/RISK ASSESSMENT AND ANALYSIS/تقييم المخاطر

RA Number(رقم تقييم المخاطر): PRJ-2026-0002	**:WORKPLACE/TASK/ACTIVITY/PROCESS NAME**132 **الموقع/المهمة/العملية/المعدة** kv cable installation	**DEPARTMENT/AREA(الإدارة/المنطقة):** Abu Dhabi
RA TEAM(Names) (:أسماء فريق التقييم) **1.** **2.** **3.**	**LEAN CONCRETE POURING**	**DATE(التاريخ (:** **NEXT REVIEW DATE(تاريخ المراجعة القادم:** **APPROVED BY MANAGER/SUPERVISOR(اعتمد من قبل): Eng.** **Singniture (التوقيع):**

HAZARD IDENTIFICATION/تحديد الخطر				CONTROL/وسائل التحكم	RISK ASSESSMENT/تقييم المخاطر			ACTION PLAN/خطة العمل لتقليل الخطر					
Item #	**Workplace/ Activity/Process/Equipment/Material المواد/المعدات/العمل مهمة/العمل موقع**	**Hazards/الأخطار**	**Risks Issue (Possible incident) [What can go wrong] (Accident/ill health to persons, fire or property loss)**	**Existing Controls / وسائل التحكم المتوفرة**	**Consequence / الشدة**	**Likelihood / الاحتمالية**	**Risk Ranking / تصنيف الخطر**	**(Improve existing controls / implement new controls) وسائل التحكم والسيطرة الاضافية**	**Follow up by Whom (name) & By When (date) الجهة المعنية بالتنفيذ/التاريخ**	**Controls Implemented Yes/No هل تم التنفيذ؟ نعم/لا**	**Consequence / الشدة**	**Likelihood / الاحتمالية**	**Risk Ranking / تصنيف الخطر**
1	Mobilization of personnel, vehiclesandequipment's at site & Delivery of materials to job site	• Physical hazards while handling materials,Un controlled Vehicle movement, Driver/3. • Operator fatigue,Non-Competent operatorand Driver • Poor vehicle transport condition • Overloading, fallingof load/materials,Unskilled labor • Oil spillage,Poor weather condition(fog/ra in), Heat stress	• Vehicle collision, Equipment Toppledover, Personal Injury, Fatality Property damage, Explosion/ Fire.	• NOC and Permits shall be obtained from the concerned authority and follow their safety procedure. • All the workers, staffs and managementmust undergo with the Project HSE induction prior entry to the site. • The Competent Person shall obtain Cold Work permit along with the approved WMS&RA, Job specific checklist. • Valid EID, Medical Insurance shall be attained. • Drivers/ Operator shall have valid UAE Driving License/ TP competency certification • Vehicle/Equipment's shall have Govt. registration / TP fitness inspection certificate. • Conduct awareness training, emergency procedures and Specific Toolbox Talk to all personnel. • Appropriate supervision always. • No driving / operation in poor visibility due to fog and dust • Equipment maintenance shall not be carried out in site. • Vehicle/Equipment shall be checked on daily basis and shall be recorded. • All material shall be stacked properly and secured before transportation from the store • Provision of standby vehicles. • Store equipment & tools at designated area only • Ensure first box and fire extinguisher available at site. • Ensure the banks man is visible to the operator all the time during operation. • Ensure no oil leaksfor the plant & equipment's used at site. • Drip trays shall be availablefor the portable equipment's used at site. • Ensure to wear appropriate PPE.	2	3	6	• The reverse alarm shall be as per the OEM settingi.e., it is operated automatically while applying the reversegear. • Reverse light and brake lights shall be as per OEM and shall be operational while applying reversegear and brakes respectively. • Placement of welfare amenities as per ADOSH SF CoP 8.0 – General Workplace Amenities. • Heat stress management program shall be implemented as per ADOSH SF CoP 11.0Need to comply with ADOSH SF – MS element 5.0 – Training, Awareness and Competency. • Need to comply with ADOSH SF – CoP 34.0 – ADOSH SF - Safe Use of Lifting Equipment and Lifting Accessories • Need to comply with ADOSH SF – CoP 36.0 – Plant and Equipment.			2	1	2
2	Excavation& backfilling	• Manual handling hazards,Heat stress • Lackofawarenessof safe lifting, • Slipping/Tripping, falling,Sharp edges of material,Awkward posture,Fallingof personal, materials, tools and equipment,Collapse of trench excavation, cave ins. • Flooding • Excavationnear underground utilitiesunderground electrical cables (ADDC 4-Core25 mm² 240V LV) present at shallow depth without markers or warning tape	• Personnel injury/ damage to UG utilities. • Fire & Flash Electrocution. • Property damage • Contact with shallow buried livecable during mechanical backfilling operations	• The Competent Person shall obtain Work permit along approved WMS & RA; • Job specific. • Verify valid calibration certificate of CAT scanner • Valid EID, Medical Insurance shall be attained. • Placement of welfare amenities • Conduct awareness training, emergency procedures and Specific Toolbox Talk to all personnel. • Appropriate supervision at all times. • The competent person shall conduct CAT scanning