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| <br>Johannesburg Water | <b>OCCUPATIONAL HEALTH &amp; SAFETY (OHS) SPECIFICATION</b> |   |
|   | PROJECT NUMBER:   | JW 14335  |
|   | PROJECT LOCATION:   | COSMO CITY  |
|   | PROJECT DESCR:  | SUPPLY AND INSTALLATION OF STS METERS IN COSMO CITY – PHASE 2 |

## VOLUME 2

# OCCUPATIONAL HEALTH & SAFETY SPECIFICATION

JW 14335

## *SUPPLY AND INSTALLATION OF STS METERS IN COSMO CITY – PHASE 2*

|  |                              |  |
|--|------------------------------|--|
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|  | <b>SIGNATURE:</b>            |  |

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### General Notification

This document forms an integral part of the Contract Specification and, in particular, shall constitute the Client's (Johannesburg Water SOC Ltd.) Occupational Health, Safety & Environmental (SHE) Specification, as required by the Construction Regulations, 2014, as promulgated under the Occupational Health and Safety Act (Act no. 85 of 1993). The Specification shall furthermore be applied for the management of Mandatories performing activities for or on behalf of Johannesburg Water SOC Ltd, irrespective whether the contract work constitutes construction work or not.

The Contract Specification is contained in Volume 1 of the contract documents in Part 3: Scope of Work.

### Acknowledgements

This Occupational Health, Safety & Environmental (SHE) Specification was developed by the internal OHS Department for the sole use by Johannesburg Water SOC Ltd. The issue date of this SHE Specification is September 2016.

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#### ABBREVIATIONS

| Abbreviation | Description   |
|--------------|---|
| CR           | Construction Regulations                            |
| COID         | Compensation for Occupational Injuries and Diseases |
| DoL          | Department of Labour                                |
| GAR          | General Administrative Regulations                  |
| GMR          | General Machinery Regulations                       |
| GSR          | General Safety Regulations                          |
| HCS          | Hazardous Chemical Substances                       |
| HIRA         | Hazard Identification and Risk Assessment           |
| JW           | Johannesburg Water (SOC) Ltd                        |
| MSDS         | Material Safety Data Sheet                          |
| OHS          | Occupational Health and Safety                      |
| PPE          | Personal Protective Equipment                       |
| PER          | Pressure Equipment Regulations                      |
| SANS         | South African National Standards                    |
| SABS         | South African Bureau Standard                       |
| SHE          | Safety, Health & Environment                        |
| SOC          | State Owned Company                                 |

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## DEFINITIONS

| Word / Phrase   | Definition   |
|---|--|
| <b>“WCL 1”, “WCL 2” and “WCL 22”</b>                  | Means the prescribed forms for reporting of incidents and occupational diseases referred to in the Compensation for Occupational Injuries and Diseases Act.  |
| <b>Competent Person</b>                               | A person who has in respect of the work or task to be performed the required knowledge, training, experience and, where applicable, qualifications specific to that work or task: provided that where appropriate, qualifications and training are registered in terms of the provisions of the National Qualification Framework Act, (Act 67 of 2000).  |
| <b>Construction work</b>                              | Any work in connection with: <ol style="list-style-type: none"> <li>a) The construction, erection, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure</li> <li>b) the construction, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system or any similar civil engineering structure; or the moving of earth, clearing of land, the making of an excavation, piling, or any similar type of work</li> </ol> |
| <b>Contractor (inclusive of Principal Contractor)</b> | Any organization, person, entity performing activities for or on behalf of Johannesburg Water SOC Ltd.   |
| <b>Corrective Action</b>                              | Action to eliminate the cause of a detected nonconformity or other undesirable situation.  |
| <b>Employee</b>                                       | Any person who is employed by or works for an employer and who receives or is entitled to receive any remuneration or who works under the direction or supervision of an employer or any other person  |
| <b>Employer</b>                                       | Any person who employs or provides work for any person and remunerates that person or expressly or tacitly undertakes to remunerate him, but excludes a labour broker as defined in section 1 (1) of the Labour Relations Act, 1956 (Act No. 28 of 1956)   |
| <b>Hazard</b>   | Means a source of or exposure to danger.   |
| <b>Hazard identification</b>                          | The identification and documenting of existing or expected hazards to the health and safety of persons, which are normally associated with the type of construction work being executed or to be executed.   |
| <b>Incident</b>                                       | Means an incident as contemplated in section 24 (1) of the OHS Act 85 of 1993.   |
| <b>Machinery</b>                                      | means any article or combination of articles assembled, arranged or connected and which is used or intended to be used for converting any form of energy to performing work, or which is used or intended to be used, whether incidental thereto or not, for developing, receiving, storing, containing, confining, transforming, transmitting, transferring or controlling any form of energy   |
| <b>Mandatory</b>                                      | Includes an agent, a contractor or a subcontractor for work, but without derogating from his status in his own right as an employer or a user  |
| <b>Medical surveillance</b>                           | Means a planned programme or periodic examination (which may include clinical examinations, biological monitoring or medical tests) of employees by an occupational health practitioner or, in prescribed cases, by an occupational medicine practitioner.   |
| <b>Method Statement</b>                               | A document detailing the key activities to be performed in order to reduce as reasonably as practicable the hazards identified in any risk assessment.   |
| <b>Principal Contractor</b>                           | Any employer who performs work and is appointed by the Client to be in overall control and management of the contract work (inclusive of Mandatories).   |
| <b>SHE File</b>                                       | A file or other record in permanent form, containing the information required as contemplated in the S.H.E Specification Document and legal requirements applicable to work activities.  |
| <b>SHE Plan</b>                                       | A documented plan which seeks to address all hazards identified means and ways to control and eliminate such to ensure compliance to the S.H.E Specification.  |
| <b>Workplace</b>                                      | Any physical location in which work related activities are performed under the control of the organization.  |

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## 1. Introduction

In terms of Section 37 of the Occupational Health and Safety Act (Act no. 85 of 1993), Johannesburg Water SOC Ltd is required to control persons/organizations conducting activities for or on their behalf (Mandatories) and the Construction Regulations promulgated under the Occupational Health and Safety Act (Act no. 85 of 1993), is requiring Johannesburg Water SOC) Ltd. to compile an occupational health and safety specification for any intended project classified as construction work and to provide the specification to prospective tenderers / Mandatories.

The dual objective of this specification is to ensure that the Mandatories and Principal Contractors (herein after called Principal Contractor (including Mandatories)) entering into a contractual agreement/relationship with Johannesburg Water SOC Ltd. achieves and maintains an acceptable level of occupational health, safety and environmental performance whilst conducting activities to perform the contract work.

This document forms an integral part of the Contract Specification and, in particular, shall be the OCCUPATIONAL HEALTH, SAFETY AND ENVIRONMENTAL (SHE) SPECIFICATION FOR CONSTRUCTION WORK. The Contract Specification is contained in Volume 1 of the contract documents. The principal and other contractors shall ensure that this specification is included with any contract/s that they may have with other contractors and/or suppliers that are engaged for the provision of labour, goods or services for this project. The Principal Contractor and its Contractors shall furthermore implement any reasonable practicable means to ensure compliance to this Occupational Health, Safety and Environmental (SHE) Specification and any other applicable legislation on their organization and/or activities performed by or for them. This SHE Specification will be read in conjunction, where issued and applicable, with the Environmental Specification issued for listed activities requiring environmental authorization by a relevant authority.

***Compliance with this SHE specification does not absolve the Principal Contractor from complying with any other applicable minimum legal requirement and the Principal Contractor remains responsible for the sustainable integrity of the environment and the health and safety of its employees, mandatories as well as any persons affected by activities conducted for or on behalf of Johannesburg Water SOC Ltd (SOC) Ltd..***

### 1.1 Johannesburg Water SOC Ltd's commitment to Occupational Health, Safety & Environmental (SHE) Management

Johannesburg Water SOC Ltd is committed to responsible occupational health, safety and environmental management. This commitment is essential to protect the environment, employees, Mandatories, visitors and provide a work environment conducive to health and safety. Principal Contractors and their Contractors shall demonstrate their commitment and concern by:

- Ensuring that decisions and practices affecting occupational health, safety and environmental performance are consistent with the issued SHE specification;
- Ensuring adequate resources are made available for the effective implementation of occupational health, safety and environmental control and mitigation measures;
- Participating in hazard identification and risk assessments and design safety reviews;
- Communicating occupational health, safety and environmental management processes, strategies and control measures with all levels of employees, contractor and/or visitors;
- Ensuring visible leadership at all sites;
- Promoting and enforcing the use of correct types of Personal Protective Equipment (PPE);
- Reporting and investigation of incidents and accidents and ensuring actions are identified and implemented to prevent similar types of incidents reoccurring;
- Participating in Client audits and meetings and ensuring required actions are implemented within reasonable time frames on the site/project;
- Recognizing and commending safe work practices and coaching employees who require guidance;
- Applying and enforcing consequence management from deviations and transgressions of/from compliance to this SHE Specification noted and/or observed, where applicable;
- Carrying out safety observations, implement corrective and preventative actions and giving immediate feedback;
- Encouraging employee participation in the formulation of work instructions and safety rules.

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## 1.2 Scope of Occupational Health, Safety and Environmental (SHE) Specification

The scope of this Occupational Health, Safety and Environmental (SHE) Specification is to address the reasonable and foreseeable aspects of occupational health, safety and environmental management, which will be affected by the contract work.

The specification will provide the requirements that the Principal Contractor and other Contractors shall comply with in order to reduce the risks associated with the contract work, and that may lead to incidents causing injury and/or ill health or degradation of the environment, to a level as low as reasonably practicable and possible.

In particular, Johannesburg Water SOC Ltd will ensure that it shall not appoint any Principal Contractor unless it is reasonably satisfied that the contractor which it intends to appoint has the necessary competencies and resources to carry out the work safely.

## 1.3 Omissions from SHE Specification

Where any omission from the SHE Specification is identified, applicable legal requirements will constitute the minimum standard for compliance to the relevant omission. The responsibility will be on the Principal Contractor to provide assurance to Johannesburg Water SOC Ltd on compliance to the applicable legal requirements related to the activity / task / process.

## 1.4 Change management

Whenever Johannesburg Water SOC Ltd identifies the need to change or review the SHE Specification, approved changes and revisions will be communicated to the Principal Contractor. A cost analysis on the implementation of the proposed changes / revisions will be calculated through a collaborative processes between Johannesburg Water SOC Ltd and the Principal Contractor – where the approved changes and/or revisions has no cost implication for the Principal Contractor the Principal Contractor will be required to accept the approved changes / revisions and ensure implementation within the SHE Plan / File framework.

## 2 Overview of contractor management process

The contractor management process consists of the following phases:

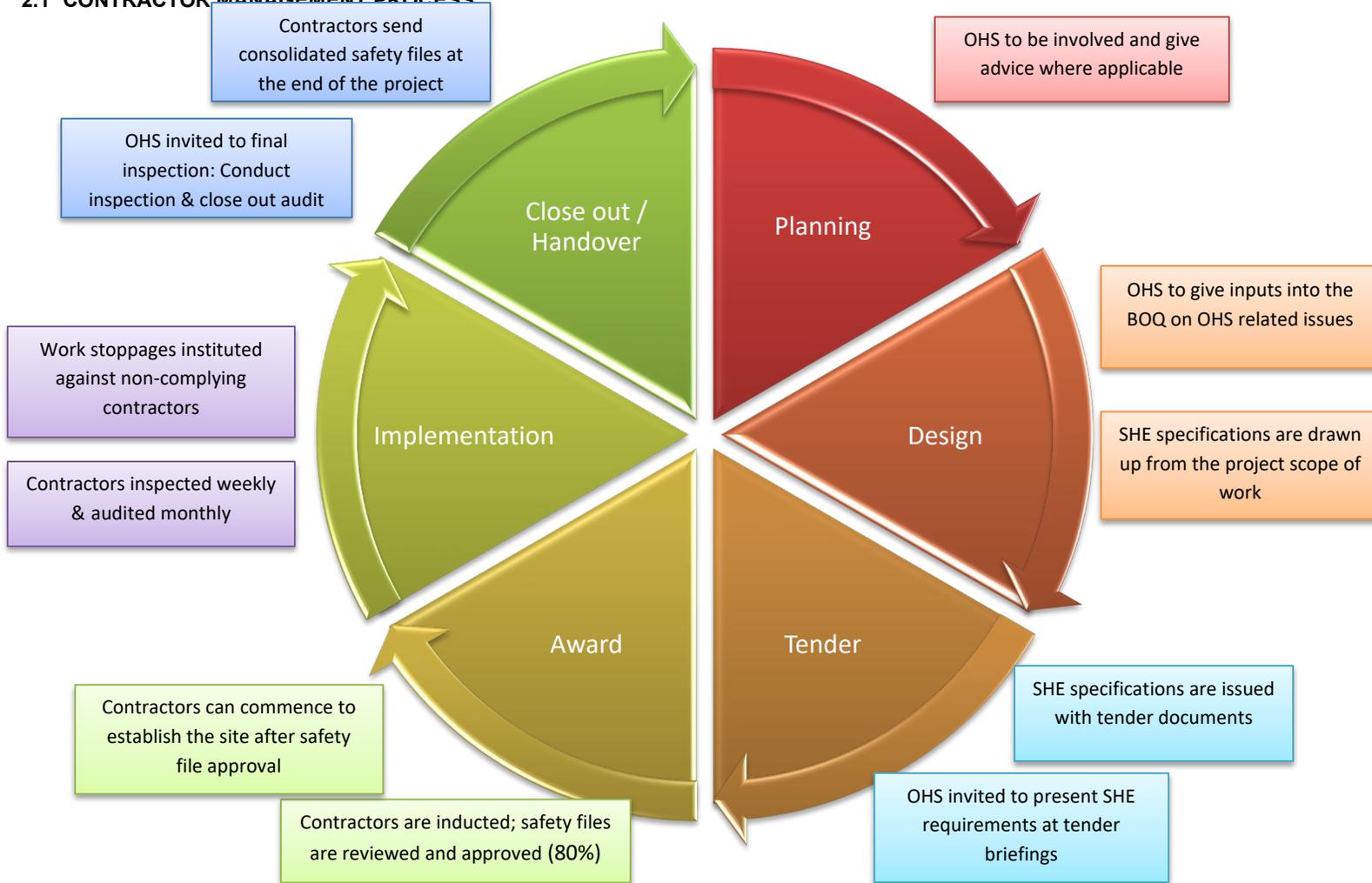
- Tender briefing and tender documentation;
- Competency evaluation of Principal Contractors (integrated into Supply Chain Management processes);
- Appointed contractor to attend SHE system induction;
- Preparation of SHE File by Principal Contractor;
- Evaluation of SHE File;
- Principal Contractor engagement phase;
- Project close-out and submission of consolidated Health & Safety File.



## OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION

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### 2.1 CONTRACTOR MANAGEMENT PROCESS



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## 2. SHE DOCUMENTATION

### 2.1 Safety file

The Principal Contractor will prepare a SHE File containing the processes / procedures and templates to be applied during the project period for the scope of work. The Principal Contractor will be evaluated during the contract period against the submitted SHE File.

