and masonry objects falling	Cons.	Freq. B	H17	Fract barriers and no go zones for workers under areas	Cons.	Freq.	M6
from height				Scaffolding erected for work required at height All access equipment is of adequate height Scaffolding erected for work required at height, mobile scaffolds will be used Elevated work platforms will be used Scaffolding weight limits Physical barriers	0	_	
Laying Formwork at height	3	С	H13	Erect barriers and no go zones for workers under areas where works are being undertaken Scaffolding erected for work required at height Mobile scaffolds will be used Elevated work platforms will be used Hard rail barricades to live edges	3	E	M6
Objects falling from the crane at height	3	С	H13	Cage surrounding tower ladder preventing fall Ladder weight limits Licensed tower crane operator Certified training Maintenance schedules Routine maintenance	3	E	M6
External cleaning objects falling from height	3	С	H13	Scaffolding the entire building Edge protection physical barriers Scaffolding erected for work required at height Harness and lanyards	3	E	M6
Painting objects falling from height	3	С	H13	biding elected to work required at height ess and lanyards olding the entire building : protection cade off areas under construction ical barriers for areas not to be used Im from the building the inside standards have to be placed place inspections carried out by qualified scaffolder Tag sign off notices hy inspection reports		E	M6
Working from unstable surfaces while installing Scaffold	3	С	H13	Barricade off areas under construction Physical barriers for areas not to be used 225mm from the building the inside standards have to be placed Workplace inspections carried out by qualified scaffolder Scaff Tag sign off notices Monthly inspection reports Scaffold erecting plan/engineered	3	E	M6
Open unprotected trenches	3	С	H13	Scaffold erecting plan/engineered Barricade trench perimeter Bench, batter or shore any trench over 1.5M Licensed operators on all plant and equipment Warning signs to indicate hazardous areas De-watering of trench Dial before you dig serch & documentatiation Warning signs to indicate hazardous areas		E	M6
Contact with in ground water services	3	В	H17	De-watering of trench Dial before you dig serch & documentatiation Warning signs to indicate hazardous areas Bench, batter or shore any trench over 1.5M		E	M6
inexperience, unsupervised, unplanned works	3	С	H13	Warning signs to indicate hazardous areas Bench, batter or shore any trench over 1.5M Traffic management personnel Warning signs/barricade/exclusion zone to indicate hazardous area		E	M6
Noise	2	С	M8	Bench, batter or shore any trench over 1.5M Traffic management personnel Warning signs/barricade/exclusion zone to indicate hazardous area National Standard for Occupational Noise Dosimeter Limited time for using tools Hearing protection Elimination of any sources of fuel or fire bazards		E	L3
Building fire or explosion	3	В	H17	Varning signs to indicate hazardous areas Bench, batter or shore any trench over 1.5M Traffic management personnel Varning signs/barricade/exclusion zone to indicate hazardous area Vational Standard for Occupational Noise Dosimeter Imited time for using tools Iterating protection Imited time for using tools Iteratinguisher located at an accessible location Iteratinguisher adjacent to the hot work area Portable fire fighting equipment on all moving plant on the site Iterating equipment will be regularly inspected by an authorised service agent at Iterating is to be maintained Induction process details emergency evacualtion / preparedness ICO authorised for the work site Iteration Iteratio		E	L3
Thermal Temperature	2	D	L5	Ventilation Amenities First Aid Officers	2	E	L3
Windy Conditions	1	D	L2	Monitoring weather Wind o meter checks and readings Tower Crane shutdown if there is excessive wind above 72km C2 Project Emergency Response Plan Evacuation in tropical cyclone	1	E	L1
Asbestos	1	D	L2	No work to be carried out in the project office All walls of the office have had plaster board Trained and licenced removalists Asbestos Register - NT-0356 Disposable coveralls Particle filtered respirator Rubber Gloves	1	E	L1
Radio Frequency Radiation (RFR)	1	D	L2	Particle filtered respirator Rubber Gloves RFR devices used are to be labelled Assess the safety of RFR products		E	L1
Synthetic Mineral Fibres (SMF)	1	D	L2	Joinery work conducted off site Insulation bats come manufactured	1	E	L1
Radiation	1	D	L2	Dust extraction tans and tunnels when and where required No radioactive substance on site No radioactive material in the construction site proximity	1	E	L1