to identify existing UG utilities and exposed UG utilities shall be protected. • Provide multi language warning signs and flashing lights • Sloping, Benching, Shoring shall be provided according to geotechnical soil investigation recommendation • The trench shall be adequately barricaded along warning signages. • No pickaxe shall be used during the manual excavation (onlyfor the top hard surface as agreed by the site team) Cable detector scanning to be done on all modes to ensure proper tracking of power /data cables. • All manual excavation shall be carried out with hand shovelsonly. • Dewatering shall be available where required. • Conduct comprehensive utility scan using CAT and Genny across the entire work area before commencing any excavation or backfilling. • Surveyor to marka reference level of 30 cm above existing ground level along the working corridor. • Supervisor to tie a rope or physical marker at the 30 cm reference height to serve as a visible guide for the wheel loader or JCB bucket level. • Physical reference marker to act as a constant visual reminderfor both supervisor and equipment operator. • Physical reference to clearly indicate the maximum permitted digging or lowering depth. • Ensure bucket does not go deeper than the safe distance from the existing ground level.	2	3	6	• All means of access/egress shall be kept free from all obstructions • Hard barricading to be provided to prevent vehicle access near to the excavated area or preventing from falling into the excavated area. • Ensure muddy water shall not be mixed with any potable /fresh water source around. • Ensure proper bund wall is developed around the muddy water storage area. • Ensure the muddy water storage area is barricaded and remains out of reach of unauthorized persons. • Temporary protection & warning signs shall be provided to any underground services that are close to or adjacent to the excavation that may be damaged by the excavation works. • Heat stress management program shall be implemented as per ADOSH SF CoP 11.0Need to comply with ADOSH SF – MS element 5.0 – Training, Awareness and Competency. • Need to comply with ADOSH SF – CoP 29.0 – Excavation. • Comply with TAQA 12 essential rules – RULE No. 3 – Ground Disturbance Only manual excavation and backfilling will be allowednear overhead lines and underground utility areas. • Prohibit the use of mechanical equipmentfor final trimming and leveling withina safe margin of known or suspectedlive cables. • Ensure the flagman is briefed to maintaina clear line of sight and has the authority to stop the operator if the bucket approaches any marked utility lines. • Conduct refresher trainingfor all equipment operators on underground utility hazards and safe digging practices. • Re-brief all personnel on the hazards of workingnear live buried services and the importance of reporting any anomaly immediately.			2	1	2

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3	Shoring	• Hand& Power tools • Confined space • Manual handling hazards • Excavation hazards	• Personal injury, Fatality, Damageto property Asphyxiation	• Obtain Excavation work permit and subsequent permit along with approved MSRA and inspection checklists. • Conduct external and in-house training and TBT prior to commence the work • The equipment operator shall have UAE driving license and TP competency certificate • The appointed person, rigger shall have TP competency certificate • All hand and power tools shall be inspected by authorized electrician • Use right toolsfor the job • Fall protection and prevention shall be provided • The excavation depth is greater than 1.2m, shall be conducted atmospheric testing by AGT who shall have TP competency certificate. • Purge or ventilate confined space • Use suitable PPEsFollow safe manual lifting techniques. • Use safe method of lifting (back straight, be close to the load and hold with full grip). • Team handling while handling the materials	2	3	6	• Comply ADOSH SF CoP 34.0- Safe lifting and Lifting accessories • Comply ADOSH SF CoP 35.0- Portable power tools • Comply ADOSH SF CoP 23.0- Work at height • Comply ADOSH SF CoP 27.0 – Confined space • Comply ADOSH SF CoP14.0- Manual handling and ergonomics • Comply ADOSH SF CoP 29.0- Excavation • Comply ADOSH SF CoP 29.0- Excavation • Comply with TAQA 12 essential rules – RULE No. 1 – Permit To Work • Comply with TAQA 12 essential rules – RULE No. 3 – Excavation and Ground Disturbance			2	1	2