At a minimum the SHE File will contain the following documentation:

- Notification of construction work to the relevant Department of Labour (stamped on each page / no faxed copies);
- Scope of work to be performed;
- Personnel list (Principal Contractor employees);
- OH&S / SHE Policy and other Policies;
- Updated copy of the Occupational Health and Safety Act (Act no. 85 of 1993) and its Regulations; COID Act.
- Proof of valid registration and good standing with the Compensation Commissioner or another licensed Insurer;
- SHE Plan agreed with Johannesburg Water SOC Ltd.
- Approved risk assessments, review and monitoring plans and safe work procedures (method statements);
- A list of contractors (sub-contractors) including copies of the agreements between the parties and the type of work being done by each contractor;
- All written designations and appointments for project scope of work (CV and competency copies);
- Management structure (inclusive of OH&S responsibility & meeting structure);
- Induction training and site SHE rules;
- Occupational health and safety training matrix / plan;
- Arrangements with contractors and/or mandatories;
- Description of security measures;
- The following registers (as applicable to contract scope of work):
  - Accident and/or incident notifications, investigation & control register;
  - Occupational health and safety representatives inspection register;
  - Template for entry into confined space;
  - Toolbox talks pro-forma;
  - Fall protection inspections template;
  - First-aid box content template;
  - Record of first-aid treatment template;
  - Fire equipment inspection and maintenance template;
  - Ladder inspection template;
  - Machine safety inspections template (including machine guards, lock-outs etcetera);
  - Inspection templates for lifting machines and –tackle (including daily inspections by drivers/operators);
  - Inspection templates of scaffolding;
  - Inspections templates of structures;
  - Templates of issuing of Personal Protective Equipment;
  - Monthly reporting and recording of statistics templates;
  - Keeping of any other record in terms of applicable legislation falling within the scope of SHE Legislation applicable to the project and the Principal Contractor / Contractor's activities and organization.
- Emergency preparedness and response programmes;
- Medical examination tests

### 2.2 Principal contractor appointment

- The principal contractor will be appointed in terms of Construction Regulations 2014, Reg 5(1) k
- All responsibilities imposed on the contractor by the Regulations will be applicable

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- The duties will include:
  - a) Prepare a site specific SHE file based on client SHE specification and project scope.
  - b) Have an updated Letter of Good standing.
  - c) Ensure the necessary legal appointment letters are compiled and signed by affected parties.
  - d) Ensure SHE file submitted before work commences to Johannesburg Water for evaluation and approval.
  - e) Must ensure an organizational medical programme for its employees is in place. This must address pre-employment, periodic examination, and exit examinations.
  - f) Ensure all employees undergo medical examination and are declared fit for the job they are employed for by a Medical Practitioner.
  - g) All employees undergo his control undergo company specific induction and Johannesburg water induction.
  - h) Ensure before work commences employees are trained on the health and safety risks associated with the work they are conducting.
  - i) Ensure employees are trained on company procedures, policies, method statements and informed of the Johannesburg Water SHE requirements as per the specification.
  - j) Ensure legislative requirements are complied with during the duration of the contract and ensure that their employees comply also.
  - k) Sign the 37 (2) Agreement between Johannesburg Water and themselves before any work commences and kept on their SHE file.
  - l) Ensure that 37(2) Agreement(s) are signed between themselves and their sub-contractors.
  - m) Ensure that sub-contractors have valid Compensation Commissioner Letter of Good Standing.
  - n) Have a disciplinary procedure to address those found to be transgressing requirements of SHE specification, SHE plan, site rules or any other OHS act and its Regulation requirement.
  - o) Prevent any employee or visitor who is under the influence of any alcohol or drugs (in state of intoxication) from being allowed to site.
  - p) Ensure the safety of employees who are taking legal medication.
  - q) Must hand over a consolidated SHE file at the end of the contract.
  - r) Stop his/her employees who are doing unsafe acts or who are creating an unsafe environment.
  - s) Investigate all incidents and report to Johannesburg water and ensure all reportable incidents as per the legislative requirement are complied with.
  - t) Ensure work is supervised by competent personnel and that work is done by competent employees.
  - u) Ensure pre-task risk assessment is done by a competent person and that employees are informed of the pre-task risks and the risk control measures.
  - v) Ensure tool box talks are conducted to communicate SHE issues in connection to the work being done and any other aspects.
  - w) Ensure that appointed personnel as per the SHE file are executing their duties as per the legal appointment.
  - x) Ensure first aid kit is made available in case of any emergency.
  - y) Ensure that housekeeping is maintained in good condition and that materials are store/stacked properly in designated areas.
  - z) Have sufficient waste receptacles and ensure the correct disposal of the different wastes.
  - aa) Proof of hazardous waste disposal to be requested from disposal site and to be kept inside SHE file.
  - bb) Take reasonable steps to ensure that each appointed sub-contractor health and safety plan is implemented and maintained on the site and SHE File documentation is up to date.
  - cc) Stop any work from being executed which is not in accordance with the client's health and safety specification and the principal contractor's health and safety plan for the site or which poses a threat to the health and safety of persons.
  - dd) Must maintain an up to date list of all the sub-contractors on site accountable to the principal contractor, the agreements between the parties and the type of work being done; and
  - ee) Ensure that all his or her employees have a valid medical certificate of fitness.

### **2.3 37.2 Agreement**

- Johannesburg Water will enter into a 37(2) Agreement with all the appointed contractors
- A copy of the 37(2) Agreement must be kept in the SHE file of the contractor at all times.

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- It is the responsibility of the contractor to ensure that there are 37(2) agreements between themselves and all their appointed sub-contractors.

#### 2.4 SHE Plan

- The contractor shall prepare a SHE plan to address and manage all applicable sources of risk that are identified during the execution of the project. The SHE plan shall incorporate the requirements as listed in the SHE specification.
- A copy of the SHE plan shall be submitted together with SHE file for review and approval.
- It is the contractor responsibility to ensure they sub-contractor compiles a SHE plan that in line with the SHE specification requirement of Johannesburg Water.

#### 2.5 Legislative framework

All contractors shall comply with legislation pertaining to this contract, including but not limited to:

- Constitution of the Republic of South Africa
- Occupational Health and Safety Act and its associated Regulations
- National Environmental Management Framework Legislation
- National Road Traffic Act
- Applicable South African National Standards (SANS)
- Compensation of Occupational Injuries and Diseases Act (COID)
- Local by-laws and provincial ordinances

#### 2.6 SHE Policy

A SHE policy is a statement of intent and a commitment by the organization Chief Executive or Managing Director (OHS Act 16(1) appointee) in relation to requirements applicable to their Safety, Health and Environmental legal obligation, relevant SHE roles and responsibilities, and contractual obligations to the Client.

The contractor and their sub-contractor companies shall each have a documented SHE Policy authorized by their Chief Executive/Managing Director (OHS Act Section 16 (1) Appointee). The SHE Policy must meet the following minimum requirements;

- Organizational Mission and Goal.
- State the overall SHE objectives within the project.
- Show commitment to the prevention of injuries and ill-health.
- Show commitment to the protection of environment and the conservation of natural resources.
- Must be reviewed at predetermined intervals, or when there is change in work process, serious incident occurs.
- The SHE Policy must be in line with OHSAS 18001 and ISO 14001 requirements and guidance documentation.
- Must be authorized by contractor CEO.

#### 2.7 Appointments and competencies

- The contractor and its appointed sub-contractor must make the relevant legislative and non-statutory appointments, which must be maintained valid for the entire contract duration.
- All appointees shall be suitably trained and certified competent for the responsibilities they are assigned for.
- Copies of all relevant appointments and the relevant competence certificates must be kept in the relevant SHE file.

#### 2.8 Supervision of construction work

- The principal contractor shall ensure that the construction manager and construction health and safety officer are appointed for a **single site** on a full time basis.
- JW should be informed in writing of the absence of the above-mentioned on site.

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#### Appointment index

| Appointment   | Legislative Ref          | Competency requirements (Min)  |
|---|--------------------------|--|
| Alternate Construction Manager                      | CR 8.1                   | N.Dip Eng + 4yrs exp   |
| Assistant Construction Manager                      | CR 8.2                   | N.Dip Eng + 4yrs exp   |
| Confined Space Supervisor                           | GSR 5                    | Certificate + Proven experience  |
| Construction Manager                                | CR 8.1                   | N.Dip Eng + 4yrs exp<br>Full time on site  |
| Construction Health, Safety & Environmental Officer | CR 8.5<br>JW requirement | N.Dip Safety + 2yrs exp; OR<br>N.Dip Enviro + 3yrs exp; OR<br>NEBOSH / SAMTRAC + 4yrs exp<br><b>Fully registered with SACPCMP</b><br>Full time on site |
| Construction supervisor                             | CR 8.7                   | 3 yrs experience   |
| Construction vehicle & mobile plant supervisor      | CR 23.1                  | Certificate  |
| Electrical installation and appliances inspector    | CR 24                    |  |
| Emergency, security and fire coordinator            | CR 29                    | Certificate  |
| Excavation supervisor (including piling)            | CR 13                    | 3yrs exp / N.Dip building  |
| Explosive actuated fastening device inspector       | CR 21                    | Certificate  |
| Fall protection supervisor                          | CR 10.1                  | Certificate  |
| First-aiders  | GSR 3                    | Certificate  |
| Fire fighting equipment inspector                   | CR 29                    | Certificate  |
| General Machinery Supervisor                        | GMR 2.1/7                | GCC (GMR 2.1)/ 3yrs exp (GMR 2.7)  |
| Temporary work supervisor (Formwork)                | CR 12.2                  | N.Dip building + 4yrs exp  |
| Hazardous chemical substances supervisor            | HCS Regs                 | Certificate  |
| Incident investigator                               | GAR 9.2                  | Certificate  |
| Ladder inspector                                    | GSR 13A                  | -  |
| Lifting machines and equipment inspector            | DMR 18.5                 | Certificate + 3yrs experience  |
| Materials hoist inspector                           | CR 19.8                  | Certificate  |
| Occupational health and safety representatives      | OHS Act 17               | Certificate  |
| Risk assessor                                       | CR 9.1                   | Certificate  |
| Stacking and storage supervisor                     | CR 28                    | Certificate  |
| Structures supervisor                               | CR 11.2                  | N.Dip building + 4yrs exp  |
| Suspended platform supervisor                       | CR 17.1                  | Certificate  |
| Vessels under pressure supervisor                   | PER 12                   | Certificate  |
| Welding supervisor                                  | GSR 9                    | Certificate  |

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### 2.9 Insurances

- The principal contractor and all his appointed contractors shall be registered with an appropriate compensation commissioner and have available a valid letter of good standing at all times.
- The obligation lies with the contractor to ensure that the Letter of Good Standing remains valid throughout the entire duration of the project.
- A copy of the said letter must be filed in all SHE files and made available during inspections and audits.

### 2.10 Costing for SHE

The contractor is responsible for ensuring that SHE costing is taken into consideration for the entire project/contract as this will ensure they comply with the SHE legislative requirements.

### 2.11 Sub-contractors

- Whenever the Principal Contractor appoints contractors or sub-contractors, it is a requirement that an Occupational Health and Safety Act (Act no. 85 of 1993) Section 37(2) agreement (i.e. Agreement with Mandatory) is entered into between the Principal Contractor and Contractors.
- The Principal Contractor will ensure that all appointed contractors comply with the Johannesburg Water SOC Ltd SHE Specification requirements.
- The Principal Contractor will establish a procedure on sub-contractor management and assurance on compliance to the established procedure will be provided to Johannesburg Water SOC Ltd on a monthly basis.
- Principal Contractors are required to formally notify Johannesburg Water SOC Ltd before appointing subcontractors.
- Johannesburg Water SOC Ltd shall approve all specialist subcontractors to be appointed and/or engaged by the Principal Contractor.

The Principal Contractor shall:

- Ensure prior to work commencing on the site that every contractor is registered and in good standing with the compensation fund or with a licensed compensation insurer as contemplated in the Compensation for Occupational Injuries and Diseases Act, 1993;
- Appoint each contractor in writing for the part of the project on the construction site;
- Take reasonable steps to ensure that each contractor's health and safety plan is implemented and maintained on the construction site;
- Ensure that the periodic site audits and document verification are conducted at intervals mutually agreed upon between the principal contractor and any contractor, but at least once every 30 days;
- Stop any contractor from executing construction work which is not in accordance with the client's health and safety specifications and the principal contractor's health and safety plan for the site or which poses a threat to the health and safety of persons;
- Include and make available a comprehensive and updated list of all the contractors on site accountable to the principal contractor, the agreements between the parties and the type of work being done; and
- Ensure that all his or her employees have a valid medical certificate of fitness specific to the construction work to be performed and issued by an occupational health practitioner in the form of Annexure 3.

### 2.12 Notification of construction work

- The Principal Contractor shall, before carrying out any work, notify the relevant Department of Labour of the intention to carry out construction work and use the form (*Annexure 2 in the Construction Regulations 2014*) for this purpose.
- Only a certified copy stamped (each page) by the Department of Labour will be acceptable. No faxed or emailed notifications will be accepted.
- No work shall commence before the Principal Contractor has submitted notification of construction work to the relevant Department of Labour.
- Johannesburg Water SOC Ltd will not approve the SHE File if no original stamped / certified copy of the notification of construction work has been done.

### 2.13 Construction work permit

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- There will be a requirement for a construction work permit for this based on the number of days on site as well as the project value.
- The permit can only be applied for after a contractor has been appointed, and the process will take approximately 30 days or more if requirements are not met.
- The Client will appoint a PrCHSA (Professional Construction Health and Safety Agent) registered with the SACPCMP to oversee the permit application process, and the contractor will be required to provide supporting documents for the application of the permit.

### 3. ORGANISATIONAL STRUCTURE

- The contractor shall develop and submit together with SHE file an organizational organogram related to the contractor, listing all the levels of responsibility from the Chief Executive down to the supervisor(s) responsible for the project.
- The organogram diagram must list all relevant positions, names of appointees and legal appointments.
- The contractor is responsible for updating the organogram timeously when there are changes to the appointments.
- All appointed sub-contractors are also required to compile their own organograms.

### 4. COMMITMENT TO SHE

- Visible commitment is essential to providing a safe working environment.
- Managers, supervisors and employees at all levels must demonstrate their commitment by being proactively involved in the day to day SHE operations.
- Legislation requires that each employee takes reasonable care of themselves and their fellow workers

### 5. HIRA

**Annexure 1: List of possible hazards emanating from projects and activities conducted for or on behalf of Johannesburg Water SOC Ltd** includes an assessment of site specific health and safety hazards and risks and environmental aspects and impacts that have been identified by Johannesburg Water SOC Ltd as possibly applicable to the contract work for this project. It is by no means exhaustive and is offered as assistance to the tenderers and contractors.

#### Development of risk assessments

Every Contractor performing construction work shall, before the commencement of any construction work or work associated with the construction work, and during construction work, ensure that a risk assessment is undertaken by a competent person, appointed in writing, and the risk assessment shall form part of the SHE plan to be applied on the site. Risk assessments shall identify occupational health and safety hazards and risks and environmental aspects and impacts emanating from the activity to be performed by the Principal Contractor / Contractor.

The risk assessment (inclusive of impact assessment) shall include (at a minimum):

- Identification of the relevant Johannesburg Water SOC Ltd Project with regard to JW Number, Project name and area;
- Date on which risk assessments were conducted / reviewed;
- The identification of the risks / hazards and aspects / impacts to which persons may be exposed to per activity;
- The analysis and evaluation of the risks / hazards and aspects / impacts identified;
- Existing control measures and proposed corrective measures;
- A plan to review the risk assessments as the work progresses and changes are introduced;
- Identification of significant risks (e.g. high; exceeding 75%);
- A documented plan of Safe Working Procedures (SWP)', and its relevance to the risk assessment, inclusive of method statements, to mitigate, reduce or control the risks and hazards that have been identified;
- A plan to monitor the application of the Safe Working Procedures (SWP);
- Signature of appointed competent person conducting risk assessment; and
- Signature of approval by Principal Contractor management and employees involved in risk assessment.

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Based on the risk assessments, the Principal Contractor must develop a set of site-specific occupational SHE rules that will be applied to regulate the health, safety and environmental hazards/aspects of the construction work.

The risk assessments, together with the site-specific occupational health and safety rules, must be submitted to Johannesburg Water SOC Ltd before mobilisation on site commences. These will be included in the SHE plan. The Contractor shall ensure through his risk management process the hierarchy of controls stipulated as follows, are implemented:

- **Eliminate** - The complete elimination of the hazard.
- **Substitute** - Replacing the material or process with a less hazardous one.
- **Redesign** - Redesign the equipment or work process.
- **Separate** - Isolating the hazard by guarding or enclosing it.
- **Administrate** - Providing control such as training, procedures etc.
- **Personal Protective Equipment (PPE)** - Use of appropriate and properly fitted PPE where other controls are not practical. (PPE as the last resort)

The Principal Contractor will be required to carry out the following three forms of risk assessment:

- Baseline risk assessment;
- Issue based risk assessment;
- Continuous risk assessments.

#### **Baseline risk assessments**

The Principal Contractor is required to develop a baseline risk assessment taking the resources, competency levels, nature and scale of their organization into consideration for submission during SHE File evaluation phase. The hazards and risks to which persons, plant, vehicles and facilities may be exposed during the construction should be identified and evaluated. The aspects and impacts resulting in environmental pollution or degradation should also be identified and evaluated. Measures to reduce or control these risks or hazards should be defined during this assessment. The effectiveness of the measures defined and the baseline risk assessment prepared shall be monitored and reviewed from time to time to ensure that it remains relevant and accurate.

#### **Issue based risk assessments**

The Contractor will be required to carry out separate risk assessments during construction of the project when methods and procedures are varied, for example when:

- Designs are amended;
- New machines are introduced;
- Plant is periodically cleaned and maintained;
- Plant is started-up or shut-down;
- Systems of work change or operations alter;
- Indents or near-misses occur; or
- Technological developments invalidate prior risk assessments.

#### **Continuous risk assessments**

The Occupational Health and Safety Act (Act no. 85 of 1993) specifically requires that employers shall provide and maintain working environments that are safe and without risk to health. The general awareness of hazards needs to be raised as work ethic to maintain a safe and risk free environment on an on-going basis. This is achieved by continuous risk assessments, a form of risk assessment that takes place as an integral part of day-to-day management.

Examples of continuous risk assessments include:

- Maintaining general hazard awareness, and
- Pre-work risk assessments / Daily Safety Task Instructions.

Occupational health and safety risks or environmental impacts that are identified during the risk assessment process shall be communicated before the commencement of the said activity to every employee whose work is associated

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with the risk. Each employee shall sign to confirm understanding of the safety, health or environmental risks in the tasks.

### Review of risk assessments

The Principal Contractor is required to review the hazards identified, the risk assessments and the Safe Work Procedures as the contract work develops and progresses and each time changes are made to the designs, plans and construction methods and/or processes. Revisions to the approved risk assessments and Safe Work Procedures will be presented at each production planning and progress meeting.

Risk assessments are to be reviewed whenever there is change on the scope of work, process, and accidents or when required by Johannesburg Water SOC Ltd

The Principal Contractor must provide Johannesburg Water SOC Ltd, other contractors and all other concerned or affected parties with copies of any changes, alterations or amendments to risk assessments and Safe Work Procedures within 14 days of such changes.

## 6. SAFE WORK PROCEDURES / METHOD STATEMENTS

Method statements or written safe work procedures shall be documented for all high risk activities:

- Design change or scope change/addition
- Change in job or task
- Introduction of new machinery, equipment or substance.

