



**Contract No. HY/2012/08
Tuen Mun – Chek Lap Kok Link
Northern Connection Sub-sea Tunnel Section**

**Method Statement
Risk Assessment Sheet**

Document No.: TMCLK8/DBJ/NTH/MST/99009/B

Status of Document: Issue for construction

Location: Northern Reclamation

Title of Work: Method Statement for Silt Curtain Installation

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ACTIVITY	HAZARD/RISK	EXISTING RISK LEVEL			ELIMINATION/ MITIGATION MEASURES	IMPLEMENTED BY	RESIDUAL RISK LEVEL			MONITORED BY
		LH	S	RR			LH	S	RR	
General	Trip and slip	2	3	6	<ul style="list-style-type: none"> Keep access or workplace tidy, non-slippery and without obstruction Proper stacking of materials and equipment Provide adequate lighting at access or workplace 	DBJV and Sub contractors (Foreman, supervisor, site engineer)	1	3	3	DBJV foreman, supervisor, site engineer
	Fall from portable access ladder	2	3	6	<ul style="list-style-type: none"> Home-made access ladder not allowed Portable access ladder over 2m long to be used with fall protection measures installed prior to mobilization All portable access ladder required registration and inspection Portable access ladder not to be used as a working platform Securely fix the ladder or hold by co-worker when use. 	Subcontractor (Foreman, supervisor, site engineer)	1	3	3	DBJV foreman, supervisor, site engineer
	Injury when using power tools	3	2	6	<ul style="list-style-type: none"> Inspection prior to use All power tools operated at 110V Guarding to power tools in safe working order Waterproof sockets, plugs, cable, etc. used Registration on arrival to site, and check once every quarter PPE used, e.g. goggles, gloves in accordance with JV policy 	Subcontractor (Foreman, supervisor, site engineer)	1	2	2	DBJV foreman, supervisor, site engineer
	Injury when using hand tools	2	2	4	<ul style="list-style-type: none"> Home-made hand tools not allowed Use hand tools suitable for the tasks Hand tools properly maintained; visual check prior to use Use appropriate PPE. E.g. hand protection etc. 	Subcontractor (Foreman, supervisor, site engineer)	1	2	2	DBJV foreman, supervisor, site engineer

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	Dust	2	2	4	<ul style="list-style-type: none"> Dust suppression by water spraying or enclosure Wear dust masks/ respirator 	DBJV and Sub contractors (Foreman, supervisor, site engineer)	1	2	2	DBJV foreman, supervisor, site engineer
	Noise	2	2	4	<ul style="list-style-type: none"> Use quiet machines Carry out occupational noise assessment and report Erect noise enclosures when working near residential or other sensitive receivers If require wear ear protectors 	Subcontractor (Foreman, supervisor, site engineer)	1	2	2	DBJV foreman, supervisor, site engineer
	Fire Hazard	3	3	9	<ul style="list-style-type: none"> Keep site clean and tidy; proper storage of combustible materials Provide and maintain proper type of fire extinguishers and water hoses where appropriate Identify the fire exit routes and display evacuation procedures Appoint Fire Wardens Organize periodic fire drills 	DBJV and Sub contractors (Foreman, supervisor, site engineer)	1	3	3	DBJV foreman, supervisor, site engineer
	Hygiene and health	2	2	4	<ul style="list-style-type: none"> Observe personal hygiene Provide refuse skips with cover and remove regularly Provide and maintain sanitation equipment/ facilities in clean condition Organize pest control if required No alcoholic drinks allowed on Site Follow reporting procedures when dead birds are found on Site 	DBJV and Sub contractors (Foreman, supervisor, site engineer)	1	2	2	DBJV foreman, supervisor, site engineer

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	Heat stroke	2	2	4	<ul style="list-style-type: none"> Provide adequate drinking water and shelter Arrange rest periods if necessary 	DBJV and Sub contractors (Foreman, supervisor, site engineer)	1	2	2	DBJV foreman, supervisor, site engineer
	Skin allergy to contaminated marine mud	2	2	4	<ul style="list-style-type: none"> Nitrile gloves and coverall to be provided 	Subcontractor (Foreman, supervisor, site engineer)	1	2	2	DBJV foreman, supervisor, site engineer
	Electric shock	3	3	9	<ul style="list-style-type: none"> Installation of electrical apparatus done by registered electrician. Cabinet locked at all times Use of IP55 waterproof sockets, plugs, etc Provide and ensure proper earthing in place Cables run at above ground level or properly protected against tripping and vehicle hazard Do not work at high ground or remain exposed during thunderstorm warning Proper maintenance and periodic inspection by registered electrician 	DBJV and Sub contractors (Foreman, supervisor, site engineer)	1	3	3	DBJV foreman, supervisor, site engineer
	Back injury	2	2	4	<ul style="list-style-type: none"> Perform assessments to manual handling operations and prepare report. Train at risk employees. Identify weights of regularly used items Use mechanical means for heavy lifting Use appropriate PPE. e.g. hand protection etc 	Subcontractor (Foreman, supervisor, site engineer)	1	2	2	DBJV foreman, supervisor, site engineer

