



Government of Sharjah | حكومة الشارقة
Department of Public Works | دائرة الأشغال العامة



Health, Safety, and Environment Standards Document





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PREFACE

Preface

The Government of Sharjah - Department of Public Works understands that good health, safety, and environmental management is integral to its overall success. The Department of Public Works believes the application of the highest standards of health, safety, and environmental practices will not only prevent occupational injuries, ill health, and damage to the environment, it will also lead to overall project success.

This document describes the Health, Safety, and Environment (HSE) standards that apply to all parties working on the Department of Public Works projects. Compliance with the letter and spirit of this standard is mandatory for all contractors, subcontractors, and suppliers.

The requirements contained within this Health, Safety, and Environment Standards Manual are not intended to be exhaustive, but rather set a framework for the arrangements for key activities and high risk works. In addition to the requirements set out in this manual, Contractors are expected to complete their own hazard analysis and risk assessment to identify suitable and sufficient controls appropriate to the delivery of their project.

Contractors must ensure compliance with the standards written within this document. The Department of Public Works will enforce the requirements and apply consequences for non-compliance.

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Acronyms and Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
ANSI	American National Standards Institute
CAT	Cable Avoidance Tool
COSHH	Control of Substances Hazardous to Health
CPD	Continual Professional Development
dBA	Decibels A rated (Noise level)
DPW	Department of Public Works
ELCB	Earth Leakage Circuit Breakers
ESMA	Emirates Authority for Standardization and Metrology
GC	General Certificate
GFCI	Ground Fault Circuit Breaker
HAZID	Hazard Identification
HSE	Health, Safety, and Environment
HVL	High Value Lesson
IGC	International General Certificate
IOSH	Institute of Occupational Safety and Health
IP	Ingress Protection
IPAF	International Powered Access Federation
KPI	Key Performance Indicator
LEV	Local Exhaust Ventilation
LOTO	Lock Out Tag Out
LTI	Lost-Time Injury
MEWP	Mobile Elevating Work Platforms
MSDS	Material Safety Data Sheet
NEBOSH	National Examination Board in Occupational Safety and Health
NEC	National Electric Codes
NFPA	National Fire Protection Association
NOC	No Objection Certificate
PTW	Permit to Work
ROPS	Roll-over Protection System

SSoW	Safe System of Work
SWL	Safe Working Load

Definitions

Audit	A systematic process for obtaining information and evaluating it objectively to determine the extent to which defined criteria are fulfilled.
Compliance	Meeting all applicable requirements, including legislation, standards, and regulations, including Client requirements.
Continual Improvement	The process of enhancing the HSE practices to achieve ongoing improvement in overall HSE performance in line with the HSE Policy and performance objectives.
Contractor	A person or organization providing services to another organization in accordance with agreed specifications, terms, and conditions.
Employer	Refers to DPW and/or their representative.
Engineer	The Employer's responsibilities outlined within this document may be delegated to a representative / 'Engineer', an organisation employed by the Client to monitor, supervise, or manage several aspects of the project, including the implementation of these standards.
Environment	Surroundings, including air, water, land, natural resources, flora, fauna, humans, and their interrelation.
Golden Rules	Based on the critical safety risks within the Employer's operations, a set of 12 Safety "Golden Rules" have been developed. These Golden Rules cover Safety Risks that could result in serious injury or death where the Employer expects the Contractor to take specific actions to manage the risks and the Employer expects full compliance.
Hazard	A condition, set of circumstances, or inherent property that can cause injury, illness, or death.
Incident	An unplanned event related to company activities that can involve work-related injury/illness, property damage, environmental impact, security, or other significant issue.
Lifting Equipment	Equipment used for lifting - examples include: cranes, piling rigs, forklifts, telehandlers, etc.
Lifting Accessory	An accessory fitted to the lifting equipment to facilitate connection between the lifting equipment and the load. Examples include: chains, slings, shackles, wire ropes, etc.

Reasonably Practicable	Weighing a risk against the effort, time, and money needed to control it.
Shall and Must	Denotes a mandatory requirement placed on the Contractor.



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SECTION 1 GENERAL HSE REQUIREMENTS

1.0. General HSE Management

1.1. Legal and Other Requirements

The Contractor and their Subcontractors have a contractual obligation to perform their work using safe work methods and to meet or exceed the requirements of the applicable United Arab Emirates (UAE) HSE Laws, local regulations, and technical guidelines, including but not limited to:

UAE Legislation

- Federal Law No. (24) of 1999 on Protection and Development of the Environment, and all its amendments including the following:
 - Law No. 11 of 2006 amending some provisions of Federal Law No. 24 of 1999 on the Environment Protection and Development.
 - Cabinet Order No.37 of 2001 for Executive Order of Federal Law No. 24 of 1999 for Regulation of Handling Hazardous Materials, Hazardous Waste and Medical Waste.
 - Resolution No. 37 of 2001 issuing the Environmental Impact Assessment Regulation for installations.
- Federal Law no. 8 of 1980 – UAE Labor Law, regulating labor relations.
- Ministerial Order 32 of 1982 on determining prevention means and measures to protect workers from work hazards
- UAE Fire & Life Safety Code of Practice 2017.
- Cabinet decision No 13 of 2009 - General standards Labour Accommodation.
- All other applicable Ministerial Decrees, Ministerial Orders, and other applicable Federal and Local Laws.
- Requirements of local authorities, third-parties, and other stake holders such as Sharjah Municipality, Environment and Protected Areas Authority (EPAA), and Sharjah Roads & Transport Authority.

National and International Standards

Other applicable and recognized International Codes and Standards for incorporating best applicable Industry Practice e.g. OSHAD, British Standards, OSHA, NIOSH, ANSI standards/ requirements, National Fire Protection Association (NFPA) Codes, National Electric Codes (NEC), ACGIH (American Conference of Governmental Industrial Hygienists).

1.2. The Employer's HSE Principles

All Contractors, with the assistance of the Employer, will strive to meet the HSE principles outlined below as a minimum requirement. All parties working on the Employer's projects shall:

1. Commit to support and apply the 'Critical Risks and Golden Rules' on all projects.
2. Promote a safe culture in which everyone accepts responsibility and accountability for the health and safety of themselves and others.

3. Ensure that leadership on the project is accountable for driving HSE performance and set an example for others to follow.
4. Encourage employee participation in identifying and controlling hazards, promoting awareness, and therefore promoting continuous improvement.
5. Ensure specific attention is given to employee HSE awareness and compliance around the Critical Risks and Golden Rules.
6. Comply with the requirements of the HSE standards outlined in this document as well as relevant legislation.
7. Identify and strive to eliminate unsafe work practices.
8. Assess HSE risk and implement control measures to reduce HSE risks by adopting the following hierarchy of control measures:
 - a. Elimination
 - b. Substitution
 - c. Isolation
 - d. Engineering Controls
 - e. Administrative Controls
 - f. Personal Protective Equipment (PPE)
9. Apply consistent and fair consequences for non-compliance to Golden Rules and the standards.

1.3. Contractor Responsibilities

1. The Contractor's must conduct its operations in such a manner to prevent injury to persons, damage to property, or pollution to the environment.
2. The Contractor must maintain a safe and healthy workplace for all project employees, stakeholders, and members of the public who may be affected by the Contractor's acts and omissions.
3. The Contractor shall commit to the HSE requirements in this document and maintain the highest HSE standards at all stages of the project.
4. The Contractor shall conform to all Acts, Orders, and Regulations made by any relevant Official Authority with respect to Health, Safety, and Environment.
5. The Contractor shall also ensure that its practices, and that of any of its Subcontractors, prohibit human trafficking, inhumane living conditions, and the withholding of employee passports.
6. The contract price shall include for the provision and implementation of a Health, Safety, and Environment Programme that ensures that the highest standards are enforced throughout the Design, Construction, Pre-commissioning, and Commissioning Stages. This shall include, as a minimum, the cost of compliance with all HSE requirements included within this standard.
7. The Contractor shall bear the costs of any interruption and/or delays to the works due to incidents and/or HSE deficiencies involving the Contractor operations, workers, or Subcontractors.

1.4. Consequences of Non-compliance

The following consequences may be applied by the Employer for non-compliance with the Golden Rules and Standards:

- Financial penalties for services not delivered to the Employer
- Withholding of payments until issues are rectified to the Employer's standards.
- Deduction of payment to the Contractor, for the Employer to directly rectify issues.
- Ultimately, removal of the Contractor from the Employer's approved supply chain.

The DPW HSE Department will ensure the implementation of the appropriate penalties.

1.5. Prequalification and Tendering with the Employer

1. The Employer will only engage with Contractors that can demonstrate a commitment to HSE standards through the existence of a comprehensive management system and effective safe systems of work.

Prequalification

2. The Employer will prequalify all its Contractors to ensure that they have the capability to manage their works effectively in line with the HSE standards. The HSE prequalification process will allow the Employer, or their representative, to review and assess the Contractor's HSE Management System, including the following elements as a minimum:
 - Policy and Strategic Objectives
 - Leadership Commitment
 - Risk Management Procedures
 - Training Programmes
 - Details of appointed HSE Staff
 - Accidents, Injuries, and Incident Rates
 - HSE Violations, Citations, and Penalties
 - Subcontractor Management Procedure
 - Worker Welfare
 - International Accreditations - e.g. ISO 45001, 14001 9001 etc.

Tendering

3. All Contractors who tender for work with the Employer shall include the following items in the technical section of the tender submission:
 - Draft HSE plan for the project.
 - Description of the key risks identified on the project and how the Contractor will manage those risks.
 - Subcontractors that will work on the project and the Subcontractor management plan.
 - Description of the level of Site Welfare Facilities the Contractor will provide on the project (Maximum 200 words).
 - Contractor HSE Manager's CV for the project.

4. The Contractor will be expected to provide any additional documentation required to assist the tendering process.
5. Contractors that are unable to demonstrate their capability to manage their works effectively, may be approved on the condition that an improvement action plan is submitted and implemented by the Contractor prior to commencement on the project.

Subcontractors and Suppliers

6. All Subcontractors and Suppliers working on the Employer's sites must comply with the Employer's standards. The Contractor must only engage with Subcontractors and Suppliers that can demonstrate a commitment to HSE and support this with a comprehensive management system and effective safe systems of work.
7. The Contractor must perform an HSE pre-qualification of its Subcontractors similar to the process outlined above. Evidence of this pre-qualification must be made available to the Employer on request. Subcontractors that cannot demonstrate their capability to manage their works effectively may be used by the Contractor provided that adequate risk mitigation measures are put in place. This may require full compliance with the Contractor's management system, project HSE plan, and safe systems of work. The Contractor must demonstrate effective measures to manage its Subcontractor's operations in its Subcontractor Management Plan to assure implementation.
8. Where Subcontractors are working to their own HSE Management System, the Subcontractor's HSE plan along with the CVs of their HSE staff must be approved by the Contractor prior to the Subcontractor commencing works on-site. The Contractor must also outline in their HSE plan how their Subcontractor's performance will be managed and monitored to assure implementation of the Employer's requirements.

1.6. HSE Organisation and Arrangements

The Contractor is required to have and implement an HSE Management System that must include a clear HSE policy, and its methods to implement that policy. This must include: a process to identify risks and develop and implement the precautions to protect against those risks, a method to assess its performance, the conditions where the works are being executed, and arrangements to review its performance and take measures to correct deficiencies and ensure continual improvement.

Health, Safety, and Environment Policy

1. The Contractor shall produce a written HSE Policy that is endorsed and signed by senior management. The policy shall demonstrate an understanding that HSE concepts are an integral part of the total business process and strategy, just as cost, schedule, and quality are. The HSE Policy must be formally communicated to, and fully understood by, all levels of the Contractor's organisation. At a minimum, the Contractor's HSE Policy shall:
 - Commit to providing an incident and injury-free workplace for all stakeholders and members of the public who may be affected by the Contractor's acts and omissions.
 - Commit to the safety, health, and wellbeing of its employees, and the protection of the environment.
 - Commit to providing suitable and sufficient welfare facilities for its employees.
 - Commit to identifying hazards as well as assessing and controlling risks.

- Provide clear training instructions and information to ensure employees are competent enough to do their work.
- Provide a clear statement on how the Contractor will engage and consult with employees on day-to-day HSE conditions.
- Commit to providing sufficient competent resources to manage the HSE Programme.
- Require that all the Contractor's managers and supervisors clearly communicate the Contractor's HSE expectations and demonstrate a personal commitment.
- Be signed by a member of the Contractor's Executive Team and reviewed regularly (every 12 months at a minimum).

HSE in Design and Constructability

2. The Contractor must ensure that due consideration is given to reducing safety risks through design and constructability. The Contractor must outline their processes and resources to ensure that the final design can be constructed and maintained safely. The following should be considered:
 - a. Existing site constraints and conditions.
 - b. Safety in Design reviews including formal reviews at key design stages.
 - c. Methods of construction.
 - d. Construction sequencing for major components of the work.
 - e. Maintenance and Operational requirements.
 - f. Residual risk registers and information.

Construction Phase

3. Throughout the project, the Contractor shall provide:
 - a. A safe and healthy environment.
 - b. Safe plant and equipment.
 - c. Safe means of handling, transporting, and storage of articles and substances.
 - d. Sufficient and adequate pollution prevention and control mechanisms.
 - e. Adequate training, instruction, information, and supervision.
 - f. A safe place of work with safe access to and egress from the place of work.
 - g. Adequate welfare facilities.

HSE Leadership and Accountability

4. The Contractor shall be committed to HSE leadership and this is to be achieved by working in partnership with Project Stakeholders. The roles and responsibilities of the Contractor's organisational leadership team, as well as all the project's senior management team shall be detailed in the HSE Plan.
5. The Contractor shall provide opportunities through forums and meetings involving key project stakeholders, including sub-contractors and other relevant contractors to raise HSE awareness, assist in the development of leadership programmes, share good practices, and be recognised for good performance.
6. The Contractor's senior management on the project shall:

- Demonstrate visible HSE leadership by being actively involved in HSE matters.
 - Ensure the project HSE programme is effectively communicated to all personnel.
 - Reinforce safe work practices effectively with supervisors and foremen.
 - Actively participate in the reward and recognition of workers.
 - Support the efforts of the project HSE team in driving improvements on-site.
7. Senior management shall also regularly review site HSE performance and support the HSE team in developing action plans where improvements are needed.

Contractor's Supervision

8. The Contractor shall ensure adequate supervision of the works being undertaken. Contractors are required to provide at least one (1) working supervisor per 15 employees and must ensure that all workers can be effectively supervised.
9. Contractors are required to provide one (1) nonworking supervisor per five (5) working supervisors. Additional supervision may be required depending on the risk profile of certain activities.
10. Contractors must clearly identify their organisational arrangements for supervising activities.

Workforce Engagement

11. The Contractor must ensure that there are mechanisms in place for engaging on HSE matters with their workforce on an ongoing basis. Examples of workforce engagement include:
- Participation in project HSE meetings.
 - Hazard reporting and stopping work when it is unsafe and reporting to supervision.
 - Mechanism for feedback on site and welfare conditions.
 - The Contractor must ensure that there are no negative repercussions or retaliation against any worker raising HSE concerns.

1.7. Health, Safety, and Environment Planning

Contractor's Health, Safety, and Environment Plan

1. Twenty-eight (28) days prior to the project commencement date, the Contractor shall submit a comprehensive, project-specific Health, Safety, and Environment Plan (the "HSE Plan") to the Employer. This HSE Plan shall define, in detail, how the Contractor will manage their HSE Program while considering the Employer's HSE standards and applicable legal requirements.
2. The Contractor shall prepare and make sure arrangements and resources are in place that will allow them to adhere to this HSE Plan. No work on-site may begin until the HSE Plan and associated procedures have been approved by the Employer. The HSE Plan shall demonstrate how the Contractor will comply with the requirements set out or referred to in the Employer's HSE standards and with respect to all tasks to be undertaken during the project lifecycle.

3. The Contractor shall develop a Construction Environment Management Plan (CEMP) for their scope of work. The CEMP shall include the environmental aspects, controls and monitoring measures and define the roles and responsibilities of the different parties. The CEMP can be either a standalone document or integrated with the overall Contractor HSE Plan.
4. The Contractor shall review this plan every six (6) months and/or when operations or conditions, including any new or unforeseen hazards are identified, and/or when new or revised legislative requirements become available. Such amendments shall be submitted to the Employer for review and approval.
5. The HSE Plan shall describe the Contractor's HSE Management System to be used throughout the project and shall conform with all requirements defined within the Contract and related documentation.
6. The Contractor's HSE Plan shall:
 - Clearly state that the Contractor will not overlook or compromise safety on the grounds of cost and/or schedule.
 - Focus on the prevention of accidents, incidents, and illnesses arising from the work being undertaken and the environment in which the work is being carried out.
 - Include process for hazard identification, risk analysis, the provision of resources for suitable and sufficient risk control, training, work place monitoring, supervision of the works, auditing, and review.
 - Describe the safe systems of work and HSE operational control measures (preventive and corrective practices) to ensure the safety and wellbeing of personnel and protection of the environment.
 - Set strategic HSE Goals and develop SMART objectives and targets to ensure that the project HSE goals are achieved. These objectives and targets will be measured and reported on as part of the Project HSE Key Performance Indicators.
 - Describe how the Contractor will ensure that all Project HSE requirements will be complied with by subcontractors (at all levels), suppliers, and visitors. The plan shall also acknowledge that the Contractor is responsible for ensuring such compliance.
 - Delineate the roles and responsibilities of managers and supervisors and shall also describe the system by which managers and supervisors will be held accountable for failing to implement their responsibilities.
 - Describe involvement and active participation of employees best placed to organise work, control risk, and influence safe outcomes.
 - Promote and support employees to actively participate in identifying safety observations, unsafe acts, and unsafe situations.
 - Describe the Contractor's safety resources procedures, precautions, and other safety documentation that will be used throughout the life cycle of the project.
 - Outline how the HSE requirements outlined in the plan are communicated to its employees.
 - The HSE Plan content shall include, but not be limited to the following:
 - a. Front Cover
 - b. Table of Contents
 - c. Definitions and Abbreviations

- d. Document Control/Revisions History
 - e. Project Description and Scope
 - f. Health, Safety, and Environment Objectives and Targets
 - g. Health, Safety, and Environment Policy
 - h. Reference Documentation (including relevant policies and procedures)
 - i. HSE Organisation and Responsibilities
 - j. Subcontractor/Supplier management
 - k. HSE Operational Controls and Procedures
 - l. HSE Engagement and Communication
 - m. Risk Assessments and Method Statements
 - n. Environment Aspects and Impacts Register
 - o. Non-conformance, Corrective, and Preventative Action
 - p. Incident Reporting
 - q. Emergency Response Procedures
 - r. Audits and Inspections (Compliance Monitoring Program)
 - s. Training
 - t. Key Performance Indicators and Continual Improvement
 - u. Management Review
 - v. HSE Meetings
 - w. Reward and Recognition
 - x. HSE Reporting and Record Management
7. Before beginning any work, the Contractor shall require all Subcontractors to submit a written HSE Plan specific to their scope of work. The Contractor shall review all such plans for compliance with its own requirements, the Employer's HSE requirements, and UAE HSE regulatory requirements, and only accept such plans provided they comply.

Emergency Management Plan

8. The Contractor shall develop a project-specific Emergency Management Plan that covers all foreseeable emergency situations that might arise during the project. In addition, site-specific plans shall be submitted a minimum of 28 days prior to the occupancy of any facility or site. As a minimum, the Emergency Management Plan shall address emergency evacuation, medical emergencies, civil unrest, adverse weather, natural disasters, environment emergencies, etc. Periodic tests and drills shall be conducted as required.
9. The details of the Emergency Management Plan shall be communicated to the relevant external emergency services, including points of access and rendezvous. Ongoing liaison shall occur throughout the life of the project, specifically when conditions change that may impact the effective response by external emergency services.
10. The Contractor shall ensure that the Emergency Management Plan requirements are clearly communicated to all working under their control. Such communication and Contractor's personnel comprehension and participation shall be documented.

HSE Chartering

11. Each Contractor will be required to stage a “HSE Chartering” session at the commencement of each project. This will commit all companies involved, corporately and individually, to hold up to the Employer’s HSE philosophy and aims, as well as establishing clear objectives for the project.

1.8. Risk Management

Contractor managers and supervisors shall actively participate in documented pre-job planning activities. Specifically, the Contractor shall participate in developing task specific risk assessments and method statements for all work activities.

Look Ahead Planning

1. The Contractor must have robust processes to identify tasks/activities being performed on the project in a timely manner. This will allow the Contractor to determine the level of preparation and conduct its own reviews prior to allowing tasks to commence.
2. The Contractor must always have a 60-day task/activity look ahead schedule that identifies the risk profile of the works and will accordingly dictate the schedule for documentation submittals and the level of review and assessment required.
3. Weekly and monthly progress meetings and HSE meetings must include a review of all work scheduled and the readiness to commence. Management must ensure that they have suitable and sufficient risk control measures and resources in place before any works commence.
4. For high risk tasks such as works at height, excavations, confined space, road works etc. a formal process must be followed to ensure that an advanced level of planning and readiness is achieved prior to allowing works to commence. For example: procedures, method statements and risk assessments, design and constructability review, equipment requirements, inspection and test records, competency reviews, and training requirements, etc. will need to be reviewed.
5. Any outstanding issues leading up to the start of the works must be tracked on an action tracker to closure before construction readiness is granted and works commence. As part of this process, prior to a task/activity being started, a ‘task-specific’ inspection will be expected on-site for that activity to ensure that the control measures noted have been implemented ‘on the ground’.

