

HEALTH AND SAFETY PLAN



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1 PREAMBLE

The Project Health & safety plan is a working document that will evolve and develop throughout the life of the project and will eventually become the safety record for the project.

The Health & Safety Plan will comprise three sections, parts A,B and C.

Part A (This Document) Contains:

- Preamble
- Introduction
- Organization
- Arrangements for implementing the health & Safety Plan

Part A is a controlled document and all registered holders will be provided with subsequent revisions, amendments and additions.

Part B will be developed during the project and will contain the following, where applicable:

- Section 1 Risk assessments
- Section 2 Accident and injury reports
- Section 3 Dangerous occurrence reports
- Section 4 Crane and Crane operator certification
- Section 5 Site Safety Committee inspection reports
- Section 6 Site Safety Committee meeting minutes
- Section 7 Safety inspection reports/audits
- Section 8 Subcontractor's Safety Plans
- Section 9 Subcontractor's Safety inspection/ audit reports
- Section 10 Emergency Procedures
- Section 11 Health & Safety Work Procedures
- Section 12 Health & Safety training programs/records

Additional sections will be added as necessary.

Responsibility for Part B lies with the Project Manager and Safety Adviser. The Safety Adviser will maintain the Part B documentation.

Part C will contain copies of the relevant statutory health and safety requirements, technical guidelines and safety brochures and literature.

Responsibility for Part C lies with Safety Adviser.

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2 INTRODUCTION

M. Engg recognizes the importance of planning health and safety into projects at the earliest possible stage if injuries and ill and health arising from construction activities are to be avoided. This company Health & Safety plan has been prepared to describe the standard approach to managing and controlling the works in order to protect the health, safety and welfare of all personnel engaged on projects and others who may be affected by company operations.

For this Health & Safety plan to be effective, it is essential that the management and supervisory staff are familiar with and implement the relevant requirements of the plan. Senior management on a project will therefore be provided with a controlled copy of the plan and shall be responsible for its distribution to other management, safety and supervisory personnel.

The Company will actively seek the support of all operative engaged on a project to look after the health and safety of themselves and their colleagues by working within the spirit of this Health & Safety plan.

Any person found to be disregarding the requirements of the plan would be subject to disciplinary action, which may result in their dismissal from the project.

This safety plan shall also govern the activities performed by subcontractors to M.Engg. Subcontractors shall be monitored and where necessary shall be penalized, as set out above, or by other means deemed appropriate by M.Engg management.

M.Engg shall provide, so far as is reasonably practicable, training and instruction to the workforce and shall ensure that access is permitted to all statutory regulations applicable to a particular project.

2. ORGANISATION AND RESPONSIBILITIES

This section describes the typical organizational duties and responsibilities of key Personnel on M.Engg projects that are responsible for implementing the Health & Safety plan.

3.1 Site Safety Committee

The Site Safety Committee will typically be formed of those persons described in Section 4.10, and will meet on a monthly basis.

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3.2 Project Manager

Accountable to M.Engg Executive Management Responsible for ensuring that the Health & Safety plan is regularly reviewed, kept up to date and implemented Establish and Maintain a direct line of communication to the Safety Adviser.

Familiar with the requirements of the relevant health and safety legislation And the Health & Safety plan.

Ensure that all senior site staff are conversant with the relevant requirements of current legislation and Health & Safety plan and that all are assigned appropriate duties and responsibilities to assist in its effective implementation.

Ensure that all subcontractors are conversant with and fully comply with the Health & Safety plan and receive of this document (part A).

Monitor the site operations to ensure they are conducted in accordance with the Health & Safety plan and take urgent and appropriate action to prevent unsafe working participate in Site Safety Committee meetings.

The Project Manager has Overall responsibility for all health and safety matters on the project

3.3 Safety Adviser

Fully conversant with all local regulations and experienced in the filed of safety management.

Report directly to the project Manager

Liaise closely with the Health, Safety & Environmental Manager

Supervise and monitor the implementation of this Health & Safety plan.

Advise management on:

- Preventing injury to personnel and damage to plant and equipment
- Improvement in existing working methods
- Legal requirements affecting safety, health and welfare
- Potential hazards before work starts
- Site safety organization
- Methods of safe working arising from new developments
- Changes in legislation and safe codes of practice

Carry out safety audits in association with the senior site staff to see that only safe methods of working are in operation and that all regulation being observed. He will report the findings of any inspection to the Project Manager and recommend what measures, if any, ought to be taken as a result of the inspection.