PROJECT RISK ASSESSMENT - RISK REGISTER

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Hazard or Hazardous Event	R		1g Diele	Controls to Prevent Hazardous Event	Re		ISK			
Vibration	Cons.	Freq.	RISK	lob and task ratation with omployees	Cons.	Freq.	14			
Vibration		U	LZ	Job and task rotation with employees	'	E	LI			
				Rubber doves						
Contominated sail	1		1.2	Na contemineted coil on cito	1	E	1.4			
	1						L1			
MDF		U	LZ	Durit all joinery off site	'	–	E.1			
				Sequencing building activities						
				Rubber doves						
Meliodopia	1		1.2		1	-	1.4			
Meliodosis		U	LZ	Sofety elerts and poticos	'	–	E.1			
				Bubber doves						
A en de situite	4		1.0	Rubbel gloves		_	14			
Actyloniume	1				1					
Cadesium	1			The projection of the building is with water based point	1					
	1			The painting of the building is with water based paint	1					
Crystalline Silica	1	D	LZ	Using pre-built materials for plumbing and wiring	1	E	L1			
				Jse a water hose to wet dust down at the point of dust generation Dust levels in the air monitored by a competent person Respirators should a method of protecting against silica dust A suitable type of respirator must be used P1 dusk mask						
				Bespirators should a method of protecting against silica dust						
				A suitable type of respirator must be used						
				P1 dusk mask						
Create		_	10	a water hose to wet dust down at the point of dust generation t levels in the air monitored by a competent person pirators should a method of protecting against silica dust itable type of respirator must be used tusk mask used on site for this project re is no Inorganic Arsenic on site re will be no lead smelting and refining; lead burning; breaking down of lead eries; plastic production; paint removal; leadlight window manufacture; lead ing. welding activities there will be competent personnel who are trained and used welders tilation for clean fresh air oroduct made on site with Inorganic Mercury Dust mask for cleaning up fluorescent lamps Socvanates to be used on site		_	14			
	1		L2	INOU USED ON SITE FOR THIS PROJECT	1	E	L1			
Inorganic Arsenic	1	D	L2	There is no Inorganic Arsenic on site	1	E	L1			
Inorganic Chromium	1	D	L2	e is no Inorganic Arsenic on site 1 e is no Inorganic Chromium on site 1 e will be no lead smelting and refining; lead burning; breaking down of lead 1 ries; plastic production; paint removal; leadlight window manufacture; lead 1		Ĕ	L1			
Inorganic Lead	1	D	L2	re will be no lead smelting and refining; lead burning; breaking down of lead 1 eries; plastic production; paint removal; leadlight window manufacture; lead ina.		E	L1			
				re is no Inorganic Chromium on site 1 re will be no lead smelting and refining; lead burning; breaking down of lead 1 eries; plastic production; paint removal; leadlight window manufacture; lead ing. welding activities there will be competent personnel who are trained and ised welders tilation for clean fresh air						
				casting.						
				For weiging activities there will be competent personnel who are trained and						
				licensed weiders						
				product made on site with Inorganic Mercury 1 Duct made for slowing up fluorescent lamps						
Inorganic Mercury	1	D	L2	No product made on site with Inorganic Mercury	1	E	L1			
				V Dust mask for cleaning up fluorescent lamps No Isocyanates to be used on site						
Isocyanates	1	D	L2	No Isocyanates to be used on site No 4,4' methylenebis(2-chloroaniline) (MOCA) used on site		E	L1			
4,4' methylenebis(2-chloroaniline)	1	D	L2	No 4,4' methylenebis(2-chloroaniline) (MOCA) used on site		E	L1			
(MOCA)				No pesticides to be used on site						
Organophosphate Pesticides	1	D	L2	No pesticides to be used on site There is no treated wood on site		E	L1			
Pentachlorophenol (PCP)	1	D	L2	No pesticides to be used on site There is no treated wood on site National Code of Practice for the Safe Handling of Timber Preservatives and		E	L1			
				No pesticides to be used on site There is no treated wood on site National Code of Practice for the Safe Handling of Timber Preservatives and Treated Timber						
				I here is no treated wood on site National Code of Practice for the Safe Handling of Timber Preservatives and Treated Timber No burning on any kind on site						
Polycyclic Aromatic Hydrocarbons	1	D	L2	National Code of Practice for the Safe Handling of Timber Preservatives and Treated Timber No burning on any kind on site		E	L1			
(PAH)				Treated Timber No burning on any kind on site No Thellium in concentrated form used on site		_				
Thallium	1	D	L2	No Thallium in concentrated form used on site	1	E	L1			
Vinyl Chloride	1	D	L2	Construction of PVC pipping off site	1	E	L1			
				PVC pipping to be bought as a complete product						
				No burning PVC on site						
				Correct disposal						
Contact with live electricity	3	В	H17	Power source isolation	2	D	L5			
				Dial before you dig documents to be sourced prior to any excavations						
				Warning signs to be posted to identify all hazardous areas						
				Site safety induction for all workers and visitors						
				Power source isolation						
Poor housekeeping	9	В	E26	Licensed operators for all plant and equipment	8	E	M11			
				Daily inspections and prestart inspections on all plant and equipment						
				Competency to operate all plant and equipment						
				Training for new equipment						
				Qualified personnel employed for designated plant and equipment						
				Clear and level paths of travel and work surfaces						
				Ground surfaces and partways maintained in good condition						
				Brailes of covers are in good condition with nonslip surfaces						
				Cogurar nousercepting as part of daily work activities						
Bomb threat	3	С	H13	Persons are to be trained as fire warden to aid in evacuation's	3	E	M6			
				Evacuation drills must be conducted						
				Emergency contact list must be displayed						
				An evacuation muster point must be established clear of the project						
				Suitable equipment for first aid treatment, first aid kits						
				Senior first aid trained Halikos personnel						
1	1			Folice are to be called immediately						





PROJECT RISK ASSESSMENT - PUBLIC

Herend en Herendeus Event	Causa	Concoguonoo	Risk Ranking			Controls to Prevent Hazardous Event	Responsibility For	Implemented	Residu	Residual Risk	
Hazard or Hazardous Event	Cause	Consequence	Cons.	Freq.	Risk	Controls to Prevent Hazardous Event	Implementation	Implemented	Cons.	Freq.	Risk
										1	
Mobile concrete boom collapse	Unstable ground conditions	Death Damage to equipment Raised Insurance premiums Damage to reputation Lost time/production through injury Criminal conviction	5	D	E19	Traffic management crew Firm ground and set up area Routine maintenance Experienced trades person Supervised trainees Formwork erection plan Human traffic control	Crane Operator Site Manager	Yes	4	E	H10
Crane Failure	lift and shift building materials, various construction items overhead	Death Physical injury Damage to equipment Raised Insurance premiums Damage to reputation Lost time/production through injury	5	D	E19	Pre-start and routine maintenance undertaken Pre-start inspections to crane Evidence of crane, lifting gear suitability, condition Safety Inspections Appropraitely licensed crane operating crew effective methods of reporing and communicating Proceedures Exclusion zones, Barrier fencing, spotters Traffic and pedestrian controls	Crane Operator Site Manager SEQ	Yes	4	E	H10
Objects falling from height	Overhead work Structural steel erection Roofing activities Block work	Physical injury Damage to equipment Raised Insurance premiums Damage to reputation Lost time/production through injury	3	В	H17	Barricade work zone to prevent personnel walking under work taking place at height A pedestrian gantry erected for walking under the building site Building perimeter covered in building fabric Safety Inspections		Yes	3	D	M9
Working at height	No fall protection	Serious Physical injury Damage to equipment Raised Insurance premiums Damage to reputation Lost time/production through injury	3	С	H13	Edge protection A pedestrian gantry erected for walking under the building site Building perimeter covered in building fabric Project supervision in place to monitor the subcontractors' safety performance Trades sequenced not to interfere with each other Safety Inspections		Yes	3	E	M6
Being hit by mobile concrete boom	Inexperienced operator Faulty equipment	Serious physical injury Damage to equipment Raised Insurance premiums Damage to reputation Lost time/production through injury	3	С	H13	Firm ground and secure surface Licensed operator Certified training Human traffic control		Yes	3	E	M6
Mobile concrete boom collapse	Unstable ground conditions	Serious physical injury Damage to equipment Raised Insurance premiums Damage to reputation Lost time/production through injury	3	С	H13	Firm ground and set up area Routine maintenance Experienced trades person Supervised trainees Formwork erection plan Human traffic control		Yes	3	E	M6