Risk Assessments

6. The Contractor shall ensure that risk assessments are undertaken in accordance with the steps outlined below. The risk assessment shall identify the hazards of the Contractor’s work activities and detail the measures to be taken to reduce the level of risk to the lowest level reasonably practicable. Where generic risk assessments are used by the Contractor, they must be amended as appropriate to reflect the actual conditions on-site.
7. The following steps shall be adopted by the Contractor:
 - a. **Identify the hazards:** The Contractor shall review their work activities and identify the potential for harm or damage to occur.
 - b. **Identify who might be harmed:** The Contractor shall consider their own employees, subcontractors, visitors, etc.

- c. **Evaluate the risk:** The Contractor shall evaluate the likelihood and severity of the harm or damage being realised. The level of risk can then be evaluated, and control measures identified. The Contractor shall ensure that effective control measures are identified based on the principle of what is reasonably practicable and in line with the hierarchy of controls outlined below.
 - d. **Record the findings:** The Contractor shall document the risk assessment process and ensure that a register of risks is maintained on site.
 - e. **Review the risk assessment:** The Contractor shall periodically review the risk assessment and revise as necessary. Examples of when a risk assessment needs to be reviewed could include the following:
 - Following an incident on-site.
 - After new equipment or machinery is introduced.
 - If the work method has changed.
 - If other works affects how the activity is carried out.
8. The Contractor shall ensure that the findings of the risk assessment are communicated to those doing the work and those affected by the work. Records of training and communication shall be maintained on-site by the Contractor.

Hierarchy of Risk Control Measures

9. The Contractor is responsible to plan and accomplish their work with due regard for the HSE of all individuals on-site. The Contractor is expected to demonstrate that they have managed risk using the hierarchy of controls principles. The hierarchy principle offers the opportunity to reduce risk to the lowest reasonably practicable level by taking preventative measures in order of priority, starting with risk elimination and finishing with, for example, the issue of suitable and sufficient Personal Protective Equipment (PPE). The risk control process shall follow the below hierarchy of controls.
- Elimination of Risk
 - Substitution of Risk
 - Isolation of Risk
 - Identification and Implementation of Engineering Controls
 - Identification and implementation of Administrative Controls
 - Selection and Provision of Personal Protective Equipment
10. The Contractor shall have a system in place for observing and correcting any HSE hazard before injury occurs. The Contractor shall stop work if unanticipated hazards or work conditions evolve which place anyone at risk or necessitate greater precautions than currently exist or are required.

Method Statements

11. Method Statements shall clearly describe the way a task or process is to be carried out in order to for it to be completed in a safe manner. Each method statement should be submitted 28 days in advance of the planned work commencement date. Method statements must include the following headings as a minimum.
- Scope of Work
 - Methodology of Work

- Persons doing the Work
- Identified Hazards, Risk and Controls associated with the Work and Environment
- Tools, Plant, and Equipment required to Complete the Work
- Personal Training Certificates
- Hazardous Substances related to the Works, Use, Storage, and Disposal
- Waste Management

Pre-Task Assessment and Briefings

12. The Contractor must undertake a pre-task briefing to communicate potential hazards associated with a task just prior to its commencement and at the same time reassess the workplace and environment to identify any uncontrolled hazards or unacceptable risks to the workforce. The process shall be used by the Contractor's supervisors at the beginning of every shift and prior to starting any new task during a shift.

Environment Aspects and Impacts and Control Measures

13. The Contractor shall develop an Environment Aspects and Impacts Register for their scope of works and include it in their HSE Plan. Environment aspects that have or can have a significant impact on the environment shall be determined and assessed in accordance with a recognised ranking scheme, and preventive/control measures identified and recorded. The Contractor shall update the Aspect and Impact Register regularly (when updating the HSE Plan) to ensure it remains relevant.
14. The Contractor must include the operational and preventive control measures to prevent or minimise environment pollution that can result from their activities in their HSE Plan.
15. The Contractor must ensure that they are familiar with the processes, practices, techniques, materials, products, and services available to avoid the creation of emissions or discharge of any type of pollutant or waste, in order to reduce adverse environmental impacts.
 - Pollution prevention can include source reduction or elimination, process, product or service change, efficiency use, efficient use of resources, material and energy substitution, reuse, recovery, recycling, reclamation, and treatment.
 - The Contractor shall also include in their HSE Plan, a Construction Waste Management Plan that clearly identifies foreseeable waste streams, the volume of waste estimated and the manner in which it will be re-used, recycled, or removed. All waste generated must be segregated at source and removed from site by a licensed waste removal company. The Contractor must supply the license details of any waste removal company and/or any waste transfer company facility to be used to the Employer.

Site Rules

16. The Contractor shall develop a set of site HSE rules that will be relevant to the type of work being conducted and any specific hazards on-site. The site HSE rules shall be explained during the project HSE induction and displayed on the site in a conspicuous location.
17. The Employer operates a zero-tolerance policy regarding the use of mobile phones while driving vehicles or operating plant and equipment. Where persons are found to be in breach of the rule, the Employer expects a disciplinary process to be implemented. Other than emergency use, mobile phones can be used only in designated areas and/or within offices and welfare/rest areas. Personal radios and portable audio equipment are also prohibited on any Employer worksites.

18. Smoking is prohibited on all the Employer's sites, except in specific, designated locations which shall exclude all enclosed work areas including offices and welfare facilities. The Contractor shall manage smoking facilities to minimise fire risk and avoid creating discomfort or health risk(s) to other personnel and comply with any legal requirement to protect people from passive smoking.

1.9. HSE Training

1. The Contractor is responsible for ensuring that training requirements outlined within the Employer's standards and the Contractor's HSE plan and procedures are met.
2. The Contractor must develop a training programme for the project and submit this for approval by the Employer. The Contractor must have a written procedure detailing all topics discussed during its training courses.
3. An evaluation process must be implemented for all training to verify its effectiveness and to ensure participants have understood and implemented the rules and measures specified in the training provided.
4. All training records must be documented in writing and include the signature of all participants, the date of training, and the training course.
5. Before the Contractor and Subcontractor's employees begin work on the project, the Contractor shall ensure that each worker has a project specific HSE orientation. This must include an overview of the Employer's Critical Risks and Golden Rules, as well as their personal responsibilities in relation to the same. Upon completion of the induction, the Contractor's personnel must be issued with an "HSE Induction" sticker that must be affixed to the individual's hard hat.
6. The Contractor must ensure that a visitor's HSE induction is provided to persons visiting the site on a short duration basis. Persons receiving the visitor's HSE induction must be escorted when they visit the construction areas of site.
7. The Contractor shall provide and require its personnel to attend specialised training applicable to their work, including but not limited to:
 - Confined space entry
 - Fire watch
 - Driving
 - Operating mobile equipment
 - Working on or adjacent to electricity
 - Operating mobile elevated work platforms
 - Working on or adjacent to live roads
 - Designing, erecting, and managing temporary works
 - Designing, erecting, and managing scaffolding
 - Environment protection and management
 - Waste management.
8. The Contractor shall ensure qualified instructors (and where necessary third-party professional instructors), present all specialised training.

1.10. Health, Safety, and Environment Organisation

Health, Safety, and Environment Organisational Structure

1. The Contractor shall only employ HSE representative(s) acceptable to the Employer. The Contractor is required to submit resumes and certificates of qualification for the Employer's review and approval.
2. These HSE Representative(s) shall be present on the project at all times. The Contractor shall notify the Employer in writing at least 28 days prior to reassigning or replacing any approved HSE Personnel, unless approved in advance by the Employer.
3. The Contractor's HSE lead on the project and other HSE representative(s) shall have sufficient authority and control to ensure the effectiveness of the HSE Program on the project and the Contractor shall hold them accountable for facilitating implementation of the HSE Programme. This must not be misunderstood with the responsibility and accountability of all personnel to implement and adhere to HSE requirements.
4. The HSE lead shall also have a reporting line outside of the project management team and report directly to the Contractor's organisational management.
5. The Contractor's HSE personnel shall have the authority to stop any portion of the work which does not comply with the requirements of their approved HSE Plan or the Employer's requirements.
6. The Contractor must have a process to ensure HSE personnel have delegated authority to expend funds, as necessary, to eliminate hazards and/or dangerous conditions on the project.

Requirements for HSE professionals

7. All HSE staff employed by the Contractor and their Subcontractors must be registered with the Employer.

Qualifications and Experience

Minimum qualifications for HSE positions shall be as noted below. Where aspects of the qualification requirements are not entirely met, but the proposed HSE professional can demonstrate competence via work experience or registration with the Employer, they may be approved at the discretion of the Employer.

8. HSE Manager(s):
 - University degree in a technical discipline (Civil, Mechanical, Electrical, Safety, Industrial Hygiene, Fire Protection, Environmental Management, etc.) or equivalent.
 - NEBOSH Safety Diploma or equivalent.
 - Registered with a recognised professional safety body and able to demonstrate ongoing Continual Professional Development (CPD) and working towards chartered or certified membership status of a professional institution such as the Institute of Occupational Safety and Health (IOSH) or the Board of Certified Safety Professionals.
 - Eight (8) years' experience in HSE activities related to the Contractor's scope of work. As well as three (3) years' experience in previous safety management roles.
 - Excellent written and verbal communication skills.

9. HSE Engineer/Senior Safety Officer:

- University degree in a technical discipline (Civil, Mechanical, Electrical, Safety, Industrial Hygiene, Fire Protection, Environmental Management, etc.) or equivalent or NEBOSH (National Examination Board in Occupational Safety and Health) Safety Diploma or equivalent.
- NEBOSH Certificate (IGC or GC) or equivalent.
- Five (5) years' experience in HSE activities related to the Contractor's scope of work. As well as two (2) years' experience in a previous similar role.
- Excellent written and verbal communication skills.

10. HSE Inspector/Safety Officer:

- University degree or diploma.
- NEBOSH Certificate (IGC or GC) or equivalent.
- Two (2) years' experience in construction as well as one (1) year in a previous similar role.

HSE Resources

Table 1.1 sets out the minimum number of registered HSE staff required on a project, which is based on the number of workers on-site. The requirements below are indicated as the minimum expectation; however, the Contractor is required to assess the required resources for its operations to fulfil the requirements set within this standard.

11. Adequate arrangements must be made by the Contractor to cover night works and absences to ensure that a minimum level of HSE staff cover is provided on the project as set out above.

Table 1.1 – HSE Staff Requirements

Number of workers on-site (per shift)	Required Fulltime HSE Staff		
	HSE Manager	HSE Engineer	HSE Inspector
Less than 49 workers	Optional	Optional	1
From 50 up to 149 workers	Optional	1	1
From 150 up to 249 workers	Optional	1	2
From 250 up to 499 workers	1	1	4
From 500 up to 999 workers	1	2	6
From 1000 up to 1499 workers	1	3	8
From 1500 up to 2000 workers	1	4	10
Above 2000 workers additional HSE staff required as approved by the employer			

1.11. HSE Communication

Communication and Consultation

1. The Contractor shall disseminate and transfer information regarding HSE issues. Typical information to be communicated should include, but not be limited to, any new policies or procedures and general HSE awareness.
2. The Contractor shall ensure communications arrangements are in place to inform of its personnel and other interested parties of key HSE issues. The Contractor shall have processes in place to ensure an appropriate cascade.
3. Methods of communication include, but are not limited to the following:
 - a. Meetings: HSE focused meetings shall be conducted on a weekly basis separate from other meetings that have safety as part of the agenda.
 - b. Toolbox Safety Meetings: The Contractor shall organise at least weekly "toolbox safety" meetings. The Contractor's foremen shall complete, file and make available records from the weekly 'toolbox safety' meeting.
 - c. Safety Alerts: Safety alerts shall be produced by the Contractor after a major Accident/Incident or when appropriate.
 - d. Notice Boards: Information that shall be included as a minimum on an office notice board is any relevant emergency procedures, policy statement, safety alerts or updates.
 - e. Campaigns: HSE campaigns must be initiated by the Contractor to implement throughout the year. At least four (4) campaigns must take place annually. One of the campaigns must detail heat stress before the summer months.
 - f. Posters/Signs: Must be focused on themes relevant to site specific work activities/hazards.
 - g. Safety Awards: The Contractor shall initiate a scheme whereby they recognise and reward for positive HSE-related performance by individuals. This shall be monthly and communicated throughout the project workforce.

HSE Meetings

4. The Contractor shall participate in regular (daily, weekly, fortnightly, monthly) planning, scheduling, and HSE meetings. Table 1.2 below gives an overview of the HSE meetings that the Contractor shall adopt on the project.
5. The Contractor shall ensure that all major decisions and actions proposed by the meetings are effectively recorded and communicated for implementation.
6. In addition, the Contractor will be required and responsible to disseminate any pertinent HSE information from those meetings to the Employer, Government Agencies, its employees, and its subcontractor employees on a weekly basis to promote a safe and healthy work place. These efforts will be documented in writing and available for review by the Employer.

Table 1.2 below gives an overview of the HSE meetings that the Contractor shall adopt on the project.

Table 1.2 – Project HSE Meetings

Method	Frequency
Pre-start project meetings	Prior to commencement of works at any work site to ensure that requirements are established and implemented prior to mobilisation.
Chartering meeting	HSE Chartering at commencement and revisited as required during project life time to commit to Employer's HSE philosophy and aims, as well as establishing clear objectives for the project.
Progress meetings	As required by the Project but at least once every week
HSE Meetings	At least once a week; however, if the project is small enough this can be covered in the progress meeting.
HSE Committee Meetings	At least once a month.
Pre-task briefings	Daily and prior to each new task.
HSE Inductions	As required by the arrival of new workers and visitors to the site.
Tool Box Talks	As required by the project, but at least once per week.
Safety Alerts	As required.

Best Practice Sharing

- The Contractor shall produce quarterly best practice communications that can be shared with the Employer as well as across its projects' portfolio. The aim of sharing this best practice is to celebrate success, bridge potential knowledge gaps, and develop consistency across the Employer's Portfolio.

High Value Learning

- Following any adverse event, the Employer requires the Contractor to produce a High Value Lessons (HVL) learnt document that can be shared with the Employer and across the Employer's portfolio of projects. The aim of the document is to prevent a similar adverse event from happening on any other of the Employer's Sites.
- High Value Learning communications must be completed and shared no longer than 14 days after the event.

1.12. HSE Monitoring

HSE Reporting

1. The Contractor must develop and submit a monthly HSE report that outlines its performance in line with the requirements of this standard to the Employer. This must include, at a minimum, the following elements:
 - Leading and lagging statistics, including HSE accidents and incidents and near misses.
 - Contractor's inspection and audit performance and plans.
 - Employee engagement, including summary of observations raised.
 - Analysis of Employer's observations, non-conformances reports, and letters issued.
 - Closeout status of Employer-raised issues.
 - Contractor initiatives and look-ahead plans.
 - Contractor employee reward and recognition program.
2. The Employer may request that the Contractor completes the Employer's standard monthly report template.

Environment Data

3. The Contractor shall monitor and report on environmental metrics as required by the Employer and/or the local authorities. The Contractor must keep records of waste transfer notes/receipts for auditing and reporting purposes.

HSE Inspections and Audits

4. The Contractor shall establish a documented inspection and audit assessment process. This process shall be used to measure compliance with the project HSE requirements and the Contractor's HSE Plan.
5. A process of focused 'task-specific' inspections must also be implemented in line with site risks and prior to starting any task/activity. Before commencing each major works or high-risk activity, a rigorous process must be implemented to ensure that the control measures required by method statements, the Contractor's procedures, and this document are implemented.
6. The Contractor's managers and supervisors shall take part in scheduled work area inspections on a weekly basis, as well as audits to ensure that all required preventative measures are implemented.
7. The Contractor's managers and supervisors shall be actively involved in resolving issues and monitoring that corrective actions are effectively implemented within a reasonable timeframe.
8. The Contractor shall maintain an effective tracking register and records for all issues raised along with records to demonstrate the actions taken to resolve issues.
9. For serious and/or repeat issues, the Contractor shall identify the root cause and describe the preventative action taken.
10. The Employer will perform periodic HSE assessments of the site. The Contractor shall always provide the Employer access to the site. The Contractor shall participate in this assessment as requested.

1.13. HSE Accountability Framework

The purpose of this framework is to provide the Contractor with an outline of the process for both consistent reinforcement of positive HSE behaviours and the consistent and fair assignment of accountability in relation to negative HSE behaviours, such as those arising from incidents and/or rule violation. This process focuses on ensuring all investigations into unsafe acts or behaviours are fairly conducted to ensure that accountabilities are properly recognised and assigned.

It is important that an accountability framework is balanced and recognises those that are working safely. When things go right, the Employer expects managers and others to provide positive reinforcement, appreciation, recognition, and reward as appropriate.

When providing either recognition or reward to an individual, the Contractor should ensure that the reward is genuinely valued by the receiver and applied equally and fairly.

Reinforcing HSE Behaviours that Meet or Exceed Expectations

The Contractor should ensure that each project implements a process to reinforce positive HSE behaviours.

Managing HSE Behaviours that Fall Below Expectations

Where an individual's behaviour falls below expectations, an appropriate consequence is necessary to discourage the behaviour. The Contractor should have a process to ensure consistent and fair handling of:

- All serious incidents, including high potential events.
- All significant HSE behavioural failings, such as breaches of procedures and rules.

1.14. Incident Reporting and Investigation

HSE Initial Incident Reporting

1. In the event of a reportable incident, the Contractor shall report the incident to the Employer via phone or text message within the timescales outlined in Table 1.3 below.
2. An Initial Incident Notification Form must be completed and sent to the Employer within 24 hours of first awareness of the incident, using the Employer's Initial Incident Notification Form (attached to this document). The following is a definition of incident types and those which are reportable to the Employer:

Table 1.3 – Incident Reporting Framework

Incident type	Description	Reportable	Timescale
Minor injury	Minor injury treated either on-site or at a hospital or clinic. The injured party is able to resume their normal duties for their next shift.	NO	NA
Lost time injury	An injury that prevents the injured party from returning to work for their next shift or prevents them from undertaking their normal duties.	YES	Phone or message within 1 (one) hour of the incident first being identified as reportable. Updated in writing within 24 hours of the incident.
Major injury	<p>A serious injury sustained regardless of any absence from work. Examples include:</p> <ul style="list-style-type: none"> ▪ Fracture (not including fingers or toes) ▪ Amputation of any body part ▪ Any spinal injury ▪ Dislocation of any joint ▪ Loss of consciousness ▪ A penetrating eye injury ▪ Loss of sight (temporary or permanent) ▪ Paralysis (temporary or permanent) ▪ Hospitalisation for more than 48 hours. 	YES	Phone or message within 1 (one) hour of the incident taking place or severity becoming known i.e. hospitalisation. Updated in writing within 24 hours of the incident.
Fatality	Loss of life from a work-related incident.	YES	Phone or message immediately, within 1 (one) hour. Updated in writing within 24 hours of the incident.
Member of the public	Any injury received by a member of the public regardless of severity.	YES	Phone or message immediately within 1 (one) hour. Updated in writing within 24 hours of the incident.

Incident type	Description	Reportable	Timescale
Reportable near miss	<p>A serious specified near miss event as follows:</p> <ul style="list-style-type: none"> ▪ Overturning of a crane or other item of lifting equipment. ▪ Failure of a loadbearing part of a crane, excluding any lifting accessories. ▪ Striking overhead power lines. ▪ Striking underground power cables resulting in an electrical discharge. ▪ Collapse of a scaffolding more than 5 metres high. ▪ Any incident involving diving operations where there was the risk of loss of life to the diver. ▪ Any other event where there was a significant risk of loss of life. 	YES	<p>Phone or message immediately, within 1 (one) hour.</p> <p>Updated in writing within 24 hours of the incident.</p>

3. Where required, under Table No. 4 of Article 24 of Ministerial Decision No. 32 of 1982, the Contractor will report applicable incidents to the Ministry of Human Resources and Emiratisation. All information provided to any outside Regulatory Authority or Ministry shall be provided to the Employer.
4. The Contractor shall keep records of all incident investigations in a format acceptable to the Employer and shall provide these records to the Employer.
5. The Contractor shall submit to the Employer by the first working day of each calendar month, a complete listing of hours worked on the project within the previous month.
6. Separate lists shall be provided for each Subcontractor at all tiers, including a description of the work undertaken and its location.
7. Additionally, the Contractor shall provide a list of any incidents during the previous month, the circumstances and a description of the action taken to prevent re-occurrence.

HSE Incident Investigations

8. The Contractor must then undertake a full investigation and provide a written investigation report within 14 days of the incident first being notified to the Employer. A summary of the Incident Investigation Report must also be provided in the Employer's Incident Investigation Summary Form (attached to this document).
9. The Contractor shall ensure that first-aid cases (non-reportable) are recorded on-site in a suitable incident log book. The Contractor shall determine the level of effort required to investigate minor injury incidents based on frequency of similar cases and potential for a more serious outcome.