Ensure a daily Site safety dairy is maintained.

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Determine the cause of any accident or dangerous occurrence and recommend means of preventing recurrence.

Supervise the recording and analysis of information on all accidents, incidents and near misses, including estimating the cost of any injuries, damage and loss.

Pass this information on the Health, Safety & Environmental Manager at the beginning of each month, for subsequent assessment of M.Engg accident trends and to review overall safety performance.

Assist with training for all levels of employees on safety.

Prepare health and safety training programmers' in accordance with the project Manager in accordance with item 4.17 of this plan.

Prepare emergency procedures in conjunction with the Project Manager in accordance with item 4.17 of this plan.

Promote awareness of injury prevention and damage control to all levels of employees.

Keep contact with official and professional bodies.

Keep up- to-date with recommended code of practice and new safety literature and circulate information applicable to each level of employee.

Keep copies of all first- aiders, banks men and other such competent person's examination reports and test certificates.

Attend and participate in Site Safety Committee meetings.

Be responsible for reporting and recording accidents in the Accident file.

Collect and formulate data for inclusion in the monthly management report.

In conjunction with the Health, Safety & Environmental Manager, assist with the preparation and ongoing revision of part A of the Health & Safety plan.

Provide names and contact numbers of senior project and head office management and the emergency services and ensure that these are displayed on notice boards around the office and site.

Ensure that the necessary emergency procedures are in place and updated as necessary.

Co-ordinate all site safety activities and services in the event of an emergency.

Liaise with the Client and senior management on the notification of an emergency situation.

Monitor safety standards on site in accordance with the Health & Safety plan, and produce written reports on the success or otherwise of the safety management of the site. Liaise with subcontractors and in particular their nominated site safety supervisors. Ensure safety method statements and safe working procedures are provided, distributed to the relevant persons and properly implemented.

Ensure that all electrical installations are in accordance with recognized safety standards and are tested on completion /alteration and subsequently every 3 months. Keep detailed drawings and sketches relating to the electrical installations onsite. Arrange testing of earth leakage circuit

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breakers (ELCB's) on a monthly basis. Monitor the safety equipment available on site and re-order as necessary. Run safety campaigns, display safety signs and posters and competitions. Organize safety training, such as fist aid and "Toll Box Talks".

Ensure that adequate fire fighting equipment is provided, maintained and inspected on site.

The Site Safety Adviser will have the responsibility to correct hazards observed.

3.4 Management Safety Representative (MSR)

On those project sites that do not have a resident Safety Adviser, the MSR shall initiate the reporting of any accident, incident or near miss occurrence.

3.5 Temporary Works Co-ordinate

Supervise and co-ordinate the temporary works procedures.

Ensure that false work and form work are designed in accordance with standard

Design practices and that the design is independently checked where deemed necessary.

Ensure that adequate equipment is available on site for access and false work requirements.

Carry out routine inspections of all major scaffolds in accordance with the procedure for scaffolding inspections. Scaffolds and false work should be checked against any relevant temporary work drawings produced.

Ensure the responsible scaffold corrects any defects.

Record all temporary work inspections and submit a copy to the site Safety Adviser.

3.6 Plant Manager (head office based)

Ensure that all persons involved with the movement and operation of plant are competent and have the necessary certification and licenses.

Ensure that all equipment is a safe condition to be put to work and is maintained as recommended by the manufacturer.

Prepare method statements for work where required.

Ensure all cranes are tested after erection.

Arrange the inspection of all lifting equipment on a 6 monthly basic and prepare a report on the findings.

In conjunction with the Project Manager appoint competent banks men/riggers for each item of plant.

The Plant Manager has the authority to send defective equipment off site Maintain and update safely records such as plant and operator certificates.

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3.7 Site Agent

Be conversant and observe the requirements of the Health & Safety plan.
Identify potential hazard that will require written method statements.

Ensure full co-operation of site supervisory staff and deal promptly with their recommendations.

Ensure all new site staff are introduced to the Safety Adviser for induction training and ensure they are issued with personal protective equipment

3.8 All personnel and subcontractor's employees

Every person employed on the project has a statutory to take reasonable care for the health and safety of themselves and others that may be affected by their actions or omissions at work.

