

RISK ASSESSMENT CFA PILING

Client	Renaker	Contract Number	C5XXX
Contract Address	Trinity Islands Manchester M3 4JQ	Revision	REV01
		Date	17/06/22
		Author	AK

ACTIVITY	RISKS	Degree of Risk			CONTROL PROCEDURES	Residual Risk*		
		L	S	R		L	S	R
Site Access/Egress	Collision with Vehicles/persons	4	4	16	P/C to erect suitable pedestrian barriers to reduce the interaction between plant/vehicles and any site operatives/general public.	1	4	4
					Operatives to supervise and direct plant and vehicles across public footpaths and access routes.			
Storage & Security	Falling/collapsing materials	4	3	12	Operatives to stack piling equipment & materials in such a way as to not become unstable when moved/used.	2	3	6
	Unauthorised access	4	3	12	P/C to provide site security as required and erect & maintain.	2	3	6
	Loss/theft	4	3	12	Boundary fencing to prevent unauthorised access at all times.	2	3	6
Site Electrics	Electrocution	5	4	20	All electrical equipment to be a maximum voltage of 110volts dc, all portable electrical equipment to be checked before it is used and thoroughly inspected every day by a competent person. Damaged/Faulty equipment to be marked up as "DO NOT USE" and returned to plant department for repair.	2	4	8
	Fire	4	3	16	Suitable Fire Extinguishers are to be available for dealing with electrical fires	2	3	6
	Tripping hazards (cables)	4	3	16	Operatives to plan the route of cables so as not to present a trip hazard to any other site personnel.	2	3	6
Lifting Operations	Falling plant and materials	5	4	20	Only Banksman/Slingers are to control lifting operations on site and ensure that the loads are properly slung prior to any lift commencing.	2	4	8
	Collisions with plant, persons and overhead services	5	4	20	Banksman to also ensure that the lift path/route is clear of other site operatives and overhead services in particular H.V Cables and overhead pipe racks.	2	4	8

Degree of Risk = Likelihood 5 = Certain 4 = Probable 3 = Likely to Occur 2 = May Occur 1 = Unlikely

Severity 5 = Fatality 4 = Major Injury 3 = Specified Injury 2 = 7 Day Injury 1 = Non Reportable Accident

Risk = Likelihood x Severity

Residual Risk not to be greater than 6

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	Failure of appliance	5	4	20	Foreman to ensure that all lifting equipment is inspected weekly and that the "Record of Inspections" has been completed. Foreman is to also ensure that all lifting equipment has been given a thorough test/examination every 6 months. Banksman/Slinger to assess all loads before they are lifted to ensure that the Safe Working Load of the lifting equipment is not exceeded at any point during the lift.	2	4	8
Use of rigging screws/Turnbuckles	Part of attachment for the piling rig under LOLER regulations. Failure of the rigging screw	4	4	16	Only use the rigging screw for the purpose it was designed for. Do not detach the rigging screw from the piling rig. Do not use the rigging screw for lifting any piece of onsite equipment. Visual inspection should be carried out to ensure the rigging screw is in good working order.	1	4	4
Cage Fabrication	Tripping on cages/steel mesh Falling materials of cages/steel mesh during lifting operations Cuts due to reinforcement and tying wire Musculoskeletal injuries Working in inclement weather Cuts from tying wire	4	4	16	All steel fixers to be competent and have an up to date Skills card e.g. CSCS, slinger, signaller and banks person Reinforcement to be laid out prior to fixing so bars may be selected and removed Steel fixers to ensure cages/steel mesh is fully tied and appropriate slings/chains to be used for lifting. All lifting equipment to have a certificate of thorough examination. Fall arrest should be used when unloading delivery wagons if access is required to the trailer/back of wagon Area to be cleared prior to lifting cages All site operatives to have up to date tetanus inoculation Projecting steel to be capped. Ties to be bent under the cage (no potential stab points with protruding wire)	1	4	4