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SECTION 2 CRITICAL RISKS AND GOLDEN RULES

2.0. Critical Risks and Golden Rules

Based on critical risks within the Employer's operations, a set of 12 Safety "Golden Rules" have been developed. These Golden Rules cover risks that could result in serious injury or death where the Employer expects the Contractor to take specific actions to manage the risk. Commitment to support and apply the Critical Risks and Golden Rules on all projects is non-negotiable. The Golden Rules must be applied in a consistent, proportionate, and fair manner. They must be fully understood and adhered to by everyone.

The Contractor must ensure that details of Critical Risks and Golden Rules are included in the HSE induction and regular reminders and promotions must form part of the Contractor's overall HSE programme.

Five Steps of Golden Rules

1. They apply to everyone
 - Golden Rules are focused on preventing serious injuries and fatalities and apply to everyone: Employer's workers, Consultants, Contractors, Sub-Contractors, Suppliers, and Visitors.
2. They must be understood by everyone
 - The requirements to comply with them must be made clear to everyone within the Contractor's organisation. The Golden Rules set out high-level requirements and everybody needs to know how to apply them to their work activities.
3. Provision of the means to comply
 - All Contractor's and Subcontractor's workers must be provided with the tools, equipment, and documentation they need to comply with the Golden Rules.
4. Provision of information to comply
 - All levels of management need to facilitate the provision of the correct information, instruction, and training for work to be carried out in accordance with the Golden Rule requirements.
5. Accountability and consequence management
 - Management need to be uncompromising in applying the Golden Rules. Effective supervision is essential, and managers should be checking for compliance and discussing their application with workers to ensure their understanding. There must be consequences for management and employees for not following the rules.

Organisation and Worker Responsibilities

The organisation and worker responsibilities are set out clearly in each of the Critical Risk and Golden Rules.

- Organisation refers to all levels of management, including the Contractor's senior management team.
- Workers refer to all workers employed by the Contractor including Subcontractors and any other parties working for the Contractor on the site.

2.1. Working at Height

Critical Risk No. 1: Working at Height



Golden Rule

Work at an elevation of 2 metres (m) or higher above the ground or working surface must not proceed unless properly managed, to eliminate or mitigate the risk of falling, or dropped objects. In addition, floor and roof openings or the risk of a fall into an excavation below ground must be properly managed to eliminate the risk of people falling through or into them.

Organisation Responsibilities

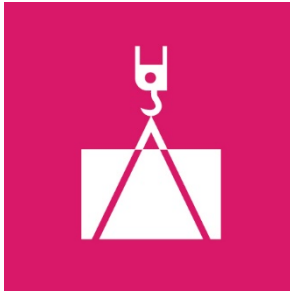
- Eliminate the need to work at height where possible and perform work at ground level.
- If the work cannot be performed at ground level, ensure all work at height is planned and consider using a fixed or mobile platform, with guardrails to provide a secure work area and prevent personnel, tools, and materials from falling.
- Provide suitable fall restraint/arrest equipment that ensures 100% tie-off and ensure personnel are trained in the use of such equipment.
- Protect from objects dropped or dislodged while working at height by using barricades, warning signs, and tool lanyards/tethers. Where possible, use collective safeguards to arrest falls or prevent falling objects such as nets.
- Have an appropriate emergency response plan for rescue and recovery.
- Provide proper barricades or covers for all floor and roof openings and excavations.
- Ensure all control measures and equipment provided for working at height are inspected on a regular basis by a competent person.

Workers Must

- Never cross or climb over guardrails provided to protect against falls from height.
- Stop work immediately and report concerns if they feel they are exposed to a risk of falling.
- Follow the instructions received during training when working at height.
- Never work alone when working at elevation.
- Only work from designated and approved working platforms.
- Never enter exclusion zones set up to protect against falling objects and materials.
- Only use fall restraint/arrest equipment if they are trained and authorised by their Contractor.
- Wear personal fall restraint/arrest equipment as required, use double lanyards to ensure they are always protected against falling.

2.2. Lifting Operations

Critical Risk No. 2: Lifting Operations



Golden Rule

Lifting operations must be planned and performed by trained, authorised, and competent personnel using lifting equipment designed, certified, and appropriate to the lift activity. Lifting operations must never be undertaken without ensuring the work is properly planned and covered by a Lift Plan or task-specific risk assessment.

Organisation Responsibilities

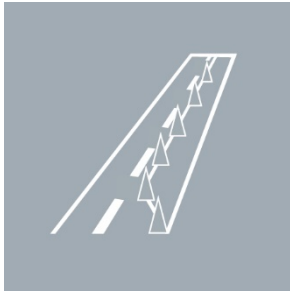
- Ensure that a risk assessment and/or a lifting plan is prepared for the operation.
- Ensure that a qualified person is involved in the selection of lifting equipment and planning of lifting methods. All persons involved in lifting operations such as operators, riggers, supervisors, etc. are fully trained and qualified.
- Ensure that effective means of communication is in place between all persons involved in the lift.
- Ensure that lifting equipment and accessories are certified.
- Implement a colour code or equivalent visual identification system to certify that the lifting accessories have been inspected at regular intervals. Lifting accessories must also be visually checked prior to each lift by a competent person.
- Ensure that lifting equipment safety devices are in good working order prior to any lifting taking place. Operators must not be able to override safety devices.
- Zone areas where lifting operations are being carried out and provide barriers to prevent persons accessing dangerous areas where lifting operations are being undertaken.
- Implement measures to assess weather, light, and ground conditions to ensure they are suitable to undertake the lift safely.

Workers Must

- Never stand under a suspended load.
- Keep clear of lifting operations unless they are directly involved and trained.
- Never modify or override a safety device on a crane or other item of lifting equipment.
- Determine the weight of all loads prior to any lifting taking place to ensure the limits of the lifting equipment and accessories are not exceeded.
- Always use tag lines to guide loads during lifting operations.
- Only sling a load if they are trained and appointed to do so.
- Only use lifting accessories if they are suitably tagged with the correct visual identification system used on-site.
- Only lift a load if it is secure and a test lift has been performed.

2.3. Working on Live Roads

Critical Risk No. 3: Working on Live Roads



Golden Rule

Develop a Traffic Management Plan that includes a detailed risk assessment to identify hazards, risks, and suitable control measures in line with all legal requirements and international best practice. All temporary traffic management designs must be completed by a competent person.

Organisation Responsibilities

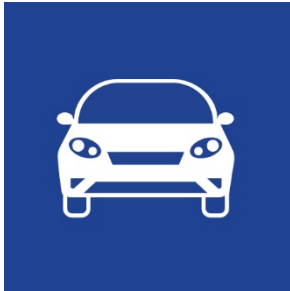
- Develop and submit to the Employer a Traffic Management Plan that includes a detailed risk assessment to identify hazards, risks, and suitable control measures in line with all legal requirements and international best practice.
- Work in roadways, and the use of traffic management must be carried out under a permit control system (i.e. permit to work).
- Ensure that all authority approvals are obtained prior to conducting any works.
- Ensure the personnel or teams allocated to traffic management planning and implementation tasks are formally trained and certified.
- Provide all equipment necessary to ensure works can be carried out safely. This will include; crash attenuation vehicles, crash worthy barrier systems to protect workers from vehicle incursions into the work zone, suitable signage and lighting, etc.
- Provide appropriate high-visibility workwear for all personnel involved in working in live traffic areas.

Workers Must

- Never work in an unprotected zone where they are facing live traffic.
- Never work without a permit in temporary traffic management work zones
- Keep a lookout for colleagues working in road work areas.
- Always wear PPE and report any loss or damage.

2.4. Driving and Road Risks

Critical Risk No. 4: Driving and Road Risks



Golden Rule

Ensure vehicles are road worthy, maintained, safe to use, and that only authorised and trained drivers operate vehicles. Speeding or using a phone while driving is prohibited. Use of seat belts is mandatory for all in the vehicle.

Organisation Responsibilities

- Ensure that all categories of vehicle are not operated unless:
- the vehicle is fit for purpose, inspected, and confirmed to be in safe working order.
- the number of passengers does not exceed the manufacturer's design specification for the vehicle.
- loads are secure and do not exceed manufacturer's design specifications or legal limits for the vehicle.
- seat belts are installed and worn by all occupants.
- Ensure that all drivers are trained, certified, and medically fit to operate the class of vehicle being used.
- Ensure that drivers do not operate a vehicle if there is any condition that could affect their ability to drive safely. This will include fatigue, being under the influence of alcohol or drugs, or any other medical condition which could affect their ability to drive safely.
- Ensure drivers do not use mobile phones or radios (hands-free or not) whilst driving.
- Ensure that all vehicles are regularly inspected (daily and weekly checklists) and copies of completed checklists are maintained on-site.

Workers Must

- Always wear their seatbelts when travelling in a vehicle as either a driver or a passenger.
- Only drive a vehicle if they are trained and in possession of a valid license for the type of vehicle being driven.
- Not drive if they are fatigued, under the influence of alcohol or drugs, or affected by any medical condition that would prevent them from being able to drive safely.
- Obey the rules of the road, signs, signals, and speed limits whilst driving.
- Never use their mobile phone or two-way radio whilst driving.
- Immediately report any incident that occurs or damage to the vehicle to their supervisor.
- Report unsafe driving if they are a passenger in a vehicle being driven dangerously.

2.5. Working in the Heat

Critical Risk No. 5: Working in the heat



Golden Rule

Measures must be taken to prevent heat stress and exhaustion during the summer months. A summer working plan must be developed which clearly identifies the control measures to be implemented. The plan shall be effective from 15 June to 15 September each year.

Organisation Responsibilities

- Assess the risks associated with working in the heat during the summer months and develop a “Summer Working Plan” including consideration of supervision levels, work activities, and appropriate emergency arrangements etc.
- Provide training to workers on the hazards of working in the heat and raise awareness on the importance of good hydration and healthy eating.
- Provide an adequate number of shelters where workers can rest when needed.
- Train managers and supervisors to recognise the symptoms of heat-related illnesses and be aware of the appropriate actions to take.
- Provide access to drinking water in the immediate vicinity of the work area.
- Maintain a supply of electrolytes replacement drinks during the summer months and make them available to workers on a regular basis.

Workers Must

- Drink plenty of water before they start work and at frequent intervals during the day.
- Rest during the day in designated shelters. Never rest in undesignated rest areas.
- Look out for their co-workers and report immediately to their supervisor if they suspect their co-workers are suffering from a heat-related illness.
- Report to their supervisor if they feel unwell themselves.
- Be familiar with the emergency arrangements and the actions to take.

2.6. Confined Space

Critical Risk No. 6: Confined Spaces



Golden Rule

Wherever possible, the need to work in confined spaces must be eliminated. If it is necessary to work in confined spaces, a permit is required, and precautions must be taken to protect the safety of people who enter.

Organisation Responsibilities

- Examine other options to determine if the work could be carried out without entry into the confined space.
- Ensure that all confined space working is carried out under a strictly enforced permit to work system.
- Ensure that all persons entering confined spaces and supervising/supporting confined space works are appropriately trained.
- Ensure all equipment necessary for confined space entry is provided, calibrated, and certified as required.
- Ensure that the confined space atmosphere is tested prior to entry and continuously monitored whilst work is being carried out. The results of these tests must be recorded.
- Isolate all energy and fluid sources where they present a risk to persons working in the confined space. Implement a lock-out system for the isolation and maintain records.
- Maintain records of those entering and leaving confined spaces to ensure an accurate count of those inside the confined space.
- Test emergency response and rescue arrangement on a regular basis.

Workers Must

- Only enter a confined space if they have been trained and are authorised to do so.
- Only enter a confined space if there is a confined space entry permit and they understand the precautions to be taken.
- Only enter a confined space if an attendant (top man) is present and they are logged as entering the confined space.
- Fully understand the action to take in the event of an emergency before entering a confined space.
- Be aware of the means of communication between them, co-workers, and the attendant (top man) before they enter the confined space.

2.7. Electrical Works

Critical Risk No. 7: Electrical Works



Golden Rule

Work on energised or potentially energised equipment must only be performed by qualified and competent personnel. Electrical equipment and tools must be safe for use.

Organisation Responsibilities

- Work on live electrical systems must be avoided. Where this is not possible, a procedure for working on energised systems must be developed and implemented.
- Ensure that work requiring energy isolation is authorised by a PTW along with a Lock Out Tag Out (LOTO) system. Locks must only be removed by persons who placed them.
- Ensure that only trained, qualified, and authorised personnel work on energised or potentially energised electrical equipment.
- Ensure that reduced voltage tools and equipment are used, where this is not possible then implement suitable control measures such as appropriately-rated Earth Leakage Circuit Breakers (ELCBs).
- Ensure appropriate barricades and warning devices are placed to prevent others from exposure to electrical energy and that no one works alone on energised or potentially energised equipment.
- Ensure portable cord-and-plug connected equipment, extension cords, and electrical fittings are inspected and fit for use and defective equipment is removed from use.
- Ensure awareness of the location of electrical panels and circuit breakers in case of an emergency and label all circuit breakers and fuse boxes clearly.
- Ensure all electrical systems are properly grounded (earthed) and protected by appropriate circuit breakers such as ELCBs.
- Ensure all electrical systems are suitable for the environmental conditions they are used in (e.g. Ingress Protection (IP) rating).

Workers Must

- Only work on an energised/potentially energised system if there is a permit to work in place, understand the control measures in place, and are competent and trained to do so.
- Report any damaged electrical leads and tools immediately to their supervisor.
- Never attempt to repair electrical tools or equipment themselves.
- Observe warnings/barriers/signs and keep away from where electrical work is undertaken.
- Never work alone on electrical systems.

2.8. Excavations

Critical Risk No. 8: Excavations



Golden Rule

Before starting excavation activities, ensure a permit is obtained, determine and mark the location of underground services, identify potential hazards, and act to eliminate or mitigate risks.

Organisation Responsibilities

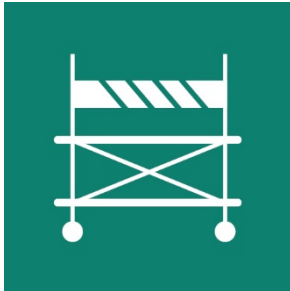
- Plan all excavation works and assess the risks based on a geotechnical report on the ground conditions.
- Ensure the ground where excavation work is to be undertaken is scanned for buried services. Local authority drawings must also be available where applicable.
- Ensure measures are taken to prevent the collapse of excavations. Measures such as shoring, sloping, or stepping are mandatory on excavation greater than 1.2 m deep.
- Ensure that all excavation and ground-breaking work is carried out under a permit to work system and that all persons working on and in excavations are properly trained.
- Ensure that excavations greater than 1.2 m are inspected by a competent person at the beginning of each shift and record inspections in a register.
- Ensure that safe ladder or stair access is provided into the excavation.
- Ensure suitable barriers as well as other control measures are provided, dependant on the level of risk, to prevent persons or equipment falling into excavations. Rigid barriers must be provided around excavations greater than 2 m deep.
- Take steps to ensure that plant and vehicles cannot run into excavations.
- Ensure that a detailed emergency plan is developed and practiced.

Workers Must

- Only break ground and excavate if there is a permit in place and they are aware of the control measures.
- Hand dig around known underground services that have been identified during the ground survey.
- Only use the ladders, stairs, or ramps to access the excavation.
- Never enter an excavation deeper than 1.2 m unless the sides are supported, or other measures are in place to prevent collapse.
- Never enter an excavation if there are any signs that a collapse has/or could take place.

2.9. Temporary Works

Critical Risk No. 9: Temporary Works



Golden Rule

Ensure that all temporary works are fit for purpose, and where necessary, undertake a temporary works design. Manage temporary works through a competent person.

Organisation Responsibilities

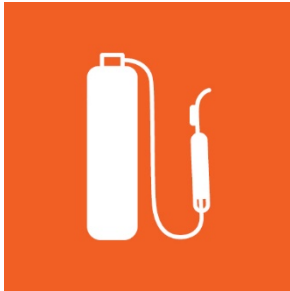
- Ensure all temporary works designs are prepared and approved by competent persons which may include third-party engineers for complex temporary works designs.
- Ensure temporary works are installed by competent workers working under the supervision of a competent supervisor which may require approval by a third-party engineer.
- Ensure that all changes to temporary works design and installation are managed to ensure they do not compromise the safety of the overall design.
- A work methodology and sequence of installation must be made available at site and communicated to those undertaking temporary works installation.

Workers Must

- Only erect or dismantle temporary works if they are trained and authorised to do so.
- Always keep a copy of the temporary works design when erecting or dismantling temporary works.
- Never strike or remove temporary works unless there is a permit in place for the removal.
- Never overload temporary works with materials or rubbish.
- Only access temporary works when it is safe to do so, and the temporary works has been handed over and marked as safe to use/access.
- Never make any modifications to temporary works in order to complete their assigned task more easily. e.g. removing a handrail or scaffold tie.

2.10. Hot Works

Critical Risk No. 10: Hot Works



Golden Rule

Ensure all hot works are undertaken in a controlled manner to reduce the risk of fire. Implement an effective and robust permit-to-work system to ensure all persons involved in carrying out hot works follow the required control measures.

Organisation Responsibilities

- Ensure a fire safety plan and fire risk assessment are developed for the project which must outline the arrangements taken to manage the fire risk from undertaking hot works.
- Limit on-site welding and cutting to controlled environments such as workshops on-site or off-site fabrication.
- Consider the use of cold cutting machines to eliminate or reduce the need for hot works.
- Ensure the availability of appropriate fire control measures such as suitable fire extinguishers and fire blankets.
- Ensure that all persons undertaking and supervising hot works are trained and understand how the work shall be undertaken and the precautions to follow.
- Appoint a coordinator for hot work(s) whose responsibilities shall be to oversee the arrangements for hot works and audit the arrangements routinely.
- Implement a hot work permit system that ensures the work area is checked both before and after hot works are carried out. A fire watch must also be maintained for 60 minutes after the hot works are completed.
- Maintain a register of hot work permits and ensure that the validity of a hot work permit is limited to the work being carried out or the shift in which it is being undertaken. Hot work permits shall expire when the work is completed or at the end of the shift, whichever comes first.

Workers Must

- Only undertake hot works if a valid hot work permit is in place.
- Only undertake hot works if they are trained and understand the control measures to be taken and the emergency arrangements.
- Ensure combustible materials are removed from the area or adequately protected to prevent a fire.
- Never start hot works unless the correct fire extinguisher is available in the immediate area.

2.11. Hazardous Materials

Critical Risk No. 11: Hazardous Materials



Golden Rule

Hazardous materials (substances or compounds) that may produce adverse effects on the health and safety of people, must be stored, handled, used, and disposed in a safe manner.

Organisation Responsibilities

- Where possible, eliminate the need to use hazardous materials by seeking alternatives that present a reduced risk to health.
- Undertake a risk assessment for hazardous materials – assessing the information in the Material Safety Data Sheet (MSDS) combined with how the material will be used on-site.
- Ensure that a program for the handling of hazardous materials is in place which addresses the following:
 - Approval process for the selection and use of hazardous materials.
 - A register of hazardous materials used at the site, including readily accessible material safety data (MSDS or equivalent).
 - An appropriate method for labelling and storage of hazardous materials.
- Ensure that persons using or exposed to hazardous materials are trained in hazardous materials usage as well as the controls measures and/or PPE required.
- Ensure that exposure of personnel to hazardous materials is kept below the relevant exposure standards and to levels as low as reasonably practicable.
- Health surveillance shall be carried out where the risk assessment identifies that health surveillance is necessary to protect workers from the harmful effects of a hazardous substance.
- Implement engineering and organizational controls for hazardous materials in preference to reliance on PPE.
- Ensure suitable washing or decontamination equipment is provided for workers in accordance with the hygiene requirements identified in the risk assessment.

Workers Must

- Never handle or use hazardous substances unless they have been trained.
- Never decant hazardous liquids into unmarked containers.
- Always wear their PPE to control residual risks associated with hazardous materials.
- Report spillages of hazardous liquids immediately to their supervisor.
- Never dispose of hazardous materials or liquids in the regular rubbish bins or containers.

2.12. Mobile Plant and Equipment

Critical Risk No. 12: Mobile Plant and Equipment



Golden Rule

Mobile plant and equipment must be selected, operated, and maintained in a safe manner to protect personnel from harm. Mobile plant and equipment must be inspected and checked to ensure it is safe to operate. Vehicles or mobile equipment must never be operated while distracted or otherwise impaired.

Organisation Responsibilities

- Ensure that personnel operating mobile plant and equipment are trained and competent.
- Take steps to ensure the equipment cannot be operated by unauthorised persons.
- Ensure that mobile plant(s) and equipment are only used for its intended purpose in accordance with the manufacturer's guidance.
- Ensure that mobile plant(s) and equipment that are broken or damaged are not used.
- Provide segregation between mobile equipment and pedestrians. Where required, ensure that clear protocols are established where there is a planned interaction between mobile equipment and people.
- Assess the risks when using banksman or flagman while ensuring measures are in place to protect them from harm.
- Ensure flashing warning lights (amber beacons) and reversing alarms are provided on all mobile plant and equipment.
- Ensure that all mobile plants and equipment are provided with measures for the operator to see around the vehicle. These measures will include items such as 360-degree cameras or mirrors.