With regards to the statutory duties imposed on their employer, they must co-operate with their employer to enable him to comply with the relevant statutory requirements.

No personnel shall wear or use the appropriate safety equipment for or clothing and use the appropriate safety devices as befits their job allocation

All personnel shall wear or use the appropriate safety equipment or clothing and use the appropriate safety devices as befits their job allocation.

All personnel will report any accidents and damage to property or equipment their immediate supervisor, irrespective of whether persons are injured.

All personnel are encouraged to make suggestions to improve health and Safety to their supervisor and the Safety Adviser.

3.9 Organisation chart

The project organization chart contained in section PMM001DB shows the chain of responsibility and accountability between head office and site staff.

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4) IMPLEMENTING THE HEALTH AND SAFETY PLAN

4.1 Statutory obligations

M.Engg recognizes its responsibility to comply with all relevant statutory health and safety requirements and will ensure that it observes such requirements accordingly. M.Engg will establish and maintain a range of safety management techniques designed to ensure compliance, such as preparation of safety plans, risk assessments, safety guidelines in work procedures and adequate communication systems.

The principal statutory health and safety requirements to be observed during the execution of the project include all relevant national, provincial and municipal laws and regulations. Other international standards will be used for guidance.

4.2 Contractual obligations

M.Engg recognizes its contractual obligations to ensure that the ongoing safety of the public and all project personnel during the execution of the works is given priority. This Health & Safety plan describes how it is intended to satisfy these obligations and to manage and co-ordinate all site operations accordingly. Every subcontractor will be required to co-operate on all relevant health and safety matters.

4.3 Foreseeable hazards of the project

The foreseeable hazardous operations associated with the project are summarized in Appendix B at the end of this section.

4.4 Risk assessments

As an integral part of any project accident prevention programmed, M.Engg will implement assessments to ensure that all construction activities are subject to a formal assessment of risk prior to the commencement of individual operations. For details of risk assessments see Part B of this Health & Safety plan.

The purpose of the assessments is to identify the degree of risk associated with each construction activity and determine the preventative or protective controls required. Many of the assessments will require to be recorded of risk associated with each construction activity and determine the preventative or protective controls required. Many of the assessments will require to be recorded, include details of the necessary precautions and be used to formulate clear instructions for the personnel supervising and undertaking the work: All risk assessments will be continuously reviewed and where necessary updated.

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4.5 Subcontractors' safety plans

Major/specialist subcontractors will be required to produce safety plans for their part(s) of the work on a project. The Safety Adviser will be responsible for ensuring these are submitted and approved before the Subcontractor starts work on site. The safety plan shall name the appointed safety representative who will represent the subcontractor concerning all safety matters. Where considered necessary, all safety representatives shall attend safety meeting chaired by the M.Engg project Safety Adviser.

4.6 Health & Safety management

The responsibilities for effectively managing risk to the health and safety of all personnel engaged on a project and others who may be affected by the work are as assigned in section 3. Any additional site-specific responsibilities are noted in PMM002Db Appendix B.

4.7 Appointment of safety personnel

4.7.1 Contractor's safety personnel

The Safety Adviser will be accountable to the Project Manager for the safety assurance of the construction and the supervision and monitoring of the Health & Safety plan.

The Safety Adviser will be adequately qualified, trained and experienced to allow him to discharge his specific duties (as detailed in section 3 above) effectively and be registered in accordance with local safety regulations.

4.7.2 Safety Supervisors

Site Safety Supervisors will be appointed as required to assist the Safety Adviser in execution of his duties.

4.8 Safety inspections

All management and supervisory personnel are required to carry out continual health and safety surveillance and take immediate steps to remedy any defects or unsafe practices they observe.

Formal site safety inspections designed to identify defects, unsafe conditions and practices and breaches of statutory or Health & Safety plan

Requirements will be carried out at least weekly by the Safety Adviser and site management.

Where deemed necessary, the Safety Adviser or site management shall also carry out daily safety inspections using a comprehensive checklist. A copy of all inspection reports will be forwarded to the Project Manager.

All checklists and inspection reports will incorporate a follow up procedure to ensure that all defects in defects identified are promptly and satisfactorily remedied.

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4.9 Health & Safety audits

Health and Safety audit are designed to provide in-depth examinations of all operations and activities on a project, including subcontractors. Requirements for such audits are as defined are as defined in PMM002DB Appendix B.