4	Workingin confined areas (Duct bank area, manhole, culvert)	• Lack of oxygen • Breathing, Suffocation • Hazardous atmosphere • Flammable gas • Toxic gaseslack of lighting • Lack of ventilation • Hot work • Improper supervision • Extreme temperature	• Personnel injury	• Follow contractor's work permit system. • Ensure the oxygen level adequacy (19.5% - 23.5%). • Adequaterest should be given to work force. • Conduct Toolbox Talks before the activity about the dangers of confined space. • Works should be done by full time supervision. • Adequate forced ventilation to be available. • Multigas detectortest shall be used before entry. • Continuous watch outside the confined area • Maintain ventilation (forced air if necessary) by Opening Nozzles, Manholes etc. and ensuring they cannot be accidentally closed. • Adequate lighting to be provided. • Ensure no snakes or reptiles available prior to enter the area. • Trained supervisor present to oversee entry and exit procedures is crucialfor making sure safety protocols are followed. • Supervising the entry and exit process, monitoring atmospheric conditions, and ensuring that safety measures are being followed. • Initiating emergency response procedures, including callingfor additional assistance and coordinating rescue efforts. • Keeping accurate records of entry and exit times, personnel involved, and any incidents or deviations from the plan.	3	3	9	• Two-way radios enable workers to maintain constant contact. • Establish backup communication methods, such as hand signals or alarms, in case of radio failure. • A designated person outside the confined space must continuously monitor communications and respond to any issues or emergencies. • Ensuring that all workers understand communication protocols in emergency situations, including distress signals and evacuation commands, is essential. • Need to ensure that information and location of hazardous areas is available. • Gas detectors required and to be monitored • Awareness of hazardous areas shall be given. • Need to comply with ADOSH SF – CoP 27.0 – Confined spaces • Comply with TAQA 12 essential rules – RULE No. 4 – Confined Space Entry			3	1	3
5	Lifting Operation	• Suspended load Swinging Load Machine Breakdown Improper maintenance	• Personnel injury,plant and equipment damage	• The lifting equipmentmust be assessed to be adequatefor lifting requirements associated with the works. • Onlyuse lifting loads as designated by the manufacturer. • Ensure that all relevant personnel are aware of the loads. • Warning signs and proper exclusion zone to be maintained. • Ensure no personnel allowed in exclusion zone and lifting operations. • Guide rope to be used to prevent load swinging. • No people allowed to work near the lifted load.	2	3	6	• Ensure that all lifting equipmenthas third party certificate. • Operatormust be having third party certificate. • Rigger and Lifting supervisormust be third party certified. • Maintaina proper exclusion zone for such activities. • All lifting equipment / accessories and operatives shall be certified by third party. • All lifting equipment/ accessories will be checked by the operator before any job commencement. • Need to comply with ADOSH SF – CoP 34.0 – Safe Use of Lifting Equipment and Lifting Accessories			2	1	2
6	Workingwith hand tools	• Use of wrong tool for work,Failuretomaintainthe tool and to keep them improperly,Use of worn outtools.	• Personnel injury, property damage	• For work on or near electrical apparatusonly properly insulated tools should be used. • Tools should be properly stored in boxes, racks, holders or pocket belts. • Cutting edges should be sheathed. • Damaged tools should immediately repair or replaced. • Alwaysuse good quality hand tools that should be designed to fit the hand and the task.	2	3	6	• Select the correct tool for the right job. • Adequate supervision shall be ensuredNo handmade tools shall be used. • Color coding /inspection system to be followedfor all hand /power tools. • All hand tools should be secured properly after work. • PAT Test is conducted every 3 months on all electrically operated portable power toolsused on construction sites. • Need to comply with ADOSH SF – CoP 35.0 – Portable Power Tools			2	1	2
7	Manual Handling	• Lackofawareness of safe manual lifting • Manual Handlingof materials • Slipping/Trip ping • Sharp edges of material • Pinch point • Awkward posture • Heavy load and bulky	• Affectsthe spinal cord • Personnel injury	• Toolbox talk and awareness training to be conducted. • Wear necessary PPE, s safety helmet, safety goggles, coverall and safetyvest. • Use safe method of lifting (back straight, be close to the load and hold with full grip). • Team handling while handling the materials. • Keep routes clear and clean. • Use containersfor loose material (if required).assess the load and do not lift the load alone take assistance. • When more than one person involveduse team leader to coordinate.	2	2	4	• Training shall be provided to all concerned staff on "Manual Handling," before the start of the activity. • Watch where you are walking. • Do not run or rush. • Ensurepits are covered. • Check and make sure. • The area is clear. • And need good view to bottom during. • Manual handling. • Need to comply with ADOSH SF – CoP 14.0 – Manual Handling and ErgonomicsIf material handling is doing manuallythen Bend the knees as much as possible to lift the load. • Lift gradually using leg and stomach muscles.			2	1	2