PROJECT RISK ASSESSMENT - PUBLIC

Henerd or Henerdove Event	Causa	Concoguonoo	Ri	sk Ranki	ng	Controls to Browent Hazardous Event	Responsibility For	Implemented	Residu		
Hazard of Hazardous Event	Cause	Consequence	Cons.	Freq.	Risk		Implementation	implemented	Cons.	Freq.	Risk
Concrete formwork collapse	Faulty or damaged equipment	Physical injury Damage to equipment Raised Insurance premiums Damage to reputation Lost time/production through injury	4	С	E18	A pedestrian gantry erected for walking under the building site Building perimeter covered in building fabric Training is provided to all persons undertaking work on site All hazards and control measures are monitored and reviewed to ensure continued effectiveness Project supervision in place to monitor the subcontractors' safety performance Trade de-confliction Personnel are not to work above or below anyone else at the same time Formwork erection plan JSA pre set-to-work surrendered to the Site controller		Yes	2	С	M8
Concrete formwork collapse	Faulty or damaged equipment	Death Damage to equipment Raised Insurance premiums Damage to reputation Lost time/production through injury Criminal conviction	4	С	E18	A pedestrian gantry erected for walking under the building site Building perimeter covered in building fabric Training is provided to all persons undertaking work on site All hazards and control measures are monitored and reviewed to ensure continued effectiveness Project supervision in place to monitor the subcontractors' safety performance Trade de-confliction Personnel are not to work above or below anyone else at the same time Formwork erection plan JSA pre set-to-work surrendered to the Site controller		Yes	2	С	M8









Hazard or Hazardous Event Cause		Consequence	Ri	sk Ranki	ing	Controls to Brovent Herordovo Event	Responsibility For	Implemented	Residu	al Risk	
	Cause	Consequence	Cons.	Freq.	Risk		Implementation	Implemented	Cons.	Freq.	Risk
Lack of Communication	Differing organisational needs	Inadvertant risk introduction	4	В	E 21	3 Week look ahead program Client meetings services meetings ITP's Project Staging Plan Project Control Plan Submissions to client for acceptance Site Rules being encompassed in our Induction and SMP cordination of Emergency Proceedures Service interuptions protocol and Access Request RDH to contact Halikos in emergencies Halikos to contact DOI		Yes	3	E	M6
Mobile concrete boom collapse	Unstable ground conditions Hydraulic Failure Lack of inspection and maintennace Checks Operator error Inexperienced operator Working outside of swms	Death Serious personal injury Raised Insurance premiums Property/equipment damage Damage to reputation Effect on schedule Site closure Constrictive ambulance ramp access	5	С	E22	Traffic management crew Firm ground and set up area Communication and consultation Pre-start meetings Human traffic control Exclusion zones Project induction Site Rules Daily observation Site inspections Hazard Risk Assessment SWMS Trainined, qualified, licenced, ticketed operators Supervised Trainees Daily observation Vehicle/mobile plant maintenance schedule regimes Vehicle/ mobile plant maintenance pre-starts		Yes	5	E	H15
Crane Failure	lift and shift building materials, various construction items overhead	Death Physical injury Damage to equipment Raised Insurance premiums Damage to reputation Lost time/production through injury	5	D	E19	Pre-start and routine maintenance undertaken Pre-start inspections to crane Evidence of crane, lifting gear suitability, condition Safety Inspections Appropraitely licensed crane operating crew effective methods of reporing and communicating Proceedures Exclusion zones, Barrier fencing, spotters Traffic and pedestrian controls	Crane Operator Site Manager SEQ	Yes	4	E	H10
Objects falling from height	Overhead work Structural steel erection Roofing activities Block work cranage	Physical injury Damage to equipment Raised Insurance premiums Damage to reputation Lost time/production through injury	3	В	H17	Barricade work zone to prevent personnel walking under work taking place at height spotters Building perimeter covered in building fabric Safety Inspections appropriately licenced operating crews checks and regular maintenance on tools, equipment plant, safety gear		Yes	3	D	M9
Being hit by mobile concrete boom	Inexperienced operator Faulty equipment	Serious physical injury Damage to equipment Raised Insurance premiums Damage to reputation Lost time/production through injury	3	С	H13	Firm ground and secure surface Licensed operator Certified training Human traffic control exclusion zones communication		Yes	3	E	M6
Concrete formwork collapse	Faulty or damaged equipment	Physical injury Damage to equipment Raised Insurance premiums Damage to reputation Lost time/production through injury	4	С	E18	Building perimeter covered in building fabric Training is provided to all persons undertaking work on site All hazards and control measures are monitored and reviewed to ensure continued effectiveness Project supervision in place to monitor the subcontractors' safety performance Trade de-confliction Personnel are not to work above or below anyone else at the same time exclusion zones for pours and stripping Formwork erection plan & engineered design JSA pre set-to-work surrendered to the Site controller		Yes	2	С	M8
Emergency Vehicle Interaction	influx of emergency situations deliveries	Collision between construction Plant / Site equipment with emergency vehicles	4	В	E21	Site Fencing Sentry in place when construction site spillage occurs Notification to client of construction site movements Traffic and pedestrian controls in place Appropraitely licensed operators Plant maintained and regularly checked		Yes	4	D	H14



Hazard or Hazardous Event	Causa	Concoguonoo	R	isk Rank	ing	Controls to Prevent Hazardous Event	Responsibility For	Implemented	Residu	al Risk	
	Cause	Consequence	Cons.	Freq.	Risk		Implementation	implementeu	Cons.	Freq.	Risk
Adjacent Buildings	fire explosion	Death Serious personal injury Raised Insurance premiums Property/equipment damage Effect on schedule Site closure Constrictive ambulance ramp access		4 C	E18	Emergency Warning Systems in Place Client to notify Halikos of Emergencies Evacuation training Emergency Evacuation Muster Points Emergency Wardens Trained		Yes	4	E	H10
Introduction of Infection	Conducting work within the Infectious Controlled Areas	Personal Illness Serious Personal Illness		4 C	E18	Access Requests Issued Infection Suits (RDH Issued) Installation of Zip Walls Forced Air Extraction Limited Personnel Numbers Spotters		Yes	4	D	H14