Each audit will be subject to a written report intended to provide the Project Manager with a detailed assessment to a written report intended to provide the project manager with a detailed assessment of the compliance with the requirements of the Health & Safety Plan. Prompt remedial action will be required to remedy any defects or weaknesses identified during an audit.

4.10 Site Safety Committee

M.Engg will establish and maintain a Site Safety Committee to promote health and safety on site, monitor the efficiency of the Health & Safety plan, review the project accident record and trends and provide a forum to plan accident prevention initiatives. The Site Safety Committee will typically be made up of:

- Project Manager
- Site Agent
- Section Engineer (s) (in rotation)
- Safety Adviser/Supervisor
- General Foremen

The Site Safety Committee shall hold monthly review meeting chaired by the Project Manager or his appointed representative.

A Site Safety Committee inspection and review will be held immediately prior to the Site Safety Committee Meeting. It will involve a thorough inspection of all site operations with the Safety Adviser and the relevant site staff. A record shall be made of the observations made. Minutes of each meeting shall be documented and distributed to all attendees.

4.11 Health & Safety information and training

4.11.1 Health & Safety information and training

M.Engg recognizes that the provision of adequate health and safety information for all levels of personnel makes a vital contribution towards an effective accident prevention programmer and will therefore ensure that a suitably structured schedule of information and training is adopted by all parties throughout the duration of a project.

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4.11.1 Health & Safety information

A variety of techniques may be adopted, such as poster campaigns, presentations, the distribution of generally promote health and safety throughout the project. Relevant warning signs, emergency and rescue procedures, notices and statutory safety regulations will be displayed at strategic points in offices, workshops, welfare facilities and in the construction areas.

All regulation and documents will be translated as required into languages that are understood by the operators and subcontractors. Such translations will be displayed alongside those in the English language.

A set of the safety and industrial code of practice, guides to safety and health legislation code of practice, guides to safety and health legislation, safety guides and safety pamphlets published by the Government will be accessible through the M.Engg head office.

4.11.2 Health & Safety training

The Safety Adviser will prepare and implement suitable ongoing training programs based on the needs of respective personnel. This will include but not be limited to the following:

- Induction training
- Accident prevention
- Health and safety management
- Tool box talks

Other programmers' will be added as necessary.

All site personnel (including subcontractors) will undergo initial induction Training. The induction –training programmed to be prepared by the Safety Adviser will include core topics such as relevant health and safety regulations, emergency procedures, hazards of the site, accident reporting, fire fighting and first aid procedures. Any other matters pertinent at the time of induction such as hot weather working will. Also be covered. All supervisory personnel and operatives will attend a refresher induction course as necessary.

All personnel (including subcontractors) will be given toolbox talks by their respective supervisory staff as and when deemed necessary by the Safety Adviser. The Safety Adviser will ensure that attendance records of these toolbox talks are maintained.

4.12 Instruction and supervision

All managers and supervisors will give clear, unambiguous instructions of the work in hand to the personnel for whom they are responsible, to ensure that all operations are undertaken safety and without risks to health.

The instructions will normally include, but not necessarily be limited to a description of the objective, the sequence of operations, the associated foreseeable hazards and any precautions that must be taken. In many cases the instructions will be based on the assessments of risk and will, where considered necessary, be subject to a written safe working procedure or method statement.

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Subcontractors will ensure that their respective managers and supervisors are competent, experienced and adequately trained to enable them to discharge their duties effectively.

4.13 Communication

The importance of establishing effective communication procedures on health and safety throughout the organizational structure of the project is acknowledged.

To facilitate the reporting of emergency situations the Safety Adviser will arrange for the following emergency telephone numbers to be displayed on site:

- Emergency hospital and doctor
- Fire station
- Police station
- Ambulance service
- Any other relevant authority

The Safety Adviser will also arrange for the off- duty contact telephone numbers of the Project Manager/Agent and senior head office staff to be available on site.

4.14 Site safety reports

A monthly site safety report shall be prepared by the Safety Adviser accompany the accident returns forwarded to the Health, Safety & Environmental manager. The project Manager will endorse this report.

The site safety report shall comprehensively address all relevant aspects of safety and health and in particular, report on all safety inspection/audits and training undertaken and all dangerous occurrences and accidents (regardless of severity) that occurred during the month.