Method statements or written safe work procedures shall identify following:

- Tasks that are to be undertaken
- The hazards and associated risks of the task(s)
- The control measures for the task(s)
- The equipment and substances that are associated with task(s)
- Any training or qualification needed to do the task
- Personal protective equipment to be worn.

## 7. INCIDENT MANAGEMENT

### 7.1 Reporting of accidents and incidents

The Principal Contractor must report all incidents where an employee is injured on duty to the extent that he:

- Dies
- Becomes unconscious
- Loses a limb or part of a limb
- Is injured or becomes ill to such a degree that he is likely either to die or to suffer a permanent physical defect or likely to be unable for a period of at least 14 days either to work or continue with the activity for which he was usually employed

Or where -

- A major incident occurred
- The health or safety of any person was endangered
- Where a dangerous substance was spilled
- The uncontrolled release of any substance under pressure took place
- Machinery or any part of machinery fractured or failed resulting in flying, falling or uncontrolled moving objects
- Machinery ran out of control

to Johannesburg Water SOC Ltd within two days and to the Provincial Director of the Department of Labour within seven days from date of incident (Section 24 of the Occupational Health and Safety Act (Act no. 85 of 1993) and General Administrative Regulations), except that, where a person has died, has become unconscious for any reason or has lost a limb or part of a limb or may die or suffer a permanent physical defect, the incident must be reported to both Johannesburg Water SOC Ltd and the Provincial Director of the Department of Labour forthwith by telephone, telefax or e-mail.

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- All other reports required by this specification must also be completed. Reporting of accidents / incidents to Johannesburg Water SOC Ltd will be on the prescribed format.
- The Principal Contractor is required to provide Johannesburg Water SOC Ltd with copies of all statutory reports required in terms of the Occupational Health and Safety Act (Act no. 85 of 1993) within 7 days of the incident occurring.
- The Principal Contractor is required to provide Johannesburg Water SOC Ltd with copies of all internal and external accident/incident investigation reports, within 7 days of the incident occurring.

## 7.2 Accident and incident investigation

- The Principal Contractor is responsible for the investigation of all accidents and/or incidents where employees and non-employees were injured to the extent that they had to receive medical treatment other than first aid.
- The results of the investigation are to be entered into the accident and/or incident register. The Principal Contractor is responsible for the investigation of all incidents, including those described in Section 24 (1) (b) and (c) of the Occupational Health and Safety Act (Act no. 85 of 1993) and for keeping a record of the results of the investigations including the steps taken to prevent similar accidents in future.
- The Principal Contractor is responsible for the investigation of all road traffic accidents, related to the construction activities, and for keeping a record of the results of the investigations including the steps taken to prevent similar accidents in future.
- Johannesburg Water SOC Ltd reserves the right to hold its own investigation into an incident or call for an independent external investigation.

## 7.3 Close out

- All incident investigation reports will be closed out once all the recommendations to prevent further incidents have been implemented.
- A copy of the investigation report must be handed to JW Safety Officer conducting the investigation.

## 8. MEDICAL SCREENING REQUIREMENTS

- The Principal Contractor shall ensure that a medical surveillance programme is implemented for all employees.
- An initial health evaluation shall be carried out by an occupational health practitioner immediately after a person commences employment, where any exposure exists or may exist, which comprises:
  - an evaluation of the employees medical and occupational history;
  - a physical examination; and
  - any other essential examination which in the opinion of the occupational health practitioner is desirable in order to enable the practitioner to do a proper evaluation.
- Medical surveillance and immunisation shall be done accredited at / by institutions or occupational health personnel, including, but not limited to:
  - Audiograms.
  - A cardio-respiratory examination / Lung function test;
  - Chest X-rays
  - Eye/ sight tests.
  - A general physical examination;
  - A review of previous medical history.
  - Glucose levels
  - Blood pressure

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- An entry medical certificate shall be obtained for all workers prior to commencing with site activities from approved medical institution. Copies of all medical certificates shall be retained in the SHE File prior to site establishment and before an employee is allowed to come onto site.
- Specific attention shall be given to the physical and psychological fitness of people who will be required to work in elevated positions and operators of mobile machinery.
- An exit medical certificate shall be obtained for all workers at the end of the contract and for all workers who leave the employment of the Contractor before the end of the Project. Copies of all exit medical certificates shall be submitted to the Johannesburg Water SOC Ltd Project Specialist or Appointed OHS Agent.

## 9 EMERGENCY MANAGEMENT

The Principal Contractor must appoint a competent person to act as emergency controller and/or coordinator.

The Principal Contractor must conduct an emergency identification exercise and establish what emergencies could possibly develop. He must then develop detailed contingency plans and emergency procedures, taking into account any emergency plan that Johannesburg Water SOC Ltd may have in place.

In the event where a contractor incorporates the services of a 3<sup>rd</sup> party service provider for the provision of Emergency Response Services, the following criteria must be met:

- Identification of 3<sup>rd</sup> party emergency response services (organization & contact details);
- Notification of contractor to 3<sup>rd</sup> party emergency response service of incorporation of services into contractor's emergency response plan (written agreement / signed letter).

The Principal Contractor and the other contractors must hold regular practice drills of contingency plans and emergency procedures to test them and familiarise employees with them.

### First-aid

The Principal Contractor must provide first-aid equipment (including a stretcher) and have qualified first-aiders(s) on site as required by General Safety Regulations promulgated in terms of the Occupational Health and Safety Act (Act no. 85 of 1993).

The contingency plan of the Principal Contractor must include arrangements for the speedy and timeous transporting of injured and/or ill person(s) to a medical facility or of getting emergency medical aid to person(s) who may require it.

The Principal Contractor must have written arrangements in place with his other contractors regarding the responsibility of the other contractors towards their own injured and/or ill employees.

## 10 SHE TRAINING

All employees in jobs requiring training in terms of the Occupational Health and Safety Act (Act no 85 of 1993) and any other applicable legislative requirements are to be in possession of valid proof of training. Other occupational health, safety and environmental training requirements of the Occupational Health and Safety Act (Act no 85 of 1993) and Construction Regulations can include:

- General induction;
- Site and job specific induction, including visitors;
- Occupational health and safety representatives;
- Training of the legal and nominated appointees;
- Operators and drivers of construction vehicles and mobile plant;
- Basic fire prevention and protection;
- Basic first-aid;
- Storekeeping methods and safe stacking; and
- Emergency planning and coordination
- Incident investigation

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- Risk Assessment
- Planned job observations (supervisors)

All operators, drivers and users of construction vehicles, mobile plant and other equipment are to be in possession of valid proof of training and, where applicable, valid licenses.

### 10.1 General Job training

The contractor is required to ensure that before an employee commences work their direct supervisor or line manager who is responsible for the employee has informed the employees of his scope of authority, hazards and risks associated with the work to be performed as well as the safety control measure(s). This will involve discussion in connection with any work standard, job description or company policy or procedure.

### 10.2 Awareness and promotion

The Principal Contractor is required to have a promotion and awareness programme in place to create an occupational health and safety culture within employees. The following are some of the methods that may be used:

- Toolbox talks;
- Posters;
- Videos;
- Competitions;
- Suggestion schemes;
- Participative employee activities such as “occupational health and safety circles”.

The Principal Contractor is, at a minimum, required to provide awareness programmes to employees on the following:

- General Health and Safety Awareness
- Environmental Awareness;
- HIV / AIDS awareness.

### 10.3 General competence requirement

The Principal Contractor shall ensure that his personnel and other contractors’ personnel are trained and competent to carry out work safely and without risk to health has been completed before work commences. The Principal Contractor shall ensure that follow-up and refresher training is conducted as the work progresses and whenever the scope or nature of the work changes.

A “**competent person**” in relation to construction work, means any person having the knowledge, training and experience specific to the work or task being performed: Provided that where appropriate qualifications and training are registered in terms of the provisions of the South African Qualifications Authority Act, 1995 (Act No. 58 of 1995), these qualifications and training shall be deemed to be the required qualifications and training. It is the responsibility of the Contractor to determine whether any appropriate qualifications and training are registered in terms of the provisions of the South African Qualifications Authority Act.

Records of all training must be kept in the SHE File. The contents of the file will be audited from time to time.

At a minimum, the Principal Contractor will provide training on Safe Work Procedures / Safe Operating Standards to personnel responsible for performing the related task. Records of training on Safe Work Procedures / Safe Operating Standards will be retained. Competence and skill levels by the employees responsible for performing the task on the implementation of the Safe Work Procedures / Safe Operating Standards will be measured through Planned Job Observations.

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#### 10.4 Site-specific induction training

The Principal Contractor will be required to develop a project specific induction-training course based on the baseline risk assessment for the contract work. He will ensure that all his employees and other contractors and their employees have received training on the submitted induction-training programme.

All employees of the principal and other contractors are to be in possession of proof (on person) that they have attended a site-specific occupational health and safety induction-training course.

No contractor shall allow or permit any employee, visitor or any other person to enter the site, unless such employee or person has undergone health, safety and environmental induction training pertaining to the hazards prevalent on the site at the time of entry.

Where the Principal Contractor is required to operate within Johannesburg Water SOC Ltd Depot's the Principal Contractor will ensure that all employees undergo the Johannesburg Water SOC Ltd induction.

#### 11 PPE REQUIREMENTS

- The Principal Contractor is required to continuously identify the hazards in the workplace and deal with them. He must either remove them or, where impracticable take steps to protect workers and make it possible for them to work safely and without risk to health under the hazardous conditions.
- The Principal Contractor will establish a Personal Protective Equipment Policy and a Personal Protective Equipment study will be conducted to determine the types of Personal Protective Equipment (PPE) to be supplied related to the hazards and risks emanating from the tasks.
- Cognisance shall be given to the gender of individuals required to where PPE; size required by the employee and size issued.
- Personal protective equipment should, however, be the last resort and there should always first be an attempt to apply engineering and other solutions to mitigating hazardous situations before the issuing of personal protective equipment is considered.
- Where it is not possible to create an absolutely safe and healthy workplace the Principal Contractor is required to inform employees regarding this and issue, free of charge, suitable equipment to protect them from any hazards being present and that allows them to work safely and without risk to health in the hazardous environment.
- It is a further requirement that the Principal Contractor maintains the equipment, instructs and trains the employees in the use of the equipment and ensures that the employees use the prescribed equipment.
- Employees do not have the right to refuse to use and/or wear the equipment prescribed by the employer and, if it is impossible for an employee to use or wear the prescribed protective equipment through health or any other reason, the employee cannot be allowed to continue working under the hazardous condition(s) for which the equipment was prescribed. An alternative solution has to be found that may include relocating the employee.
- The Principal Contractor may not charge any fee for protective equipment prescribed by him but may charge for equipment under the following conditions:
  - Where the employee requests additional issue in excess of what is prescribed;
  - Where the employee has patently abused or neglected the equipment leading to early failure; and
  - Where the employee has lost the equipment.

All employees shall, as a minimum, be required to wear the following personal protective equipment on any of Johannesburg Water SOC Ltd's projects:

- Protective overalls;
- Protective footwear;

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- Protective headwear; and
- Eye, face and ear protection.
- NO SHORTS OR DRESSES WILL BE ALLOWED ON SITE!!!

All Personal Protective Equipment will clearly display the branding components of the Principal Contractor's organization (e.g. Name of Organization, logo).

## 12 DISCIPLINARY PROCESSES

- The contractor is required to implement disciplinary process in order to enforce compliance with requirements.
- All sub-contractors are required to have the same.

## 13 SITE RULES

- The Principal Contractor must develop a set of site-specific OH&S rules that will be applied to regulate the Health and Safety Plan and associated aspects of the construction.
- When required for a site by law, visitors and non-employees upon entering the site shall be issued with the proper Personal Protective Equipment (PPE) as and when necessary.

## 14 PUBLIC HEALTH AND SAFETY

The Principal Contractor is responsible for ensuring that non-employees affected by the construction work are made aware of the dangers likely to arise from the construction work as well as the precautionary measures to be observed to avoid or minimise those dangers. This includes:

- Non- employees entering the site for whatever reason;
- The surrounding community; and
- Passers-by the site.
- The Principal Contractor shall organize the site in such a manner that pedestrians and vehicles can move safely and without risks to health, including sufficient and suitable traffic routes and safe walkways with relevant signage.
- Appropriate signage must be posted to this effect and all employees on site must be instructed to ensure that non-employees are protected at all times.
- All non-employees entering the site must receive induction into the hazards and risks of the site and the control measures to be observed.
- The Principal Contractor shall recognize that the Community Liaison Officer (CLO) is the link between Johannesburg Water SOC Ltd and the community and provide all reasonable support to the Community Liaison Officer to ensure relevant responsibilities are fulfilled and positive relationships with the community are maintained.
- Where activities are performed close to public routes, the Principal Contractor will establish a traffic management plan incorporating the requirements of relevant by-laws. At a minimum, barricading, warning signage and flagmen will be provided to ensure the protection of workers from vehicles in transit. Where required, the Principal Contractor will interact with the local traffic department to establish minimum requirements to be implemented on public routes.

## 15 REFUSAL TO WORK

- Section 14 of the OHS Act states that employees shall carry out any lawful orders given to them, suggesting that they have the right to refuse to obey any unlawful order or work instruction.
- In terms of legal and JW requirements, if an employee has reasonable belief that the work to be carried out is likely to endanger themselves or other persons in any way, he/she has the right to refuse to work.
- An employee may also refuse to work in term of Section 29 of NEMA, if the work would result in imminent and serious threat to the environment.
- All contractors shall ensure that their employees are conversant with hazards associated with their work and work environment, and be aware of the precautionary measures to take.
- The contractor must ensure that all refusals to work are investigated promptly and resolved timeously.

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## 16 SECURITY

The Principal Contractor must establish site access rules and implement and maintain these throughout the construction period. Access control must, amongst other, include the rule that non-employees will not be allowed on site unaccompanied.

The Principal Contractor must develop a set of security rules and procedures and maintain these throughout the construction period.

The Principal Contractor shall:

- Provide a guardhouse for security personnel. The guardhouse should be in good condition and at-least meet minimum requirements as per Environmental Regulations for Workplaces as promulgated under the Occupational Health and Safety Act (Act no. 85 of 1993).
- Supply an access card containing the name, surname, employee number and photograph for all appointed employees (full or part time) for the site.
- Ensure that no person enters the construction site without wearing the necessary Personal Protective Equipment (PPE).
- Ensure that no children are allowed on the construction site.
- Ensure that no family members are sleeping over on the construction site.
- Ensure that no pets are allowed on the construction site.
- No firearms are allowed on site.

## 17 ACCOMMODATION ON SITE

No employees shall be accommodated on site.

## 18 WELFARE FACILITIES

The provision of toilets for each sex is required in terms of the National Building Regulations and Construction Regulation 28. Chemical toilets are allowed instead of the water borne sewerage type. Toilets have to be provided at a ratio of 1 toilet per 30 workers. The Principal Contractor shall provide flushing toilets on the construction premises.

- At least cold-water showers for each sex have to be provided at a ratio of 1 shower per 15 workers.
- Some form of screened off changing facility must be provided separately for each sex.
- Some form of eating facility sheltered from the sun, wind and rain must be provided.

The employer needs to provide his employees with the following:

- Potable water for drinking;
- Water and soap for hand washing
- Toilet paper

## 19 COMPLIANCE MONITORING

### 19.1 Inspections

- Contractors will be inspected at least once per week by the JW Project Inspectors.
- Feedback of the inspections will be issued immediately on work instructions, and a formal report sent within 7 days of conducting the inspection to all relevant stakeholders.
- Johannesburg Water SOC Ltd. reserves the right to conduct other ad-hoc assessments and inspections as deemed necessary.
- This may include, amongst other measures, site safety walks. Corrective actions will be identified by Johannesburg Water SOC Ltd. and the Principal Contractor's representative and implemented

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by the Principal Contractor (at no cost to Johannesburg Water SOC Ltd.) to ensure SHE Performance improvement.

### 19.2 Monthly audits

- Monthly audits will be conducted within periods not exceeding 30 days.
- The Principal Contractor is to conduct his own monthly internal audits and inspections to verify compliance with his own occupational health and safety plan and management system as well as compliance with the requirements of the Johannesburg Water SOC Ltd. SHE Specification.
- The Principal Contractor will also assess and inspect the compliance of other contractors under its control. Management members of the Principal Contractor will be involved in the internal assessments and inspections.

### 19.3 Monthly compliance rating

A monthly compliance rating will be calculated for each Principal Contractor as per a formula determined by Johannesburg Water SOC Ltd focussing on or incorporating outcomes of assurance (e.g. monthly audit), operational (e.g. behavioural based safety inspection) assessments and other requirements, as necessary. Johannesburg Water SOC Ltd reserves the right to adjust the monthly compliance calculation formula as and when required – each revision of the monthly compliance calculation formula will be communicated to the Principal Contractor before implementation.

Each Principal Contractor is required to maintain a minimum compliance rating of 93% (Ninety Three Percent).

| Scoring          | Classification | Classification description  |
|------------------|----------------|---|
| <b>93% -100%</b> | Good           | Substantial compliance  |
| <b>80% -92%</b>  | Average        | Compliance status needs to be improved  |
| <b>60% - 79%</b> | Poor           | Methods to ensure compliance require substantial improvement - operations with substantial non-compliance risks |
| <b>&lt;60%</b>   | Very poor      | Methods to ensure compliance failed completely - troubled operation with severe non-compliance risks            |

### 19.4 Work stoppages

Work stoppages will be identified for 2 (two) types of work stoppages to be implemented:

- Overall work stoppage – the Principal Contractor and its Contractors are not allowed to continue with any type of construction / site work up until the work stoppage has been closed-out;
- Activity work stoppage – The Principal Contractor and its Contractors are not allowed to continue with the specific activity / task / job up until the work stoppage has been closed-out.