PROJECT RISK ASSESSMENT - LABOUR HIRE



Harrison and Harrison Francis	0	Consequence	Risk Ranking			Controls to Prevent Hazardous Event	Responsibility For	Implemented	Residual Risk		isk
Hazard or Hazardous Event	Cause	Consequence	Cons.	Freq.	Risk	Controls to Prevent Hazardous Event	Implementation	Implemented	Cons.	Freq.	Risk
Operating plant and equipment	Little experience New equipment Never worked in construction Accelerated work program	Death Damage to equipment Raised insurance premiums Loss of production Criminal conviction	4	С	E18	Cperator only to conduct daily pre-start checks All work equipment is to be lowered to the ground & lever lock engaged Qualified mechanic only to carry out repairs Adhere to the maintenance regime for the Plant / equipment Communication to be maintained between operator & other work groups Traffic management personnel JSA to be conducted prior to use Special request to Labour hire company of trade quals needed		Yes	4	E	H10
Placing personnel in jobs or on tasks that they have never done before	Lack of industry experience Accelareated work program Lack of task training Lack of site induction Lack of task induction	Death Damage to equipment Raised insurance premiums Loss of production Criminal conviction	4	С	E18	Selected experienced trades people or labourers Regular consultation occurs with all parties involved in the project Training is provided to all persons undertaking work on site Supervision to monitor the subcontractors' safety performance Trade de-confliction Special request to Labour hire company of trade quals needed		Yes	4	E	H10
Mobile plant and light vehicle interaction or accident	Inexperience No license or ticket Lack of task training Lack of site induction Lack of task induction	Death Damage to equipment Raised insurance premiums Loss of production criminal conviction	4	С	E18	No work under or no raising of boom & bucket over other workers Work equipment is to be lowered to the ground & lever lock engaged Daily plant pre start checks & document on plant Log Book Qualified mechanic only to carry out repairs Adhere to the maintenance regime for the Plant / equipment Communication to be maintained between operator & other work groups Traffic management personnel Competency assessments JSA to be conducted pre set-to-work		Yes	4	E	H10
Mobile plant operation	Mobile plant rollover No licence or ticket Lack of traffic management No clear demarcation zones	Death Damage to equipment Raised insurance premiums Loss of production criminal conviction	4	C	E18	Work equipment is to be lowered to the ground & lever lock engaged Conduct daily plant pre start checks & document on plant Log Book Qualified mechanic only to carry out repairs Adhere to the maintenance regime for the Plant / equipment Communication to be maintained between operator & other work groups JSA to be conducted pre set-to-work		Yes	4	E	H10
Operating plant and equipment	Little experience New equipment Never worked in construction Accelerated work program	Physical injury Damage to equipment Raised insurance premiums Loss of production Criminal conviction	3	С	H13	Operator only to conduct daily pre-start checks All work equipment is to be lowered to the ground & lever lock engaged Qualified mechanic only to carry out repairs Adhere to the maintenance regime for the Plant / equipment Communication to be maintained between operator & other work groups Traffic management personnel JSA to be conducted prior to use Special request to Labour hire company of trade quals needed		Yes	3	E	M6
Placing personnel in jobs or on tasks that they have never done before	Lack of industry experience Accelareated work program Lack of task training Lack of site induction Lack of task induction	Serious physical injury Damage to equipment Raised insurance premiums Loss of production	3	С	H13	Selected experienced trades people or labourers Regular consultation occurs with all parties involved in the project Training is provided to all persons undertaking work on site Supervision to monitor the subcontractors' safety performance Trade de-confliction Special request to Labour hire company of trade quals needed		Yes	3	E	M6



PROJECT RISK ASSESSMENT - LABOUR HIRE

Hazard or Hazardous Event	Causa	Concoguonoo	Ri	sk Rank	ing	Controls to Broyont Hozardous Event	Responsibility For	Implemented	Re	sidual R	isk
	Cause	Consequence	Cons.	Freq.	Risk		Implementation	implemented	Cons.	Freq.	Ris
Mobile plant and light vehicle interaction or accident	Inexperience No license or ticket Lack of task training Lack of site induction Lack of task induction	Physical injury Damage to equipment Raised insurance premiums Loss of production criminal conviction	3	С	H13	No work under or no raising of boom & bucket over other workers Work equipment is to be lowered to the ground & lever lock engaged Daily plant pre start checks & document on plant Log Book Qualified mechanic only to carry out repairs Adhere to the maintenance regime for the Plant / equipment Communication to be maintained between operator & other work groups Traffic management personnel Competency assessments JSA to be conducted pre set-to-work		Yes	3	E	M6
Mobile plant operation	Mobile plant rollover No licence or ticket Lack of traffic management No clear demarcation zones	Physical injury Damage to equipment Raised insurance premiums Loss of production criminal conviction	3	С	H13	Work equipment is to be lowered to the ground & lever lock engaged Conduct daily plant pre start checks & document on plant Log Book Qualified mechanic only to carry out repairs Adhere to the maintenance regime for the Plant / equipment Communication to be maintained between operator & other work groups JSA to be conducted pre set-to-work		Yes	3	E	M6
Slips, trips, strains, falls	Lack of attention to surroundings Lack of houskeeping Accelerated work program Lack of traffic management	Physical injury Regulatory investigation	3	С	H13	Mount & dismount maintaining 3 points of contact at all times Good housekeeping to be maintained in operating area Traffic management personnel Demarcation zones to be advertised during induction Clear and level path Access ways that are slip resistant in the wet or sheltered from rain Ground surfaces and pathways maintained in good condition Grates or covers are in good condition with nonslip surfaces Report and clean up spillages on site Site spacial awareness is to be advised		Yes	3	E	M6