4.15 Injury and dangerous occurrence reporting and recording

The procedures for reporting and recording injuries and dangerous and will also apply to all subcontractors engaged on the project. The criteria to be applied to the definitions of major injury and dangerous of major injury and dangerous occurrences are as listed in PMM006DB Appendix A.

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4.15.1 Injury reporting

In the event of an injury to any person, or an incident which could have resulted in serious injury or damages to the work, whether on or off the site, and where any project plant or personnel are directly or indirectly involved, the supervisor directly responsible for the injured person or operation will immediately initiate the reporting procedure by verbally advising the Safety Adviser or Management safety Representative (MSR).

The Safety Adviser or MSR will report the injury or incident to the project manger immediately. This report may be verbal, but will be confirmed by a comprehensive written report within 24 hours.

Upon receiving notification of an incident, the Project Manager will
Notify the Client.

Where a person sustains a fatal accident the Project Management is Report immediately to the M.Engg General Manger who will initiate an accident investigation in accordance Notification and Reporting of Accidents and Incidents procedure.

In the event a person sustaining a fatal injury arising from an accident at the site, the Health, Safety & Environmental Manger shall, within 24 hours of the death coming to his notice, report the fatality to the nearest police station.

4.15.2 Dangerous occurrence reporting

A report must made of any type of dangerous occurrence, Whether or not an injury results. A dangerous occurrence is defined as an accident that does not result in injuries, but where the circumstances

And consequences could have caused serious or fatal injuries. An example of this would be the collapse of an unmanned scaffold.

The Safety Adviser will report the dangerous occurrence to the Project Manager immediately. This report may verbal but must be confirmed by a comprehensive Written report within report within 24 hours.

Upon receiving notification of a notification of a dangerous occurrence as described above, the project Manger will forward the repot to the Health, Safety & Environmental Manager.

4.15.3 Dangerous occurrence and injury recoding

The Safety Adviser will establish that all injuries, however minor, requiring first aid treatment are record daily in a register maintained for that purpose. Further details are given in Management of Health and Safety procedure. Each entry will show the name and occupation of the injured party, the name of his employer, the date and time of the injured party, the precise nature and cause of the injury, the estimated period of incapacity (if any) and the first aid treatment administered

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In accordance with the monthly reporting criteria specified, each subcontractor will provide the Safety Adviser with a summary of all injuries and dangerous occurrences that have occurred during the reporting period. The report will also show the average number of personnel employed, total man-hours worked, and the accident frequency rate (AFR) for the month.

The Safety Adviser will collate this information into a consolidated report and forward to the Health, Safety & Environmental Manager on monthly basis.

The Safety Adviser will maintain comprehensive injury statistical data for the project.

4.16 First aid

First aid boxes will be provided and maintained within the work area for the use of all authorized personnel. The first aid boxes will have suitable signs displayed to indicate their location. Each first aid box will be placed in a clearly identifiable and accessible location. Boxes will be constructed to protect the contents from dampness, dust or other contamination and be clearly marked with a white cross on a green background. The contamination and be clearly marked with a white cross on green background.

The first aid boxes will contain medical supplies to a suitable standard. No first aid box will contain anything other than first aid appliances and requisites. The contents of the first aid box must be sufficient for its intended purpose, taking into consideration the numbers of the workforce and the location of the work areas in relation to the accessibility of the first aid base.

An adequate number of first aid boxer will be provided by subcontractors at their work location, and be in the charge of qualified first-aid trained personnel. First aid boxes will be inspected frequently by first arider to ensure they are kept fully stocked.

On certain projects qualified medical staff will be provided in a dedicated first aid centre. The decision whether to provide such a facility will be predicated on the size and nature of the project, its location, proximity to suitable emergency facilities or contractual requirements. There will also be a number of trained first aiders on site.

4.17 Emergency procedures

The safety Adviser in conjunction with the Project Manager will prepare suitable procedures and drills for emergency situations, including rescue operations. The typical foreseeable emergencies are listed below:

- Persons injured
- Fire

Further specific emergency procedures will be developed as necessary.

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4.18 Safe working procedures

Whilst carrying out the preparation of safety plans and risk assessments, certain activities will be identified for which detailed, written safe systems of work are required to ensure that the activity is properly controlled executed without risks to health and safety.