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					Adequate walkways to be provided for access around the cages after fixing Correct manual handling techniques to be used with operatives trained in manual handling techniques Correct PPE to be used in inclement weather and when using tying wire. Site rules apply to wearing PPE e.g. Hi-Vis, gloves, toe protected boots and hard hat, eye protection when cutting steel All waste items of banding wire, tie wire and steel are to be tidied up by the steel fixers as work progresses			
Plant and Machinery	Collisions with plant, persons	4	4	16	P/C to erect suitable signage and barriers to prevent any unauthorised site operatives gaining access into the piling area. All piling operations to cease if any unauthorised persons enter the piling area.	1	4	4
	Contact with moving parts	5	4	20	Foreman to check machinery/equipment to ensure that guards are secured in place to prevent any physical contact with moving parts/ machinery.	2	4	8
	Over turning	4	4	16	PRINCIPAL CONTRACTOR to Design, Install & Maintain piling platforms to safely support the weight of piling rig in it's working mode. In order to comply with latest HSE Legislation:- the Working Platform Certificate is to be signed by the Principal Contractor and/or the Planning Supervisor and returned prior to commencing any piling operations. All excavations to remove existing foundations/underground obstructions should be backfilled with suitable material in 300mm layers and compacted with suitable compaction equipment.	2	4	8

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Manual Handling	Musculoskeletal injuries	5	4	20	Manual Handling to be reduced to a minimum by using mechanical methods (crane/hiab) should the above not be possible:- Heavy loads to be split into smaller items of not more than 25kg each. If this is still not possible:- The loads are to be lifted by multiple operatives ensuring that all operatives are aware what is required of them and that the weight of the item does not exceed 25kg per person.	1	4	4
	Falling/tripping	4	4	16	Operatives to "walk the route" before they carry any loads to ensure that there are no obstacles that could impede the Manual Handling Operations.	1	4	4
	Trapping toes/fingers	4	4	16	Operatives to wear protective equipment provided, this includes steel toed boots and rigger type gloves. When lowering the loads – care should be taken to ensure that all toes/fingers are not trapped.	1	4	4
Existing Underground Services	Contact with services	5	4	16	P/C to scan for, locate, expose, divert, protect as necessary all existing underground services prior to the start of any piling operations and issue a permit to dig / break ground. P/C to be notified of any pressure loss/anomalies whilst drilling/injecting piles. All works to cease if cable strike suspended – rig operator to stay in cab or jump well clear Not Step Down Call emergency services if fire seen.	1	4	4
	Damage to service							
	Electrocution							
Existing overhead cables	Contact with piling rig	5	5	25	Principal Contractor to enforce height resections and exclusion zones at ground level in accordance with GS6 guidelines taking into consideration the mast height of the rig.	1	5	5
Smoking	Fire &/or Explosion	4	4	16	SMOKING to be confined to designated smoking areas only.	1	4	4
	Fire							

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	Explosion				All cigarettes/cigars/pipes to be properly extinguished and disposed of properly NO SMOKING near flammable liquids/gases or by any other sources of fuel e.g paper/wood/cloth/plastics etc.			
Working above/ adjacent to Water If Applicable	Drowning	5	4	20	P/C to install & maintain fencing and/or guard rails to prevent operatives from falling in to adjacent rivers/streams. P/C to install and maintain bundling to prevent spoil, slurry, concrete running down hill and flowing into streams or watercourses.	1	4	4
Substances Hazardous to Health	Respiratory distress – inhalation	5	4	20	P/C to control general dust levels on the site by damping down the haul roads/platforms and reducing site traffic speeds.	2	3	6
	Skin Irritation	4	3	12	Wet concrete can cause cement burns to the skin Should any operative come into contact with wet concrete – they should thoroughly wash the affected area to remove any traces. Any clothing made wet by the concrete should be removed as soon as possible and the affected areas of the skin again thoroughly washed/dried. The clothing is to be washed before re-use or properly disposed of.	2	3	6
	Eye injury	4	4	16	Should there be any eye contact with dust/concrete – the affected eye should be thoroughly irrigated with cold clean water – preferably a proprietary eyewash solution.	2	4	8
Noise	Industrial Deafness	5	4	20	Noise assessments have been carried out on our piling rigs & piling equipment. Operatives are provided with hearing protection and instructed when/where it is to be used.	1	4	4
	Noise pollution	5	4	20	Piling rig/equipment is to be kept in good working order, however should	1	4	4