Workers Must

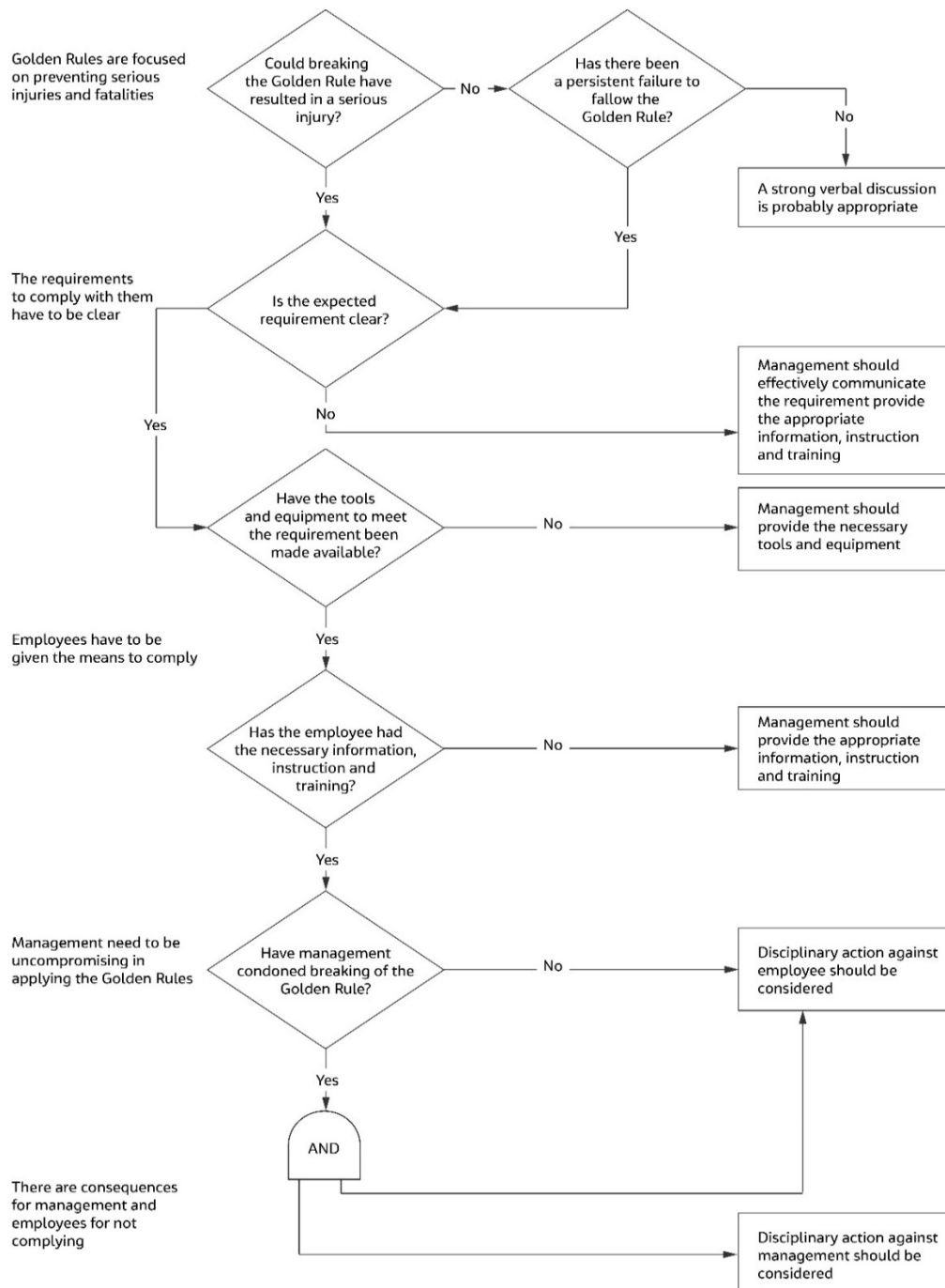
- Keep a distance of 3 m from operating mobile plant and equipment and always use the pedestrian walkway.
- Not rest under or near plant and equipment.
- As a passenger only ride on mobile plant or equipment if a designated seat is provided.
- Always wear a seatbelt whilst operating or riding on mobile plant and equipment.
- As an operator, undertake pre-operation inspections and checks to ensure that plant and equipment is safe to operate. Such inspections must be recorded daily.
- Only carry a passenger if a designated seat is provided.
- Report any defects in plant or equipment immediately to their supervisor.
- Never use their mobile phone or a two-way radio whilst operating plant or equipment.
- Always apply the parking brake when parking a vehicle or mobile plant equipment.

2.13. Disciplinary Action Associated with Golden Rules

If anyone finds a Golden Rule is not being complied with, they must take action. The action taken when a Golden Rule is not being complied with depends on the circumstances. The circumstances need to be investigated thoroughly and judgment applied on the appropriate action. To help consistency in decision-making, simple guidance is provided below. Disciplinary action would normally only be taken if it can be shown that certain criteria have been met.

See the flowchart in Figure 2.1 for “Decision making guidelines for breaches of Golden Rules”.

Figure 2.1 – Decision-making Guidelines for Breaches of the Golden Rules



Disciplinary action should be taken against both the employee and line managers foreman/supervisor (if necessary) depending on everyone's actions. If disciplinary action is considered, this should follow existing Disciplinary Procedures. The full range of outcomes should be considered depending on the seriousness of the breach and dismissal should be a possible outcome.

Breaches of Golden Rules should be considered as more serious where:

- Actions put other persons or the public at risk.
- The Golden Rule breach was one of several significant non-compliances.
- There has been previous advice and coaching for the employee from management on this issue.

Mitigation that should be considered includes:

- Line management have failed to enforce the requirement.
- All other requirements were fully met.
- The employee has a written and sufficient risk assessment completed before the activity explaining their proposed action.
- Another employee in the same situation is likely to have taken the same action.

All instances of breaches of Golden Rules and the action taken should be recorded. A breach of a Golden Rule that could have resulted in serious injury or death should be reported in line with existing incident reporting procedures.



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SECTION 3 MINIMUM HEALTH, SAFETY, AND ENVIRONMENT STANDARDS

3.0. Minimum HSE Standards

The following minimum Health, Safety, and Environment (HSE) standards must be implemented by all contractors and their subcontractors. The requirements set herein represent the minimum standards, but also require the Contractor to make its own determination through effective risk management and planning processes and to implement its own standards to effectively manage and control its operations.

This document describes the HSE standards that apply to all parties working on the Employer's projects. Compliance with the letter and spirit of this standard is mandatory for all contractors, subcontractors, and suppliers.

The requirements contained within this HSE Standards Manual are not intended to be exhaustive but set a framework for the arrangements for key activities and high-risk works. In addition to the requirements set out in this manual, contractors are expected to complete their own hazard analysis and risk assessment to identify suitable and sufficient controls appropriate to the delivery of their project.

The below HSE standards (hazards and controls) have been categorized into the below key categories, based on international best practices and categorization of risks and hazards (e.g. OSHA), to ensure a better structure and classification of those standards:

- **Physical Hazards** – any type of substance, condition or object that can cause harm with contact, including radiation, heat, cold, and noise.
- **Chemical Hazards** – liquids, gases, vapors, fumes and particulates injurious to health.
- **Environmental Hazards** – aspects of an organization's activities that can have an impact on the environment.
- **Other requirements** – requirements that do not fit into one of the above hazard categories.

Physical Hazards

3.1. Permit-to-Work Systems

For high-hazard activities such as confined space entry, excavations, and other specialist operations, the Contractor must implement an effective Permit-to-Work (PTW) system. The Contractor will be responsible for implementing and maintaining the PTW system. The Employer will regularly audit/assess the implementation of the PTW system to assess its effectiveness and the Contractor's compliance with it.

3.2. Workplace Traffic Management

1. There must be safe separation between workers and mobile plant operating on-site by providing separate pedestrian and vehicle traffic routes. Where complete segregation is not possible, clearly marked pedestrian and vehicle traffic routes shall be implemented using measures such as barriers and signs. Where pedestrian and vehicle traffic routes cross, they should be clearly marked using measures such as dropped kerbs, barriers, deterrent paving etc., to help direct pedestrians to the appropriate crossing points.
2. Traffic routes must be wide enough for the safe movement of the largest vehicle, surfaces must be suitable for the vehicles and pedestrians using them, e.g. routes should be firm, even and properly drained, whilst steep slopes, sharp corners, and blind bends should be avoided, routes should also be kept clear of obstructions, be clearly marked and signposted, and well maintained. Where risks exist, suitable control measures should be installed such as consideration for convex mirrors at sharp or blind bends.
3. Appropriate speed limits must be set which are properly enforced, and consistent across the site where possible. Fixed traffic control measures such as speed humps, chicanes, and rumble strips should be considered.
4. Signs for drivers and pedestrians in a workplace should be the same as those used on public roads. They should be well positioned and kept clean. Where driving is likely to be carried out in the dark, illuminated or reflective signs should be used.
5. Suitable and sufficient lighting must be in place, particularly in areas where vehicles manoeuvre, pedestrians and vehicles circulate and/or cross, or loading and unloading take place.
6. All parking areas must be clearly indicated and reverse parking for vehicles at the Contractor site offices must be instigated.
7. Where possible, the need to reverse on the work site should be removed by, for example, using one-way systems. Where this is not possible, sites should be organised so that reversing is kept to a minimum. Where reversing is necessary, the following must be considered:
 - Barriers to prevent vehicles entering pedestrian zones.
 - Clearly marked designated reversing areas.
 - Keep people away from reversing areas and operations.
 - Usage of portable radios or similar communication systems to ensure effective communication.
 - Measures to increase drivers' ability to see pedestrians.

- Installation of alarm/audible systems on vehicles and equipment to alert drivers and pedestrians while reversing, e.g. reversing alarms, flashing beacons and proximity reverse sensors.

3.3. Traffic Management on Public Roads

1. The safety of the general public in relation to the use of vehicles and mobile plant and equipment entering/exiting sites that could impede or compromise the flow of traffic on highways, arterial roads, and busy streets, must be considered and managed to reduce risk to as low as is reasonably practicable.
2. The Contractor shall develop and submit to the Employer a Traffic Management Plan that includes a detailed risk assessment to identify hazards, risks, and suitable control measures in line with all legal requirements and international best practice. The Contractor personnel or team allocated to traffic management planning and implementation tasks, shall be formally trained and certified.
3. All necessary permits for footpath and/or partial road closures must be obtained.
4. The Contractor shall ensure crash worthy barrier protection system(s) are provided to physically protect workers from vehicle incursions into a work zone, whilst working near or adjacent to live vehicle traffic. The work zone and protection barrier system shall be in accordance with the relevant authority requirements for work zone traffic control systems. The use of plastic ballast "New Jersey" type barriers, and/or traffic cones shall not be permitted as adequate protection for workers from errant vehicles impacting a work zone.
5. Work in roadways, and the use of traffic management must be carried out under a permit control system (i.e. Permit-to-Work). All construction personnel working on or near live traffic must wear appropriate high-visibility clothing.
6. The Contractor shall provide a site security plan(s) for control of public access. The plan(s) shall ensure protection of the site, and protection of the public by provision of engineering control measures, such as:
 - Warning signs for site and public access/egress.
 - Corridor routes.
 - Segregated and/or protection barrier systems.
 - Isolated work zones.
 - Flagman operations.
 - Security patrols and watchmen.
 - Security check point at entry/exit locations.

3.4. Site Vehicles and Driver Competency

The Contractor must ensure that:

1. All vehicles are registered/licensed, fit-for-purpose (suitable for the environment in which they are being used - e.g. roll cages fitted when driving in off-road desert conditions), and maintained and operated in a safe manner in accordance with manufacturer recommendations.
2. A seatbelt is provided for each vehicle passenger and its use enforced.
3. All persons operating vehicles are fit to operate them and are unimpaired in any way.

4. Vehicle operators possess the required driver's licenses and observe established road regulations and/or site regulations.
5. In addition to a United Arab Emirates (UAE) driver's license, persons operating vehicles shall also undertake the appropriate professional driving course.
6. Develop specific risk assessments and safety procedures for any staff required to drive or work in remote desert locations, including journey management plans for non-routine and or high-risk journeys. Any drivers required to operate in "off-road" desert conditions shall be appropriately qualified, be trained, and be demonstrably experienced.
7. Driving whilst operating mobile phones or any form of distracted driving is prohibited.
8. Operators never leave their vehicle, plant, and equipment unattended without ensuring that the engine is switched off and the key has been removed.
9. Parked vehicles have their parking brakes applied.
10. Drivers are monitored to ensure they follow safe systems of work, e.g. they are wearing seat belts which should be used even if a Roll-over Protection System (ROPS) is fitted.
11. Warning devices such as flashing amber beacons and reversing alarms should be fitted to vehicles.
12. Drivers should be able to see clearly around their vehicle and measures such as CCTV and 360-degree mirrors, where visibility is restricted, should be used.
13. All vehicles shall be provided with at least one dry powder fire extinguisher.
14. The Contractor must ensure that all vehicles are maintained, and in good working order, and any devices, such as flashing amber beacons, function properly.
15. The Contractor must ensure that all vehicle drivers carry out daily pre-use safety checks. In addition, a documented vehicle inspection must be undertaken at least weekly and all vehicles must be maintained in accordance with a preventative maintenance programme.

3.5. Mobile Plant and Equipment

The Contractor shall ensure that a safe system of work is developed for all tasks involving mobile plant and equipment (includes cranes, forklifts, elevating work platforms, excavators, backhoes, shovels, graders, concrete pumps, air compressors, pumps, generators etc.) by taking the following measures:

1. Take into consideration the systems of work associated with the use of the plant and the layout and conditions in the workplace, skill and experience of the user, and reasonably foreseeable abnormal operation conditions.
2. Ensure that all mobile plant and equipment are operated by trained and competent operators — training shall be provided from accredited training centres.
3. Assign a competent person and ensure he/she is responsible for managing mobile plant and equipment and that records for all relevant equipment used on-site is readily available for inspection.
4. Ensure that all mobile plant and equipment have a full maintenance history in accordance with the manufacturer's specifications. They must be inspected prior to initial use on-site and shall undergo monthly maintenance/inspection checks by a competent person.
5. Undertake all maintenance and repairs safely in an appropriate environment with appropriate tools and equipment. Any field repairs must be assessed and appropriately managed to avoid any risk to employees or pollution to the environment.

6. Maintain a register of all mobile plant and equipment and associated tests, inspections, third-party examinations and maintenance records in the work area and made available for inspection upon request.
7. Display a visual indication (sticker or tag) on each item of mobile plant and equipment to indicate that all relevant inspections and tests have been carried out as well as the names and photos of the operator(s).
8. Fit windscreens to mobile construction vehicles as per the manufacturer's design and ensure that they are not blacked out or otherwise modified in a manner that reduces operator visibility.
9. Display mobile plant and equipment safe working load when appropriate and ensure that the Safe Working Load (SWL) is not exceeded.
10. Make the following available on all mobile plant and equipment:
 - Reverse travel motion audible alarms and at least one amber beacon.
 - Full 360 visibility.
 - Air conditioning for enclosed cabins.
 - Roll over protection (as required)
 - Fully functional directional indicator lights, brake warning lights, reversing lights and driving lights.
11. Ensure that mobile plant and equipment are used for their intended purpose and in accordance with the manufacturer's specifications.
12. Prohibit passengers from travelling on mobile plant and equipment unless they are using designated passenger seats with seat belts.
13. Prohibit passengers from travelling in the load compartment of mobile plant and equipment.
14. Ensure that functional checks of all warning devices and safety features are carried out by the operator.
15. Utilise plant operators' checklists daily (visual inspection before use) for each mobile plant and equipment. Such checks shall include, but not be limited to, the following:
 - Brakes and parking brakes.
 - Steering.
 - Rotating orange beacons.
 - Brakes, driving and indicator lights.
 - Slew and travel motion alarms.
 - Warning horn.
 - Windscreens and windows.
 - Rear view mirrors and cameras.
 - Tyres.
 - Machine guards and engine covers.

3.6. Banksman

The job of banksmen (or signallers) is to guide drivers and make sure reversing areas are free of pedestrians.

1. The Contractor shall demonstrate the need for banksmen through a risk assessment exercise.
2. If the Contractor justifies the use of banksmen, they must ensure:
 - Only trained banksmen are used.
 - They are always clearly visible to drivers.
 - They stand in a safe position throughout the reversing operation.

3.7. Public Interface

1. The Contractor shall ensure that the health and safety of members of the public is not adversely affected in any way by their acts or omissions arising from works on any of the Employer's sites. All works must be planned and controlled to prevent members of the public being harmed.
2. Works where the public can interface with uncontrolled construction works, include, but are not limited to:
 - Unfenced sites allowing unwanted 3rd parties to stray into a hazardous area.
 - Open excavations allowing members of the public to fall into an excavation.
 - Unplanned or poorly executed temporary traffic management on public roads.
3. The Contractor shall take all the necessary preventive measures and ensure that the required controls are in place to avoid any of the above listed risks.

3.8. Concrete Pumps Special Requirements

1. Prior to commencing pumping concrete, a check shall be made on all pipeline anchorages and couplings.
2. A functional check shall be carried out on the concrete pump and/or boom controls, ensuring that the manufacturer's limitations are not exceeded.
3. The pump boom unit shall not be left unattended unless it is immobilised and secured against unauthorised operation.
4. Pipelines shall be adequately supported to prevent undue stress on couplings and shall be free from obvious defects. Sharp bends or kinks in lines shall be avoided.
5. In vertical pipelines, the pipe shall be properly and adequately secured to restrain excessive movement due to pulsating effects during pumping.
6. Under no circumstances shall anyone look up into or stand in line with an open pipe.
7. No pipe couplings shall be released until the pressure in the pipe has been released.
8. Vertical pipelines and booms can be emptied by gravity. All personnel shall be cleared from the area during this activity.

9. The concrete placing worker shall be instructed in the handling of the placement pipe and wear appropriate protective clothing, including safety helmets, gloves and eye protection. No operative shall work below the placement boom.
10. Concrete pumping pipeline sections shall be periodically examined by a competent person and areas of high wear, e.g. radius sections shall be subject to pipeline wall thickness checks to minimise the risk of pipeline bursting.

3.9. Air Compressors Special Requirements

1. All air receivers shall have a valid certificate of fitness.
2. Every air receiver shall be fitted with a pressure gauge.
3. Whip preventers shall be fitted to all hose connections.
4. Where air lines are used for blowing out shuttering, a lance fitted with an air cock shall be used — never an open-air line. All workers shall be cleared from the area and the operator shall wear high-impact resistant eye protection.
5. The cleaning of clothing, machines, workbenches, etc. with an airline shall be strictly forbidden.
6. Any form of horseplay with compressed air shall be prohibited.

3.10. Loading and Unloading

1. To minimise the risks to those involved in loading and unloading, information must be provided on the nature of the load and how it should be properly loaded, secured, and unloaded. This information should accompany the load and be available to those involved in the loading, transportation, and unloading activities.
2. The loading and unloading area must be:
 - Clear of traffic and people not involved in the activity.
 - On level ground and segregated from other work areas.
 - Clear of overhead cables, pipes, or other obstructions.
 - Protected from inclement weather where possible.
3. To reduce overturning vehicle incidents or other relevant incidents during tipping operations, the Contractor must ensure that:
 - Tipping is carried out on level ground.
 - The tractor unit and trailer of articulated vehicles are aligned.
 - Wheel stops are used where practicable.
 - The tailgate is released and secured before tipping.
 - No pedestrians are in the tipping area.
 - The vehicle is not left unattended and cab doors are closed.
 - There are no overhead obstacles, such as power lines.
4. If loads stick during tipping, the vehicle should not be driven to free the load (the body should be lowered and then raised). Drivers should not climb onto the raised tipper section to free the load. Mechanical 'vibratory discharge systems can help to free a stuck load.
5. To minimise vehicle overturns, the Contractor must consider:
 - Vehicle suitability.

- The condition and slope of the surface.
- The operating speed of the vehicle.
- Traffic routes that avoid sharp bends.
- The nature and positioning of the load.

3.11. Locating Underground Utilities

1. The Contractor shall have as built drawings for reference showing the location of all underground services and/or utilities and will make all required enquiries and notifications to utility owners prior to commencing any excavation.
2. The Contractor shall not commence any excavation or trenching work until it has obtained all the necessary permits from the relevant authorities and complied with the conditions listed in those permits or No Objection Certificates (NOCs). The Contractor shall keep copies of all permits and NOCs at the work site.
3. When excavating, the utility locating documents and NOC shall be on location and used for work planning during trenching, excavation, boring, sheet piling, and tunnelling activities.
4. The working area shall be scanned using an appropriate Cable Avoidance Tools (CAT) to ascertain the presence of electrical cables and underground services. Use of the CAT shall be restricted to trained persons only. Underground services identified are to be marked with posts specifying the types and size of services.
5. Scanning is not to be limited to the trench width, but should include any additional areas used for draining points, battering, benching, spoil piles, etc. Where the excavation is to be greater than 1 metre in width, the Contractor shall scan at both sides of the proposed excavation and at every 5 m across the trench.
6. The use of mechanical diggers or graders or any other mechanical means for the removal of topsoil or grass and vegetation, prior to digging pilot trenches, is strictly forbidden.
7. All utilities shall be first exposed by hand digging with non-conductive tools, then properly secured as required by the utility owner prior to any equipment excavation activities. Hand digging means excavation using shovels and other hand tools, but does not include use of spikes, pickaxes and the like, unless specifically permitted in writing.
8. The Contractor must ensure that:
 - Excavation work is only carried out in an area with the prior knowledge and approval of the Utility Company representative and the Employer's representative.
 - A written plan for all excavations must be prepared, and where required, submitted for the Utility Company Owner and Employer review and approval.
 - All work-site supervisors are properly trained in the relevant NOC and safety requirements for each proposed excavation.
 - All possible steps have been taken to identify all underground services in the vicinity of the intended excavation and precautions taken to prevent damage.
 - Any services not identified on the appropriate drawings that are found during the excavation are immediately reported to the Utility Company(s) representative(s) and the Employer. Work shall be stopped until approval to proceed is issued by the Utility Company(s) representative(s) and the Employer.
 - A Permit-to-Work system of review and control is established to ensure that the safety requirements of excavation activities are reviewed on a regular basis.