When such operations are to be carried out by under the immediate control of a subcontractor, then the written safe working procedure, which may be incorporated into a method statement, will be prepared by the subcontractor and submitted to the Project Manger for vetting and comment, prior to be easily understood by the personnel who are to carry out the work.

All written safe working procedures and method statements will be written and be given a unique document reference number. If, during the course of operations, it becomes evident that the written safe system of work require re-assessment and revision then the document will be revised accordingly. The Project Manager will submit any such revision for formal acceptance. Any safe working procedures to be developed shall be referenced in PMM002DB Appendix B. Allied to the above, M.Engg shall, where necessary to prevent danger and to control hazardous operations, introduce a permit to work (PTW) SYSTEM. Further details are given in Management of Health and Safety procedure.

4.19 Personal Protective Equipment(PPE)

Adequate supplies of suitable PPE will be maintained by M.Engg and its subcontractors, who will each ensure that the appropriate PPE is issued to and used by their respective project personnel and authorized visitors. The provision of PPE will be in accordance with the relevant statutory requirements.

M.Engg will record the issue of each item of PPE to an individual.

All personnel will be informed at the time of issue of the need to maintain the equipment properly and hygienically and to immediately report any defect or damage of the PPE. They will also be provided with instructions on the proper use and maintenance of the equipment where appropriate.

Depending on the work activities the PPE that will typically be required to be issued on a project will include but may not be limited to.

- **Safety helmets** – with the exception of site office compounds, the whole of a site is regarded as a hard hat area. The wearing of hard hats is therefore mandatory.
- **Eye protection** – suitable eye protection will be provided to all personnel at risk of damage to their eyes. The type of eyes. The type of eye protection may vary e.g. goggles, spectacles, full face visors, but in every case will conform to an Approved Specification for Eye Protectors.
- **Hearing protection** – suitable hearing protection will be provided to all personnel who may be exposed to excessive noise levels.
- **Respiratory protection** – a range of suitable respiratory equipment will be kept available and provided, depending on the type of respirator capable of protecting against dust, fumes and vapor and manufactured to a standard.

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- **Protective footwear** – personnel will be provided with and expected to wear appropriate footwear, as required by the job allocated to them.
- **Gloves** – personnel will, where necessary, be provided with suitable protective gloves to prevent injury from handling sharp, abrasive, toxic or other hazardous materials or substances.

Every person issued with PPE is responsible for using and maintaining the equipment and inspecting it regularly to ensure that it remains fit for its intended use.

Subcontractors will also be required to regularly monitor the use and condition of PPE issued to project personnel.

An individual failing to use the PPE provide as directed by their employer will be subject to disciplinary action, which may result in the offenders dismissal from the site.

4.20 Temporary works

The design, erection, Installation, loading and unloading of significant temporary work such as but not limited to, formwork, scaffolding or excavation support systems, is governed by Control of temporary works procedure. As part of this procedure, there is a permit system for the loading and procedure. As part of this procedure, there is a permit system for the loading and striking of temporary works. This procedure will be controlled by the Temporary Works Co- coordinator.

The safety Adviser will liaise with the Temporary Works Co-ordinate to ensure that the procedure is applied to relevant temporary works on the project.

Any subcontractor's duties will be detailed in the sub-contractors safety plan and include specific duties to ensure that the design, erection, loading and dismantling of the relevant temporary works are performed without risks to safety.

4.21 Construction plant and equipment

All plant or equipment brought onto site, including subcontractors plant, will be free from defects, with any necessary in place and will be safe for its intended use. All cranes brought to site shall carry a valid crane test certificate.

- Upon its delivery to site, each item of plant or equipment is inspected by a competent person to verify that is safe to use. The results of each inspection will be recorded.
- Each item of plant is subject to a recorded routine preventative maintenance program designed to ensure that the plant or equipment contuses to be safe to use.
- All statutory tests, examinations and inspections are carried out in accordance with internationally recognized standards.

The record required by the foregoing will be open to regular inspection by the Safety adviser.

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Where a person is employed to be responsible for organizing tests, examinations, inspection, repair or maintenance of plant and equipment, his specific health and safety duties will be identified.

All operators of construction plant will be over 18 years of age, be authorized in writing to operate the plant in question. Comprehensive records of the foregoing will be maintained and the records will be readily for examination and monitoring by the safety Adviser. New construction plant operators will be required to undergo a field trial competency test.