Overall work stoppages will be issued where non-conformances are identified against the criteria in the following table.

| NO. | DESCRIPTION OF AUDIT NON-CONFORMANCE / NON-COMPLIANCE   |
|-----|---|
| 1   | <b>NOTIFICATION OF CONSTRUCTION WORK</b>  |
| 1.1 | Local Department of Labour not notified of construction work before commencement of construction activities |

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| NO.      | DESCRIPTION OF AUDIT NON-CONFORMANCE / NON-COMPLIANCE                                       |
|----------|---|
| 1.2      | Notification of construction work not stamped by local Department of Labour (no fax copies) |
| 1.3      | Copy of notification of construction work not available on site                             |
| <b>2</b> | <b>PROOF OF REGISTRATION WITH COMPENSATION COMMISSIONER</b>                                 |
| 2.1      | Proof of registration with Compensation Commissioner or other insurer not available         |
| 2.2      | Registration with Compensation Commissioner or other insurer not valid and up-to-date       |
| <b>3</b> | <b>POLICY COMMITMENT &amp; SHE SPECIFICATION</b>  |
| 3.1      | SHE Plan not compiled, approved by contractor management and available on site              |
| <b>4</b> | <b>SECTION 37(2) AGREEMENT</b>  |
| 4.1      | Signed section 37(2) Agreement not signed and available on site                             |
| <b>5</b> | <b>RISK ASSESSMENTS</b>   |
| 5.1      | Risk assessments not developed/ not applicable to scope of work issued by Client            |
| <b>6</b> | <b>CONSTRUCTION MANAGER</b>   |
| 6.1      | No construction manager appointed / on site / Construction Manager not full time on site    |
| 6.2      | Appointed construction manager does not meet requirements                                   |
| <b>7</b> | <b>SITE SAFETY OFFICER</b>  |
| 7.1      | No safety officer appointed/ available on site  |
| 7.2      | Safety officer does not meet requirements   |
| <b>8</b> | <b>SHE FILE</b>   |
| 8.1      | No file on site   |

Activity work stoppages will be issued where non-conformance are identified per activity where the health and safety of employees or the public is compromised.

#### 20.4 Non-compliance management process

The following actions will be instituted where non-conformances are identified in terms of compliance to relevant legislative requirements and the Johannesburg Water SOC Ltd SHE Specification.

| CRITERIA                   | ACTION TO BE INSTITUTED                                  | RESPONSIBLE PARTY                 |
|----------------------------|--|-----------------------------------|
| Compliance rating: 93-100% | Non-conformance closure                                  | Principal Contractor / Contractor |
| Compliance rating: 80-92%  | Letter of compliance improvement to Principal Contractor | Johannesburg Water SOC Ltd        |
|                            | Non-conformance closure                                  | Principal Contractor / Contractor |
| Compliance rating: 60-79%  | Non-compliance hearing                                   | Johannesburg Water SOC Ltd        |
|                            | Letter of commitment for performance improvement         | Principal Contractor / Contractor |

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| CRITERIA  | ACTION TO BE INSTITUTED   | RESPONSIBLE PARTY                 |
|---|---|-----------------------------------|
|   | Non-conformance closure   | Principal Contractor / Contractor |
| Compliance rating: <60%                               | Non-compliance hearing  | Johannesburg Water SOC Ltd        |
|   | Letter of commitment for performance improvement                  | Principal Contractor / Contractor |
|   | Non-conformance closure   | Principal Contractor / Contractor |
|   | Supply Chain Management to be informed of non-compliance standing | Johannesburg Water SOC Ltd        |
| 3 x Work stoppages                                    | Non-compliance hearing  | Johannesburg Water SOC Ltd        |
|   | Letter of commitment for performance improvement                  | Principal Contractor / Contractor |
|   | Non-conformance closure   | Principal Contractor / Contractor |
|   | Supply Chain Management to be informed of non-compliance standing | Johannesburg Water SOC Ltd        |
| 3 x Non-conformance to <93% monthly compliance rating | Non-compliance hearing  | Johannesburg Water SOC Ltd        |
|   | Letter of commitment for performance improvement                  | Principal Contractor / Contractor |
|   | Non-conformance closure   | Principal Contractor / Contractor |
|   | Supply Chain Management to be informed of non-compliance standing | Johannesburg Water SOC Ltd        |
| 3 x consecutive repeat findings                       | Non-compliance hearing  | Johannesburg Water SOC Ltd        |
|   | Letter of commitment for performance improvement                  | Principal Contractor / Contractor |
|   | Non-conformance closure   | Principal Contractor / Contractor |
|   | Escalation to SCMU & CAPEX  | Johannesburg Water SOC Ltd        |

## 20 OPERATIONAL REQUIREMENTS

### 20.1 EXCAVATIONS

- Where excavations will exceed 1.5 m in depth the contractor will be required to submit a method statement to Johannesburg Water SOC Ltd for approval before commencing with the excavation and Johannesburg Water SOC Ltd will issue a permit to proceed once the risk assessment and method statement is approved.
- Excavations must be limited to 100m per day, or equated to the amount of work to be done for the day.
- All open excavations shall be closed within 3 days of excavation. No excavation will remain open beyond 3 days or during holidays.
- Excavation work must be carried out under the supervision of a competent person, who has been appointed in writing, with at least two years' experience in excavation work. Before excavation work begins the stability of the ground must be evaluated.
- Whilst excavation work is being performed, the contractor must take suitable and sufficient steps to prevent any person from being buried or trapped by a fall or dislodgement of material.
- No person may be required or permitted to work in an excavation that has not been adequately shored or braced.

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- Where the excavation is in stable material and where the sides of the excavation are sloped back to at least the angle of repose of the excavated material, shoring or bracing may be left out but only after written permission has been obtained from the appointed competent person.
- Shoring and bracing must be designed and constructed to safely support the sides of the excavation.
- Where uncertainty exists regarding the stability of the soil the opinion of a competent professional engineer or professional technologist must be obtained whose opinion will be decisive. The opinion must be in writing and signed by the engineer or technologist as well as the appointed competent person.
- No load or material may be placed near the edge of an excavation unless suitable shoring has been installed to be able to carry the additional load.
- Neighbouring/adjoining buildings, structures or roads that may be affected or endangered by the excavation must be suitably protected.
- Every excavation must be provided with means of access that must be within 6 metres of any worker within the excavation.
- The location and nature of any existing services such as water, electricity, gas etc. must be established before any excavation is commenced with and any service that may be affected by the excavation must be protected and made safe for workers in the excavation.
- The appointed competent person must inspect every excavation, including the shoring and bracing or any other method to prevent collapse, as follows:
  - Daily before work commences
  - After every blasting operation
  - After an unexpected collapse of the excavation
  - After substantial damage to any supports
  - After rain
- The results of any inspections must be recorded in a register kept on site and in the safety file.
- Every excavation accessible to the public or that is adjacent to a public road or thoroughfare or that threatens the safety of persons, must be adequately barricaded or fenced to at least one meter high and as close to the excavation as practicable, regardless of the depth of the excavation.
- Every excavation must be provided with warning lights or visible boundary indicators after dark or when visibility is poor.
- Upon entering an excavation the requirements of General Safety Regulation 5, work in confined spaces, must be observed:
- Any confined space may only be entered after the air quality has been tested to ensure that it is safe to breathe and does not contain any flammable or noxious air mixture.
- The confined space must be purged and ventilated of any hazardous or flammable gas, vapour, dust or fumes.
- The safe atmosphere must be maintained and, where necessary.
- Employees are to be provided with breathing apparatus and must wear a safety harness with a rope with the free end of the rope being continuously attended to by a person outside the confined space.
- Furthermore, an additional person, trained in resuscitation, to be in full-time attendance immediately outside the confined space.
- Additional serviceable breathing and rescue apparatus is kept immediately outside the confined space for rescue purposes.
- All pipes, ducts etc. that may leak into the confined space to be blanked off sufficiently to prevent any leakage or seepage.
- The employer must ensure that all employees have left the confined space after the completion of work.

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- Where flammable gas is present in a confined space no work may be performed in close proximity to the flammable atmosphere.
- Excavations and other openings must be provided with sufficient barriers to prevent construction vehicles and mobile plant from falling into them.
- Excavations left open for extended periods of time (exceeding 48 hours) must be approved the relevant Engineer / Construction Supervisor.

#### **20.2 CONFINED SPACE ENTRY**

- Enclosed space work necessitates a Confined Space Permit. This may only be obtained from the authorized person nominated in writing.
- The responsibility for safe procedure, both at the time of entry and during the entire operation of entering and working in confined spaces, rests with the Contractor.
- The Contractor shall be sure that adequate steps have been taken to eliminate or control hazards.
- Before working in an area that contains dust, the area is to be ventilated and hosed down to settle and dampen the dust.
- The Contractor shall provide all necessary equipment to manage confined spaces, including all necessary monitoring and rescue equipment (such as tripods, breathing equipment and the like).
- The Contractor shall ensure all persons working in a confined space or managing entry to a confined space are appropriately trained.
- Compulsory - Continuous monitoring, trained rescue teams, radio communication & adequate ventilation.

#### **20.3 BARRICADING**

- Barricading plans are to be presented by the Principal Contractor for any major operations involving site works for approval by Johannesburg Water SOC Ltd. Where areas are unsafe, they should be enclosed with barricading. Examples are people working overhead, welding splatter etc.
- Where there is a risk of injury, the area should be barricaded off with secure solid barricades.
- Barricading for the prevention of access into areas with a potential risk of injury shall as a minimum be constructed of a handrail, knee-rail and appropriately supported as to prevent any person from falling into the restricted/risk area.
- Appropriate signage shall be affixed to the barricade indicating the risk associated (i.e. deep excavation, lifting operations etc.) and the responsible Supervisor and contact details shall be displayed. All barricading shall have a “No Entry” signs on all sides and at each change of direction. Signage shall be placed at 20 m intervals where lengths exceed. All signage shall be a minimum size of 290 mm x 290 mm.
- Danger tape shall not be utilised to prevent personnel from entering into areas.
- Where no risk exists of injury to personnel such as stacking and storage areas, the use of wire for hand and knee rails netting shall be acceptable to demarcate the area.
- All barricades will have a dedicated entrance where it is required that personnel enter the areas.
- Appropriate signage shall be placed at the entrance indicating which Contractor has right of entry.
- It is the Contractor’s responsibility to remove all redundant barricades directly after use. The Contractor’s Safety Officers will maintain a marked-up site plan indicating where barricades are erected.
- It will be a requirement that the contractor protects employees against contact with exposed rebar and poles by the installation of rebar-caps on all exposed areas where there is a potential that an employee could be injured.

#### **20.4 WORKING AT HEIGHTS**

- A pre-emptive risk assessment will be required for any work to be carried out above **two metres** from the ground or any floor level. This work will be classified as “work in elevated positions”.
- As far as is practicable, any person working in an elevated position will work from a platform, ladder or other device that is at least as safe as if he is working at ground level.

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- Whilst working in this position he shall be wearing a single belt with lanyard to prevent the person falling from the platform, ladder or other device.
- This safety belt will be, as far as is possible, secured to a point away from the edge over which the person might fall and the lanyard must be of such a length and strength that the person will not be able to move over the edge.
- Alternatively, any platform, slab, deck or surface forming an edge over which a person may fall may be fitted with suitable guard rails at two different heights as prescribed in the relevant South African National Standard for the design, erection, use and inspection of access scaffolding.
- Where the requirement in the paragraph above is not practicable, the person will be provided with a full body harness that will be worn at all times and shall be attached above the wearer's head at all times.
- The lanyard must be fitted with a shock-absorbing device or the person must be attached to a fall arrest system (anchorage connector; body wear; and connecting device) approved by Johannesburg Water SOC Ltd.
- Where the requirements in the paragraph above are not practicable, a suitable catch net must be erected.
- Employees working in elevated positions must be trained to work without risk to their health and safety or to the health and safety of others and be declared medically and psychologically fit to perform work at elevated positions.
- Where work on roofs is carried out, the risk assessment must take into account the possibility of persons falling through fragile material, i.e. skylights and openings in the roof.
- Access scaffolding must be erected, used and maintained safely in accordance with Construction Regulations and relevant SA Bureau of Standards Code of Practice.
- Detailed consideration must be given to all scaffolding to ensure that it is properly planned to meet the working requirements, designed to carry the necessary loadings and maintained in a sound condition. Sufficient material must be available to erect the scaffolding properly.
- Scaffolding must only be erected, altered or dismantled by persons who have adequate training and experience and are competent in this type of work and under the continuous supervision of such a person.

## 20.5 SYMBOLIC SIGNAGE

Contractors shall use mandatory and prescribed symbolic safety signs at their lay down and site areas. The display of the following signs is mandatory:

- "Radio-Active Material" symbolic signs at radioactive storage areas.
- "Eye Protection" symbolic signs shall be displayed at all grinding machines and at any area where it is mandatory to wear eye protection or where there is danger of an eye injury being sustained.
- "Ear Protection" symbolic signs shall be displayed at all areas where there is a danger of noise induced hearing loss being sustained.
- Every separate room of a workplace shall be consecutively numbered.
- All toilets or urinals shall be marked in a conspicuous place with painted or stencilled letters to indicate the sex for which they are intended.
- The location of every first aid box is to be clearly indicated by means of a sign.
- In any room, cabinet or enclosure where flammable substances are used or stored shall be fixed a suitable and conspicuous sign prohibiting smoking or the use of naked flames in the area.
- At the entrance to premises where machinery is used
- Restricted access on "Authorised Person Only" signs on entry. "No person shall enter the workplace or premises without the permission of the employer or user of the machinery".
- At every place where machinery is used a notice (English & Pictograms) shall be posted.
- Explosive Power Tool shall have a sign warning people when it is in use.
- Electrical Control Gear. A notice shall be posted so as to warn against the re-closing of a switch of control gear whilst a person is working on such equipment.
- Emergency contact telephone numbers.
- Adequate scaffolding signs. (When applicable).
- Adequate fire fighting equipment signs.
- Speed limit signs.

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- Warning notices at openings through which people may fall.
- Risk based signage depending on the task being performed e.g.:
  - “Men working above”, “Men working below”, “Road closed – detour”, “Excavation in progress”, “No walkway” etc.;
- No-entry signs to incomplete platforms

The Principal Contractor shall install a notification board indicating the following information at the site entrance:

- Johannesburg Water SOC Ltd project number;
- Principal Contractor identification details (name, telephone number)
- Name and contact details of Construction Supervisor;
- Name and contact details of site safety officer;
- Monthly compliance rating;
- Lost Time Injury Rate;

The Principal Contractor will ensure that information on the notification board is kept up-to-date.

## 20.6 USE AND STORAGE OF FLAMMABLES

The Principal Contractor to ensure that:

- No person is required or permitted to work in a place where there is the danger of fire or an explosion due to flammable vapours being present unless adequate precautions are taken;
- No flammable material is used or applied e.g. in spray painting, unless in a room or cabinet or other enclosure specially designed and constructed for the purpose unless there is no danger of fire or explosion due to the application of adequate ventilation;
- The workplace is effectively ventilated. Where this cannot be achieved:
  - Employees must wear suitable respiratory equipment
  - No smoking or other source of ignition is allowed in the area
  - The area is conspicuously demarcated as “flammable”
- Flammables stored on a construction site are stored in a well-ventilated, reasonably fire-resistant container, cage or room that is kept locked with access control measures in place. Sufficient fire fighting equipment is installed and fire prevention methods practiced. Proper housekeeping may achieve this;
- Flammables stored in a permanent flammable store are stored so that no fire or explosion is caused.
- Stored in a locked and well-ventilated reasonably fire resistant container, cage or room conspicuously demarcated as “Flammable Store – No Smoking or Naked Lights”
- The flammables store to be constructed of two-hour fire retardant walls and roof and separated from adjoining rooms or workplaces by means of a two-hour fire retardant fire wall
- Adequate and suitable fire fighting equipment installed around the flammables store and marked with the prescribed signs
- All electrical switches and fittings to be of a flameproof design
- Any work done with tools in a flammable store or work areas to be of a non-sparking nature
- No Class A combustibles such as paper, cardboard, wood, plastic, straw and the like to be stored together with flammables
- The flammable store to be designed and constructed such that in the event of spillage of liquids the store is able to contain the full quantity + 10% of the liquids stored
- A sign indicating the capacity of the store to be displayed on the door
- Only one day’s quantity of flammable is to be kept in the workplace;
- Containers (including empty containers) to be kept closed to prevent fumes/vapours from escaping and accumulating in low lying areas;
- Metal containers to be bonded to earth whilst decanting to prevent build-up of static forces; and
- Welding and other flammable gases to be stored segregated according to the type of gas and empty and full cylinders.