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8	Workingnear to road shouldersTraffic control (Workingnear to existing road)	• Live traffic,speedingof vehicles, public • Vehicle movement • Road Traffic accident	• Vehicle accidents, injury, fatality, property damage	• Clearancemust be obtained from appropriate authorities in writing witnessed by the engineers. • Proper planning and supervision are required. • Warning signs, safety cones, safety barriers etc. should be provided. • Detailed method statement should be provided at the time of execution. • Proper warning signs for reduce speed to be used • Workers should wear reflective jackets. • Flagman should be employedfor controlling traffic, while monitoring the road levels / survey. • Toolbox talk to be conducted prior to the start of work. • Ensure ITC / Municipality permit shall be valid and copy to available at site prior to the start of work	2	3	6	• Reduce the speed at working area, providehard barricading, place warning signs, arrange flagman, warning lights on sign boards and barriers, using high visibility jacket and competent supervision. • Training on workingnear live traffic, designated drop-off and pickup areas, prohibit crossing roads in non-designated areas. • ADOSH – SF Code of Practice (Cop) 44.0: Traffic Management and Logistics to be followed. • Banksman /Flagman shall havea provision of Beckon lights during the nighttime /under dark & cloudy conditions.			2	1	2
9	UGSurvey activities, working in green areas	• Working in leading edges such as excavation, workingnear utilities Failure to use traffic controldevices, unsafe position on edges, survey marking points	• Fatality, major and minor injuries, damage of property and utilities	• Placement of traffic control devices such as traffic cones, barriers, flashlight and signalmen. • The survey equipment shall never be left unattended at any location. • Scanning of utilities, train surveyors. • Rebar caps for survey rods. • Reduce working time in live traffic and if possible, survey outside from live traffic. • Advanced notification to motorists. • All survey crew must wear full PPE including reflective jacket while workingnear to the plat movement area.	2	3	6	• All survey crew must wear full PPE including reflective jacket while workingnear to the plat movement area. • Need to comply with ADOSH SF – CoP 11.0 – Safety in the Heat • Need to comply with ADOSH SF – CoP 14.0 – Manual Handling and Ergonomics			2	1	2
10	Loading & Unloading material to and from vehicle	• Manual handling, Lack of awareness of safe lifting,Manual Handlingof hazards • Slipping/Trip ping • Sharp edges of material • Oil spillage • Falling materials	• Affectsthe spinal cord, Personnel injury, Property damage	• Toolbox talk and Awareness training to be conducted. • Wear necessary PPE, s safety helmet, safety goggles, coverall and safetyvest. • Use safe method of lifting (back straight, be close to the load and hold with full grip). • Team handling while handling the pipes. • Keep routes clear and clean. • Use containersfor loose material (if required). • Watch where you are walking. • Do not run or rush. • Ensurepits are covered. • Check and make sure. • The area is clear. • And need good view to bottom during. • Manual handling.	2	2	4	• Need to comply with ADOSH SF – CoP 14.0 – Manual Handling and Ergonomicslf material handling is doing manuallythen assess the load and do not lift the load alone take assistance. • When more than one person involveduse team leader to coordinate. • Stand as close to the load lifted • Bend the knees as much as possible to lift the load. • Lift gradually using leg and stomach muscles.			2	1	2
11	Working adjacent to existing Gas line/ ADDC cable / TAQATransmission OHL / pressurized waterline	• Electric shock and Electrocution,Burn • Fireand Explosion • Arcing Secondary hazards such as fall from height due to electric shock. • Release of Hydrocarbon • Lackof permit • Release of pressurized waterline	• Serious Personnel Injury/ Fatality and property damage	• Obtain necessary TP NOC and Permits/ Safety Document to work nearer to existing utilities. • Constructa goal post to achieve the minimum safety clearance of 5.5 m. • Allow the entire vehicle assignedfor the activityonly through this passage. • Consider the wind speed because overhead power lines can be shifted horizontally or vertically by strong wind especiallynear long spans, thus shifting the danger zone as well. • Temporary protection & warning signs shall be provided to any underground services that are close to or adjacent to the excavation that may be damaged by the excavation works. • Ensure using suitable approved and calibrated cable avoidance tools (CAT) before excavation to find out any possibility of live cables below/adjacent location. • Obtain LAP from Authorities. • Full time close supervision shall be available. • Conduct TBT on daily basis. • Only competentsupervisor and workers will deploy.	