4.22 Lifting operations

During the execution of the work, lifting operations may be undertaken using cranes and other lifting appliances such as hoists, excavators, Forklift trucks and telescopic handlers. In all cases operations will be progeny planned and safety carried out.

All cranes must be thoroughly examined at 6 monthly intervals by the plant Department and a record of the inspection issued. In addition, copies of all crane and operator certificates shall be maintained by the Safety Adviser and checked monthly to ensure continued validity. This requirement includes subcontractor's cranes and operators. The Safety Adviser and/or Plant Department will be responsible for ensuring that any defective lifting slings or chains are removed from use.

4.23 Substances hazardous to health

The Safety Adviser will prepare and establish procedures to control risks arising from the handling, storage, use and disposal of substances hazardous to health. The procedures will include, but may not be Limited to :

- Establishing an inventory of hazardous substances
- Maintaining a file of relevant suppliers hazard data information (manufactures safety data sheets or "MSDS")
- Carrying out an assessment of the proposed handling, storage and use of the hazardous substance and completion of a report detailing the hazards and any necessary precautions.
- Ensuring that personnel exposed to the hazardous substances are provided with written safety and health instruction, training where appropriate, and observe the precautions therein.

4.24 Noise

M.Engg aware of its statutory and contractual obligations with regard to noise and will implement arrangements to ensure that these requirements are satisfied in accordance with legislation contained in Dubai Municipality's Code of Construction Safety practice, local Order 61/1991.

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4.25 Fire

The importance of effective fire protection and precautionary measures is recognized and arrangements will be implemented to ensure that adequate procedures are adopted to prevent the risk of injury or damage from fire and to meet the requirements of local legislation. The procedures will be prepared by the Safety Adviser in conjunction with the Project Manager and will include but may not be limited to the following matters.

4.25.1 Fire protection

All site accommodation such as offices, store, workshop and welfare accommodation will be provided with an adequate supply of suitable portable fire extinguishers located at strategic points, water drums with buckets or sand buckets. Similar provision will be made at LPG and flammable substance storage areas. The fire extinguishers will be prominently mounted and examined by a competent person at regular intervals to determine their continued fitness for use. Any extinguishers will be prominently mounted and storage areas. The fire extinguishers will be prominently mounted and examined by a competent person at regular intervals to determine their continued fitness for use. Any extinguisher found to be defective or discharged will be immediately withdrawn and replaced by a serviceable extinguisher following each examination, the label or inspection record tag on the extinguisher will be updated accordingly.

Except when in immediate use, dangerous and flammable substances will be stored in suitably ventilated compounds or fire proof containers.

M.Engg will ensure that all equipment used for gas or electric burning or welding is properly maintained and that flash back arrestors and non-return valves are fitted on such equipment where appropriate. All gas and acetylene bottles must be stored securely in an upright position.

All site establishments will display appropriate fire advisory and warning notices in both English and other languages if considered necessary. The notices displayed where appropriate will include such items as:

- Fire exit routes
- Fire emergency procedures and assembly points
- Fire extinguisher points
- No smoking "and " No naked lights" signs

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4.26 Site construction traffic

A general speed limit of 20kmh will be set for all traffic within the site boundary. Speed limit signs will be put up as a reminder of the speed restriction. Parking shall only be allowed in the designated areas. Emergency exits, fire hydrants and other such areas will be clearly marked as “no parking” areas.

Only vehicles with approval to enter the site will be allowed to do so, in accordance with the need for site security.

4.27 Fixed electrical Installation

Only registered electrical workers may install, commission, inspect, test, maintain, modify or repair “fixed” electrical installations.

4.28 Housekeeping

All work areas must be kept clean and orderly Rubbish, debris, waste and useless material constitute a fire hazard, as well as a potential hazard on the job, and must be removed from the work areas before they accumulate. Areas for temporary accumulation of debris may be provided but precautions shall be taken to ensure that these do not constitute a health or safety hazard Refuse skips will be provided at appropriate locations.

All stairways, walkways, scaffold platforms and work areas must be kept clean and free from loose material and trash

Storage and stacking areas must be kept in an orderly condition to allow safe access to the materials.

Access roads to the work site, office and stores must be kept clear, be well formed and maintained and be well drained to ensure that traffic can move efficiently and safely.

Toilet and washing facilities must be kept clean and in a hygienic condition.

Lighting must be regularly checked and well maintained.