PROJECT RISK ASSESSMENT - EMERGENCIES

Hazard or Hazardous Event	Causa	Consequence		Risk Ranking		Controls to Browent Hozardova Event	Responsibility For	Implemented	Re	<mark>sidual R</mark>	lisk
	Cause	Consequence	Cons.	Freq.	Risk	Controls to Prevent Hazardous Event	Implementation	Implemented	Cons.	Freq.	Risk
Fire	Mobile plant fire Chemical segregation not adhered to ignition source near flammables Electrical fault Hot Works outside of process Arson Electrical work processes not followed Site Rules not followed Poor housekeeping Poor maintenance Faulty equipment Lack of fire protection Incompatable operations Unauthorised smoking Overloading electrical mains boards Workplace negligence	Death Serious personal injury Breathing problems Burns damage to plant, equipment, property damage to reputation effect on schedule site closure Loss of production constrictive ambulance ramp access Criminal conviction	5	С	E22	Project induction Site Rules Daily observation Vehicle/Mobile Plant maintenance schedule regimes Vehicle/Mobile Plant maintenance pre-starts hazardous substances register Designated smoking area Electrical LOTO Site security Hot works permit scheduled works deconfliction Designated Chemical storage areas Availability of emergency equipment Elimination of any sources of fuel or fire hazards Fire extinguisher located at an accessible location/ adjacent to hot work areas/adjacent electrical distribution boards Portable fire fighting equipment on all moving plant on the site Fighting equipment will be regularly inspected by an authorised service agent at 6 monthly intervals Housekeeping is to be maintained Induction process details emergency evacualtion / preparedness ECO authorised for the work site Emergency Evacuation Maps		Yes	5	E	H15
Persons falling from height	No edge protection Breaching exclusion zones No safe systems of work (fall arrest systems) unskilled workers working outside swms Housekeeping Not following site rules Mobile plant pre start and maintenance checks not conducted/properly Overcrowding of loading bay unknown roof load capacity vehicle or mobile plant colliding with scaffold Lack of mobile plant/vehicle maintanance	Death Serious personal injury Property damage damage to reputation effect on schedule site closure constrictive ambulance ramp access Scaffold collapse resulting in death/s Scaffold collapse resulting property damage	5	С	E22	Project induction Site Rules Daily observation Vehicle/mobile plant maintenance schedule regimes Vehicle/ mobile plant maintenance pre-starts Exclusion zones Communication Pre-sart Hazard Risk Assessment SWMS Trainined workers Scaffold Inspections (30days) Scaffold Inspections (30days) Scaffold tag systems Traffic Management Plan Traffic Management Resources Spotters Loading bay exclusion zones Emergency Evacuation Maps		Yes	5	E	H15
Object Falling from height	No/insufficient edge protection edge protection NO exclusion zones No safe systems of work No teathering of tools unskilled workers working outside swms Housekeeping Lack of scaffold maintenance and inspection Not following site rules Loading bay exclusion zones not maintained equipment maintenace	Death Serious personal injury Property damage damage to reputation effect on schedule site closure constrictive ambulance ramp access	5	С	E22	Project induction Site Rules Daily observation Site inspections Exclusion zones Communication Pre-start Hazard Risk Assessment SWMS Trainined workers Emergency Evacuation Maps		Yes	4	E	H10



PROJECT RISK ASSESSMENT - EMERGENCIES

Hazard or Hazardous Event	Causa	Consequence	Ri	sk Ranki	ng	Controls to Broyent Hazardous Event	Responsibility For	onsibility For	Re	isk	
	Cause	Consequence	Cons.	Freq.	Risk		Implementation	Implemented	Cons.	Freq.	Risk
Inclement weather	Cyclone Monsoonal trough high winds sustained heavy rain	Damage to surrounding properties Damage to Halikos property Damage to Halikos equipment Damage to hired equipment Insurance invoked Loss of production Damage to environment	3	E	M9	Clear project site of all loose material that could blow about Power isolated at source W alls, roof and eaves of the property are secure Site and property loose material tie down Vehicles under solid shelter, hand brake on and in gear Shutters or board-up or heavily tape all windows and lock doors Close the work site to all personnel Shut down all site power Send personnel home Emergency Evacuation Maps		Yes	3	E	M6
Hazardous substance spill Unauthorised substances on site	Poor housekeeping Poor maintenance Faulty store container No bunding Unauthorised decanting Breach of site rules	Severe injuries Breathing problems Burns Smoke inhalation Damage to equipment Loss of production Criminal conviction Pollution of environment Financial loss (clean up) Hospital shut down	3	C	H13	Persons are to be trained as fire warden to aid in evacuations Evacuation drills must be conducted Emergency contact list must be displayed An evacuation muster point must be established clear of the project Suitable equipment for first aid treatment, first aid kits Senior first aid trained Halikos personnel Hazardous Substances Register Site Inductions Toolbox SWMS Reviews and Audits Emergency Evacuation Maps		Yes	3	Ш	M6
Civil unrest towards the work being conducted	Sabotage Disgruntle employee Political motives Environmental protest Union protest	Increase in Human traffic Loss of site control (Police) Loss of production Theft of equipment Financial loss (Clean up)	1	E	L1	Persons are to be trained as fire warden to aid in evacuation's Evacuation drills must be conducted Emergency contact list must be displayed An evacuation muster point must be established clear of the project Suitable equipment for first aid treatment, first aid kits Senior first aid trained Halikos personnel Police are to be called immediately ECO authorised for the worksite Emergency Evacuation Maps		Yes	1	E	L1
Bomb threat	Terrorist attack Disgruntled employee Prank call Environmental Protest	Panic Physical injury Loss of production Site emergency closure	5	E	H15	Persons are to be trained as fire warden to aid in evacuation's Evacuation drills must be conducted Emergency contact list must be displayed An evacuation muster point must be established clear of the project Suitable equipment for first aid treatment, first aid kits Senior first aid trained Halikos personnel Police are to be called immediately ECO authorised for the worksite Emergency Evacuation Maps		Yes	1	E	L1
Vehicle accident outside of the worksite	Traffic accident Pedestrian accident Bicycle accident	Personal injury Loss of production	3	D	M9	Reduced Speed Limits Contact emergency services Suitable equipment for first aid treatment First aid kits on site and in Alimacs Senior first aid trained Halikos personnel ECO authorised for the worksite Emergency Evacuation Maps		Yes	1	E	L1



PROJECT RISK ASSESSMENT - EMERGENCIES

Hazard or Hazardous Event	Cause	Consequence	Risk Ranking		ng	Controls to Prevent Hazardous Event	Responsibility For	For	Re	sidual Ri	Risk	
	Cause	Consequence	Cons.	Freq.	Risk		Implementation	Implemented	Cons.	Freq.	Risk	
Lifting equipment/hydraulic failure	Unstable ground conditions Hydraulic Failure Lack of inspection and maintennace Checks Operator error Inexperienced operator Working outside of swms	Death Serious personal injury Raised Insurance premiums Property/equipment damage Damage to reputation Effect on schedule Site closure Constrictive ambulance ramp access	5	С	E22	Traffic management crew Firm ground and set up area Communication and consultation Pre-start meetings Human traffic control Exclusion zones Project induction Site Rules Daily observation Site inspections Hazard Risk Assessment SWMS Trainined, qualified, licenced, ticketed operators Supervised Trainees Daily observation Vehicle/mobile plant maintenance schedule regimes Vehicle/ mobile plant maintenance pre-starts Emergency Evacuation Maps		Yes	5	E	H15	