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## 20.7 HAZARDOUS CHEMICAL SUBSTANCES

The Principal Contractor must ensure that:

- Employees receive the necessary information and training to be able to use and store hazardous chemical substances safely;
- Employees obey lawful instructions regarding:
  - The wearing and use of protective equipment
  - The use and storage of hazardous chemical substances
  - The prevention of the release of hazardous chemical substances
  - The wearing of exposure monitoring and measuring equipment
  - The cleaning up and disposal of materials containing hazardous chemical substances
  - Housekeeping, personal hygiene and the protection of the environment
- The risk assessments required in terms of Construction Regulation include employee exposure to hazardous chemical substances and that the necessary measures be taken to protect persons from being detrimentally affected by hazardous chemical substances present or used in the workplace;
- Suppliers provide the necessary information in the form of a material safety data sheet regarding a hazardous chemical substances required to ensure the safe use and storage of that substances;
- An up-to-date list is kept on site of hazardous chemical substances stored and used together with the material safety data sheet of the hazardous chemical substances;
- Hazardous chemical substances containers be clearly marked with the contents and main hazardous category e.g. “Flammable” or “Corrosive” and the reference number of the hazardous chemical substances on the list indicated above;
- Hazardous chemical substances, for example asbestos dust, are not cleared by using compressed air but should be vacuumed;
- No person eats or drinks in a hazardous chemical substances workplace; and
- Hazardous chemical substances waste is disposed of safely in terms of hazardous waste disposal requirements.
- MSDS's to be in 16 point format- available on site

## 20.8 FIRE PREVENTION AND PROTECTION

The Principal Contractor must ensure that:

- The risk of fire is avoided;
- Sufficient and suitable storage for flammables is provided;
- Sources of ignition are removed wherever flammable or highly combustible material is present in the workplace, for example:
  - Notices prohibiting smoking are displayed and enforced
  - Welding and flame cutting is only allowed under controlled conditions that includes written hot work permits
  - Only spark-free hand and power tools are used
  - No grinding, cutting and shaping of ferrous metals is allowed using electrically driven power tools that produce sparks
  - Flameproof switches and fittings are to be used in the flammable atmosphere
  - Good housekeeping is maintained to prevent the accumulation of unnecessary combustibles
  - Adequate ventilation is maintained
  - Adequate and suitable fixed and portable fire fighting equipment is provided and maintained in good working order.
- Maintenance must include:
  - Regular inspection of fire equipment by a competent person appointed in writing and keeping a register
  - Annual inspection and service by an accredited service provider
- All employees are instructed in the use of the fire fighting equipment and know how to attempt to extinguish a fire;
- A sufficient number of employees are appointed and trained to act as an emergency team to deal with fires and other emergencies;

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- Employees are informed regarding emergency evacuation procedures and escape routes;
- Emergency escape routes are kept clear at all times and clearly marked;
- Evacuation assembly points are demarcated;
- Evacuation is practiced to ensure that all persons are evacuated timeously;
- Roll call is held after evacuation to account for all personnel and ensure that no-one has been left behind; and
- A siren or alarm is fitted which is clearly audible to all persons on site.

## 20.9 STACKING AND STORAGE

The Principal Contractor must ensure that:

- A competent person is appointed in writing to supervise all stacking and storage on a construction site;
- Adequate storage areas are provided and demarcated;
- The storage areas are kept neat and under control;
- The base of any stack is level and capable of sustaining the weight exerted on it by the stack;
- The items in the lower layers can support the weight exerted by the top layers;
- Cartons and other containers that may become unstable due to wet conditions are kept dry;
- Pallets and containers are in good condition and no material is allowed to spill out;
- The height of any stack does not exceed 3 times the base unless stepped back at least half the depth of a single container at least every fifth tier or the approval of an inspector has been obtained to build the stacks higher with the aid of a machine. The operator of the machine must be protected against items falling from overhead off the stack and no items may overhang;
- The articles that make up a single tier are consistently of the same size, shape and mass;
- Structures for supporting stacks are structurally sound and able to support the mass of the stack;
- No articles are removed from the bottom of the stack first but from the top tier first;
- Anybody climbing onto a stack must do it in a safe manner, taking reasonable safety precautions, and ensuring that the stack is stable and capable of supporting him or her
- Stacks that are in danger of collapsing are broken down and restacked;
- Stability of stacks are not threatened by vehicles or other moving plant and machinery;
- Stacks are built in a header and stretcher fashion and that corners are securely bonded;
- Stacks are stepped back at least half the depth of a single container at least every fifth tier; and
- Persons climbing onto stacks do not approach unguarded moving machinery or electrical installations.
- Laydown area is allocated for Contractor-supplied items.
- At all times, the Contractor shall be responsible for the safe and adequate storage of all materials and equipment on site which he is to install, whether they are supplied by himself or others.
- The safe handling, unloading and loading of material receipts and dispatches at site or storage areas shall be the Contractors' responsibility.

The Contractor shall provide a suitable and adequate lock-up store for the storage of items of equipment and material, which would be damaged or pilfered if stored in the open. The Principal Contractor shall provide all facilities required for weather-proofing, dust proofing or vermin proofing.

The Contractor is responsible for the proper storage and maintenance of all equipment until issue of the Certificate of Practical Completion.

All equipment and materials will be stored on suitable wood poles or pallets which will not protrude more than a meter from any of the stored material. Safe access ways shall be maintained between all stored items preventing employees from having to climb over or under equipment to retrieve the necessary.

## 20.10 HOUSEKEEPING

The Principal Contractor to ensure that:

- Housekeeping is continuously implemented and maintained;
- Materials and equipment are properly stored;
- Scrap, waste and debris is removed regularly;

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- Materials placed for use are placed safely and not allowed to accumulate or cause obstruction to the free-flow of pedestrians and vehicular traffic;
- Waste and debris not to be removed from heights by throwing but rather by chute or crane;
- Where practicable, construction sites are fenced off to prevent entry of unauthorised persons;
- Catch platforms or nets are erected over entry and exit ways or over places where persons are working to prevent them being struck by falling objects;
- An unimpeded work space is maintained for every employee;
- Every workplace is kept clean, orderly and free of tools, materials and the like that are not required for the work being done;
- As far as is practicable, every floor, walkway, stair, passage and gangway is kept in good state of repair, skid-free and free of obstruction, waste and materials;
- The walls and roof of every indoors workplace sound and leak-free; and
- Openings in floors, hatchways, stairways and open sides of floors or buildings are barricaded, fenced, boarded over or provided with protection to prevent persons from falling.

#### **20.11 TRAFFIC MANAGEMENT**

- Where activities are performed close to public routes, the Principal Contractor will establish a traffic management plan incorporating the requirements of relevant by-laws.
- At a minimum, barricading, warning signage and flagmen will be provided to ensure the protection of workers from vehicles in transit.
- Where required, the Principal Contractor will interact with the local traffic department to establish minimum requirements to be implemented on public routes.

#### **20.12 HAND TOOLS**

The Principal Contractor must inspect all hand tools before it is brought onto the site.

- As far as possible all hand tools must be numbered and placed on register to be inspected monthly by a person designated to do so.
- Any tools found to be in an unsafe condition must immediately be removed from service and either discarded or rectified.
- No chisels with “mushroomed” heads must be used.
- No hammer shall be used with a cracked or damaged handle.
- All files must be fitted with handles.
- All trolleys, pushcarts, etc. used on site must be identifiable, placed on register and inspected at least once every month.
- Non-sparking tools must be used in areas where the risk of fire or explosion is present.
- No homemade hand tools are allowed on the project.
- All tools shall be attached to a suitable lanyard when utilised in elevated positions

#### **20.13 PORTABLE ELECTRICAL EQUIPMENT**

Portable electrical tools and equipment includes every unit that takes electrical power from a 15 ampere plug point and is moved around for use in the workplace for example; drills, saws, grindstones, portable lights, etcetera. Other electrical appliances such as fridges, hotplates, heaters, and etcetera must be inspected and maintained to the same standards as portable electrical tools and appliances.

The use, inspection and maintenance of portable electrical tools and equipment shall be as follows:

- Periodical inspections must be carried out by a competent person appointed in writing;
- Inspection results must be recorded in a register;
- Only competent authorised persons are allowed to use portable electrical tools and equipment; and
- The correct protective equipment must be worn or used whilst operating portable electrical tools and equipment.

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This equipment:

- Must be maintained in good condition at all times to prevent an electrical shock to the user;
- The main power source should incorporate an earth leakage protection device or receive power through a double wound transformer or be double insulated and clearly marked as such; and
- All equipment must be fitted with a switch to allow for safe and easy starting and stopping.

The following requirements apply to portable lights:

- Must be fitted with a robust non-hygroscopic non-conducting handle;
- Live metal parts or parts which may become live must be protected against contact;
- The lamp must be protected by a strong guard;
- The cable lead-in must withstand rough handling;
- Inspections must be undertaken that concentrate on plug, cord, switch and any obvious faults;
- A register be kept for each piece of equipment with findings of regular inspections undertaken to evaluate the condition of these lights; and
- When used in wet/damp/metal container conditions, the lamp must be protected.

#### **20.14 LADDERS**

The following requirements for ladders will apply:

- All ladders used on the site shall be constructed and used in compliance with the OH&S Act and Regulations.
- Ladders, which provide access to a working platform, shall extend one metre above the platform where it provides access, and shall be secured to prevent slipping.
- Timber ladders shall not be painted other than with clear preserving oils, clear varnishes or clear plastics.
- Ladders, which are in a damaged condition, shall not be used and shall be labelled accordingly and removed from the Premises.
- All Ladders shall be numbered, logged in a register, and inspected monthly.
- A ladder in use shall be held by an assistant and/or properly tied down in position.
- Only ladders that do not conduct electricity shall be used in live electrical sub-stations and switching rooms.
- Ladders shall be removed after use and stored in an appropriate facility as to not expose them unnecessarily to the elements or potential damage by surrounding activities.

#### **20.15 CONSTRUCTION VEHICLES AND MOBILE PLANT**

Johannesburg Water SOC Ltd will inspect construction vehicles and mobile plant prior to being allowed on a project site. Suppliers of hired vehicles, plant and equipment will be required to comply with this specification as well as the Occupational Health and Safety Act (Act no. 85 of 1993) and Regulations.

Construction vehicles and mobile plant to be:

- Of acceptable design and construction;
- Maintained in good working order;
- Used in accordance with their design and intention for which they were designed;
- Operated and/or driven by trained, competent and authorised operators/drivers. No unauthorised persons are to be allowed to drive construction vehicles and mobile plant;
- Provided with safe and suitable means of access;
- Fitted with adequate signalling devices to make movement safe including reversing;
- Provided with roll-over protection (where applicable);
- Inspected daily before start-up by the driver, operator and/or user and the findings recorded in a register/log book;
- Fitted with two head and two tail lights that are in good working condition and must be used whilst operating under poor visibility conditions;
- When used for transporting persons must have seats firmly secured and sufficient for the number of persons being transported.

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Operators and drivers of construction vehicles and mobile plant must be in possession of a valid medical certificate declaring the operator and/or driver physically and psychologically fit to operate or drive construction vehicles and mobile plant.

No loose tools, materials etc. are allowed in the driver and/or operators compartment/cabin or in the compartment in which any other persons are transported.

No person shall ride on any construction vehicle or mobile plant otherwise than in a safe place provided thereon for that purpose. Employees shall only be transported if provision for seating and safety belts has been provided with an adequate canopy or rollover protection.

All construction vehicles and mobile plant left unattended at night, adjacent to a freeway in normal use or adjacent to construction areas where work is in progress, must have appropriate lights or reflectors, or barricades equipped with appropriate lights or reflectors, in order to identify the location of the vehicles or plant.

Bulldozers, scrapers, loaders, and other similar mobile plant must, when being repaired or when not in use, be fully lowered or blocked with controls in a neutral position, motors stopped and brakes set.

#### Self-Propelled Mobile Machinery

All Self-Propelled Mobile Machinery must be inspected daily and the findings recorded in a register. Pre-use inspection checklist shall identify critical items that would stop the operator from operating machinery should a defect be detected.

All operators shall be tested on their ability to operate machinery and equipment inspected prior to be used on any of the premises by the Johannesburg Water SOC Ltd Project Inspectors and Responsible Engineer. Relief drivers shall be made available for mobile machinery where there is a need for on-going operations and the contractor shall establish a rotation schedule.

All Drivers/Operators shall be appointed under the applicable legislation prior to operating any type of mobile equipment or machinery:

- If Driver/Operator does not adhere to the rules and regulations his appointment as operator shall be cancelled and he shall not be able to carry on with his duty.
- No Driver/Operator shall be appointed without proof of training, driver's licence or letter of competency.
- No training of Drivers/Operators on Site.
- No passengers on dump truck, Loaders or Excavators.
- No eating or drinking allowed while operating equipment.
- No vehicle shall be left unattended with engine running or key in ignition.
- Drivers may use no cellular phones during operations.

#### Equipment Approval

Authorization for the use of equipment shall be given in writing only after the following minimum requirements and documentation have been verified and shall as a minimum include the following:

- Minimum two lights in front and rear of vehicle
- Communications system (where required);
- Reflective Taping;
- First-aid kit, fire-fighting equipment and emergency roadside triangles;
- Tyres in good condition;
- Windscreen clear of cracks;
- Safety belts fitted for all occupants;
- Signage for clear identification;
- Windscreen wipers;
- Warning hooter and reverse alarm;
- Rotating warning lights (where applicable);

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- Maximum number of persons indicated;
- Equipment free of oil and other leaks;
- Maintenance/Service & Equipment manuals available;

#### Operator Approval

Authorization for operators for the use of equipment shall be given in writing only after the following minimum requirements and documentation have been verified and shall as a minimum include the following:

- Operator's Certificate (accredited training organisation);
- Operators Licence appropriate to the nature of the Mobile equipment;
- Operator's knowledge tested and familiar with the controls for the vehicle;
- Public driver's permit where required;
- Medical fitness certificate.

#### **20.19 Horizontal Drilling**

- All HDD work shall be carried out under the supervision of a competent person.
- All employees involved in HDD shall be trained.
- A risk assessment as well as a method statement for the HDD shall be compiled and submitted for approval by the Client.
- Contractor will submit specifications on directional boring equipment to be used to ensure that the equipment will be adequate to complete the project. Spares inventory shall be included
- The directional boring equipment shall consist of a directional boring rig of sufficient capacity to perform the bore and pullback the pipe, a boring fluid mixing & delivery system of sufficient capacity to successfully complete the crossing, a guidance system to accurately guide boring operations and trained and competent personnel to operate the system.
- All equipment shall be in good, safe operating condition with sufficient supplies, materials and spare parts on hand to maintain the system in good working order for the duration of this project.
- The directional boring machine shall consist of a hydraulically powered system to rotate, push and pull hollow drill pipe into the ground at a variable angle while delivering a pressurized fluid mixture to a guideable drill (bore) head.
- The machine shall be anchored to the ground to withstand the pulling, pushing and rotating pressure required to complete the crossing.
- The hydraulic power system shall be self-contained with sufficient pressure and volume to power boring operations.
- Hydraulic system shall be free of leaks.
- Rig shall have a system to monitor and record maximum pull-back pressure during pull-back operations.
- The rig shall be grounded during boring and pull-back operations.
- Sufficient spares shall be kept on hand for any break-downs which can be reasonably anticipated.
- The Guidance System shall be of a proven type and shall be setup and operated by personnel trained and experienced with this system.
- The Operator shall be aware of any magnetic anomalies and shall consider such influences in the operation of the guidance system if using a magnetic system.
- The Engineer must be notified 48 hours in advance of starting work.
- The Directional Bore shall not begin until the Engineer is present at the job site and agrees that proper preparations for the operation have been made.
- The Engineer approval for beginning the installation shall in no way relieve the Contractor of the ultimate responsibility for the satisfactory completion of the work as authorized under the Contract.

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- It shall be the responsibility of Engineer to provide inspection personnel at such times as appropriate without causing undue hardship by reason of delay to the Contractor.

**22. Monthly reporting**

- The Principal Contractor is required to provide Johannesburg Water SOC Ltd. with a monthly report in the format provided on the last working day of the month.
- The report will include the monthly man-hours, incidents, training, inductions, audits, etc

**23. Project close out**

- Upon completion of the project, the contractor is required to hand over a consolidated project file to the Client with all the working documents for retention.