9. All excavations must be satisfactory backfilled, and all materials disposed of in an approved manner, in accordance with site procedures and UAE regulations before departure from site.
10. An accurate, As-Built Drawing of the completed works must be submitted to the Utility Company(s) and the Employer.

3.12. Excavation and Trenching

1. The Contractor shall not commence any excavation or trenching work until it has obtained the necessary permissions (permits or NOCs) from the relevant authorities and the Employer. The Contractor shall ensure that all work in excavations is controlled by a PTW system.
2. The Contractor shall have an engineered drawing for reference showing the location of all underground services and/or utilities and will make all required notifications prior to commencing any excavation.
3. The Contractor shall provide at each work site a competent person (who's CV and qualifications shall be made available to the Employer upon request) who will classify all soil types and the appropriate protective systems (e.g. benching/shoring/sloping) to protect employees from cave-ins or from collapse of adjacent structures. Where trenches or excavations will exceed 1.2 m in depth, the Contractor must use protective systems.
4. The Contractor must also provide protection from materials that could fall or roll into the excavation onto the workers. The Contractor shall ensure that spoil material is kept at least 1 metre away from the excavation edge. For excavations over 2 m deep, spoil must be kept back from the excavation edge at a safe distance as specified by a competent person.
5. No more than 7 m of lateral travel shall be required in any trench to reach a ladder. Warning signs and barricades shall be installed in a manner that prevents accidental entry into the trenched or excavated area.
6. To eliminate/minimise risks associated with existing services; the Contractor shall undertake a suitable and sufficient risk assessment and detailed method statement. Excavation work shall be planned, managed, supervised, and carried out with the aim to prevent accidents.
7. Before excavation, the following points shall be considered and assessed:
 - Access into the excavation
 - Risk of undermining nearby structures
 - Contact with underground services
 - Stability of the soil (A, B, C, or Rock)
 - Proposed method of support/protective systems to prevent collapse
 - Materials falling onto people working in the excavation
 - Proximity of excavated spoil to the excavation
 - Fumes and gases
 - Proximity of people and vehicles to the excavation
 - Accidents to neighbouring works, contractors, and visitors
 - Emergency procedures including rescue

8. The Contractor shall perform and document daily inspections of excavations, the adjacent areas, and protective systems before the start of work each day and as necessary; inspections shall additionally be made after every rainstorm or other hazard-increasing occurrence. Where evidence indicates a possible cave-in, failure of the protective system, or other hazardous condition, the Contractor shall remove employees until the proper precautions have been taken. These inspections shall be documented, kept on file, and made available to the Employer.

3.13. Barricades

1. Barrier devices shall be used only in those applications where temporary identification of a hazard is needed; but not as a primary means of protecting the Contractor's Personnel or the public from exposure.
2. The Contractor is responsible for properly erecting and maintaining barricades and barriers in such a manner that they provide adequate protection. The type, material, and location of barricades and barriers shall provide adequate protection for the nature of the hazard and based on risk assessment.
3. Only concrete New Jersey Barriers shall be used for traffic control on slopes or adjacent to excavations:
 - Barriers shall be strong enough to withstand all weather conditions.
 - Barriers that are provided shall be strong enough to prevent exposure to hazards by people or vehicles.
 - Barriers shall be rigid and free from protruding objects.
 - Barriers shall provide continuous protection for the whole of the hazardous area.
 - Barriers shall be highly visible. Barricades left after dark on or near roadways shall be adequately illuminated (e.g. flashing amber lights).
 - Barrier devices that do not offer suitable protection from a hazard shall not be used, such as hazard tape, cones, rope etc.
 - Barriers shall always be inspected and maintained in good condition.
4. The Contractor shall provide and use appropriate barrier devices to identify the nature of the job hazard involved (i.e. yellow and black for "CAUTION" or red and black for "DANGER").
5. The site and other hazardous areas of the Contractor's works must be protected from unauthorised access with physical barricading such as fencing of similar and shall be clearly posted with warning signs to ensure non job-related personnel cannot gain access.
6. Temporary fencing shall have a minimum height of 2 m, and the overall design shall be such that the fencing cannot be easily displaced, toppled, scaled, or crawled under. Design details shall be made available to the Employer. Damaged sections of temporary fencing shall be repaired or replaced promptly.
7. The Contractor must ensure that erosion control silt fence is installed where necessary prior to earthworks operations commencing.
8. The Contractor is responsible for the security of his own materials, equipment, and personnel.

3.14. Piling

As with groundworks and excavations, piling requires the following controls:

1. Risk assessments and method statements must be developed and permits must be used where required.
2. The presence of services and other risks must be determined prior to any piling activity commencing.
3. Works must have appropriate exclusion zones and edge protection.
4. Records of thorough examination of lifting appliances and gear must be maintained.
5. Piling covers/gratings or physical barriers around each pile must be put in place as soon as the auger is removed; material stockpiles shall be moved away from the borehole.
6. Removal of any material from an auger must be completed by mechanical means and automated where possible.
7. Bundles of sheet piles must have spacers and chocks in place; piles must not be stacked in any position where they have the potential to fall.
8. Piling mats and access ramps must be subject to temporary works arrangements.

3.15. Working at Height and Fall Prevention

1. The Contractor shall provide a Fall Prevention/Protection Procedure acceptable to the Employer that makes maximum use of collective protection systems such as working platforms and scaffolds.
2. The Contractor shall ensure that all work at height activities are risk assessed. The objective of the assessment is to eliminate the need to work at height, reduce the height being worked, and provide a suitable level of fall protection to prevent injury.

3.16. Harnesses

1. The Contractor shall ensure that all fall protection equipment is visually checked prior to each use. A competent person must inspect harnesses weekly.
2. A detailed inspection must be carried out at least every 6 months or in cases where equipment is used more frequently or in harsh environments, the inspection frequency must be increased.
3. The checks shall be documented and retained on file. All inspections must be carried out by competent and trained persons.
4. The Contractor shall adopt a 100% fall protection policy that makes provision for secondary fall protection (full-body harness) for all personnel who are exposed to a risk of fall from height.
5. All fall protection devices shall be manufactured and used in accordance with a recognised international standard. The Contractor shall review their scope of work to identify the methods to achieve 100% fall protection prior to commencement of such work.
6. The Contractor shall also require all personnel to assess the need to wear an approved safety harness/lanyard system if they work from ladders where there is a significant fall exposure.

7. Where lifeline systems (including retractable lifelines) are used, anchor points shall be capable of supporting the load as well as the safety factor, as determined by a competent person.
8. Lifelines shall be installed and maintained by qualified persons who are competent and possess the rigging knowledge necessary to ensure the integrity and safety factors for lifeline system installation.
9. Lanyards shall be secured to vertical lifelines by rope grabs only. Knots, painters-hitches or loops are not acceptable. Horizontal lifelines shall have tie-off points at least at waist height.

3.17. Formwork and Falsework Erection

Concrete formwork/false work systems must be proprietary systems and erected from safe working platforms or erected from below, either manually or using Mobile Elevating Work Platforms (MEWPs) below the deck level. The following considerations must be made:

1. Proprietary formwork and falsework systems must be used in accordance with the manufacturer's instructions.
2. Props, decking, and protective elements must be erected from the ground and a safe working area must be in place before reinforcement is placed on the formwork.
3. The leading edge must be protected with robust edge protection and all floors covered with decking.
4. Proprietary systems must be able to be erected from below and the need for workers to erect from above and be exposed to a leading edge must not be tolerated.
5. Operatives must work off mobile working platforms for walls and proprietary column shutters/forms for column erection. The use of ladders and harnesses must again be considered only as a last resort and shall be fitted with anti-fall devices where possible. Reinforcement to columns and walls to be fabricated where possible at ground level.
6. Access to these areas must be by means of a proprietary access stairway and not by ladder.
7. All falsework and formwork must be signed off by the temporary works coordinator. Considerations include: the use of prefabricated beams, columns, floor slabs, and the reuse of formwork methods and material, and maximum use of proprietary systems.

3.18. Temporary Works

1. The Contractor shall have a temporary works plan that describe the methods used to manage temporary works on-site, which must be made available to the Employer upon request. Temporary works include any works that do not form part of the permanent design. Examples of temporary works include:
 - Excavation shoring
 - Scaffolding
 - Formwork
 - Crane bases

2. All temporary works design drawings and calculations shall be checked and approved by a professional engineer to determine the appropriate method of work. Temporary works which are associated with a significant risk of life-threatening injury must be identified through risk assessment.
3. A suitably qualified and competent person(s) must conduct inspections of all temporary works before any loading is applied to ensure the integrity of key structural members and that temporary works are constructed in accordance with the design. Where the pre-loading checks are undertaken by a competent person, quality reviews must be made with another competent person and validated by both parties. Regular inspections must take place to ensure continued suitability for safe use.
4. Temporary works shall only be dismantled or removed following the approval by a competent person, and where necessary, under a PTW system, such as in the case of formwork.

3.19. Scaffolding

1. Whilst all scaffolds must be designed by a competent professional, the Contractor must have a qualified, professional, structural engineer designing all scaffolds over 10 m in height. Special scaffolds (hanging scaffolds, cradles, etc.) shall also be designed by a competent engineer and erected with all necessary personnel safety equipment installed such as rope grabs and lifelines. Design details shall be kept on-site and made available to the Employer.
2. Scaffold platforms shall be fully planked or decked out and capable of supporting the maximum intended load to be imposed upon them in accordance with the design. All sides must be protected by a standard guardrail system and guardrails must have a minimum height of 950 mm from the platform. Any gap between the top rail and any intermediate rail should not exceed 470 mm and a 150 mm toe-board shall be installed. The Contractor shall provide safe access/egress to all levels of scaffolding where possible — this shall be means of a stair access tower.
3. Scaffolds with moveable planks shall have the planking securely fixed to the scaffold frame prior to any Contractor's personnel using any such scaffold. Where Contractor's personnel are working/passing below scaffolds, the risk of falling objects must be assessed and the scaffold shall be fully boarded, with nettings/fans installed. All scaffolds erected by the Contractor shall have casters, jackscrews, or base plates installed. Sole boards shall be used where required. Scaffolds shall be level and plumb, capable of supporting the maximum load as per the design and tied to a solid structure whenever possible.
4. Work procedures detailing the safe methods of work for the erection, use, and dismantling of scaffolding, before the start of the actual works, must be developed and submitted to the Employer for approval. The procedures must be amended whenever impacted by changes. The risk of incident or injury must be reduced to the lowest level reasonably practicable during the erection use and dismantling of scaffolding or temporary works.
5. The Contractor shall erect or modify scaffolds under the direction of a trained, competent scaffolder whose resume and qualifications must be submitted to and approved by the Employer.
6. A suitably qualified and competent person(s) must conduct inspections of all scaffolding before any loading is applied, to ensure the integrity of key structural members and that scaffolding is constructed in accordance with the design. Regular inspections of the scaffolding must take place to ensure continued suitability for safe use.

7. A scaffold tag indicating the scaffold is safe to use must be prominently displayed on each scaffold and filled out with details on its intended use. If the scaffold needs to be altered in any way a competent person must be contacted to authorise the change and re-tag if necessary. Any untagged scaffold must not be used. Scaffolding must be visually checked daily and thoroughly inspected weekly by a competent person. The scaffold tag must be updated weekly and signed off by the competent person.
8. A colour coded system for the scaffold tag shall be implemented. A green tag shall indicate that the scaffold is safe to use, and a red tag shall indicate that a scaffold must not be used.
9. The Contractor shall provide scaffold user training to all its personnel.

3.20. Mobile Tower Scaffolds

1. All mobile towers scaffolds must be designed and certified by a competent person.
2. The maximum platform height for free standing mobile towers is 8 m outdoors (e.g. subject to wind loads) and 12 m indoors. In both cases the manufacturers instructions shall take precedent for the maximum height of free standing mobile towers.
3. Stabilisers, outriggers, or ballast must be installed at the earliest opportunity during assembly and must be in accordance with the instruction manual for the tower.
4. Toe boards shall be fitted to all working platforms and on any platform where any materials (tools or equipment) are stored on the tower. Materials on the platform shall be kept at a minimum, stored in appropriate containers, and any risk of dropped objects must be assessed and mitigated.
5. Climbing end frame horizontals is not permitted and designated ladders, stair ladders or internal stairways of the structure must be used. Ladders must never be used against a tower to gain access to the working platform.
6. Trapdoors and gates shall be closed when not in use.
7. No person, tools or materials shall remain on a mobile tower or podium whilst it is being moved.
8. Mobile towers shall be reduced to 4 m platform height for movement.
9. Towers and podiums are not designed to be anchors for fall arrest or fall restraint systems and must not be used as such. Wheels of mobile towers must be locked when in use.
10. The number of people using any tower or podium shall be in line with the manufacturer's guidance.
11. Towers and podiums must be inspected by a competent person at least every seven days, and a record kept (e.g. inspection record) and displayed on the tower.

3.21. Mobile Elevated Work Platforms

1. The Contractor shall ensure Mobile Elevated Working Platforms (MEWP) are maintained in accordance with manufacturer recommendations and only operated by trained and qualified employees. Training and comprehension test records shall be made available to the Employer upon request. International Powered Access Federation (IPAF) and/or local authority accredited operator training shall be the minimum standard.
2. Each unit shall be inspected for compliance with the manufacturer's requirements and specifications. Proper inspection and certification report forms shall be completed and submitted as required. All equipment shall be inspected, and written inspection documentation completed on each work shift.

3. Minimum clearance distances are to be preserved whenever operating plant and equipment are used in the vicinity of overhead hazards or buried services. Risk assessments shall consider the use of secondary protection devices e.g. cages, anti-crush, and sky-siren. Banksman or spotters may reduce risk but must be considered where other physical options are not available/suitable.
4. All tools must be tethered when working from MEWPs, Mobile Towers and Podiums.

3.22. Suspended Personnel Platforms/Baskets

1. The Contractor shall notify the Employer prior to using any suspended personnel platform/basket and develop a Lift Procedure to be reviewed and approved prior to use. The procedure shall include, but not be limited to, Contractor's personnel training, pre-lift meetings, trial lifts, and platform inspection.
2. Personnel platforms/baskets provided by the Contractor shall be designed by a qualified engineer and manufactured by competent personnel. They shall have permanent markings indicating maximum weight.
3. If the Employer approves the use of crane suspended personnel platforms/baskets, the Contractor shall thoroughly inspect the crane/derrick and ensure it has an operational anti-two block device and locking devices on the hook. Free fall capacity, if present, shall be positively locked out or disabled. The area under the lift shall be isolated by barrier tape and signs.
4. The Contractor shall provide a positive means of communication between the crane operator and the Contractor's personnel in a crane suspended personnel platform/basket. The Contractor's personnel in the platform/basket shall wear full body harnesses attached to a designated anchor point.

3.23. Ladders

The Contractor shall ensure that ladders are in good condition with no missing or defective rungs. Ladders shall only be used when other safer alternatives such as scaffold towers, platform steps etc. have been considered and deemed not practical. Ladders must not be used within 3 m of an edge where an additional fall hazard exists.

The following applies when using ladders:

1. During use, ladders must have a firm level footing with no loose packing, be equally supported on each stile, and be securely fixed.
2. The Contractor shall also ensure that single and extension ladders are set up at a ratio of 4:1 (4 up to 1 out) to provide the correct angle.
3. If ladders rise more than 9 m, a suitably guarded and protected intermediate landing platform must be provided.
4. Ladders must rise to a height of at least 1 m above the landing place or above the highest rung reached by the feet of the person using the ladder except where there is an adequate alternative handhold.
5. The Contractor shall ensure that landing places are of adequate size, with guardrails and toe boards in spots where persons could fall more than 2 m.

6. The Contractor shall ensure that workers are trained to use three points of contact when ascending and descending from a ladder; that only one person shall be on the ladder at any time.
7. The Contractor shall ensure that workers use tool pouches for carrying tools whilst working at height.
8. Ladders must be inspected prior to use, and at least weekly by a competent person.
9. The Contractor shall ensure that ladders shall not be used as a working platform unless fall arrest equipment is used.

3.24. Portable Step-Ladder Control and Inspection

The Contractor shall try to eliminate the use of step-ladders. Where their use is required, the Contractor shall implement the following controls as a minimum:

1. Ensure that stepladders have non-slip feet, and that wooden ladders have been treated with a preservative/protective coating.
2. Ensure that a stepladder inspection procedure is in place for regular monitoring of stepladders.
3. Ensure that stepladders are only used to conduct low-level work of short duration. The Contractor shall not use ladders in-lieu of scaffolds as a primary means of conducting work of longer duration.

3.25. Floor Openings

1. The Contractor shall review all fall hazards from floor openings such as service risers and penetrations and ensure such risks are mitigated.
2. Penetrations and risers shall be limited in size and number as far as possible and have mesh cast in during construction or fitted with other robust protection such as metal guard rails and covers, which prevent falls of people or materials through them at the earliest opportunity. Service shafts and risers will be designed to a minimum size to prevent falls or will be constructed in such a way as to protect both those carrying out the construction and those below carrying out the service installation. Protection is required to be installed upon striking of formwork/completion of the riser walls at each floor level.
3. For floor openings and riser shafts – reinforced meshing will be retained in-situ to provide an in-built mechanism to stop falls (with the mesh being removed when services are installed). Where possible, risers with a block work enclosed permanent solution in the design must ensure that the block work is sequenced as early as practically possible to allow a block work parapet of over 1 m in height to be formed.
4. All penetrations are to be protected with robust, securely fixed (screwed or bolted - not nailed) and clearly marked covers to prevent the fall of materials or persons through them. The covers must not present a tripping hazard.

3.26. Lift Shafts

1. Openings to lift shafts are to be fully protected with a signed, secure, full height system and managerial system preventing unauthorised entry and eliminating the risk of falls of persons or materials.

2. Safe working platforms are to be provided for all those working in lift shafts.
3. All elevator shafts will be constructed in such a way as to protect both those carrying out the construction and those below carrying out the installation.
4. All intermediate floors will be fully protected against the egress of materials or personnel. This protection must be tamper-proof and suitably restrained.

3.27. Waste Chutes

The following controls are required where waste chutes are to be employed:

1. A waste chute is to be considered as an item of temporary works and as such requires the design and installation methodology to be approved prior to its use at site.
2. A barrier must be erected around the skip to exclude operatives and others from the discharge zone (removable for lorry access). The barrier must also be capable of containing flying debris from the skip e.g. using debris netting.
3. If attached to a scaffold, the chute must be subject to an inspection regime consistent with the scaffold inspections. If the chute is not attached to a scaffold it must still be subject to inspections at a minimum on a weekly basis or after any occurrence likely to affect its integrity such as alterations, repairs, blockages, or adverse weather.
4. Arrangements must be in place to isolate the chutes where the skip is removed from the base of the chute.

3.28. Lifting Operations

Lift Plans

1. The Contractor shall develop a Lifting Operations Plan outlining its safe system of work for all lifting operations. The Contractor shall develop a general lifting plan that describes its lifting activities on-site to be approved by the Employer prior to lifting operations being commenced. The general lifting plan should include the following as a minimum along with any other information deemed necessary to include in the interests of health and safety:
 - a. The Contractor's procedure for conducting lifting operations safely.
 - b. Details of the roles and responsibilities of those involved in lifting operations.
 - c. Details of the person appointed in overall charge of the lifting operations.
 - d. Drawing indicating crane radius and location, proximity to other cranes, hazards, barricading, etc.
 - e. Details of the crane(s) including radius and Safe Working Load (SWL).
 - f. Details of all safety checklists that will be used to check and inspect cranes on a regular basis.
 - g. Copies of all relevant documentation such as test and operator certificates.
 - h. A schedule of common lifts undertaken as part of routine working:
 - Details of the load, size, and weight.
 - Detail of lifting accessories used.
 - Maximum radius to be lifted.