PROJECT RISK ASSESSMENT - HEALTH SURVEILLENCE

Hazard or Hazardous Event	Cause	Consequence	Risk Ranking			g Controls to Prevent Hazardous Event	Responsibility For	Implemented	Residual		Risk	
Thazard of Thazardous Event	Cause	Consequence	Cons.	Freq.	Risk		Implementation	implemented	Cons.	Freq.	Risk	
Chemical exposure	Spills Reaction with other chemicals Accident MSDS not followed	Toxic shock Sever poisioning Death	4	С	H18	Ventilation Storage areas MSDS guidance and instructions First aid measures		Yes	4	E	H10	
Meliodosis	Soil & Mud Dirt in the ground Open wounds Compromised immune systems	Death	4	D	H14	Toolbox meeting awareness Safety alerts and notices Rubber gloves		Yes	4	E	H10	
Dust exposure	Grinding concrete Sweeping floors	Lung damage Breathing problems Lung disease Physical injury	3	С	H13	Exhaust fans Water suppression Dust extraction fans and funnels P1 Dust Mask		Yes	3	E	M6	
Low level lighting	Working at night Barriers to natural light No permanent lighting No temporary lighting	Falls from height Slip Trip Falls Accidents Physical injury	3	С	H13	Program permanent lighting to follow close behind main structure Temporary Lighting Luxometer Hours of work during daylight hours		Yes	3	D	M9	
Chemical exposure	Spills Reaction with other chemicals Accident MSDS not followed	Burns Eye Damage Blindness Lung damage Physical injury	3	С	H13	Ventilation fans Storage areas MSDS guidance and instructions First aid measures		Yes	3	E	M6	
Windy Conditions	Environmental extremes	Death	4	D	H14	Monitoring weather Wind o meter checks and readings Tower Crane shutdown if there is excessive wind above 72km C2 Project Emergency Response Plan Evacuation in tropical cyclone		Yes	3	D	M9	
Biological Substances	Injuries that are bleeding First aid work	Illness	3	D	M9	First aid equipment checks by third party contractor First aid training for key personnel on site Sharps containers Rubber gloves		Yes	3	E	M6	
Noise	Power tools that are over 85bds Grinding Cutting Jack hammering	Hearing injury Hearing loss Permanent hearing damage	2	С	M8	National Standard for Occupational Noise Dosimeter Limited time for using tools Hearing protection		Yes	2	E	L3	
Thermal Temperature	Environmental extremes	Physical injury	2	D	L5	Ventilation Amenities First Aid Officers		Yes	2	E	L3	
Windy Conditions	Environmental extremes	Physical injury	1	D	L2	Monitoring weather Wind o meter checks and readings Tower Crane shutdown if there is excessive wind above 72km C2 Project Emergency Response Plan Evacuation in tropical cyclone		Yes	1	E	L1	
Asbestos	Project office walls	Physical injury	1	D	L2	No work to be carried out in the project office All walls of the office have had plaster board Trained and licenced removalists Asbestos Register - NT-0356 Disposable coveralls Particle filtered respirator Rubber Gloves		Yes	1	E	L1	
Radio Frequency Radiation (RFR)			1	D	L2	RFR devices used are to be labelled Assess the safety of RFR products		Yes	1	E	L1	
Synthetic Mineral Fibres (SMF)		lliness	1	D	L2	Joinery work conducted off site Insulation bats come manufactured Dust extraction fans and funnels when and where required		Yes	1	E	L1	
Radiation		Illness	1	D	L2	No radioactive substance on site No radioactive material in the construction site proximity		Yes	1	E	LI	