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## Returnable Annexure A: Acknowledgement of SHE Specification & Annexures

|             |  |
|-------------|--|
| CONTRACTOR: |  |
|-------------|--|

I, the undersigned, hereby acknowledge that I have obtained copies of the following listed documentation and confirm that I fully understand the contents thereof and the consequences of non-compliance. The Contractor furthermore reiterates its commitment to compliance of the requirements contained within the following provided documentation:

- Johannesburg Water SOC Ltd, Safety, Health & Environmental (SHE) Specification, Volume 2;
- Annexure 1: List of possible hazards emanating from projects and activities conducted for or on behalf of Johannesburg Water SOC Ltd;

Signed at ..... on this ..... Day of ..... 20.....

| CONTRACT MANAGER    |             |      |           |
|---------------------|-------------|------|-----------|
| NAME                | DESIGNATION | DATE | SIGNATURE |
| CONTRACT SUPERVISOR |             |      |           |
|                     |             |      |           |
| NAME                | DESIGNATION | DATE | SIGNATURE |
| WITNESS (1)         |             |      |           |
|                     |             |      |           |
| NAME                | DESIGNATION | DATE | SIGNATURE |
| WITNESS (2)         |             |      |           |
|                     |             |      |           |
| NAME                | DESIGNATION | DATE | SIGNATURE |



**OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION: BASELINE RISK ASSESSMENT**

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**POSSIBLE RISKS FOR THIS PROJECT**

| Task                               | Hazard   | Risk   | Consequence  | Rating   | Controls   |
|------------------------------------|--|--|--|----------|--|
| Transportation of material to site | <ul style="list-style-type: none"> <li>✓ Unsafe road conditions</li> <li>✓ Un-road worthy vehicles</li> <li>✓ Equipment and material not safely secured</li> <li>✓ Incompetent drivers</li> <li>✓ Driving under the influence of alcohol</li> <li>✓ Inclement weather</li> <li>✓ Speeding</li> <li>✓ Slippery road</li> <li>✓ Narrow road</li> </ul> | <ul style="list-style-type: none"> <li>✓ Overturning vehicles</li> <li>✓ Vehicle collisions</li> </ul>   | <ul style="list-style-type: none"> <li>✓ Injuries</li> <li>✓ Property damages</li> <li>✓ Third party liability</li> </ul>    | <b>M</b> | <ul style="list-style-type: none"> <li>✓ Adherence to the speed limit</li> <li>✓ Only competent/ authorised drivers should operate the vehicle</li> <li>✓ Inspection of vehicles</li> <li>✓ Equipment and material to be properly secured</li> <li>✓ Alcohol testing to be done</li> <li>✓ The road to be paved to prevent accidents</li> <li>✓ Traffic control to be implemented to avoid collisions</li> </ul> |
| Offloading of material             | <ul style="list-style-type: none"> <li>✓ Faulty machinery</li> <li>✓ Poor ergonomics</li> <li>✓ Equipment (suspended load) falling on employees</li> <li>✓ Unsafe slings and guide ropes</li> <li>✓ uneven surface</li> </ul>  | <ul style="list-style-type: none"> <li>✓ Hands can be caught in between materials</li> <li>✓ Obstructed walkways by materials</li> <li>✓ Unsafe stacking of materials</li> </ul> | <ul style="list-style-type: none"> <li>✓ Hand injuries</li> <li>✓ Back injuries</li> </ul>                                   | <b>M</b> | <ul style="list-style-type: none"> <li>✓ The correct PPE must be worn</li> <li>✓ Designate the stacking areas and put signs</li> <li>✓ Stacking and storage inspector must be appointed and in charge</li> </ul>   |
| Clearing the worksite              | <ul style="list-style-type: none"> <li>✓ Dust generation</li> </ul>  | <ul style="list-style-type: none"> <li>✓ Inhalation of dust</li> </ul>   | <ul style="list-style-type: none"> <li>✓ Respiratory irritation</li> <li>✓ Allergic reaction</li> <li>✓ Sinusitis</li> </ul> |          | <ul style="list-style-type: none"> <li>✓ Wear job specific PPE</li> <li>✓ Suppress dust with water</li> </ul>  |

|                         |   |   |  |          |   |
|-------------------------|---|---|--|----------|---|
| Site establishment      | <ul style="list-style-type: none"> <li>✓ Sharp objects/ wires</li> <li>✓ Uneven surface</li> <li>✓ Faulty connection</li> <li>✓ Poor ergonomics</li> <li>✓ Falling objects</li> <li>✓ Inadequate security services</li> <li>✓ Not enough welfare facilities e.g. toilets, change rooms and lockers</li> </ul> | <ul style="list-style-type: none"> <li>✓ Cuts</li> <li>✓ Slips and trips</li> <li>✓ Damage to services</li> <li>✓ Using the environment as ablution facilities</li> </ul> | <ul style="list-style-type: none"> <li>✓ Injuries</li> <li>✓ Back strains and injuries</li> <li>✓ Crime, theft, fights</li> <li>✓ Contracting of communicable diseases</li> <li>✓ Soil, water pollution</li> </ul> | <b>M</b> | <ul style="list-style-type: none"> <li>✓ Supervisors to plan during site set up and induct employees</li> <li>✓ A competent electrician must be appointed to connect electrical wires to the site offices and Distribution Board.</li> <li>✓ Ensure there are welfare facilities on site for health and hygiene purposes</li> <li>✓ Awareness on hygiene and use of ablution facilities</li> <li>✓ Detailed Risk Assessment must be drawn before any work commences on site.</li> </ul> |
| Installing containers   | <ul style="list-style-type: none"> <li>✓ Using lifting equipment</li> <li>✓ Faulty equipment</li> <li>✓ Faulty slings / chains</li> </ul>   | <ul style="list-style-type: none"> <li>✓ Wind</li> <li>✓ Incompetent personnel</li> <li>✓ Heavy load</li> <li>✓ Failing of lifting equipment</li> <li>✓</li> </ul>        | <ul style="list-style-type: none"> <li>✓ Serious injuries</li> <li>✓ Property damage</li> </ul>  | <b>H</b> | <ul style="list-style-type: none"> <li>✓ Check wind speed prior to using the crane.</li> <li>✓ Inspect the crane, slings and chains before use.</li> <li>✓ Load test the crane before use</li> <li>✓ Only carry loads certified to be carried by the crane</li> </ul>   |
| Electrical installation | <ul style="list-style-type: none"> <li>✓ Electricity</li> <li>✓ Incompetent personnel</li> <li>✓ Wrong tools</li> <li>✓ Damaged cables</li> </ul>   | <ul style="list-style-type: none"> <li>✓ Contact with live electricity</li> <li>✓ Incompetent person connecting electricity</li> <li>✓ Electric shocks</li> </ul>         | <ul style="list-style-type: none"> <li>✓ Electrocution</li> <li>✓ Serious injuries</li> </ul>  | <b>H</b> | <ul style="list-style-type: none"> <li>✓ Follow lock out procedure</li> <li>✓ Ensure that equipment are earthed to an approved earthing point</li> <li>✓ Ensure a zero potential test is performed for electricity is isolated</li> <li>✓ Inspect all tools</li> <li>✓ Use correct tools for the job</li> <li>✓ Appoint a competent electrician/ technician</li> <li>✓ Wear task specific PPE</li> </ul>  |

|                                   |   |   |   |          |  |
|-----------------------------------|---|---|---|----------|--|
|                                   |   |   |   |          | <ul style="list-style-type: none"> <li>✓ Ensure that there are no exposed wires on the cables</li> </ul>   |
| Entry and exit                    | <ul style="list-style-type: none"> <li>✓ No access control</li> </ul>             | <ul style="list-style-type: none"> <li>✓ Unauthorised entry into the construction site</li> </ul>   | <ul style="list-style-type: none"> <li>✓ Injuries to employee</li> <li>✓ Theft of tools and material</li> </ul>                   | <b>M</b> | <ul style="list-style-type: none"> <li>✓ Appoint a full time, PSIRA registered security guard on site</li> </ul>   |
| Site security                     | <ul style="list-style-type: none"> <li>✓ Unsafe camp site</li> </ul>              | <ul style="list-style-type: none"> <li>✓ Inadequate security / no security</li> </ul>   | <ul style="list-style-type: none"> <li>✓ Injuries, theft / criminal activities</li> </ul>   | <b>M</b> | <ul style="list-style-type: none"> <li>✓ Appoint PSIRA accredited security guard</li> </ul>  |
| Locating existing pipes/ services | <ul style="list-style-type: none"> <li>✓ Existing underground services</li> </ul> | <ul style="list-style-type: none"> <li>✓ Explosion,</li> <li>✓ Electrocutation</li> <li>✓ Damage to services</li> </ul>                             | <ul style="list-style-type: none"> <li>✓ Injuries</li> <li>✓ Property damages</li> </ul>  | <b>M</b> | <ul style="list-style-type: none"> <li>✓ Get existing pipe drawings</li> <li>✓ Check relevant Authority (e.g. power, water, gas, council) records for location of services.</li> <li>✓ If in doubt uses experienced/ accredited service locators.</li> <li>✓ When using hand prodders to locate pipes, prodders must never be driven in to the ground by hammers or other implements.</li> </ul> |
| Manual excavation                 | <ul style="list-style-type: none"> <li>✓ Use of hand tool</li> </ul>              | <ul style="list-style-type: none"> <li>✓ Unsafe use of hand tool</li> </ul>   | <ul style="list-style-type: none"> <li>✓ Personal injuries</li> </ul>   | <b>L</b> | <ul style="list-style-type: none"> <li>✓ Adherence to the hand tool procedure</li> <li>✓ Report damaged tools</li> <li>✓ Use the right tool for each job</li> <li>✓ Appoint hand tool supervisor</li> </ul>  |
| Pipe work                         | <ul style="list-style-type: none"> <li>✓ Removing the old pipe</li> </ul>         | <ul style="list-style-type: none"> <li>✓ Poor lifting technique</li> <li>✓ Exposure asbestos pipe</li> <li>✓ Damage to adjacent services</li> </ul> | <ul style="list-style-type: none"> <li>✓ Contracting diseases</li> <li>✓ Loss of services</li> <li>✓ Personal Injuries</li> </ul> | <b>M</b> | <ul style="list-style-type: none"> <li>✓ Compliance to Asbestos Regulations</li> <li>✓ Safe working method to be implemented</li> <li>✓ Proper identification for existing services</li> </ul>   |

|              |   |  |   |          |  |
|--------------|---|--|---|----------|--|
|              | ✓ Installation of a pipe  | <ul style="list-style-type: none"> <li>✓ Poor lifting technique</li> <li>✓ Manual handling</li> <li>✓ Falling of material</li> <li>✓ Incorrect connections</li> </ul>  | <ul style="list-style-type: none"> <li>✓ Hand injuries</li> <li>✓ Back pains</li> <li>✓ Property damage</li> <li>✓ Loss of services</li> </ul>                              | <b>M</b> | <ul style="list-style-type: none"> <li>✓ Safe working method must be implemented</li> <li>✓ Supervision</li> <li>✓ Correct PPE must be worn</li> </ul>   |
|              | ✓ House connections   | <ul style="list-style-type: none"> <li>✓ Unsafe connections</li> </ul>   | <ul style="list-style-type: none"> <li>✓ Loss of services</li> </ul>  | <b>M</b> | <ul style="list-style-type: none"> <li>✓ Safe working procedure must be implemented.</li> </ul>  |
| Backfilling  | <ul style="list-style-type: none"> <li>✓ Hand tools</li> <li>✓ Machinery</li> </ul> | <ul style="list-style-type: none"> <li>✓ Faulty machinery</li> <li>✓ Unsafe working area- incoming traffic</li> <li>✓ Inhalation of dust</li> <li>✓ Bad weather conditions</li> </ul>  | <ul style="list-style-type: none"> <li>✓ Personal injuries</li> <li>✓ Property damage</li> <li>✓ Heat stress and fatigue</li> <li>✓ Respiratory tract irritation</li> </ul> | <b>M</b> | <ul style="list-style-type: none"> <li>✓ Safe working method must be implemented</li> <li>✓ Traffic control signs stating the speed zones must be used</li> <li>✓ Use of flagman must be implemented</li> <li>✓ Pre-use check must be done for machines</li> <li>✓ Supervision</li> <li>✓ Use specific task PPE</li> </ul>   |
| Compaction   | ✓ Compactor   | <ul style="list-style-type: none"> <li>✓ Vibration</li> <li>✓ Handling Heavy Objects</li> <li>✓ Injuries to employees &amp; damage to equipment</li> <li>✓ Electrocutation Injury/Damage to equipment</li> <li>✓ Injury</li> <li>✓ Finger pinch</li> </ul> | <ul style="list-style-type: none"> <li>✓ Carpal tunnel syndrome</li> <li>✓ Injuries</li> <li>✓ Noise induced hearing loss</li> </ul>  | <b>M</b> | <ul style="list-style-type: none"> <li>✓ Use compactors with vibration dampening devices</li> <li>✓ Rotate compaction tasks to minimize worker exposure to equipment vibration</li> <li>✓ Wear face shield and dust mask</li> <li>✓ Pre-use inspection.</li> <li>✓ Use PPE, gloves</li> <li>✓ Good monitoring skills from a Supervisor /Safety Rep.</li> <li>✓ Check all tools being used</li> </ul> |
| House visits | ✓ Unhappy residents   | <ul style="list-style-type: none"> <li>✓ Attacking the technicians</li> </ul>  | <ul style="list-style-type: none"> <li>✓ Injuries</li> </ul>  | <b>M</b> | <ul style="list-style-type: none"> <li>✓ JMPD services to be sought where challenges are experienced.</li> </ul>   |

|                                 |   |  |                                      |   |  |
|---------------------------------|---|--|--------------------------------------|---|--|
| Storage of meters on site       | ✓ Poor stacking and storage                     | ✓ Trips and falls  | ✓ Injuries                           | L | ✓ Proper stacking storage of meters at designated places.  |
|                                 | ✓ Unprotected meters                            | ✓ Exposure to criminal activities  | ✓ theft                              | M | ✓ Appoint PSIRA accredited security guard.<br>✓ Store meters away from the public eye.<br>✓ Use shaded netting to prevent passers 'by from seeing what is inside the camp. |
| Compacting                      | ✓ Compactor<br>✓ Noise<br>✓ Dust<br>✓ Vibration | ✓ In-competent employee using the compactor<br>✓ Hearing loss<br>✓ Hand-arm vibration syndrome<br>✓ Collapsing excavation wall<br>✓ Inhalation of dust | ✓ Injuries<br>✓ Respiratory problems | M | ✓ Use of ear muffs by compactor operator<br>✓ Dust mask to be worn by compactor operator<br>✓ Compactor operator to be declared competent before using the machine         |
| Installation of water meters    | ✓ Use of hand tools                             | ✓ Unsafe use of hand tools<br>✓ Using the wrong tool for the task<br>✓ Using damaged tools   | ✓ Injuries                           | L | ✓ Wear hand gloves<br>✓ Adhere to safe use of hand tool procedure<br>✓ Use the correct hand tool for each task<br>✓ Inspect all tools and report damaged tools             |
|                                 | ✓ Poor ergonomics                               | ✓ Poor working position - bending  | ✓ Back sprain                        | L | ✓ Discourage employees from working in one position for too long   |
| Set up laser for line and grade | ✓ Laser   | ✓ Exposure to laser rays   | ✓ Eye injury                         | M | ✓ Use only competent person to perform the task.   |

|                             |   |  |   |          |   |
|-----------------------------|---|--|---|----------|---|
|                             |   |  |   |          | <ul style="list-style-type: none"> <li>✓ Follow manufactures safety guidelines.</li> <li>✓ Erect warning signs.</li> </ul>  |
| Tie-in to existing pipeline | <ul style="list-style-type: none"> <li>✓ Pressure on the existing pipes</li> </ul>  | <ul style="list-style-type: none"> <li>✓ Failure of existing pipeline under pressure</li> </ul>  | <ul style="list-style-type: none"> <li>✓ Injury from high pressure</li> </ul>   | <b>M</b> | <ul style="list-style-type: none"> <li>✓ Use PPE. Ensure adjacent stop valves are operational / closed.</li> <li>✓ Secure adjacent valves against movement.</li> <li>✓ Relieve pressure in system.</li> </ul>   |
| Reconnecting house services | <ul style="list-style-type: none"> <li>✓ High pressure water</li> </ul>   | <ul style="list-style-type: none"> <li>✓ High pressured water splashing on employees</li> </ul>  | <ul style="list-style-type: none"> <li>✓ Injury</li> </ul>  | <b>M</b> | <ul style="list-style-type: none"> <li>✓ Use PPE.</li> <li>✓ Relieve pressure in system.</li> </ul>   |
|                             | <ul style="list-style-type: none"> <li>✓ Welding</li> </ul>   | <ul style="list-style-type: none"> <li>✓ Welding sparks</li> </ul>   | <ul style="list-style-type: none"> <li>✓ Burns</li> </ul>   | <b>M</b> | <ul style="list-style-type: none"> <li>✓ Appointed employee should weld</li> <li>✓ Wear correct PPE</li> <li>✓ Cocoon the welding area</li> <li>✓ Follow the correct use of torch/ welding machine</li> </ul>   |
| Traffic management          | <ul style="list-style-type: none"> <li>✓ Moving vehicles and pedestrians</li> <li>✓ Improperly placed signage</li> <li>✓ Incorrect signage displayed</li> <li>✓ Poor communication between flagmen</li> </ul> | <ul style="list-style-type: none"> <li>✓ Road accidents</li> <li>✓ Personal injuries and fatalities</li> <li>✓ Property damage</li> </ul>  | <ul style="list-style-type: none"> <li>✓ Fatalities</li> <li>✓ Property damages</li> </ul>  | <b>H</b> | <ul style="list-style-type: none"> <li>✓ Adhere to traffic management procedures</li> <li>✓ Ensure good communication between flagmen</li> <li>✓ Display correct road signage</li> <li>✓ Employees should wear reflective PPE</li> <li>Keep area clean &amp; clear of obstacles.</li> </ul> |
| Storage of HCS              | <ul style="list-style-type: none"> <li>✓ Hazardous chemical substance</li> <li>✓ Improper labelling of chemical containers</li> </ul>   | <ul style="list-style-type: none"> <li>✓ Inhalation</li> <li>✓ Skin contact</li> <li>✓ Contact with combustion sources</li> <li>✓ Accidental consumption of flammable liquids</li> </ul> | <ul style="list-style-type: none"> <li>✓ Respiratory illnesses</li> <li>✓ Dermatitis</li> <li>✓ Fires</li> <li>✓ Illnesses</li> </ul> | <b>M</b> | <ul style="list-style-type: none"> <li>✓ Use chemicals in a ventilated environment</li> <li>✓ Provide MSDS</li> <li>✓ Provide proper PPE</li> <li>✓ Train employees on the content of MSDS</li> </ul>   |

|                     |                         |  |                                |   |   |
|---------------------|-------------------------|--|--------------------------------|---|---|
|                     |                         |  |                                |   | ✓ Train employees on the hazards associated with the use of chemicals                       |
| Restoration of site | ✓ Backfilling           | ✓ Dust generation                        | ✓ Inhalation of dust           | L | ✓ Wear dust mask  |
|                     | ✓ Inadequate compaction | ✓ Public hazard                          | ✓ Injuries                     | L | ✓ Compaction to specified standard.   |
|                     | ✓ Paving                | ✓ Inadequate handling of paving material | ✓ Injuries                     | L | ✓ Pave according to specification<br>✓ Handle material with care<br>✓ Wear job specific PPE |
|                     | ✓ Housekeeping          | ✓ Poor housekeeping                      | ✓ Slip, trip and fall injuries | L | ✓ Maintain proper housekeeping on site<br>✓ Remove waste on a regular basis from site       |

### RISK ASSESSMENT MATRIX

| Likelihood                  | Consequences  |  |   |   |  |
|-----------------------------|---|--|---|---|--|
|                             | Insignificant (minor problem easily handled by normal day to day processes) | Minor (Some disruption possible e.g., damage equal to R150k) | Moderate (significant time / resources required. E.g., damage equal to R500k) | Major (Operations severely damaged. E.g., damages equal to R1m) | Catastrophic (business survival is at risk. Damage equal to R5m – 10m) |
| Almost certain (90% chance) | High  | High   | Extreme   | Extreme   | Extreme  |
| Likely (between 50-90%)     | Moderate  | High   | High  | Extreme   | Extreme  |
| Moderate (between 10-50%)   | Low   | Moderate   | High  | Extreme   | Extreme  |
| Unlikely (between 3-10%)    | Low   | Low  | Moderate  | High  | Extreme  |

|            |     |     |          |      |      |
|------------|-----|-----|----------|------|------|
| Rare (<3%) | Low | Low | Moderate | High | High |
|------------|-----|-----|----------|------|------|

# JOHANNESBURG WATER (SOC) LTD

## MEDICAL SCREENING POLICY

**JW 14335: SUPPLY AND INSTALLATION OF STS METERS IN  
COSMO CITY – PHASE 2**

## NOTICE

It is the Contractor's responsibility to ensure that medical surveillance requirements specified in the Occupational Health and Safety Act (85/1993) and Regulations and any other applicable legal and Johannesburg Water's requirements are fully complied with.