- Safe working load analysis (i.e. percentage of crane capacity used).
 - i. Details of how non-common lifts will be managed.
 - j. Details of how the lifting permit will be implemented.
 - k. Details of how riggers will communicate with operators effectively.
 - l. Emergency and rescue procedures, especially in the case of tower cranes.
 - m. Resources necessary for inspection and maintenance of rigging and lifting equipment and for monitoring all lifts to ensure that acceptable lifting practices are followed. Tag lines shall be used on all lifts.
2. The Contractor shall establish, maintain, and implement a comprehensive Lifting Operation Control Procedure, documented in its Lifting Plan, to evaluate all routine lifting operations generically and all heavy or one-off lifting operations individually to ensure that lifting operations are performed with minimal risk of injury to persons, including members of the public, or damage to property. Lifting operations can be divided into the three categories as detailed below:
- **Basic Lifts:** Where the load to be lifted is of established weight and there are no hazards or obstructions within the area of operation. Typical examples of the type of load are pallets of bricks or blocks, bundles of rebar, or scaffold tubes
 - **Intermediate Lifts:** Where the load to be lifted is of established weight and there are hazards to be considered, either within the working area of the crane, or on the access route to the working area, but multiple crane lifting is not involved. Typical examples of hazards are pick and carry duties, oversailing other cranes, lifting persons or landing or lifting a load without full visibility of the path throughout the lift.
 - **Complex Lifts:** Where the lifting operation requires more than one crane to lift the load, a crane with load enhancement attachments must be used, a special lift where the load has an uneven centre of gravity, or the lift must take place at a location with exceptional hazards such as a chemical plant.
3. The Contractor shall produce a specific lifting plan for non-common lifts. The Contractor shall submit this lift plan to the Employer if the lift is over 20 tonnes or classified as critical (exceeding 80% of the crane capacity chart; two-crane or more lift; or any lift over operating or occupied facilities, process pipe racks or near power lines). The Contractor shall also submit a detailed rigging plan with all applicable supporting calculations to the Employer for review prior to the lift.

Other Planning Considerations

4. The selection of a suitable crane appropriate to the operation, ensuring that adequate clearances are maintained between the load(s) and the crane structure. Special consideration must be given to travelling with loads.
5. The selection of lifting gear, the weight of which must be considered when assessing the load on the crane.
6. The positions of the crane and load before, during, and after the operation.
7. The site of the operations, taking into account proximity hazards (such as overhead power lines, other buildings or cranes), space availability, and suitability of the ground or foundations. These environmental conditions may necessitate stopping the operation when conditions are unsuitable.
8. Details of the crane working limits in relation to wind speeds and visibility.

9. Any necessary erection and dismantling of the crane.
10. Any interface with other operations on-site that may present a hazard and means of controlling these issues.
11. The proximity of the crane and load to the public and third-parties.
12. The Contractor shall ensure that all crane operations maintain minimum safe distances from all high voltage lines.
13. The Contractor shall ensure that the counter weight and housing swing radius of all cranes are properly barricaded whenever persons may come into contact with or be struck by them.
14. Inspections and Testing of Lifting Equipment: The Contractor must establish and manage a system of inspection, test, and maintenance records for all lifting and hoisting machinery and lifting gear in use on-site and always make them available for audit purposes.
15. The Contractor must establish a site access approval check sheet for all the cranes entering the site. The Contractor shall ensure that, before being allowed to work on the work area, all cranes and lifting machines fully comply with the manufacturer's specifications and shall have a valid certificate of test/thorough examination required annually, and after any major repair/modification or a lifting incident.
16. Documentation of such tests and thorough examinations shall be made available to the Employer prior to initial site use. All cranes shall also be checked by their operators daily, or at the start of any new shift. Any defects found shall be reported to the lifting supervisor before the first lift of the day/shift. Copies of the checklist together with certificate, operator certificate, permits shall be retained in the crane cabin for verification.
17. All ancillary lifting equipment such as chains, hooks, webbing slings, shackles, swivels etc. must be thoroughly inspected by a third-party inspector prior to first use, at intervals not exceeding 6 months, and shall be certified fit for use. All rigging equipment shall undergo a visual inspection prior to each use and a documented inspection quarterly (a colour code system shall be used to achieve this). All capacities shall be clearly indicated on lifting devices. All rigging equipment shall be stored properly (e.g. on racks or in protected areas).

Competent Persons

18. The Contractor shall ensure that all cranes are operated only by competent persons holding valid certificates or licenses. The Contractor shall also ensure that all rental cranes entering the work area are operated by a qualified and certified operator. The Contractor shall designate a qualified appointed person to determine the methods for lifting and develop plans for rigging operations.
19. The Contractor shall ensure that a sufficient number of qualified lifting supervisors are employed in the work area to give adequate cover for all lifting operations carried out both by day and by night, including any loading/unloading operation. There must be at least one lifting supervisor present at each lifting operation, who shall be assisted by others as specified in the lifting plan or where lifting operations are carried out over or near public areas.

3.29. Lifting Persons

1. Cranes used for lifting persons (i.e. suspended personnel platforms/baskets) must be tested and thoroughly examined every 6 months. In addition to the 6-month test, cranes shall be tested at their maximum safe working load at least every 48 months.

2. Cranes with the 'traditional' manually operated slipping friction clutch will not be used for lifting persons; instead, cranes with hydraulically driven permanently engaged clutches are required.
3. Cranes must be used in a power load lowering mode.
4. Cranes which have a free-fall mode must be 'locked out' of free fall.
5. Cranes must have automatic brakes which will be automatically applied if the hoisting lever is not in the operating position. Besides the automatic brake, there must be other means of arresting the load, that is, by the hydraulic winch motor and a foot-operated brake.

3.30. Goods and Passenger Hoists

1. The Contractor shall ensure that goods and passenger hoists are installed by competent persons.
2. The Contractor shall ensure that the temporary works design is conducted by a competent engineer and ensure that the hoist mast is securely tied to the structure where necessary. The Employer reserves the right to request a third-party review and approval of hoist temporary works design drawings and calculations.
3. All hoists used to carry persons shall be tested by a third-party agency approved by the Employer prior to first use, after alteration or adaption, and at least every 6 months.
4. Hoists must only be operated by persons who have been trained by a third-party and assessed as being competent by the Contractor.
5. Daily checks must be carried out by the hoist operator and a detailed weekly inspection shall be conducted by a competent person. Records of such checks and inspections shall be maintained on-site and available for inspection by the Employer.
6. The following additional requirements relating to hoists are mandatory on all sites:
 - Hoist car gates must be provided with electronic interlocking devices that prevent the hoist from operating if the gates are open.
 - Any trapdoor in the hoist must be provided with an electronic interlocking device that prevents the hoist from operating if the trapdoor is open.
 - Landing gates must be provided on each level where the hoist stops. At a minimum, landing gates must be secured in such a manner that they can only be opened from the hoist side and not the landing side of the edge.
 - The arrangements for dealing with emergency situations (i.e. power failure) must be developed by the Contractor and understood by those operating hoists.
 - The area at the bottom of the hoist around the mast must be securely fenced to prevent persons from entering the area where they may be struck by the descending hoist car.

3.31. Confined Spaces

1. A confined space is a place with a restricted means for entry or exit, where harmful gases, substances, lack of oxygen, and other hazards increase the risk of injury to those entering the space. The Contractor shall have a Confined Space Work Procedure.

2. The Contractor shall ensure all work in confined spaces is controlled by a PTW system. The Contractor shall not allow entry into any confined space until the permit system has been properly executed. The permit shall be conspicuously posted at the confined space and all entrants must sign a log upon entering and exiting the confined space.
3. The Contractor is responsible for air quality evaluation and monitoring in confined spaces. At a minimum, monitoring for airborne contaminants, oxygen, and explosive gasses, shall be conducted. Monitoring equipment shall be provided by the Contractor, calibrated to manufacturer recommendations, and all calibration shall be documented. Contractor's personnel conducting air monitoring shall have appropriate training. All calibration and training records shall be documented and made available to the Employer upon request.
4. The Contractor shall ensure that all Contractor's personnel have awareness training regarding the hazards of confined spaces and the procedures to be followed. Special training shall be provided to all entry supervisors, entrants, and attendants. The Contractor shall ensure that entry supervisors know, understand, and execute their full responsibilities.
5. The Contractor shall review their work areas and ensure confined spaces have been identified and marked accordingly. The Contractor's competent person shall examine each confined space before initial entry to evaluate the specific hazards and the safety precautions in place. The Contractor shall evaluate all confined spaces for possible heat stress.
6. The Contractor shall ensure that all personnel responsible for safety watches (confined space attendants) are identified, properly trained, and aware of the duties associated with each emergency that may occur within the confined space. They shall ensure that a method of uninterrupted communication is in place between all members of the confined space team.
7. The Contractor shall ensure that an Emergency Rescue Team is available for all confined space entries and that all Contractor's personnel know how to summon assistance.
8. Prior to each entry into a confined space, the Contractor shall take the following steps:
 - a. Eliminate or reduce hazardous substances or emissions from plant or services adjacent to the confined space.
 - b. Isolate or de-energise plant or live services within the confined space.
 - c. Purge the confined space of any known contaminants.
 - d. Ensure that the atmosphere of the space has a safe oxygen level.
 - e. Ensure that a worker is not exposed to any adverse atmospheric concentration of gases, vapours, or other contaminants above the exposure standard for that contaminant.
 - f. If there is a possibility of fire or explosion in a confined space, ensure that no source of ignition is introduced to the space (e.g. use of intrinsically safe equipment).
 - g. Ensure that all electrical tools and equipment are low voltage or GFCI (Ground Fault Circuit Interrupter) protected.
 - h. Provide adequate access/egress from the confined space is provided.
 - i. Develop and review a task-specific rescue plan with all involved Contractor Personnel. The rescue plan must include:
 - The method of rescue of any worker from the confined space.
 - Use of tripods.

- Harnesses to be worn by workers in the confined space where necessary for rescue.
 - First aid provision.
 - Simulation drill before entry.
9. The Contractor shall conduct an emergency drill before starting the confined space operation to demonstrate that all necessary equipment is in place and that those conducting the work have a clear understanding of the requirements.
 10. All people required to work in a confined space must be medically fit, trained and certified. Briefing on the method statement for the confined space work must also be provided.
 11. The Employer requires all Contractors who undertake work in confined spaces to implement a confined space entry permit system that contains the following control measures and requirements:
 - a. Applies to one confined space only.
 - b. Provides details of the work activity.
 - c. Details of any atmospheric testing prior to entry.
 - d. Measures to control any identified risks.
 - e. Name(s) of employees permitted to enter the confined space.
 - f. Period that the permit is in operation (not to be valid for longer than one shift).
 - g. Method of communication from outside the confined space to workers in the confined space.
 - h. Emergency procedures must be included.

3.32. Electrical Safety

1. Live working (i.e. working on installations and/or equipment while they are energised) must be prohibited. The only exceptions allowed are those situations where it can be demonstrated that the continuity of services is essential, that shutdown of the energy source is impractical, and that documented (written) procedures and special equipment have been implemented that will provide proven effective protection.
2. All requests for live working must be submitted to the Employer for review and approval. The Contractor shall ensure that all temporary electrical equipment is suitably Ingress Protection (IP)-rated for the environment it is to be deployed in and used.
3. The Contractor shall implement and fully comply with an electrical equipment inspection and assured grounding procedure which includes quarterly colour code changes and shall use Earth Leakage Circuit Breakers (ELCB) on all temporary electrical applications.
4. The Contractor shall appoint a fulltime competent electrician to install, maintain, and test all electrical appliances and equipment and records of inspections and any maintenance carried out will be kept on-site.
5. The Contractor shall ensure that:
 - Records of all tool inspections are maintained and available to the Employer as needed.
 - All tools are checked for electrical continuity after repairs are made. Temporary electrical installations and equipment are 110-volt wherever possible. Electrical appliances and current carrying equipment shall be earthed.

- All temporary electrical works are protected by earth leakage circuit breakers (ELCB).
 - All connections and installation follow relevant authority requirements.
 - Electric shock warning notices and notices on treatment of electrical shock shall be posted wherever that risk exists.
 - If portable generators are used to supply the temporary power needs, the generators are earthed, inspected, and documented on a regular basis for proper operation.
 - All temporary electrical works are inspected on a weekly basis, and all inspections are documented in writing and signed off by a competent person.
6. The Contractor shall train its personnel regarding electrical safety. Workers shall be advised on the location of power lines, the hazards involved, and protective measures.
 7. All fixed plant shall be installed with armoured cables. All cabling shall be run at high level whenever possible and firmly secured to ensure that it does not present a hazard or obstruction to people and equipment. Cables laid on the ground shall be waterproof and protected from mechanical damage and not present a tripping hazard.
 8. A proper plug, correctly wired and with a cord grip properly secured, shall be used in connection with all portable and hand-held equipment. Only industrial types of plugs, socket outlets, and couplers shall be used. All electric tools shall be connected to an ELCB.

3.33. Lock Out Tag Out

1. All LOTO works shall be completed under the control of a PTW procedure.
2. The Contractor is to have a LOTO Procedure to safeguard workers from the release of hazardous energy, including electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other sources in machines and equipment that can be hazardous to workers.
3. The procedure must outline specific action and procedures for addressing and controlling hazardous energy during servicing and maintenance of machines and equipment.
4. The Contractor is required to provide training to each worker to ensure that they know, understand, and can follow the applicable provisions of the hazardous energy control procedures, and that comprehension testing shall be conducted to verify knowledge and understanding of the procedure.
5. The Contractor shall only designate trained personnel that have the knowledge and skills required for the safe application, usage, and removal of the energy control devices.
6. Records of training and testing shall be kept, filed, and made available to the Employer.

3.34. Machinery and Mechanised Equipment

1. The Contractor shall ensure that all machinery and mechanized equipment to be used and/or installed are inspected for compliance with manufacturers requirements and applicable HSE regulations. Documented inspection and certification reports shall be completed and submitted, as required.
2. Supplemental requirements covering operating rules shall be established prior to start of work using mechanized equipment and machinery.

3.35. Tools and Equipment

1. The Contractor shall provide and ensure that all tools are used and maintained in accordance with manufacturer recommendations, have required guards in place, and are in good working order.
2. The Contractor shall ensure that a Provision and Use of Work Equipment assessment has been carried out for each piece of equipment provided for use by its employees and Subcontractors.
3. The Contractor shall not use job-made tools of any kind on the project (e.g. tools made of rebar, rigging equipment, etc.).
4. The Contractor shall only permit properly trained and certified Contractor Personnel to use power-actuated tools. Records of the Contractor's Personnel training shall be maintained and made available to the Employer, and each individual using such tools shall carry qualification cards.
5. The Contractor shall ensure proper management and controls of the powder-actuated charges. Each cartridge shall be accounted for and properly stored. No live or spent cartridges shall be left on the ground or disposed of in project trashcans or other unauthorised on or off-site container.

3.36. Site Access and Egress

1. The Contractor shall provide suitable, sufficient, and well-maintained access and egress to all areas under its control.
2. Access and egress routes must be kept clear of obstruction and provide safe passage for persons using them.
3. Access and egress routes must be checked and inspected on a weekly basis and a record of the inspections kept in place.

3.37. Demolition Works

1. The Contractor shall ensure that demolition works are undertaken using suitable precautions to protect workers and members of the public from hazardous substances, falling material, electrical risk, and exposure to airborne matter.
2. Prior to any demolition work being conducted, the Contractor must refer to all available survey information and drawings that identify the current state of the building/structure.
3. Shower facilities and disposable coverall clothing are required for high-risk demolition works where persons are exposed to contamination hazards and/or airborne particulates.
4. Persons employed for demolition works must have sufficient and adequate training to a recognised industry standard. The Contractor must consider the following aspects as a minimum when conducting demolition works:
 - Method and sequence of the demolition works.
 - Signed and physical exclusion zone that must be established in line with recognised best practice to keep all personnel out while protecting them from falling objects.
 - Public and third-party protection.
 - Flammable materials and gases.

- Termination/isolation/division of permanent and/or temporary services,
- The stability of remaining structures or part structures, or adjacent structures or excavation.
- The presence of any substances that may be hazardous to health (e.g. asbestos or others) as well as method to control.
- Copies of statutory notifications.

3.38. Working On, Over, or Adjacent to Water

1. The Contractor shall provide the Employer with a method statement describing in detail the safe working methods to be adopted, clear roles and responsibilities, trainings and emergency rescue plans, when working on, over or adjacent to water.
2. The Contractor shall submit the method statement at least 28 days prior to commencing work.
3. Working on, over, or adjacent to water involves several hazards such falling into the water, drowning, working at height, slips and trips and being hit by water traffic, and others. Therefore, this type of work must be properly risk assessed with predefined control measure identified and agreed with the Employer prior to commencing work.

3.39. Tunnelling and Underground Construction

1. Tunnelling is a hazardous task with many hazards present. In relation to all tunnelling works the Employer expects compliance with British Standard 6164.
2. The Contractor shall ensure they have all available data of the tunnelling site, including drawings, maps, site surveys, utility locations and nature of the geology, when performing tunnelling activities.
3. Prior to commencement, the Contractor shall submit to the Employer a thorough risk assessment and method statement for the tasks.
4. The Contractor shall ensure that they have suitable and sufficient control measures in place to ensure hazards associated with such construction activities are managed. Tunnelling hazards can include:
 - drilling.
 - blasting.
 - confined space operations.
 - restricted access and egress.
 - collapse.
 - poor ventilation.
 - excessive dust
 - flooding.
 - poor lighting.
 - fire.
 - heat exhaustion.
 - explosive atmospheres.

(this list is not exhaustive and other hazards may be present).

5. In addition to the above, the Contractor shall produce a tunnel control plan. This plan will describe in detail how the Contractor will control tunnel operations. The plan should include as a minimum:
 - Any pre-requisites for entering the tunnel.
 - Tunnel induction.
 - PPE required for entry.
 - Signing in and out procedures.
 - Access and egress arrangements.
 - Safe pedestrian access routes.
 - First aid and medical arrangements.
 - Fire arrangements.
 - Temporary power and lighting distribution requirements.
 - Dust control procedures.
 - Forced ventilation and/or extraction requirements.
 - Atmospheric conditions monitoring.
 - Structural integrity and tunnel support checking procedure.
 - Electrical earthing arrangements.
 - Emergency evacuation and rescue procedure.
 - Thermal conditions arrangements.

3.40. Hot Works

1. All hot works processes likely to produce sources of ignition such as burning, grinding, heating, welding, and flame cutting must be controlled using a permit system.
2. Fire extinguishers must be available at any location where hot works are being undertaken and a site log for issued permits and locations must be in place.
3. All flammable and combustible materials must be removed from the area where hot works is to take place.
4. Timber floors must be protected with non-combustible material.
5. Non-combustible (flame-proof) screens must be used for welding and cutting operations or located in such a way to prevent flashes affecting other site users.
6. Suitable fire extinguishers and fire watchers must be provided.
7. Follow-up checks must be done on completion; this check should take place at least 1 hour after the hot work has finished.
8. Appropriate clothing and PPE must always be worn during Hot Works.
9. Only proprietary fittings must be used on gas welding equipment.
10. All flammable gas or oxygen cylinders must be fitted with 'flash-back' arrestors and only moved on a proprietary trolley with a fire extinguisher nearby or moved with the cylinders.
11. All fuel and oxygen bottles must be fitted with appropriate flashback arrestors.

12. Where access to the welding area cannot be entirely restricted, full screening to arc welding must be available

3.41. Construction/Non-Destructive Testing

1. The Contractor shall submit a Radiography/Non-Destructive Testing Safety Procedure to the Employer for review and acceptance prior to any such work taking place.
2. If Subcontractors are used for the purpose of non-destructive testing, the Contractor shall ensure that they have the required permits and licenses which shall be made available to the Employer 28 days prior to commencement.
3. Radiography work shall be performed under a "Permit for Radiography" and only by Subcontractors or organisations possessing the proper licenses and certificates.
4. Where laboratories are used to analyse samples, the laboratories shall be prequalified and acceptable to the Employer.
5. The Contractor shall instruct all Contractor Personnel on the potential for radioactive hazards during radiography and the precautions to be followed in the event of an emergency.
6. The Contractor shall ensure that radiographic exposure devices, storage containers, and source changers are kept locked and physically secure when not in use.
7. Perimeter areas around radiographic work shall be properly barricaded and posted with appropriate warning signs.
8. The Contractor shall conduct perimeter surveys whenever radiography is in progress.
9. Employee exposure shall be measured and monitored to ensure the employees' health is not compromised due to excessive radioactive exposures.

3.42. Summer Working

1. The Contractor shall develop a plan that identifies and describes the procedures in place to mitigate the risks associated with working in the heat/summer working.
2. The plan shall include the following: UAE Summer working hours regulations and adherence mechanism, operating procedures to mitigate risks from summer working, and emergency procedures for the control and treatment of heat-related illnesses.
3. All Contractor Personnel engaged in the field, especially frontline supervisors, shall be trained on the warning signs/symptoms of early heat-related disorders and instructed on the clothing and work methods best suited to avoid heat stress. Stay or rest times shall be developed to reduce the possibility of heat related disorders, if necessary and in compliance with UAE labour laws.
4. The Contractor shall provide suitable, sufficient, and well-maintained air-conditioned rest facilities for its employees and Subcontractors.
5. The Contractor shall provide immediately accessible, adequate, and sanitary conveniences, potable water supply during all periods of the day, and have available electrolyte replacement drinks.

3.43. Noise

1. The Contractor shall have a Control of Noise at Work Procedure. The procedure shall include noise surveys, engineering controls, the procurement, and use of low noise equipment when possible, posting of signs and warnings for areas found to require hearing protection, and training on hearing protection devices used on the Project.
2. The Contractor shall provide equipment for sampling and monitoring noise levels. Noise monitoring equipment shall be calibrated before and after use and all measurements must be documented and made available to the Employer.