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Derrick Lighter / Grab Dredger in Lifting Operation	Broken of Derrick Lighter / Grab Dredger lifting gear	2	3	6	<ul style="list-style-type: none"> Do not overload Beware of sea condition at time of lifting (i.e. sea wave, strong wind) 	Subcontractor (Foreman, supervisor, site engineer)	1	3	3	DBJV foreman, supervisor, site engineer
	Collapse of lifting crane	3	3	9	<ul style="list-style-type: none"> Crane to be certified and inspected prior to use on site Beware of contacting overhead objects or cranes nearby during lifting Beware of strong wind at time of lifting 	Subcontractor (Foreman, supervisor, site engineer)	1	3	3	DBJV foreman, supervisor, site engineer
	Failure of lifting appliance and lifting gear	2	3	6	<ul style="list-style-type: none"> Supervisor by competent person (i.e. derrick operator) Use licenced and experienced operator Use certified lifting gears Use experienced slinger for lifting operation Always do a visual check on lifting gears and loads prior lifting Check certificates of lifting appliances, lifting gears and relevant forms Hands signal and PA system will be used as communication system for derrick operator and crew A banksman would be appointed to supervise lifting operation if necessary Provision of fencing, warning sign, flashing or blaring against derrick operation area The steel grab would be properly examined and marked with its loading on the structure No diver in the sea or near work place during any lifting operation 	Subcontractor (Foreman, supervisor, site engineer)	1	3	3	DBJV foreman, supervisor, site engineer

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	Hit by moving object	2	3	6	<ul style="list-style-type: none"> Don't disturb the operator's eyesight in lifting Siren and flashing light installed on the lifting appliance/crane as a warning while moving/turning. Use a guide rope attached to the load Worker wearing life jacket 	Subcontractor (Foreman, supervisor, site engineer)	1	3	3	DBJV foreman, supervisor, site engineer
Plant & Machinery	Trap by moving parts	3	3	9	<ul style="list-style-type: none"> Provide proper machine guarding Warning notice displayed Implement lockout system to avoid unauthorized person if necessary Regular inspection and maintenance 	DBJV and Sub contractors (Foreman, supervisor, site engineer)	1	3	3	DBJV foreman, supervisor, site engineer
	Hit by loose air hoses/ pipes	3	2	6	<ul style="list-style-type: none"> Shut off air supply prior connection or disconnection of air hoses/ pipe /couplers Air hoses connection installed with whip check and check connection prior to re-start 	Subcontractor (Foreman, supervisor, site engineer)	1	2	2	DBJV foreman, supervisor, site engineer
	Fire hazard	3	3	9	<ul style="list-style-type: none"> Maintain plant and machinery in good condition without oil or grease spillage Combustible material shall be stored properly accordance with requirements Connection of electrical apparatus conducted by a registered electrician Ensure that proper type and adequate number of fire extinguishers are provided near plant & machinery, and on the barges Display notices at the locations of extinguishers. Do not put any clothing on or nearby the heat exhaust point 	Subcontractor (Foreman, supervisor, site engineer)	1	3	3	DBJV foreman, supervisor, site engineer

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	Plant Failure	3	3	9	<ul style="list-style-type: none"> Maintain plant and machinery in good condition 	Subcontractor (Foreman, supervisor, site engineer)	1	3	3	DBJV foreman, supervisor, site engineer
Work over water	Falls of persons into the sea	2	3	6	<ul style="list-style-type: none"> Where adequate handrails cannot be provided then crew shall wear a suitable automatically inflating lifejacket. All persons including crew travelling two and from the work place to shore will wear a life jacket Rescue / passenger boat to remain on standby at all times work over water is in progress At least 2 workers together when work near or over water Life buoy with 30m long rope should be provided at every workspace 	Subcontractor (Foreman, supervisor, site engineer)	1	2	2	DBJV foreman, supervisor, site engineer
	Collision at sea	1	3	3	<ul style="list-style-type: none"> Mooring lines of vessels are to be identified by floating buoys at an appropriate distance from the vessel. These are to be fitted with solar lighting for night and flags for daytime. All vessels will display night and navigation lights All craft are to remain within designated navigation channels and support craft are to approach moored vessels adopting standard maritime procedure. 	Subcontractor (Foreman, supervisor, site engineer)	1	2	2	DBJV foreman, supervisor, site engineer

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Marine Diving for installation of silt curtain	Diving equipment failure / asphyxiation / diver hurt by plant	3	3	9	<ul style="list-style-type: none"> Identify the works are with warning signs to avoid entrance of other marine vessels. Works to be carried out by trained, certified and competent divers. Produce a valid certificate of medical fitness to dive. Diver should not be allowed diving operation of sick. Drugs or alcohol taking is prohibited prior to diving if impairing the safety of themselves or other diving team members. Fault apparatus detected shall report to the diving supervisor, and labeled for repair. Diver shall check condition of compressor supplying air before use. Diver shall check the air from contamination by exhausted air before use. Check the breathing apparatus and communication system is in a affective working condition before use. Diver is not allowed underneath any operation when working in the sea. An assigned look-out man should be employed to look after each diver. Independent life line attached to the diver should be provided. Communication channels between divers and vessel should always be available. Depending on the nature of the underwater works, the communication will be done by string signal or walkie-talkie. 	Subcontractor (Foreman, supervisor, site engineer)	2	2	4	DBJV foreman, supervisor, site engineer

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