This document is meant to facilitate the Contractor's compliance to applicable requirements and does not replace the applicable legal requirements.

This document may be revised at any time to include applicable legal requirements not currently included that may come to the attention of Johannesburg Water in future. The Contractor will accordingly be responsible to comply with the revised requirements as might be necessary.

Where methods to ensure legal compliance have been specified in this document, Contractors may submit alternative detailed method statements for consideration and approval by Johannesburg Water. Johannesburg Water may, at its sole discretion, reject or accept such alternative methods.

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## **1 PURPOSE OF THE MEDICAL SURVEILLANCE REQUIREMENTS PROCEDURE**

The purpose of this Medical Surveillance Requirements Procedure is to facilitate the achievement of legal compliance relating to medical surveillance by all Consultants, Contractors, Subcontractors and suppliers that will be working on the Johannesburg Water project and to ensure that employees are fit to work in the roles that they have been employed to execute and remain so for their duration on the project site.

This document represents the minimum requirements for medical surveillance and does not replace applicable legal requirements.

## **2 MEDICAL SURVEILLANCE OBJECTIVES**

The Johannesburg Water main objectives for medical surveillance are:

- a) To ensure compliance with all applicable medical surveillance legal requirements.
- b) To ensure compliance with all Johannesburg Water's requirements regarding medical surveillance.
- c) To ensure that employees are fit to execute the work for which they have been employed.
- d) To prevent employees from acquiring occupational diseases or illnesses.
- e) To ensure early detection and treatment of occupational diseases and to prevent the aggravation of existing medical conditions.
- f) To ensure that employees on departure from the project have not contracted any occupational diseases and to enable any such condition that arises to be suitably addressed.

All contractors are required to demonstrate total commitment towards the achievement of these objectives.

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### 3 GENERAL REQUIREMENTS

- 3.1 The Principal Contractor shall ensure that a medical surveillance programme is implemented for all employees.
- 3.2 An initial health evaluation shall be carried out by an occupational health practitioner immediately after a person commences employment, where any exposure exists or may exist, which comprises:
- an evaluation of the employees medical and occupational history;
  - a physical examination; and
  - any other essential examination which in the opinion of the occupational health practitioner is desirable in order to enable the practitioner to do a proper evaluation.
- 3.3 Medical surveillance & Immunization shall be done accredited institutions or occupational health doctor, including, but not limited to:
- a) Audiograms.
  - b) A cardio-respiratory examination, including full size chest x-rays (If lung function tests are abnormal)
  - c) Lung function tests.
  - d) Eye/ sight tests.
  - e) A general physical examination.
  - f) A review of previous medical history.
  - g) Blood pressure tests
  - h) Glucose tests

Copies of all medical certificates shall be submitted to the Johannesburg Water Project Specialist or Appointed OHS Agent to prior to site establishment and before an employee is allowed to come onto site.

Specific attention shall be given to the physical and psychological fitness of people who will be required to work in elevated positions and operators of mobile machinery.

An exit medical certificate shall be obtained for all workers at the end of the contract and for all workers who leave the employment of the Contractor before the end of the Project. Copies of all exit medical certificates shall be submitted to the Johannesburg Water Project Specialist or Appointed OHS Agent.

Medical surveillance shall address all occupational health risks to which the employee is exposed, identified through the risk assessment referred to in section 4 below.

Retention monies will be withheld if the exit medical is not complete for all employees.

The cost of all medical examinations will be borne by the Contractor as provision is made on the bill of quantities.

#### **4 OCCUPATIONAL HEALTH RISK ASSESSMENT**

4.1 The Contractor shall conduct an occupational health risk assessment prior to site establishment.

4.2 The Contractor shall ensure that, as far as is reasonably practicable, ergonomic related hazards are analyzed, evaluated and addressed in the risk assessment.

4.3 The methodology used by the contractor to assess occupational health risks associated with their activities shall be submitted to Johannesburg Water for approval by the Johannesburg Water Project Specialist or Appointed OHS Agent prior to site establishment. The methodology should take the following into consideration, among others:

- a) Legal requirements.
- b) Normal activities undertaken by the contractor.
- c) Abnormal situations (e.g. unanticipated breakdown of equipment etc).
- d) Emergency situations (e.g. fires, exposure to chemicals).
- e) Changes in work procedures and methods.
- f) Previous experience.

- 
- 4.4 A risk register that will include the following shall be submitted to the Johannesburg Water Project Specialist or Appointed OHS Agent before site establishment.
- a) All occupational health risks identified during the occupational health risk assessment.
  - b) A list of the occupational health risks that have been identified as being significant.
  - c) Reference to the method statements, measures or procedures that will be followed to either eliminate or reduce the significant risks to tolerable levels.
- 4.5 The Contractor shall, in writing, clearly explain how each occupational health risk assessed to be significant will be addressed to eliminate or reduce it to a tolerable level and submit it for approval by the Johannesburg Water Project Specialist or Appointed OHS Agent before site establishment. This may be through method statements or written operational control procedures. Associated responsibilities and authorities shall be clearly defined. All method statements shall reflect at least:
- a) When the activities relating to the method statement will be conducted (timing).
  - b) Materials to be used.
  - c) Equipment and staffing requirements.
  - d) The proposed construction procedure designed to implement the relevant requirements.
  - e) The system to be implemented to ensure compliance with the method statement.
  - f) Any other information deemed to be necessary by the Johannesburg Water Project Specialist or Appointed OHS Agent and/or the contractor's responsible person.
- 4.6 For significant occupational health risks identified after site establishment, method statements shall be submitted to the Johannesburg Water Project Specialist or Appointed OHS Agent at least 10 working days before the start of the associated activity, when possible.
- 4.7 All changes to approved method statements or procedures shall be approved in writing by the Johannesburg Water Project Specialist or Appointed OHS Agent.
- 4.8 The contractor's Responsible Person shall retain records of any amendments and shall ensure that only the most current approved version of any method statement or procedure is used.

- 4.9 Every occupational health risk that is identified during the risk assessment process shall be conveyed to every employee whose work is associated with the risk. This may be done in the form of a toolbox talk but does not replace the toolbox talk entirely. Each employee shall sign to confirm an understanding of the occupational health risks in the tasks.
- 4.10 Occupational health risk assessments may be combined with safety and environmental risk assessments, but the consideration of occupational health issues shall be clearly reflected in the records generated and maintained.
- 4.11 The occupational health risk assessment process and effective implementation of measures to eliminate or reduce identified risks is the responsibility of the Contractor. Johannesburg Water will closely monitor the effectiveness of implemented measures.



### Acknowledgement of JW Medical Screening Policy

**Name of Contractor**

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**I, the undersigned, hereby acknowledge that I have obtained copies of JW Medical Screening Policy and confirm that I fully understand them and the consequences of non-compliance.**

**Signed at ..... on this ..... Day of ..... 20.....**

**Signature of Contractor / Mandatory**

**Date**

-----

-----

**Signature of 16.2 / Construction Manager**

**Date**

-----

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**Witness 1 .....**

**Witness 2 .....**

|  <p>Johannesburg Water</p> | OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION              |            |
|---|---|------------|
|   | TENDER NUMBER:  | JW 14335   |
|   | PROJECT LOCATION:   | COSMO CITY |
| PROJECT DESCRIPTION:  | SUPPLY AND INSTALLATION OF STS METERS IN COSMO CITY – PHASE 2 |            |

**Returnable Annexure A: Acknowledgement of SHE Specification & Annexures**

**DECLARATION BY CONTRACTOR**

I, the undersigned, and representing the tenderer as indicated hereby acknowledge that I have obtained copies of the following listed documentation and confirm that I fully understand the contents thereof and confirm compliance thereto in the event of being successful:

- OHS Specification (Volume 2)
- Annexure 1: Baseline Risk Assessment
- Annexure 2: Medical Screening Policy
- Annexure 3: Sign off form
- Annexure 4: Environmental Management Plan

We furthermore commit to:

- Comply with all applicable SHE related legal and other requirements.
- Inform all staff of their role in managing environmental impacts and safety hazards on site.

Signed at ..... on this ..... Day of ..... 20.....

|                                  |  |
|----------------------------------|--|
| <b>Name of tenderer</b>          |  |
| <b>Name of Authorized person</b> |  |
| <b>Authorized Signature*</b>     |  |

***\* Signature must be as per form T 2.1.2" Certificate of Authority" as applicable***

**SHE CONTRACTORS' MANAGEMENT SYSTEM****TENDER DOCUMENT SHE SPECS SIGN-OFF FORM****REQUESTED BY** LUCIA MADISENG **DATE** 08/08/2022**JW 14335****JW 14335: SUPPLY AND INSTALLATION OF STS METERS IN COSMO CITY – PHASE 2****LIST OF SHE SYSTEM ATTACHED TO THE TENDER DOCUMENT**

| <b>SHE SYSTEM ATTACHED</b>                        | <b>Y/N</b> | <b>VERSION</b> | <b>NO PAGES</b> | <b>REMARKS</b>              |
|---|------------|----------------|-----------------|-----------------------------|
| Volume 2 SHE Specification & Acknowledgement Form | Y          | V2 – 05/15     | 37              | For info                    |
| Baseline Risk Assessment                          | Y          | V01 – 05/15    | 8               | For info                    |
| Medical Screening Policy                          | Y          | V01 – 05/15    | 8               | For info                    |
| Returnable Annexure A                             | Y          | V02 - 02/20    | 1               | Return with tender document |

**NB\* All documents shall be returned with the tender documents and copies thereof to be submitted with the safety file by the successful bidder.**

|  <p>Johannesburg Water</p> | OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION              |            |
|---|---|------------|
|   | TENDER NUMBER:  | JW 14335   |
|   | PROJECT LOCATION:   | COSMO CITY |
| PROJECT DESCRIPTION:  | SUPPLY AND INSTALLATION OF STS METERS IN COSMO CITY – PHASE 2 |            |

**Returnable Annexure A: Acknowledgement of SHE Specification & Annexures**

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- Annexure 1: Baseline Risk Assessment
- Annexure 2: Medical Screening Policy
- Annexure 3: Sign off form
- Annexure 4: Environmental Management Plan

We furthermore commit to:

- Comply with all applicable SHE related legal and other requirements.
- Inform all staff of their role in managing environmental impacts and safety hazards on site.

Signed at ..... on this ..... Day of ..... 20.....

|                                  |  |
|----------------------------------|--|
| <b>Name of tenderer</b>          |  |
| <b>Name of Authorized person</b> |  |
| <b>Authorized Signature*</b>     |  |

***\* Signature must be as per form T 2.1.2" Certificate of Authority" as applicable***



## OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION

|                   |   |
|-------------------|---|
| PROJECT NUMBER:   | JW 14335  |
| PROJECT LOCATION: | COSMO CITY  |
| PROJECT DESCR:    | SUPPLY AND INSTALLATION OF STS METERS IN COSMO CITY – PHASE 2 |

# ANNEXURE 1: BASELINE RISK ASSESSMENT



**OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION: BASELINE RISK ASSESSMENT**

|                   |   |
|-------------------|---|
| PROJECT NUMBER:   | JW 14335  |
| PROJECT LOCATION: | COSMO CITY  |
| PROJECT DESCR:    | SUPPLY AND INSTALLATION OF STS METERS IN COSMO CITY – PHASE 2 |

**POSSIBLE RISKS FOR THIS PROJECT**

| Task                               | Hazard   | Risk   | Consequence  | Rating   | Controls   |
|------------------------------------|--|--|--|----------|--|
| Transportation of material to site | <ul style="list-style-type: none"> <li>✓ Unsafe road conditions</li> <li>✓ Un-road worthy vehicles</li> <li>✓ Equipment and material not safely secured</li> <li>✓ Incompetent drivers</li> <li>✓ Driving under the influence of alcohol</li> <li>✓ Inclement weather</li> <li>✓ Speeding</li> <li>✓ Slippery road</li> <li>✓ Narrow road</li> </ul> | <ul style="list-style-type: none"> <li>✓ Overturning vehicles</li> <li>✓ Vehicle collisions</li> </ul>   | <ul style="list-style-type: none"> <li>✓ Injuries</li> <li>✓ Property damages</li> <li>✓ Third party liability</li> </ul>    | <b>M</b> | <ul style="list-style-type: none"> <li>✓ Adherence to the speed limit</li> <li>✓ Only competent/ authorised drivers should operate the vehicle</li> <li>✓ Inspection of vehicles</li> <li>✓ Equipment and material to be properly secured</li> <li>✓ Alcohol testing to be done</li> <li>✓ The road to be paved to prevent accidents</li> <li>✓ Traffic control to be implemented to avoid collisions</li> </ul> |
| Offloading of material             | <ul style="list-style-type: none"> <li>✓ Faulty machinery</li> <li>✓ Poor ergonomics</li> <li>✓ Equipment (suspended load) falling on employees</li> <li>✓ Unsafe slings and guide ropes</li> <li>✓ uneven surface</li> </ul>  | <ul style="list-style-type: none"> <li>✓ Hands can be caught in between materials</li> <li>✓ Obstructed walkways by materials</li> <li>✓ Unsafe stacking of materials</li> </ul> | <ul style="list-style-type: none"> <li>✓ Hand injuries</li> <li>✓ Back injuries</li> </ul>                                   | <b>M</b> | <ul style="list-style-type: none"> <li>✓ The correct PPE must be worn</li> <li>✓ Designate the stacking areas and put signs</li> <li>✓ Stacking and storage inspector must be appointed and in charge</li> </ul>   |
| Clearing the worksite              | <ul style="list-style-type: none"> <li>✓ Dust generation</li> </ul>  | <ul style="list-style-type: none"> <li>✓ Inhalation of dust</li> </ul>   | <ul style="list-style-type: none"> <li>✓ Respiratory irritation</li> <li>✓ Allergic reaction</li> <li>✓ Sinusitis</li> </ul> |          | <ul style="list-style-type: none"> <li>✓ Wear job specific PPE</li> <li>✓ Suppress dust with water</li> </ul>  |