3.44. Hand/Arm Vibration

1. The Contractor shall consider the risks associated with hand/arm vibration and ensure that control measures are implemented.
2. Workers and supervisors shall be trained in hazards of vibratory tools and equipment.
3. Exposure levels should not exceed those stated in the tool manufacturers recommendations.

3.45. Air Surveillance

1. The Contractor shall develop an Air Surveillance Procedure where required. All logs and records shall be maintained for sampling, monitoring, and identifying the source of contaminants. A competent person, whose resume and qualifications shall be submitted to and determined acceptable, shall conduct air monitoring and/or sampling.
2. The Contractor shall perform inspections to identify and mitigate risks and exposures to potential toxic, hazardous, or explosive atmospheres.
3. The Contractor shall provide equipment adequate for the sampling and monitoring of air/atmospheres and shall ensure that the equipment is calibrated per the manufacturer recommendations.

3.46. Fire Prevention & Protection

1. The Contractor shall develop and submit to the Employer for review a Fire Protection and Prevention Plan specific to the Works in accordance with UAE Fire and Life Safety Code 2018.
2. The Contractor shall provide all fire protection and prevention equipment necessary for their operations including, but not limited to, fire hoses, extinguishers, etc.
3. The Contractor shall provide an adequate number of fire extinguishers of the correct size and type for all work activities. Please refer to below table indicating the various types of fire extinguishers and the intended application of each.
4. Extinguishers shall be maintained as per the manufacturer recommendations, inspected monthly, and tested annually.
5. The Contractor shall train all Contractor's Personnel in the proper use of fire extinguishers.
6. The Contractor shall include in their Fire Protection and Prevention Plan a process to ensure that fire protection equipment is placed and maintained in proper locations as work progresses.

7. The Contractor shall monitor their work and office areas to ensure that all doors, stairwells, aisles, and means of egress are always kept clear and unobstructed.
8. All exits must be clearly marked and adequately lighted, and all emergency lights must remain functional.
9. The Contractor shall develop a specific procedure for flammable and combustible material storage detailing the requirements for the handling, storage and use of flammable and combustible liquids and materials.
10. All flammable liquids and materials shall be stored properly and dispensed in safety cans manufactured to a recognised international standard.
11. All hazardous storage areas must be properly designed, maintained, and equipped with appropriate signage and access control systems.
12. Where temporary welding enclosures are required, the Contractor shall ensure that these enclosures are constructed with flame resistant materials (such as a fire blanket).
13. The Contractor shall establish a project smoking policy and shall monitor compliance with that policy including ensuring that posted "no-smoking" zones are observed.
14. The Contractor's office areas shall be designed and monitored to reduce and control storage and loading of combustible materials.
15. Material shall be well arranged, and aisles shall be maintained open and clear of obstructions.
16. Stored material shall be kept away from heaters, lamps, hot pipes, equipment and machinery and the use of extension cords minimised. The building shall be electrically tested prior to occupation.
17. Contractor's personnel whose work tasks are in the vicinity of fire cabinets and equipment, fire hydrants, and fire lanes shall keep them clear and unobstructed.
18. The Contractor shall maintain free space around sprinkler heads when working in facilities having sprinkler systems.
19. The Contractor shall ensure that combustible waste containers are emptied regularly; equipment, tables, and floors are free from oil or oily rags; and oily rag containers are kept covered and emptied regularly.
20. Janitor/storage closets shall be maintained in an orderly condition and shall not be used to store quantities of hazardous or toxic chemicals.
21. Electrical, mechanical and telegraphic rooms shall be kept in order and free of combustible storage materials.
22. Cable trays and trunking shall be free of combustible material, debris and trash.
23. The Contractor shall protect Contractor's personnel against welding and cutting hazards.
24. The Contractor's HSE Plan shall address fire concerns including fire watches where necessary, welding fumes, preservative coatings, respiratory protection, eye/head/body protection, etc.
25. Welding and cutting apparatus shall be inspected before each use. Cutting torch assemblies shall be equipped with pressure relief valves, back flow prevention devices and flash arrestors.
26. The Contractor shall ensure that all Contractor's personnel are trained in and comply with the requirements for proper fire prevention and equipment use when welding or cutting.

27. The Contractor shall effectively ground the frame of arc-welding and cutting machines that incorporate a power outlet.
28. The Contractor shall develop a Cutting, Welding and Grinding Procedure for the maintenance and inspection of welding, grinding or cutting equipment and ensure that the procedure is implemented and maintained.
29. Unless otherwise specified in writing by the Employer, the Contractor shall not permit open fires on the Site.
30. All heavy equipment, mobile and stationery plant, cranes, welding machines, compressors, etc., will have suitable fire extinguishers at close proximity and/or in cabins of equipment and vehicles.
31. All fuel storage tanks shall be properly grounded and vented, provided with the proper type of fire extinguishers. 'Danger No Smoking or Open Flames' signs shall be prominently placed at these tanks.
32. Storage tanks above ground shall be double skinned and banded to prevent the spread of liquids. The bund or secondary containment must be properly designed and of 110% capacity of the volume of the tank.
33. All oxygen and acetylene cylinders, full or empty shall be kept separately in the storage area, stored upright, tied off, capped and chained in place. The storage area shall be designated as a "No Smoking" or "Open Flames" zone and provided with the proper type of fire extinguishers.
34. All compressed gas cylinders and acetylene cylinders shall comply with the requirements of the UAE Safety Regulations and the Compressed Gas Association recommendations covering safe use and storage.
35. The Contractor shall monitor its work areas to ensure that all general work areas, doors, stairwells, aisles and means of egress are kept clear of trash, construction debris and are always unobstructed.

Table 3.1 – Types of Fire Extinguishers

Fire type/source	Types of Fire Extinguishers and Labels				
	Water	Foam Spray	Powder	CO2	Wet Chemical
Wood, Paper and Textiles	✓	✓	✓	✗	✓
Flammable Liquids	✗	✓	✓	✓	✗
Flammable Gases	✗	✗	✓	✗	✗
Electrical Fires	✗	✗	✓	✓	✗

Cooking Oils and Fats	✗	✗	✗	✗	✓
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3.47. Lighting

- 1. The Contractor shall ensure that work is performed only in areas and at times where adequate illumination exists.
- 2. The Contractor shall provide all lighting required to safely perform work.
- 3. Artificial lighting equipment shall be manufactured to a recognized international standard.

Chemical Hazards

3.48. Control of Substances Hazardous to Health

1. The Contractor shall provide procedures describing the method used to communicate the hazards associated with chemical handling, use, storage, and disposal.
2. The manufacturer's Material Safety Data Sheet (MSDS) must be available for all hazardous substances that will be used on-site. The MSDS for each hazardous product must be kept in the area of use so that information on specific hazards, risks and first aid procedures are readily available.
3. The Contractor shall maintain a list of hazardous materials on-site (Hazardous Materials Register), along with a link to the relevant MSDS.
4. The Contractor shall carry out a risk assessment for hazardous substances that will be used on the project while executing its scope of work. The Risk Assessment must be a live document, be regularly updated, and contain the following information as a minimum:
 - a. Identification of the hazards, i.e. the substances or properties that are present; the substances which are harmful by reading the product labels and MSDS; how they will be used in the workplace; how workers will be exposed; as well as who will be exposed, including any potential exposure to other parties such as maintenance workers, cleaners, etc.
 - b. Assessment of the risk of exposure by evaluating the likelihood, the frequency, and the length of exposure.
 - c. Evaluation of the risk and identification of the precautions. The methods of controlling or preventing exposure must be documented, in line with the principles of prevention (as outlined in the risk assessment section, Hierarchy of Risk Control Measures in Section 1.8 above).
5. Hazardous substances must be stored in their original container and be appropriately labelled in accordance with the MSDS. Labels and tags shall be conspicuously written in Arabic, English and the most common language in the workplace. The labelling must follow the requirements. Labelling must meet the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).
6. Exposure of personnel to hazardous materials must be kept below the relevant exposure standards and to levels as low as reasonably practicable.
7. A monitoring programme must be developed and implemented as applicable.
8. Health surveillance shall be carried out where the risk assessment identifies that health surveillance is necessary to protect workers from the harmful effects of a hazardous substance.
9. The Contractor shall ensure suitable washing or decontamination equipment is provided as required by the risk assessment for the hazardous material. This equipment includes access to eye wash bottles and first-aid kits.
10. The Contractor shall ensure that all Contractor personnel are trained in the recognition, proper handling, and use of hazardous substances.

11. The Contractor's new employee site orientation must include introductory training on the topic of hazardous substances; however, specific hazardous material training shall be provided by the Contractor for all their personnel whose work involves the use of any hazardous material under their control. Such training shall be properly documented, filed and made available to the Employer.
12. The Contractor shall properly label all hazardous substances and/or chemicals. Inspections shall be made and documented to ensure that adequate control measures are implemented.

3.49. Compressed Gas Cylinders

1. The Contractor shall create a Gas Cylinder Use and Storage Procedure that allows for proper use and storage of compressed gas cylinders.
2. The procedure shall include segregation by type, proper signage, protective isolation of fuel gases from oxygen, provisions to keep cylinder caps in place when provided by the supplier, positive upright securing of bottles, and maintenance of safe distances from ignition sources.
3. The Contractor shall provide cradles and/or cages for lifting compressed gas cylinders and ensure that cylinders being transported are secured and in the upright position.
4. The Contractor shall ensure that each individual cylinder is turned off by a key wrench.

3.50. Explosives

The Contractor shall be subject to and must comply with all requirements specified below and the regulations and rules as established or directed by the relevant government departments:

1. The Contractor shall be solely responsible for determining the regulations and rules of all relevant government departments and securing the approval of each.
2. The use of explosives will not be permitted unless specific written approval is granted at the discretion of and by the Employer and the relevant government authorities, and for an unusual, specific condition, or location.
3. The use of explosives shall be subject to the approval of such Governmental Ministries and/or Departments including Police, Civil Defence, or similar agencies. The compliance requirements for use of explosives as specified herein shall be submitted by the Contractor with their request for the use of explosives.
4. The Employer and all relevant government departments reserve the right to rescind or revoke the permission for the use of explosives at any time during the Period of Execution of the Contract.
5. In the event the Employer and all relevant government departments grant permission for the use of explosives, the Contractor shall comply with the following requirements:
 - a. Employ or contract with a licensed Subcontractor or specialist firm whose primary business is the use of explosives and is approved by the relevant government departments. The Contractor shall be allowed to use their own personnel for the work if they can prove to the satisfaction of the relevant government departments that their firm has the same or better skills than those of a Subcontractor or specialist firm as described above.

- b. Submit to the Employer, for their review and comments, a complete description of all materials, tools, and equipment to be employed by the Contractor along with a detailed work programme and their method of importing, controlling, and inventory (on a daily basis) the amount of materials imported, used and on hand for the use as explosives. The form for the method of controlling and inventory of all materials shall be as approved by the Employer. No explosives shall be utilised in the Works until the Contractor has complied with the written review comments from the Employer.
 - c. Provide proper buildings or storehouses, in suitable locations and positions for storage of explosives, in a manner and quantities per storage facility as approved by the relevant government departments and the Employer. These storage facilities shall be properly marked and securely locked and shall not be accessible except to authorise personnel as approved by the Employer in writing. All unused explosive materials must be disposed as approved by the relevant government departments.
 - d. Ensure prevention of any unauthorised issue or improper use of any explosives and shall employ only experienced and responsible personnel to handle the explosives, to the satisfaction of the Employer, and in compliance with all the statutory regulations and requirements of relevant government departments.
 - e. Perform drilling and blasting works in such a manner that the required grade lines are met while producing the least disturbance of the material to be left in place. Blasting by means of drill holes and tunnels or any other methods shall be performed at the entire risk and responsibility of the Contractor without claim for breakage outside the approved cross-sections.
 - f. Take the greatest care during all blasting operations to ensure that no injury be made to persons or property or to the finished work. Shots shall be properly loaded and covered (capped), and only moderate charges shall be used for each hole. A daily register of all explosives used, showing the location and amount used, shall be kept by the Contractor for review by the Employer.
 - g. Take all necessary precautions and measures for suspending traffic of vehicles, pedestrians, and animals on the site or in its vicinity at the time of blasting. The Contractor shall bear full responsibility for any incidents as a result of using explosives.
 - h. Provide heavy mesh blasting material for protection of persons, property and the work, where required or as directed by the Employer. Blasting shall be restricted to hours prescribed by the Employer. If, in the opinion of the Employer, blasting would be dangerous to persons or adjacent structures or is being carried on in a reckless manner, the Employer may prohibit it and order the rock to be excavated by other means.
 - i. Secure approval of any scheduled traffic interruption, where needed, from the proper authorities and the Employer.
6. The Employer shall set the limits and conditions under which explosives shall be employed. The limits and conditions shall include, but not limited to:
- a. The designated time of day and days of week when charges can be detonated
 - b. Size of charges.
 - c. The amount of delay.
 - d. The means of monitoring the charges.

- e. The amount of vibration as measured by seismographic equipment located as directed by the Employer.
 - f. Handling, control, security and safety measures and other requirements of the Employer, local law, and relevant government departments.
7. In the event permission to use explosives is not granted or is rescinded or revoked by the Employer and the relevant government departments, the Contractor will be required to employ alternative acceptable methods for such work as excavation, demolition, or similar removal.

3.51. Local Exhaust Ventilation

1. On occasion, the Contractor may be required to use Local Exhaust Ventilation (LEV) to extract contaminants prior to entrance to a breathing zone.
2. Prior to installing any LEV system, the design must be done so in accordance with American Standards Institute (ANSI) or equivalent international standard. They must be designed to prevent dispersion of contaminants into the air causing harmful exposure.
3. Where LEV is required, the Contractor shall ensure that persons relying on it are trained and fully aware of why it is needed. The training should include the type of LEV, what it is designed for, its capabilities, contamination prevention procedures, and operation and maintenance requirements. In addition, supervisors shall be trained on the LEV systems design principles and how to recognise when it is not being used or working properly.
4. LEV systems shall be designed with maintenance in mind and shall include maintenance hatches so that they can be cleaned and serviced on a periodic basis. LEV systems shall be checked weekly by a designated competent person and daily by the site supervisor. At a minimum, air cleaning and filtration shall be cleaned on a monthly basis. However, this could be as frequent as daily if the environment requires.
5. All designs, operational checks, and maintenance records shall be kept on-site and made available to the Employer as needed.

Environmental Hazards

3.52. Environmental Hazards

Permitting

1. The Contractor and their Subcontractors are required to process all required permits, including the necessary environmental permits relevant to the construction activities and area of works and in accordance with the local rules and regulations.
2. It is the responsibility of the Contractor to ensure that all required environmental applications for environmental approvals, permits, and licences are prepared, submitted, and obtained. The Contractor shall maintain a register of the required environmental approvals, permits and licences for their project and their status. This will assist the Employer to liaise with the government and authority stakeholders regarding processing as needed.
3. Where required, the Contractor is responsible to develop any environmental studies, such as Environmental Impact Assessment studies or others, as part of the permitting process and as directed by the relevant authorities.

Site Boundary

4. The Contractor shall ensure that all activities, equipment, and material storage are confined to the allocated site boundary as agreed with the Employer.
5. The site boundary, where practical, shall be clearly identified with the use of either temporary walls, marker/surveyor tape, para-web fencing, construction cones, or other barrier marking systems approved by the Employer.
6. The site offices, workshops, warehouses, equipment, vehicle parking, and associated facilities are restricted to within the site boundary or other area designated by the Employer.

Public Hygiene and Sanitary Facilities

7. The Contractor shall ensure that domestic litter is put in designated litterbins with lids, which must be appropriately located to achieve adequate site coverage.
8. The Contractor must ensure that it is prohibited to discard litter on the road, storm water drains, or open grounds. Littering in any form, volume, and location must be prohibited.
9. Food waste and litter must be disposed of in designated containers. Canteen facilities must include the provision of adequate waste bins with lids for food waste collection. Burning any waste on-site must be strictly forbidden.
10. Functional and well-maintained sanitary facilities shall be provided by the Contractor, in accordance with international and local HSE Regulations and Standards. This shall include restrooms, water tanks, cold water drinking facilities, and sewage waste collection systems.
11. All liquid sanitary waste must be collected and disposed of as per the local rules and regulations.
12. It is prohibited to channel sewage through a drain into open ground.

Site Clearance and Preparation

13. The Contractor shall clear the site of all waste and debris such as concrete debris, obstructions, rubber tyres, fencing, asbestos sheeting, and vegetation upon mobilisation (where applicable). The site shall be graded and levelled to the specified design level.
14. Waste materials must be sorted into material that can be salvaged, recycled, or composted, and placed in a designated waste area/facility as per Employer requirements.

Fauna and Flora Protection

15. The Contractor shall exercise all due care not to disturb any natural vegetation unnecessarily that may exist within their site.
16. Trees must be protected, and measures must be adopted by the Contractor to safeguard animals that be present on site.
17. Any animals found on the site must not be handled and/or killed and the Contractor must notify the Employer immediately of such finds.
18. In the event of wildlife being present on-site, the Contractor must arrange for a licensed specialist to move the animal(s) to an appropriate off-site location if relocation is required.
19. The Contractor shall exercise all due care to avoid damaging environmentally sensitive habitats that may exist within their site or that may be affected by their work activities.

Earth Works and Land Disturbance

20. The Contractor shall implement measures to address the environmental impacts of land disturbance (dust control and stockpile management) in the planning and design phase of the project before any land is cleared. Details of how this will be managed and controlled must be included in their HSE Plan.

Waste Management

21. The Contractor shall develop a materials management procedure that covers the aspects of procurement, storage and use of materials, aiming to minimise the potential significant environmental impacts that can result from these aspects.
22. Exercise waste management practices, including handling, storage, collection and disposal of wastes, as per local rules and regulations.
23. Ensure that waste generation is reduced; that waste generated is reclaimed (through identification, management, and segregation); and then either reused or recycled.
24. Keep the disposal of waste to licensed landfills as the last alternative or option.
25. Ensure that storage of diesel, oil, paint, thinners, and other chemicals that pose potential environmental hazards are kept to minimum quantities.
26. Store hazardous materials in a manner that prevents any potential environmental/safety risks as per the relevant Material Safety Data Sheets (MSDS).
27. Install secondary containment (bunds) around fuel and chemical storage areas, lined with an impervious surface coating to prevent chemical spills (if any) from escaping and polluting soil and underground water. Bunds must be designed with a minimum capacity equivalent to 110% of the volume of the liquids that they contain.

28. Keep an up-to-date register of all hazardous materials at the storage facility. The register must include material types, quantities, storage methods, storage locations and accompanying MSDS.
29. Display adequate signage identifying hazardous materials and nature of hazard.
30. Provide appropriate emergency response equipment adjacent to hazardous materials storage area (spill response kits/equipment).
31. Provide site staff with the appropriate level of training in emergency response procedures.
32. Ensure that hazardous materials are handled by operators trained in spill response procedures.
33. Ensure prior authorisation is obtained from the Employer before hazardous materials, chemicals, oils, solvents, paints, thinners, compressed gases, and protective insulation or coating materials are purchased or stored and used on-site.

Concrete Operations

34. The Contractor shall ensure that proper measures are taken with all works involving the handling of fresh concrete and dry cement powder. Provisions must be made for washing out concrete mixers and or ready-mix truck to prevent ground contamination.

Groundwater Discharge

35. The Contractor shall obtain the necessary permit from authorities, where applicable, when they need to temporarily dispose groundwater within the project boundary.
36. The Contractor shall take measures to prevent dewatering waters from flooding and contaminating adjacent land areas.
37. The Contractor shall ensure that dewatering discharge arrangements are controlled so as not to cause soil erosion or sediment accumulation problems.
38. The Contractor shall adhere to the following dewatering disposal methods (where possible):
 - On-site recycling: Where the groundwater quality is suitable for reuse (e.g. for dust control, cooling water systems, wash-down water, or for watering of soft landscape areas), the Contractor must confirm that the water quality is acceptable for the intended reuse.
 - Off-site recycling: Dewatering water may be provided to a neighbouring site for specific use; however, this is dependent on water quality and the necessary approvals.
 - Other options: These may be considered subject to site conditions. Proposals must be forwarded to the Employer for assessment.
39. The Contractor shall install and operate a settling basin/balance tank to remove sediments from the water before discharge (where discharge waters contain significant suspended solids).

Pest Control

40. The Contractor shall manage their sites so as not to increase the risk of pest infestation on their site or the surrounding environment.

41. The Contractor shall maintain the site in good order and ensure that waste, particularly food waste, is removed from site on a regular basis. Any waste bins for food must be covered and cleared from site each day. General waste stockpiles must not contain food waste.

Odour Control

42. The Contractor shall identify in their method statements all activities with the potential to produce malodours. Appropriate control measures must be assigned to these activities based on best practicable means. Such measure shall include but not be limited to:
- Utilisation of odour suppressants where deemed necessary.
 - Prohibition on the burning of waste.
 - Maintenance of toilet facilities ensuring they are cleaned regularly.
 - Removal of waste from site on a regular basis.