PROJECT RISK ASSESSMENT - HEALTH SURVEILLENCE

Name Control of machines and matrixes Number of the second of the secon	Hazard or Hazardous Event		Consequence	R	isk Rank	ing	Controls to Prevent Hazardous Event	Responsibility For	Implemented	Re	lisk	
Violation Involve 1 D 10 D 10 D 10 D 10 D 10 D <thd< th=""> <thd< th=""> <thd< th=""> D</thd<></thd<></thd<>	Hazard or Hazardous Event	Cause	Consequence	Cons.	Freq.	Risk	Controls to Prevent Hazardous Event	Implementation	Implemented	Cons.	Freq.	Risk
Characterization Control	Vibration		Injury	1	D	L2	Job and task rotation with employees Sequencing building activities		Yes	1	E	L1
Contaminate aci Physical hypy 1 D 12 No contaminate soli on site Physical hypy 1 E MGF Sel Sel dual a jone of site Sel dual a jone of site Yes Sel Sel Sel Sel dual a jone of site Yes Sel Sel Sel Sel dual a jone of site							Rubber gloves					
MDF Image: Solution of the solut	Contaminated soil		Physical injury	1	D	L2	No contaminated soil on site		Yes	1	E	L1
Meliodocis Sol Man Apprendix Man Apprendix	MDF			1	D	L2	Build all joinery off site		Yes	1	E	L1
Aniologies Sequencing building activities Sequencing building activit							Dust extraction fans and funnels					
Image Image <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td>Sequencing building activities</td><td></td><td></td><td></td><td></td><td></td></th<>							Sequencing building activities					
Moles Sole Image 1 D 1 D 2 Tobox meeting awareness Rubber gives Descension Descense Descension Descense							Rubber gloves					
Mod Convortinities Mod Componition Mod Componition Mod Componition Mod Componities Mod Com	Meliodosis	Soil	Illness	1	D	L2	Toolbox meeting awareness		Yes	1	E	L1
Open wounds Componied immune system Image: system <td></td> <td>Mud</td> <td></td> <td></td> <td></td> <td></td> <td>Safety alerts and notices</td> <td></td> <td></td> <td></td> <td></td> <td></td>		Mud					Safety alerts and notices					
Componised immune systems Image: constraint of systems Im		Open wounds					Rubber gloves					
Acylonity Center Cent		Compromised immune systems										
Benzane Image: Control Image: Contro Image: Control Image: Control<	Acrylonitrile			1	D	L2			Yes	1	E	L1
Cadmium Image: Crystalline Silica Image: Crystalline Silic	Benzene			1	D	L2			Yes	1	E	L1
Crystalline Silica Image: Silica Image: Silica Yes 1 E Uses a verter hose towel duct down at the point of dust generation Dust levels in the air monitored by a competent person Respirators shuid a method of proteint gaspinst silica dust A suitable type of respirator must be used P1 dusk mask. Yes 1 E Cressele Image: Silica Image: Silica Yes 1 E Inorganic Ansenic: Image: Silica Yes 1 E Inorganic Ansenic: Image: Silica Yes 1 E Inorganic Chromium Image: Silica 1 D L2 There is no horganic Chromium on sile Yes 1 E Inorganic Chromium Image: Silica 1 D L2 There is no horganic Areanic on alta Yes 1 E Inorganic Chromium Image: Silica 1 D L2 There is no indicator is at monitore ty a compolent personnel who are trained and the compolent person	Cadmium			1	D	L2	The painting of the building is with water based paint		Yes	1	E	L1
LessUse a water hose to vet dust down at the point of dust generation Dust levels in the air motioned by a competent person Respirators should a method of protecting against slice dust A stubile type of respirator must be used P 1 dusk maskLessL	Crystalline Silica			1	D	L2	Using pre-built materials for plumbing and wiring		Yes	1	E	L1
LessLust levels in the air monitored by a completing parsing Respirators shuld a method of protecting against slica dust A subable type of respirator must be used P1 dusk maskLust levels in the air monitored by a completing against slica dust A subable type of respirator must be used P1 dusk maskLessLessLessCreosoleImorganic AnsenicImorganic AnsenicImorganic AnsenicImorganic AnsenicYess1EInorganic ChromiumImorganic ChromiumImorganic Chromium on sileYess1EEInorganic ChromiumImorganic ChromiumImorganic Chromium on sileYess1EEInorganic ChromiumImorganic ChromiumImorganic Chromium on sileYess1EEInorganic LeadImorganic MercuryImorganic MercuryImorganic MercuryYess1EEInorganic MercuryImorganic MercuryImorganic1DL2No product made on sile with horganic Mercury Ventaliator for clean fresh airYess1EIsocyanates1DL2No product made on sile with horganic Mercury Ventaliator for clean fresh airYess1EIsocyanates1DL2No product made on sileYes1EEAr methydienebis(2-chronalline)Imorganic Mercury Ventilation for clean fresh airYes1EEParticulticophic ChromalineImorganic Mercury Ventilation for clean fresh airYes1EESocyanates1DL2<							Use a water hose to wet dust down at the point of dust generation					
Respirators should a memodo of protecting against since dust A stuble by per despirator must be used P1 dusk maskRespirators should a memodo of protecting against since dust P1 dusk maskRespirators should a memodo of protecting against since dust P1 dusk maskRespirators should a memodo of protecting against since dust P1 dusk maskRespirators should a memodo of protecting against since dust P1 dusk maskRespirators should a memodo of protecting against since dust P1 dusk maskRespirators should a memodo of protecting against since dust P1 dusk maskRespirators should a memodo of protecting against since dust P1 dusk maskRespirators should a memodo of protecting against since dust P1 dusk maskRespirators should a memodo of protecting against since dust P1 dusk maskRespirators should a memodo of protecting against since dust P1 dusk maskRespirators should a memodo of protecting against since dust P1 dust maskRespirators should a memodo of protecting against since dust P1 dust maskRespirators should a memodo of protecting against since dust P1 dust maskRespirators should a memodo of protecting against since dust P1 dust maskRespirators should a memodo of protecting against since dust P1 dust maskRespirators should a memodo of protecting against since dust P1 dust maskP1 Dist lassP1 Dist lassP2 Nice site of particle of protecting against since dust protecting advines for dust may fluorescent lampsP2 Nice site of particle of practice o							Dust levels in the air monitored by a competent person					
Creasole A subset type of respirator must be Used A subset type of respirator must be Used Image of the properties of the proproperties of the properis of the properise o							Respirators should a method of protecting against silica dust					
CreasedImage: Crease							A suitable type of respirator must be used					
Creasele Image Image <thimage< th=""> Image Image <</thimage<>							F I UUSK IIIdSK					
Inorganic ArsenicIllness1DL2There is no Inorganic Arsenic on siteYes1EInorganic ChromiumIllness1DL2There is no Inorganic Chromium on siteYes1EInorganic LeadIllness1DL2There will be no lead smelling and refining; lead light window manufacture; lead casting. For welding activities there will be competent personnel who are trained and licenseed welders Ventilation for clean fresh airYes1EInorganic MercuryIllness1DL2No product made on site with Inorganic Mercury P1 Dust mask for cleaning up fluorescent lampsYes1EIsocyanatesIllness1DL2No product made on siteYes1E4.4' methylenebis(2-chloroaniline) (MOCA)Illness1DL2No product made on siteYes1EOrganophosphate PesticidesIllness1DL2No product made on siteYes1EPolycyclic Aromatic Hydrocarbons (PAH)Illness1DL2No practice for the Safe Handling of Timber Preservatives and Treated TimberYes1EPolycyclic Aromatic Hydrocarbons (PAH)Illness1DL2No trailing in concentrated form used on siteYes1EPolycyclic Aromatic Hydrocarbons (PAH)Illness1DL2No burning on any kind on siteYes1EPolycyclic Aromatic Hydrocarbons (PAH)Illness1	Creosote			1	D	L2	Not used on site for this project		Yes	1	E	L1
Inorganic ChromiumIllness1DIIDIThere is no inorganic Chromium on siteYes1EInorganic LeadIllness1DIInfere is no inorganic Chromium on siteYes1EInorganic LeadIllness1DIInfere will be no lead smelling and refining; lead burning; breaking down of lead batteries; plastic production; paint removal; leadlight window manufacture; lead casting. For welding activities there will be competent personnel who are trained and licensed welders Versitiation for clean fresh airYes1EInorganic MercuryIllness1DIINo product made on site with Inorganic Mercury P1 Dust mask for cleaning up fluorescent lampsYes1EIsocyanatesIllness1DIINo locoyanates to be used on siteYes1E4,4' methylenebis(2-chloroaniline) (MOCA)Illness1DIINo scoyanates to be used on siteYes1EOrganophosphate PesticidesIllness1DIINo production the slate Handling of Timber Preservatives and Treated TimberYes1EPolycyclic Aromatic Hydrocarbons (PAH)Illness1DIINo burning on any kind on siteYes1EPolycyclic Aromatic Hydrocarbons (PAH)Illness1DIINo burning on any kind on siteYes1EPolycyclic Aromatic Hydrocarbons (PAH)Illness1DIINo burning on any kind on	Inorganic Arsenic		Illness	1	D	L2	There is no Inorganic Arsenic on site		Yes	1	E	L1
Inorganic LeadIllness1DL2There will be no lead smelting and refining; lead burning; breaking down of lead bartenies; plastic production; paint removal; leadlight window manufacture; lead casting. For welding activities there will be competent personnel who are trained and licensed welders Ventilation for clean fresh airYes1EInorganic MercuryIllness1DL2No product made on site with longanic Mercury P 1 Dust mask for cleaning up fluorescent lampsYes1EIsocyanatesIllness1DL2No spoutct made on site with longanic Mercury P 1 Dust mask for cleaning up fluorescent lampsYes1E(MCCA)Illness1DL2No socyanates to be used on siteYes1EOrganophosphate PesticidesIllness1DL2No pesticides to be used on siteYes1EPentachlorophenol (PCP)Illness1DL2No pesticides to be used on site National Code of Practice for the Safe Handling of Timber Preservatives and Treated Wood on siteYes1EPolycyclic Aromatic Hydrocarbons (PAH)Illness1DL2No burning on any kind on siteYes1EPolycyclic Aromatic Hydrocarbons (PAH)Illness1DL2No Thalium in concentrated form used on siteYes1EPolycyclic Aromatic Hydrocarbons (PAH)Illness1DL2No Thalium in concentrated form used on siteYes1EPolycyclic Aromatic Hydr	Inorganic Chromium		Illness	1	D	L2	There is no Inorganic Chromium on site		Yes	1	E	L1
Image: Construction of the second s	Inorganic Lead		Illness	1	D	L2	There will be no lead smelting and refining; lead burning; breaking down of lead		Yes	1	E	L1
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Organization concentrate of concentrate of the concentrate	Organophosphate Pesticides		Illness	1	П	12	No pesticidas to be used on site		Ves	1	F	11
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Vinyl Chloride Illness 1 D L2 Construction of PVC pipping off site Ves 1 E	Thallium		Illness	1	D	12	No Thallium in concentrated form used on site		Yes	1	F	11
	Vinyl Chloride		Illness	1	D	L2	Construction of PVC pipping off site		Yes	1	E	L1
PVC pipping to be bought as a complete product	,				-		PVC pipping to be bought as a complete product					
No burning PVC on site							No burning PVC on site					
Correct disposal							Correct disposal					