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	Tinnitus				exhaust silencers fail – these are to be replaced / repaired without delay. WORKING HOURS for each individual site are to be adhered to without exception.			
	Temporary hearing loss	5	3	15	Should operatives experience temporary hearing loss they should stop work and report it to their foreman /manager immediately. When operative returns to work they should be provided with and instructed to wear at all times throughout the working day. REMEMBER: - If an operative continues to work at higher noise levels they will suffer from PERMANENT NON REVERSIBLE HEARING LOSS	2	3	6
Members of the Public, Visits and Others	Falling Materials	5	4	20	To prevent members of the public/site operatives being hit by falling material:- Operatives are to ensure that there is no spoil/concrete/debris taken up on the flight. PC to control work area with segregation P/C to erect & maintain polythene sheeting/debris netting to perimeter walls/fencing to prevent mud/concrete/slurry splashing members of the public and third party property.	1	4	4
	Collision	5	4	20	P/C to provide and erect suitable signage to warn members of the public about the risk of vehicles entering and exiting the site. All reversing vehicles are to be seen back by trained Banksman/Slingers to ensure that there are no crush hazards/zones.	2	4	8
	Tripping	4	4	16	Operatives are to ensure that our water & concrete hoses do not cross pedestrian access routes. Should this not be possible the hoses are to be buried or the P/C is to build a suitable pedestrian crossover point. Should this still not be possible then the P/C is to provide a full time watchperson to	1	4	4

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					escort pedestrians across the hoses or across the road to the other footpath.			
Contaminated Ground	Damage to Health through ingestion/skin contact	4	4	16	P/C to provide complete report of known contamination including the analysis of chemical concentrations. Operatives to wear PPE provided and adopt a high standard of Health & Hygiene. P/C to prevent all pile arisings flowing into rivers/streams and remove contaminated spoil from site.	1	4	4
Waste Management	Environmental damage	4	4	16	Foreman to ensure that all general rubbish is placed in the skips provided by P/C.	1	4	4
	Damage to health through contact	4	4	16	P/C to set up, supervise and control all site waste management including movement on site and disposal to tips off of site.	1	4	4
	Damage to the Environment	4	4	16	P/C to plan for, supervise and control measures to safeguard the environment. PC to provide concrete washout facilities. No concrete washout allowed near water courses	1	4	4
Emergency Procedures Fire	Burns	5	4	20	Foreman to notify site manager and contact emergency services if smoke or fire is seen anywhere on the site.	1	4	4
	Smoke Inhalation	4	4	16	Foreman to direct site operatives to the site rendezvous point as nominated by the site manager. Appointed person to attend to injured persons if injuries are slight.	1	4	4
Fuel Storage	Leakage/pollution/ Contamination	5	4	20	All gas oil to be stored in bunded containers. All surface spillages/ leakages are to be cleared up and disposed of properly – not just left on the site.	1	4	4

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	Fire &/or Explosion	4	4	16	NO SMOKING OR NAKED FLAMES when working with or near any Flammable Liquids.	1	4	4
Vibrating Equipment	Arm/hand/finger damage	5	4	20	Operatives use light pneumatic picks to remove the build up of concrete grout on our equipment. Operatives involved in this activity should limit themselves to manufacturers recommendation on trigger times. Two operatives can job share to reduce their exposure to hand/arm vibration.	2	4	8
		5	4	20	Use of heavier hydraulic breakers should be as above. Employees must be aware of trigger times on each item of vibrating plant	1	4	4
Levels of Illumination	Trips and falls	4	3	12	Task lighting provided to allow our operatives to safely walk about the piling area and allow them to carry out the tasks required of them.	1	3	3
	Collision with plant/ Materials and people	5	4	20	P/C to provide, erect and maintain access lighting to allow plant/vehicles to access the site and our operatives to access the welfare facilities.	2	4	8
Working at Height	Falling	5	4	20	Operatives to wear full harness when working at height. Harness to be connected to be inertia fall-arrest device on the piling rig. Working platform on agitator has hand rail.	2	4	8
	Falling/objects, tools/ materials	5	5	20	Operatives on the ground are to be aware of operatives working at height – banksman to manage the area. Tools/equipment used at height to be carried in tool-belt.	2	4	8
	Unauthorised access (public/children)	5	4	20	P/C to provide site security as required and erect & maintain boundary fencing to prevent unauthorised access at all times.	1	4	4
Working from MEWP	Falling	5	4	25	Operatives to wear full harness when working at height or in a MEWP.	2	4	8