Noise and Vibration

43. The Contractor shall reduce all noise nuisances wherever possible from vehicles, fixed machinery within site boundary, general construction activities, and from movement of project vehicles within and outside the site boundary.
44. Noise levels at the operation/project boundaries must not exceed the noise emission limit values specified by the local rules and regulations.
45. Noise monitoring shall be conducted in areas identified as having sensitivity to noise, such as built up residential areas.
46. Suitable measures to reduce vibration nuisance shall be implemented, such as limiting the time of operation and notifying beforehand the residents who are affected by such operations. The magnitude of the nuisance created by vibrations depends on the nature of soils transmitting the vibration and the distance to the nearest building or community.

Air Emissions

47. The Contractor shall maintain equipment and plant in accordance with manufacturers' specifications and retain an updated record of maintenance.
48. Any vehicles observed omitting excessive exhaust emissions shall be removed from use until they can be serviced.
49. The Contractor shall implement/consider the following options:
- Use alternative fuel technologies where possible.
 - Ensure that engines are switched off when not in use.
 - Minimise and manage movement of construction traffic around site.
 - Ensure proper operation of stationary equipment in accordance with manufacturer's specifications to minimise air emissions.
 - Provide a comprehensive list of all vehicles including engine type and emissions specification to the Employer prior to being approved for use on-site.

Workshop and Repair Area

50. The Contractor shall ensure that all workshops, where applicable, are sited on a concrete base with drainage to a collection sump.
51. The sump must be regularly emptied with the contents to be disposed of as hazardous waste. In addition, oil/water separators shall be installed wherever possible.
52. The Contractor shall, as far as is reasonably practicable, ensure that the use of any hazardous materials/chemicals in the maintenance/workshop area is reduced to a minimum. Where the use of hazardous materials/chemicals is unavoidable, the Contractor shall ensure that those who are exposed to, or using the materials, are properly briefed on the risks and required controls as per the Material Safety Data Sheet (MSDS).
53. The MSDS for each hazardous product must be kept in the workshop area so that information on specific hazards, risks and first aid procedures are readily available.
54. Routine servicing such as on-the-job addition of oil, lubrication and refuelling shall only be undertaken at the workshop and adequate precautions must be taken to protect the ground from contamination resulting from accidental spills.
55. No repair shall be carried out on open ground and any vehicles/plant that breakdown must be moved to the workshop and worked on from there.
56. If a broken-down vehicle cannot be removed, then a pan, sump, drip tray, or protective liner must be used to prevent ground contamination.
57. The Contractor shall ensure that adequate contingency measures are in place to deal with an emergency where accidental spillage of hazardous liquids occurs. In the event of such an incident the Contractor shall undertake a thorough investigation and implement effective measure to prevent recurrence.

Project Completion

58. The Contractor shall remove and/or dispose properly of all temporary buildings, equipment, plant, tools, and excess material brought on-site during the construction period (e.g. construction debris, surplus materials). The site shall be cleaned of all and any kind of pollution/contamination prior to demobilisation.
59. It is the responsibility of the Contractor to carry out the required remediation works to render the site suitable for the intended land uses, before hand over approval is granted. The Employer shall undertake a field inspection with the Contractor to ensure that the site area has been sufficiently cleaned and remediated where necessary.

Other Hazards

3.53. Personal Protective Equipment

1. The Contractor shall follow the hierarchy of control measures in determining the need for PPE which must be used as a last resort line of defence after other control measures have been implemented.
1. The Contractor shall issue PPE free of charge to its workers. An adequate supply of PPE must be maintained on-site to meet the needs of the work being undertaken. All PPE issued by the Contractor shall be signed for by the workers and a record of PPE issued shall be maintained.
2. The Contractor must provide facilities for PPE to be stored and maintained safely. Workers shall be responsible for their PPE and must keep it safe, report any defects, and not misuse it.
3. Contractor personnel shall wear long pants and a suitable long-sleeved shirt or overalls, with reflective strips, as the minimum work clothing to be worn while at the site. Contractors must ensure that they provide adequate number of sets of clothing to maintain healthy and hygienic standards.
4. The minimum standard of PPE across the Employer's sites shall be; safety footwear, hardhat, high visibility jacket, gloves, and eye protection. Additional PPE shall be determined based on the risk or COSHH (Control of Substances Hazardous to Health) assessment undertaken by the Contractor.
5. The PPE must as a minimum meet the national criteria stated in the Council Ministers Decision No. 3 of 2016, the international standards stated in the regulation, and any other standards approved by the Emirates Authority for Standardization and Metrology (ESMA).
6. Training shall be provided by the Contractor on the inspection, use, sanitary care, and limitations of respiratory equipment. The records of such training shall be maintained by the Contractor and made available to the Employer.
7. A competent person shall be trained and designated by the Contractor to store, maintain, inspect, and clean respiratory equipment.

3.54. Worker Welfare Arrangements

1. The Contractor shall ensure that all accommodation, dining, and recreational facilities provided meet the local legal requirements of Cabinet Decision Number 13, 2009. A facility management plan shall be submitted to the Employer for approval. The plan must demonstrate compliance with the aforementioned Cabinet Decision.
2. All eating and sanitary facilities (either shared or Contractor-controlled) shall be maintained in a clean and sanitary condition. The Contractor must provide the necessary resources to accomplish this, including adequate washing facilities with soap and disposable towels and everything needed to maintain a high level of hygiene and sanitation.
3. The Contractor shall provide clean, potable drinking water for Contractor Personnel in a safe, hygienic manner at all work sites. Refillable/durable water bottles shall be provided to Contractor personnel. Single use or shared cups shall not be used.

4. The Contractor shall provide and maintain their own sanitary toilet facilities for Contractor Personnel. The daily facilities' cleaning, maintenance, and waste disposal location/method shall be to a high standard and acceptable to the Employer.
5. If the Contractor provides accommodation and/or kitchen facilities for Contractor Personnel, those facilities shall be kept clean and free from pests and vermin in accordance with UAE Laws.
6. The Contractor shall consider the mental health arrangements for their workers and provide an easily accessible means of support. Details of the means of support for mental health issues shall be communicated to workers on the project through the HSE induction, toolbox talks and posters.

3.55. Medical Facilities, Medical Services and Treatment

1. The Contractor shall adhere to any applicable legal requirements related to first aid provisions available at Emirate or Federal levels.
2. The Contractor shall determine the appropriate safety provisions for first aid service on their projects and work locations, including the number of designated first aiders required, provision of first aid kits and first aid training.
3. The Contractor shall assess requirements and ensure that suitable and sufficient medical resources are provided in the event of an emergency at the project site(s) and worker accommodation, such as first aid kits. Resources must be in the care of a responsible person who will ensure regular maintenance. The Contractor shall maintain clean and orderly first aid facilities and locations where first aid treatment is provided.
4. The Contractor shall ensure that there are enough trained and qualified personnel designated to provide a basic first aid service (first aiders). These designated first aiders must be in possession of a first aid certificate issued by a licensed / approved service provider.
5. If the number of employees is less than 250, a minimum of one first aider, permanently available in the workplace, is required. For less than 500 employees (but more than 250), 2 first aiders are required as a minimum. For more than 500 employees, one additional first aider is required for each additional 500 employees.
6. The Contractor shall retain and have available on-site, during all working hours, a method to provide initial emergency treatment and a method to transport ill or injured personnel by ambulance to local hospitals.
7. Where required, medical care facilities including ambulance, medical staff including, nurses, physicians or first aiders and medical care service providers must be licensed in the UAE to treat and transport staff. The design of the facility along with the list of medical equipment shall be submitted to the relevant authority and submitted to the Employer upon request.
8. The Contractor shall ensure injured Contractor's personnel are referred to qualified industrial/occupational medical providers if off-site treatment is needed. The Contractor shall ensure appropriate transportation is provided for non-emergency off-site medical treatment.
9. The Contractor is also required to ensure resources are available to implement and manage pre-screening and fitness to work programs.

10. Emergency arrangements shall be clearly communicated, and the Contractor shall ensure all Contractor's Personnel understand and comply with their medical management procedures.
11. The Contractor shall maintain medical records and shall submit those records to the Employer if required.
12. The Contractor and each of their Subcontractors shall also maintain a substance abuse program consistent with applicable UAE Laws.

First Aid Kits:

13. There shall be a first-aid box or cupboard provided, maintained and readily accessible during all working hours, at every workplace or project site.
14. Where the number of employees is more than 150, but less than 250, one more additional unit (complete set) shall be kept in the premises.
15. Each first-aid box or cupboard must be placed in a clearly identified and readily accessible location. The minimum content of a First Aid Kit or cupboard is provided in the below table.

Table 3.2 – First Aid Kit Content

First Aid Kit Item	Number of Employees				
	1-10	11-25	26-50	51-100	101-150
Guidance Cards	1	1	1	1	1
Plastic Band Aids	40	75	150	300	450
Adhesive Tape 1/2" x 10 yds	1	1	1	2	3
Adhesive Tape 1" x 10 yds	1	1	1	2	3
Absorbent Cotton - Bundle	1	1	1	1	2
Gauze Bandage – 1"	1	1	2	4	6
Gauze Bandage – 2"	1	2	4	8	10
Gauze Bandage – 3"	1	2	4	8	10
Gauze Pads – 3" x 3"	1	2	5	10	15
Oval Eye Pads	1	3	3	6	9
Triangular Bandage	1	2	2	4	6
Ammonia Inhalant - Bottle	1	1	1	1	2
Eye Wash	2 oz	4 oz	4 oz	4 oz	4 oz
First Aid Cream	1	1	1	1	2
Paracetamol Tablets	10	25	50	100	150
Calamin Lotion	1 oz	2 oz	2 oz	4 oz	6 oz
Cotton Tipped Applicator – 6"	25	50	100	200	300
Rescue Breather	-	1	1	1	1
Surgical Scissors	1	1	1	1	1
Anti-Septic Solution	250 ml	500 ml	500 ml	500 ml	500 ml

16. The First Aid Kit Contents breakdown and use is provided below:

- a. Guidance Card: The guidance card must be available in the first aid box to explain what is to be done in case of an emergency.
- b. Plastic Band Aids: As the title suggests, and used for minor injuries, cuts, and abrasions.
- c. Adhesive Tapes: Used to attach bandages, gauze, and other dressings to wounds.
- d. Gauze Bandages: A gauze bandage is a thin, woven fabric that is placed over a wound to keep it clean so air can penetrate and improve healing. It can be used directly on a wound or it can secure a dressing in place.
- e. Gauze Pads: These refer to square pads used to dab away at cuts and wounds.
- f. Oval Eye Pads: Pads which are contoured to the shape of the eye.
- g. Triangular Bandages: A triangular bandage is used as an arm sling or as a pad to control bleeding. It may also be used to support or immobilise an injury to a bone or joint or as improvised padding over a painful injury.
- h. Ammonia Inhalant: Commonly referred to as smelling salts, ammonia capsules, or ammonia salts and historically have been used for the prevention and treatment of fainting, dizziness, and light-headedness.
- i. Eye Wash: Eye Washes or Eye Irrigating Solutions are sterile solutions used to clean, refresh or soothe eyes.
- j. First Aid Cream: This refers to an antiseptic cream suitable for cuts, scrapes and light wounds.
- k. Calamine Lotion: This lotion is used for sunburns, scalds and burns. It's also used for insect bites and for chicken pox outbreaks.
- l. Cotton Tipped Applicators: Used for dabbing at small wounds and cuts where the gauze pads would be too much.
- m. Rescue Breather: This is the term used for CPR Masks. It contains a mouldable face mask and a one-way valve that helps people induce resuscitation.
- n. Surgical Scissors: First aid kits need them for cutting away at clothes or cutting away at bandages without damaging the skin.
- o. Antiseptic Solution: This can be anything from surgical spirit, rubbing alcohol, povidone iodine or more.

First Aid Room:

- 17.** Where there are 250 or more workers at work, a first-aid room containing sufficient and prescribed equipment and material, must be provided and maintained under the charge of a qualified first-aider possessing a certificate approved by local authorities.
- 18.** The name of the first-aider should be exhibited in the premises.
- 19.** The Contractor must ensure that adequate facilities are available to call physician or ambulance or contact any other agency or to transport the injured person from the workplace.
- 20.** The minimum content of a First Aid Room includes the following:
 - a. A Stretcher

- b. Wheel Chair
- c. A sink with hot and cold running water
- d. Drinking water
- e. Paper Towels, soap and nail brushes
- f. Smooth topped impermeable work surfaces
- g. Clean garments for use by first-aiders
- h. Clinical thermometer
- i. One wash bottle
- j. A couch with pillow and blankets frequently cleaned
- k. Dressing Trolley (2 shelves with castor wheels)
- l. Kidney Tray Medium size - 2 Nos.
- m. Splints of different size
- n. Eye wash equipment (for facilities with potential bio hazard exposure)

3.56. Blood-Borne Pathogens

1. The Contractor shall provide all Contractor Personnel with a general overview on the hazards associated with blood-borne pathogens, possible means of exposure, and proper control methods.
2. Contractor Personnel who are exposed to blood-borne pathogens shall be properly trained regarding their responsibilities, required control measures, and personal safety. Proper PPE shall be used when exposure hazards exist.
3. Contractor Personnel whose job duty puts them at risk of exposure (i.e. medic, nurse, first-aid person, etc.) shall be offered vaccinations and documentation of the vaccination or declination shall be maintained and made available to the Employer.
4. Provisions shall be made for proper disposal of hazardous medical wastes and a sign posted in the treatment area warning of biohazards.
5. A "sharps" container shall be maintained in the first aid area for the secure disposal of used needles and similar medical waste.
6. Proper sterilization methods and materials shall be used.

3.57. Site Welfare Facilities

Suitable and sufficient welfare facilities shall be provided from the first day on-site, meeting the needs of all personnel. The following guidance (Table 3.3) represents the Employer's minimum standard. For sites and/or work which represent significant risks to health and where hygiene arrangements form part of the control measures, the risk assessment shall specify additional welfare arrangements as appropriate. Consideration must be given to requirements for facilities where work is undertaken away from the main site arrangements or multiple smaller sites are being worked on.

Table 3.3 — Site Welfare Facility

Provision	Details of the Requirement
Toilets	<ul style="list-style-type: none"> ▪ 1 urinal and 1 WC per 40 workers ▪ Adequate supply of toilet paper.
Washing facilities	<ul style="list-style-type: none"> ▪ Minimum number of wash basins are the same as WCs above. ▪ Washing facilities shall be available in toilet and changing areas. ▪ Basins shall be large enough for people to wash their face, hands and forearms. ▪ There shall be a supply of hot and cold or warm running water plus soap, and towels or dryers. ▪ Ablution facilities for washing before prayers required separate to other washing facilities.
Female facilities	<ul style="list-style-type: none"> ▪ Provision of separate WCs and washing facilities. ▪ Provision for the disposal of sanitary towels/tampons. ▪ Separate showers where showering is required. ▪ Female prayer room.
Storage and changing of clothing	<ul style="list-style-type: none"> ▪ Provision for storing personal clothing, footwear, and personal protective equipment. ▪ Facilities shall be provided to allow clothing to dry.
Rest area	<ul style="list-style-type: none"> ▪ Provided with cover and air-conditioned during summer months. ▪ Adequate illumination and ventilation as required. ▪ Provided with an adequate supply of tables and benches for all workers allowing for a maximum of 2 shifts for breaks. ▪ Strictly a no smoking area, with provision for smokers outside.
Catering and food hygiene	<ul style="list-style-type: none"> ▪ Provision of wholesome cold and cooked food to be served/provided during meal breaks, taking into account dietary requirements. ▪ Contractor must ensure safe and hygienic food preparation, storage, transportation and consumption
Drinking water	<ul style="list-style-type: none"> ▪ Adequate and wholesome supply of drinking water. ▪ Water supply tested every 3 months. ▪ Filters changed in accordance with water volume filtered as per suppliers' recommendations.
Pest control	<ul style="list-style-type: none"> ▪ Food waste collected after each meal and kept in sealed containers. ▪ Food waste removed from site daily. ▪ Pest control services employed to keep areas clear of vermin.
Location	<ul style="list-style-type: none"> ▪ Facilities shall be located within 10-minute journey of the worksite. Either on foot or by vehicle if such are provided.
Prayer rooms	<ul style="list-style-type: none"> ▪ Suitable, clean arrangements for both male and female staff

3.58. Site Offices

Prior to site mobilization, a site plan shall be prepared with the input and endorsement of the HSE Manager and submitted to the Employer for approval. The plan must consider at a minimum the following elements and services/facilities prior to mobilisation:

- a. The site first-aid/medical facility shall be established
- b. Site sanitation and Welfare facilities
- c. Worker accommodation shall be established (where applicable)
- d. Generator installation and temporary power supply
- e. Site office fire protection arrangements
- f. Welfare Provision
- g. Equipment and ergonomics
- h. Car parking and safe pedestrian and vehicle movement
- i. Security
- j. Visitors
- k. Illumination
- l. Housekeeping
- m. Material Storage
- n. Site Store arrangements and requirements
- o. Waste management



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APPENDIX 1 INITIAL INCIDENT NOTIFICATION FORM

Initial Incident Notification Form

Note: This form does not replace immediate notification of serious incidents within 4 hours of incidents occurring. This form must be submitted within 24 hours of incident or realisation of incident.

Project Name		Contractor	
Date of incident		Time of incident	
Date of Notification		Time of Notification	

Incident Classification

Work relatedness	<input type="checkbox"/> Work Related	<input type="checkbox"/> Non-Work Related	
Incident Type	<input type="checkbox"/> Injury <input type="checkbox"/> Environment	<input type="checkbox"/> Illness <input type="checkbox"/> Dangerous Occurrence	<input type="checkbox"/> Motor Vehicle
Injury Classification	<input type="checkbox"/> Minor Injury <input type="checkbox"/> Fatality	<input type="checkbox"/> Lost Time Injury <input type="checkbox"/> Member of the Public	<input type="checkbox"/> Major Injury
Other Classification	<input type="checkbox"/> Unauthorised <input type="checkbox"/> Community	<input type="checkbox"/> Hazardous discharge/emission	<input type="checkbox"/> Material (land/air/water)

Where did this occur (i.e. Project Site, Office, Housing, Travel, please provide details on location)

Who was injured / what was damaged (Name, age and profession or property damage and the extent etc.)

What is the current status (what is the current injury status etc.)

Preliminary Details* Describe parties involved, activity at the time of incident and what is known to have occurred to cause incident etc.

Immediate Actions Taken * To control the source and mitigate impacts, details of emergency response

Further Actions* have next of kin been notified if necessary / what is the plan for the investigation, including details of who will lead

Photographs/Diagrams (Click in the empty boxes)			
Contact details: to be used as a point of contact regarding any questions related to this occurrence			
Name		Position	
Mobile No		Email	

This document must be sent to the Employer and their Representative (Consultant Engineer)

*Information on the incident is based on preliminary investigations by <HSE team member or Project Manager> as at <date>. This may be subject to change as investigations are still on-going. Please note that the information provided here is not exhaustive and for the benefit of enhancing workplace safety and health so that a recurrence may be prevented. The information provided is not to be construed as implying any liability to any party nor should it be taken to encapsulate all the responsibilities and obligations under the law.



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APPENDIX 2 INCIDENT INVESTIGATION REVIEW FORM

Incident Investigation Review Form

Note: This form does not replace the Contractor's investigation process and is intended to only provide a summary for Department of Public Works of the investigation findings. It must be submitted along with the Contractors investigation within 7 days of the Incident.

Project Name		Contractor	
Date of incident		Time of incident	

Incident Classification

Work relatedness	<input type="checkbox"/> Work Related	<input type="checkbox"/> Non-Work Related	
Incident Type	<input type="checkbox"/> Injury <input type="checkbox"/> Environment	<input type="checkbox"/> Illness <input type="checkbox"/> Dangerous Occurrence	<input type="checkbox"/> Motor Vehicle
Injury Classification	<input type="checkbox"/> Minor Injury <input type="checkbox"/> Fatality	<input type="checkbox"/> Lost Time Injury <input type="checkbox"/> Member of the Public	<input type="checkbox"/> Major Injury
Other Classification	<input type="checkbox"/> Unauthorised <input type="checkbox"/> Community	<input type="checkbox"/> Hazardous discharge/emission	<input type="checkbox"/> Material (land/air/water)

Incident / Accident Investigation Team Members

Name	Title	Organisation	Role on Investigation Team

Description of the incident (enter brief description of the incident)

Investigation Findings – (key factors leading up to the incident)

1	
2	
3	

Immediate Causes (as identified during the investigation)

IC 1	
IC 2	
IC 3	

Underlying or Contributory Causes (as identified during the investigation)

UCC 1	
UCC 2	
UCC 3	

Root Causes (Enter Root Causes identified)

RC 1	
RC 2	
RC 3	

Action taken to prevent reoccurrence (Enter the actions taken by the contractor to prevent the incident being repeated)

1	
2	
3	

What are the key learning points (Enter the key learning points to prevent this incident being repeated elsewhere?)

1	
2	
3	

Contact details: to be used as a point of contact regarding any questions related to this occurrence

Name		Position	
Mobile No		Email	

This document must be sent to the Employer and their Representative (Consultant Engineer)

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Emergency Contact Numbers

During an emergency, please contact the following numbers:

- Police - 999
- Ambulance - 998
- Fire Department (Civil Defence) – 997

Department of Public Works: +971 6 516 555

The Sharjah Government Department of Public Works would like to acknowledge the support provided by Jacobs in developing our Health, Safety and Environmental Standards.

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