4.29 Visitors

M.Engg will implement security arrangements designed to secure the health and safety of any authorized visitors and where reasonably practicable, prevent access to the site for any unauthorized persons.

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Safety fences/hoarding will be provided on the site as necessary.

M.Engg and its subcontractors will implement arrangements to ensure that their respective visitors to site are accompanied throughout their visit, equipped with the appropriate protective equipment and provide with a safety briefing designed to inform the visitor of the site hazards, emergency procedures and precautions necessary during their visit.

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A MAJOR INJURIES AND CONDITIONS

1. Fracture of the skull, spine or pelvis.
2. Fracture of any bone in the arm or wrist, but not a bone in the hand.
3. Fracture of any bone in the leg or ankle, but not a bone in the foot.
4. Amputation of :
 - A hand or foot
 - A finger, thumb or toe, or any part there of if the joint or bone is completely severed
- 5 The loss of sight of an eye, a penetrating injury to an eye, or a chemical or hot metal burn to eye.
- 6 Any injury (including burns) requiring immediate medical treatment or loss of consciousness, resulting in either case from an electric shock from any electrical circuit or equipment.
- 7 Loss of consciousness resulting from lack of oxygen.
- 8 Decompression sickness (unless suffered during an operation to which the Diving Operations at Work Regulations 1981 apply) requiring immediate medical treatment.
- 9 Either acute illness requiring medical treatment or loss of consciousness, resulting in either case from the absorption of any substance by inhalation, ingestion or through the skin.
- 10 Acute illness requiring medical treatment where there is reason to believe that this resulted from exposure to a pathogen or infected material.
- 11 Any other injury which results in the person injured being admitted immediately into hospital for more than 24 hours.

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B) LIST OF DANGEROUS OCCURRENCES

1. The collapse of the overturning of, or the failure of any load bearing part of:
 - Any lift, hoist, crane, derrick or mobile powered access platform, but not any winch, pulley block, gin wheel, transporter or runway
 - Any excavator
 - Any pile driving frame or rig having an overall operating height more than 7 metros
2. Explosion, collapse or bursting of any closed vessel, boiler etc.
3. Electrical short circuit or overload attended by fire or explosion which might have been liable to cause the death of, or any of the injuries or conditions covered by section A above.
4. An explosion or fire occurring in any plant or place which resulted in the stoppage of that plant or suspension of normal work in that place for more than 24 hours.
5. The sudden, uncontrolled release of 100kg or more of flammable liquid, 10kg of flammable liquid above its boiling point or 10kg of flammable gas inside a building and 500kg or more of such substances outside a building.
6. A collapse, part collapse or over turning of any scaffold which is more than 5 meters high and where then scaffold is slung or suspended, a collapse or part collapse of the suspension arrangements which causes a working causes a working platform or cradle to fall more than 5 meters.
7. Any unintended collapse or partial collapse of :
 - Any building or structure under construction , alteration or demolition, or of any false work involving a fall of material
 - Any floor or wall or any building being used as a place of work
8. The uncontrolled or accidental release of substance from any equipment, pipe work, storage vessel etc. which might have been liable to cause the death or any of the injuries or conditions covered by section A above of any person.

9. Any ignition or explosion of explosives, where the ignition or explosion was not intentional.
10. Failure of any freight container or failure of any load bearing part there of while it is being raised, lowered or suspended.
11. Either of following incidents in relation to pipe- line.
 - A bursting, explosion or collapse of pipe –line or any part there of
 - The unintentional ignition or anything in a pipeline or of anything which immediately before it was ignited was in a pipe-line.
12. Any incident ,

In which a road tanker used for conveying a dangerous substance by road:

 - Overturns
 - Suffers serious damage to the tank in which the dangerous substance is being conveyed

In which there is, in relation to such a road tanker or any other vehicle conveying a dangerous substance by road:

 - An uncontrolled release or escape of the dangerous substance being conveyed
 - A fire which involves the dangerous substance being conveyed
13. Malfunction of any breathing apparatus either during use or whilst being tested immediately prior to use.
14. Any incident in which plant or equipment either comes into contact with an un-insulated overhead electric line in which the voltage exceeds 200 volts, or causes an electrical discharge from the line by coming into close proximity to it.
15. Any other near miss/dangerous occurrence where the circumstances and consequences could have resulted in a serious accident.