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		L	S	R		L	S	R
					Harness to be connected by restraint lanyard to designated anchor point.			
	Overturning	4	4	20	The MEWP will only be used on the designed level piling platform. The MEWP will only be operated by FP operatives holding the relevant qualification.	2	4	8
	Upper control failure Immobilisation of operator	4	4	16	A competent person will be at the base of the MEWP at all times and familiar with the emergency lowering procedure.	1	4	4
	Malfunction at height	4	4	16	Daily checks to be completed before use. A competent person will be at the base of the MEWP at all times and familiar with the emergency lowering procedure.	1	4	4
	Falling/objects, tools/ materials	4	4	16	Operatives on the ground are to be aware of operatives working at height – banksman to manage the area. Tools/equipment used at height to be carried in tool-belt and toe guard to be on MEWP. Tools to be tethered to operator when working at height.	1	4	4
	Slips, trips and falls on platform	4	4	16	MEWP operator to ensure the platform is clear of debris at all times.	1	4	4
Auger Cleaning	Falling materials	5	4	20	Mechanical auger cleaning device to be activated during withdrawal phase to prevent loose spoil rising above head height.	1	4	4
NOTE – In certain circumstances, typically stiff/very stiff clay; the mechanical auger cleaning device may not clear all the spoil from the auger. In this event, the spoil is to be loosened manually, either by an operative working at ground level, using an appropriate tool or working on the rig ladder, wearing a full harness attached to the fall-arrest system. In either event, the auger must NOT be rotated during manual cleaning.								
Concrete ground-line and rig hoses	Concrete spraying into eyes	4	4	16	Concrete ground-line and rig hoses to be regularly inspected by a competent person (piling foreman or supervisor) for broken & exposed braiding. Damaged lines to be clearly identified and taken out of service.	1	4	4

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					Bolted pipe connectors to be checked for tightness regularly. Whip-checks to be secured and quick-release couplers to have R-clips fitted. Avoid trafficking hoses. USE CROSSING POINTS.			
Drop Hose on Rig Snagging	Falling objects/materials. Damage to property	4	4	16	Banksman on the ground to be aware of pumping operations and to watch concrete hose relative to rig structure. Rig operator to observe banksman's directions.	1	4	4
Cleaning Out Hoses	Grout splashing/stone chippings	5	4	20	When blowing-out always use boards or a blow-out bucket to contain the wash-out and loose aggregate.	2	4	8
	Persons being struck by hose	5	4	20	Always restrain the end of a land-line either by placing a digger bucket on it or leaving it connected to rig.	2	4	8
Welding	Electrocution	5	4	20	Welders competent and trained in use of equipment. All equipment checked and in good working order.	1	4	4
	Arc eye to public and other site operatives	4	4	16	Correct PPE worn by welder. Welding screen erected to prevent risk to members of public or other site operatives.	1	4	4
	Burns / Fire	4	4	16	Hot works permit to be issued by Principle Contractor. Fire extinguishers located close by. Welders competent and issued with correct PPE. Principle Contractor to check no flammable materials within or near working area.	1	4	4
Network Rail	Machine working close to network Rail Electrocution Line disruption Damage to property Falling materials	4	4	16	Arrangements to be made to notify Network Rail of intention of works. Piling rig to work within permitted parameters of the line. Working to Network Rail group standards and the clients arrangements	2	4	8

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Likelihood			Risk		
1	5	4	3	2	1
2	10	8	6	4	2
3	15	12	9	6	3
4	20	16	12	8	4
5	25	20	15	10	5
	5	4	3	2	1
Severity					

N.B:- AREAS HIGHLIGHTED IN RED ARE AN UNACCEPTABLE RISK LEVEL

AREAS HIGHLIGHTED IN ORANGE ARE ACCEPTABLE RISK LEVELS HOWEVER HEIRACHY OF CONTROL MAY DIPICT FURTHER CONTROL MEASURES

AREAS HIGHLIGHTED IN GREEN ARE ACCEPTABLE RISK LEVELS.

Likelihood

Certain	5
Probable	4
Likely	3
May Occur	2
Unlikely	1

Severity

Fatality	5
Major Injury	4
Specified Injury	3
7 Day Injury	2
Accident	1

Example

Likelihood rating 1-5	Severity rating 1-5	Risk rating (likelihood x severity)	High 15 -25	Medium 8-12	Low 1-6
4	5	20	✓		

Example

Likelihood rating 1-5	Severity rating 1-5	Risk rating (likelihood x severity)	High 15 -25	Medium 8-12	Low 1-6
2	3	6			✓

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