PROJECT RISK ASSESSMENT - TRAINING REQUIREMENTS

			Ri	isk Rank	ing		Responsibility For	1	Re	sidual F	≀isk
Hazard or Hazardous Event	Cause	Consequence	Cons.	Freq.	Risk	Controls to Prevent Hazardous Event	Implementation	Implemented	Cons.	Freq.	F
Scaffolding works	Objects falling from height; Personnel working above persons below	Physical injury	3	С	H13	All Scaffold work is to be conducted by trained and licenced scaffolders		Yes	3	E	
Cranage work	Falling objects from height	Physical injury	3	С	H13	All cranage work is to be conducted by trained and licenced crane drivers. All cranage work is to be conducted by trained and licenced riggers & doggers		Yes	3	E	
Working at height	Falling from height	Physical injury	3	С	H13	The use of fall protection equipment Training for all personel in the use of full body harness Training for all personel in the use of fall restraint device		Yes	3	E	
Roof work	Falling from height	Physical injury	3	С	H13	Training for all personel in the use of fall protection equipment Training for all personel in the use of full body harness Training for all personel in the use of fall restraint device		Yes	3	E	
Concrete mobile boom	Objects falling from height; Equipment working above persons below	Physical injury	3	С	H13	Training for all key personel in the use of concrete boom		Yes	3	E	
Tools & Equipment	Dust, sparks working with grinders	Physical injury	3	С	H13	Training for all personel in the use of tools and equipment		Yes	3	E	
Welding	Welding flash from welding activities	Physical injury	3	С	H13	Training for all personel in the use of welders		Yes	3	E	
Large tools	Working with tools	Physical injury	3	С	H13	Training for all personel in the use of key tools and equipment		Yes	3	E	
Mobile plant	Mobile plant not seeing personnel	Physical injury	3	С	H13	Training for all personel who are to use mobile plant		Yes	3	E	
Working traffic zone	Interaction with public vehicle traffic on Esplanade	Physical injury	3	С	H13	Training for all personel iwho are to work on the road to manage traffic Training for all personel in the road mangement procedures		Yes	3	E	I
Emergency's & evacuation	Emergency	Physical injury	3	С	H13	Training for all personel in the project evacuation procedures Training for all personel in the location of equipment Training for all personel in the use of fall restraint device		Yes	3	E	
Forklift	Lifting objects	Physical injury	3	С	H13	Training for all personel who are identified as using the forklift		Yes	3	E	
Site and project changes	Changes to works	Physical injury	3	С	H13	Training for all personel on site at toolbox meetings		Yes	3	E	
Fire warden	Fire	Physical injury	3	С	H13	Training for all personel evacuation personnel in emergency procedures		Yes	3	E	







PROJECT RISK ASSESSMENT - PPE REQUIREMENTS

Hazard or Hazardous Event	Cause	Consequence	Risk Ranking			Controls to Prevent Hazardous Event	Responsibility For	Implemented	Re	sidual R	lisk
Hazard of Hazardous Event	Cause	Consequence	Cons.	Freq.	Risk	Controls to Prevent Hazardous Event	Implementation	implemented	Cons.	Freq.	Risk
										l	
Objects falling from height	Scaffolding works Personnel working above persons below No warning (Signage) to lower decks No tool lanyards being used Crane working overhead	Physical injury Loss of production Regulatory investigation Death	5	D	E19	Hard Hat Signage Tool Lanyards Worksite isolation Incompatible Operations		Yes	5	E	M6
Wokers falling from height	Working on roof Transitting loads to and from the roof Working on scaffold	Physical injury Death Regulatory investigation Loss of production Insurance premium rise Reputation impact	5	E	H15	Training for all personel in the use of fall protection equipment Full body harness Fall arrest devicE Personnel are to be trained and Qualified in working at heights		Yes	3	E	M6
Concrete mobile boom	Objects falling from height; Equipment working above persons below	Physical injury	3	С	H13	Hard Hat		Yes	3	E	M6
Airbourne projectiles	Dust, sparks working with grinders	Physical injury Eye injuries Burns Splinter wounds	3	С	H13	Safety glasses Goggles Face shield		Yes	3	E	M6
Welding ark eye burns	Welding flash from welding activities	Physical injury	3	С	H13	Welding shield Welding curtains		Yes	3	E	M6
Breathing irritation	Working with tools that produce dust or fumes	Physical injury	3	С	H13	Dust mask Respirator Workers must be trained in their proper use and maintenance of respirators		Yes	3	E	M6
Interaction with workers	Mobile plant not seeing personnel	Physical injury	3	С	H13	High visibility vest		Yes	3	E	M6
Excessive noise	Working around noisy machinery Working with machinery producing noise above 85Db an hour	Physical injury	3	С	H13	Ear plugs Ear muffs		Yes	3	E	M6
Feet, foot injuries from walking around site	General construction activities	Physical injury	3	С	H13	Steel toed shoes		Yes	3	E	M6