3	3	9	• Ensure firm ground level. • Uneven ground can cause weaving of the crane into power lines. • Arrange proper means of communication system. • Give Toolbox Talk to the workforce regarding the hazards related to the activity. • Barriers / signboards to be provided. • Flashlights shall be providedfor night warnings. • Need to comply with ADOSH SF – CoP 39.0 – Overhead and underground Services.			3	1	3
12	WorkingIn the extreme heat/ Humidity	• Extreme Temperature and Humidity • Heatcramp and rashes • Heat syncope • Heat Exhaustion • Heat stroke	• headache, vomiting&dizzinessto victimacute spasm of voluntary muscles (ex. • Abdomen extremities) mildred rashin the body.	• Toolbox talk on heat stress to be provided. • Provide cool drinking water and electrolyte solutions. • Heat Stress Awareness Campaign shall be conducted to increase the awareness of all regarding Heat Stress. • Arrangerest areas away from workstation to cool off. • Ensure that there is air circulation in operator's cabin Provide sufficient breaks and job rotation • Supply of adequate cool water Regularly. • Provision of adequate supervision. • Provide adequate welfare facilities. • Regular monitoring of TWL	2	3	6	• First Aid /Medical Emergency: Ensure the number of First Aid Boxes are appropriate as per the strength of the team at the site. • ACVET trained and approved First Aider available at the site during throughout the activity. • Comply ADOSH SF CoP 11.0- Safety in the Heat • Adjust work schedulefor work and rest periods during hot days Train workers to recognize signs and symptoms of heat stress disorder and advised to take water at frequent intervals. • Work shall be stopped in bad weather conditions such as high winds /sandstorm and heavy rains and downpour etc.			2	1	2
13	Arrangements of Emergency Preparedness and Response	• Lackof emergency awareness procedure • Poor emergency arrangements lack of • Evacuation and Response plan,	• Personal injury/Fatality	• Placement of Employee alert device, Emergency vehicle, Emergency first aid kit, first aid firefighting equipment • Emergency contactlist and ERT team list. • Display Evacuation layout plan • Fire & Medical Emergency rescue Equipments • Conduct routine mock drill • Incase of emergency Contact the following:Project Manager, 0525090560HSE Officer, Mujahid - 0549984915POLICE/Fire/Ambulance-999Fire Wadern – Najeerullah- 050251 5986First Aider –Najeerullah- 050251	2	3	6	• Comply ADOSH SF MS Element- 6.0 – Emergency Management • Yas Marina Circuit Medical Center, Location – Yas Island – 026599800Burjeel Medical Center, Location – Al Raha -			2	1	2
14	Adverse weather condition (sandstorm, high winds, rain)	• Reduced Visibility • Slippery Surfaces • Wet conditions and Unstable ground condition.	• Personal injury • Property damage	• Vehicle speed shall be reduced. • Use high visibility clothing. • Regular inspections at work area. • Equipment / materials secured. • Stop work during adverse weather condition. • Provide training regarding adverse weather conditions • Emergency Evacuation procedure to be followed. • Provision of First aider and standby vehicles.	2	3	6	• Safe evacuation from working location. • If visibility becomespoor driver to pull over in a safe place until it improves. • Drivers to maintain safe distance between vehicles. • Work shall be carried out considering the weather severity level. • Weather alerts shall be monitored. • Wind screen wipers shall be in good condition.			2	1	2

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15	Housekeeping Activity	• Obstructions • Slip, trip and fall • Fire hazards	• Personal injury • Property damage	• Site housekeeping, maintain daily removal of all waste form the site. • Housekeeping should be conducted before work start and end of the shift. • Properly arrange the materials • Work area should be kept clean without obstruction all day. • Secure all temporary signage boards and materials.	2	2	4	• Material shall be stacked as per standard height and width. • Overload and unsecure storage of material should be avoided. • Follow waste management plan- Prevention, Reduce, Reuse, Recycle and recovery. • Follow Collection, Segregation, Storage, Transportation and Dispose			2	1	2