|                         |   |   |  |          |   |
|-------------------------|---|---|--|----------|---|
| Site establishment      | <ul style="list-style-type: none"> <li>✓ Sharp objects/ wires</li> <li>✓ Uneven surface</li> <li>✓ Faulty connection</li> <li>✓ Poor ergonomics</li> <li>✓ Falling objects</li> <li>✓ Inadequate security services</li> <li>✓ Not enough welfare facilities e.g. toilets, change rooms and lockers</li> </ul> | <ul style="list-style-type: none"> <li>✓ Cuts</li> <li>✓ Slips and trips</li> <li>✓ Damage to services</li> <li>✓ Using the environment as ablution facilities</li> </ul> | <ul style="list-style-type: none"> <li>✓ Injuries</li> <li>✓ Back strains and injuries</li> <li>✓ Crime, theft, fights</li> <li>✓ Contracting of communicable diseases</li> <li>✓ Soil, water pollution</li> </ul> | <b>M</b> | <ul style="list-style-type: none"> <li>✓ Supervisors to plan during site set up and induct employees</li> <li>✓ A competent electrician must be appointed to connect electrical wires to the site offices and Distribution Board.</li> <li>✓ Ensure there are welfare facilities on site for health and hygiene purposes</li> <li>✓ Awareness on hygiene and use of ablution facilities</li> <li>✓ Detailed Risk Assessment must be drawn before any work commences on site.</li> </ul> |
| Installing containers   | <ul style="list-style-type: none"> <li>✓ Using lifting equipment</li> <li>✓ Faulty equipment</li> <li>✓ Faulty slings / chains</li> </ul>   | <ul style="list-style-type: none"> <li>✓ Wind</li> <li>✓ Incompetent personnel</li> <li>✓ Heavy load</li> <li>✓ Failing of lifting equipment</li> <li>✓</li> </ul>        | <ul style="list-style-type: none"> <li>✓ Serious injuries</li> <li>✓ Property damage</li> </ul>  | <b>H</b> | <ul style="list-style-type: none"> <li>✓ Check wind speed prior to using the crane.</li> <li>✓ Inspect the crane, slings and chains before use.</li> <li>✓ Load test the crane before use</li> <li>✓ Only carry loads certified to be carried by the crane</li> </ul>   |
| Electrical installation | <ul style="list-style-type: none"> <li>✓ Electricity</li> <li>✓ Incompetent personnel</li> <li>✓ Wrong tools</li> <li>✓ Damaged cables</li> </ul>   | <ul style="list-style-type: none"> <li>✓ Contact with live electricity</li> <li>✓ Incompetent person connecting electricity</li> <li>✓ Electric shocks</li> </ul>         | <ul style="list-style-type: none"> <li>✓ Electrocution</li> <li>✓ Serious injuries</li> </ul>  | <b>H</b> | <ul style="list-style-type: none"> <li>✓ Follow lock out procedure</li> <li>✓ Ensure that equipment are earthed to an approved earthing point</li> <li>✓ Ensure a zero potential test is performed for electricity is isolated</li> <li>✓ Inspect all tools</li> <li>✓ Use correct tools for the job</li> <li>✓ Appoint a competent electrician/ technician</li> <li>✓ Wear task specific PPE</li> </ul>  |

|                                   |   |   |   |          |  |
|-----------------------------------|---|---|---|----------|--|
|                                   |   |   |   |          | <ul style="list-style-type: none"> <li>✓ Ensure that there are no exposed wires on the cables</li> </ul>   |
| Entry and exit                    | <ul style="list-style-type: none"> <li>✓ No access control</li> </ul>             | <ul style="list-style-type: none"> <li>✓ Unauthorised entry into the construction site</li> </ul>   | <ul style="list-style-type: none"> <li>✓ Injuries to employee</li> <li>✓ Theft of tools and material</li> </ul>                   | <b>M</b> | <ul style="list-style-type: none"> <li>✓ Appoint a full time, PSIRA registered security guard on site</li> </ul>   |
| Site security                     | <ul style="list-style-type: none"> <li>✓ Unsafe camp site</li> </ul>              | <ul style="list-style-type: none"> <li>✓ Inadequate security / no security</li> </ul>   | <ul style="list-style-type: none"> <li>✓ Injuries, theft / criminal activities</li> </ul>   | <b>M</b> | <ul style="list-style-type: none"> <li>✓ Appoint PSIRA accredited security guard</li> </ul>  |
| Locating existing pipes/ services | <ul style="list-style-type: none"> <li>✓ Existing underground services</li> </ul> | <ul style="list-style-type: none"> <li>✓ Explosion,</li> <li>✓ Electrocutation</li> <li>✓ Damage to services</li> </ul>                             | <ul style="list-style-type: none"> <li>✓ Injuries</li> <li>✓ Property damages</li> </ul>  | <b>M</b> | <ul style="list-style-type: none"> <li>✓ Get existing pipe drawings</li> <li>✓ Check relevant Authority (e.g. power, water, gas, council) records for location of services.</li> <li>✓ If in doubt uses experienced/ accredited service locators.</li> <li>✓ When using hand prodders to locate pipes, prodders must never be driven in to the ground by hammers or other implements.</li> </ul> |
| Manual excavation                 | <ul style="list-style-type: none"> <li>✓ Use of hand tool</li> </ul>              | <ul style="list-style-type: none"> <li>✓ Unsafe use of hand tool</li> </ul>   | <ul style="list-style-type: none"> <li>✓ Personal injuries</li> </ul>   | <b>L</b> | <ul style="list-style-type: none"> <li>✓ Adherence to the hand tool procedure</li> <li>✓ Report damaged tools</li> <li>✓ Use the right tool for each job</li> <li>✓ Appoint hand tool supervisor</li> </ul>  |
| Pipe work                         | <ul style="list-style-type: none"> <li>✓ Removing the old pipe</li> </ul>         | <ul style="list-style-type: none"> <li>✓ Poor lifting technique</li> <li>✓ Exposure asbestos pipe</li> <li>✓ Damage to adjacent services</li> </ul> | <ul style="list-style-type: none"> <li>✓ Contracting diseases</li> <li>✓ Loss of services</li> <li>✓ Personal Injuries</li> </ul> | <b>M</b> | <ul style="list-style-type: none"> <li>✓ Compliance to Asbestos Regulations</li> <li>✓ Safe working method to be implemented</li> <li>✓ Proper identification for existing services</li> </ul>   |

|              |   |  |   |          |  |
|--------------|---|--|---|----------|--|
|              | ✓ Installation of a pipe  | <ul style="list-style-type: none"> <li>✓ Poor lifting technique</li> <li>✓ Manual handling</li> <li>✓ Falling of material</li> <li>✓ Incorrect connections</li> </ul>  | <ul style="list-style-type: none"> <li>✓ Hand injuries</li> <li>✓ Back pains</li> <li>✓ Property damage</li> <li>✓ Loss of services</li> </ul>                              | <b>M</b> | <ul style="list-style-type: none"> <li>✓ Safe working method must be implemented</li> <li>✓ Supervision</li> <li>✓ Correct PPE must be worn</li> </ul>   |
|              | ✓ House connections   | <ul style="list-style-type: none"> <li>✓ Unsafe connections</li> </ul>   | <ul style="list-style-type: none"> <li>✓ Loss of services</li> </ul>  | <b>M</b> | <ul style="list-style-type: none"> <li>✓ Safe working procedure must be implemented.</li> </ul>  |
| Backfilling  | <ul style="list-style-type: none"> <li>✓ Hand tools</li> <li>✓ Machinery</li> </ul> | <ul style="list-style-type: none"> <li>✓ Faulty machinery</li> <li>✓ Unsafe working area- incoming traffic</li> <li>✓ Inhalation of dust</li> <li>✓ Bad weather conditions</li> </ul>  | <ul style="list-style-type: none"> <li>✓ Personal injuries</li> <li>✓ Property damage</li> <li>✓ Heat stress and fatigue</li> <li>✓ Respiratory tract irritation</li> </ul> | <b>M</b> | <ul style="list-style-type: none"> <li>✓ Safe working method must be implemented</li> <li>✓ Traffic control signs stating the speed zones must be used</li> <li>✓ Use of flagman must be implemented</li> <li>✓ Pre-use check must be done for machines</li> <li>✓ Supervision</li> <li>✓ Use specific task PPE</li> </ul>   |
| Compaction   | ✓ Compactor   | <ul style="list-style-type: none"> <li>✓ Vibration</li> <li>✓ Handling Heavy Objects</li> <li>✓ Injuries to employees &amp; damage to equipment</li> <li>✓ Electrocutation Injury/Damage to equipment</li> <li>✓ Injury</li> <li>✓ Finger pinch</li> </ul> | <ul style="list-style-type: none"> <li>✓ Carpal tunnel syndrome</li> <li>✓ Injuries</li> <li>✓ Noise induced hearing loss</li> </ul>  | <b>M</b> | <ul style="list-style-type: none"> <li>✓ Use compactors with vibration dampening devices</li> <li>✓ Rotate compaction tasks to minimize worker exposure to equipment vibration</li> <li>✓ Wear face shield and dust mask</li> <li>✓ Pre-use inspection.</li> <li>✓ Use PPE, gloves</li> <li>✓ Good monitoring skills from a Supervisor /Safety Rep.</li> <li>✓ Check all tools being used</li> </ul> |
| House visits | ✓ Unhappy residents   | <ul style="list-style-type: none"> <li>✓ Attacking the technicians</li> </ul>  | <ul style="list-style-type: none"> <li>✓ Injuries</li> </ul>  | <b>M</b> | <ul style="list-style-type: none"> <li>✓ JMPD services to be sought where challenges are experienced.</li> </ul>   |

|                                 |   |  |                                      |   |  |
|---------------------------------|---|--|--------------------------------------|---|--|
| Storage of meters on site       | ✓ Poor stacking and storage                     | ✓ Trips and falls  | ✓ Injuries                           | L | ✓ Proper stacking storage of meters at designated places.  |
|                                 | ✓ Unprotected meters                            | ✓ Exposure to criminal activities  | ✓ theft                              | M | ✓ Appoint PSIRA accredited security guard.<br>✓ Store meters away from the public eye.<br>✓ Use shaded netting to prevent passers 'by from seeing what is inside the camp. |
| Compacting                      | ✓ Compactor<br>✓ Noise<br>✓ Dust<br>✓ Vibration | ✓ In-competent employee using the compactor<br>✓ Hearing loss<br>✓ Hand-arm vibration syndrome<br>✓ Collapsing excavation wall<br>✓ Inhalation of dust | ✓ Injuries<br>✓ Respiratory problems | M | ✓ Use of ear muffs by compactor operator<br>✓ Dust mask to be worn by compactor operator<br>✓ Compactor operator to be declared competent before using the machine         |
| Installation of water meters    | ✓ Use of hand tools                             | ✓ Unsafe use of hand tools<br>✓ Using the wrong tool for the task<br>✓ Using damaged tools   | ✓ Injuries                           | L | ✓ Wear hand gloves<br>✓ Adhere to safe use of hand tool procedure<br>✓ Use the correct hand tool for each task<br>✓ Inspect all tools and report damaged tools             |
|                                 | ✓ Poor ergonomics                               | ✓ Poor working position - bending  | ✓ Back sprain                        | L | ✓ Discourage employees from working in one position for too long   |
| Set up laser for line and grade | ✓ Laser   | ✓ Exposure to laser rays   | ✓ Eye injury                         | M | ✓ Use only competent person to perform the task.   |

|                             |   |  |   |          |   |
|-----------------------------|---|--|---|----------|---|
|                             |   |  |   |          | <ul style="list-style-type: none"> <li>✓ Follow manufactures safety guidelines.</li> <li>✓ Erect warning signs.</li> </ul>  |
| Tie-in to existing pipeline | <ul style="list-style-type: none"> <li>✓ Pressure on the existing pipes</li> </ul>  | <ul style="list-style-type: none"> <li>✓ Failure of existing pipeline under pressure</li> </ul>  | <ul style="list-style-type: none"> <li>✓ Injury from high pressure</li> </ul>   | <b>M</b> | <ul style="list-style-type: none"> <li>✓ Use PPE. Ensure adjacent stop valves are operational / closed.</li> <li>✓ Secure adjacent valves against movement.</li> <li>✓ Relieve pressure in system.</li> </ul>   |
| Reconnecting house services | <ul style="list-style-type: none"> <li>✓ High pressure water</li> </ul>   | <ul style="list-style-type: none"> <li>✓ High pressured water splashing on employees</li> </ul>  | <ul style="list-style-type: none"> <li>✓ Injury</li> </ul>  | <b>M</b> | <ul style="list-style-type: none"> <li>✓ Use PPE.</li> <li>✓ Relieve pressure in system.</li> </ul>   |
|                             | <ul style="list-style-type: none"> <li>✓ Welding</li> </ul>   | <ul style="list-style-type: none"> <li>✓ Welding sparks</li> </ul>   | <ul style="list-style-type: none"> <li>✓ Burns</li> </ul>   | <b>M</b> | <ul style="list-style-type: none"> <li>✓ Appointed employee should weld</li> <li>✓ Wear correct PPE</li> <li>✓ Cocoon the welding area</li> <li>✓ Follow the correct use of torch/ welding machine</li> </ul>   |
| Traffic management          | <ul style="list-style-type: none"> <li>✓ Moving vehicles and pedestrians</li> <li>✓ Improperly placed signage</li> <li>✓ Incorrect signage displayed</li> <li>✓ Poor communication between flagmen</li> </ul> | <ul style="list-style-type: none"> <li>✓ Road accidents</li> <li>✓ Personal injuries and fatalities</li> <li>✓ Property damage</li> </ul>  | <ul style="list-style-type: none"> <li>✓ Fatalities</li> <li>✓ Property damages</li> </ul>  | <b>H</b> | <ul style="list-style-type: none"> <li>✓ Adhere to traffic management procedures</li> <li>✓ Ensure good communication between flagmen</li> <li>✓ Display correct road signage</li> <li>✓ Employees should wear reflective PPE</li> <li>Keep area clean &amp; clear of obstacles.</li> </ul> |
| Storage of HCS              | <ul style="list-style-type: none"> <li>✓ Hazardous chemical substance</li> <li>✓ Improper labelling of chemical containers</li> </ul>   | <ul style="list-style-type: none"> <li>✓ Inhalation</li> <li>✓ Skin contact</li> <li>✓ Contact with combustion sources</li> <li>✓ Accidental consumption of flammable liquids</li> </ul> | <ul style="list-style-type: none"> <li>✓ Respiratory illnesses</li> <li>✓ Dermatitis</li> <li>✓ Fires</li> <li>✓ Illnesses</li> </ul> | <b>M</b> | <ul style="list-style-type: none"> <li>✓ Use chemicals in a ventilated environment</li> <li>✓ Provide MSDS</li> <li>✓ Provide proper PPE</li> <li>✓ Train employees on the content of MSDS</li> </ul>   |

|                     |                         |  |                                |   |   |
|---------------------|-------------------------|--|--------------------------------|---|---|
|                     |                         |  |                                |   | ✓ Train employees on the hazards associated with the use of chemicals                       |
| Restoration of site | ✓ Backfilling           | ✓ Dust generation                        | ✓ Inhalation of dust           | L | ✓ Wear dust mask  |
|                     | ✓ Inadequate compaction | ✓ Public hazard                          | ✓ Injuries                     | L | ✓ Compaction to specified standard.   |
|                     | ✓ Paving                | ✓ Inadequate handling of paving material | ✓ Injuries                     | L | ✓ Pave according to specification<br>✓ Handle material with care<br>✓ Wear job specific PPE |
|                     | ✓ Housekeeping          | ✓ Poor housekeeping                      | ✓ Slip, trip and fall injuries | L | ✓ Maintain proper housekeeping on site<br>✓ Remove waste on a regular basis from site       |

### RISK ASSESSMENT MATRIX

| Likelihood                  | Consequences  |  |   |   |  |
|-----------------------------|---|--|---|---|--|
|                             | Insignificant (minor problem easily handled by normal day to day processes) | Minor (Some disruption possible e.g., damage equal to R150k) | Moderate (significant time / resources required. E.g., damage equal to R500k) | Major (Operations severely damaged. E.g., damages equal to R1m) | Catastrophic (business survival is at risk. Damage equal to R5m – 10m) |
| Almost certain (90% chance) | High  | High   | Extreme   | Extreme   | Extreme  |
| Likely (between 50-90%)     | Moderate  | High   | High  | Extreme   | Extreme  |
| Moderate (between 10-50%)   | Low   | Moderate   | High  | Extreme   | Extreme  |
| Unlikely (between 3-10%)    | Low   | Low  | Moderate  | High  | Extreme  |

|            |     |     |          |      |      |
|------------|-----|-----|----------|------|------|
| Rare (<3%) | Low | Low | Moderate | High | High |
|------------|-----|-----|----------|------|------|



## OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION

|                   |   |
|-------------------|---|
| PROJECT NUMBER:   | JW 14335  |
| PROJECT LOCATION: | COSMO CITY  |
| PROJECT DESCR:    | SUPPLY AND INSTALLATION OF STS METERS IN COSMO CITY – PHASE 2 |

# ANNEXURE 2: MEDICAL SCREENING POLICY

# JOHANNESBURG WATER (SOC) LTD

## MEDICAL SCREENING POLICY

**JW 14335: SUPPLY AND INSTALLATION OF STS METERS IN  
COSMO CITY – PHASE 2**

## NOTICE

It is the Contractor's responsibility to ensure that medical surveillance requirements specified in the Occupational Health and Safety Act (85/1993) and Regulations and any other applicable legal and Johannesburg Water's requirements are fully complied with.

This document is meant to facilitate the Contractor's compliance to applicable requirements and does not replace the applicable legal requirements.

This document may be revised at any time to include applicable legal requirements not currently included that may come to the attention of Johannesburg Water in future. The Contractor will accordingly be responsible to comply with the revised requirements as might be necessary.

Where methods to ensure legal compliance have been specified in this document, Contractors may submit alternative detailed method statements for consideration and approval by Johannesburg Water. Johannesburg Water may, at its sole discretion, reject or accept such alternative methods.

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## **1 PURPOSE OF THE MEDICAL SURVEILLANCE REQUIREMENTS PROCEDURE**

The purpose of this Medical Surveillance Requirements Procedure is to facilitate the achievement of legal compliance relating to medical surveillance by all Consultants, Contractors, Subcontractors and suppliers that will be working on the Johannesburg Water project and to ensure that employees are fit to work in the roles that they have been employed to execute and remain so for their duration on the project site.

This document represents the minimum requirements for medical surveillance and does not replace applicable legal requirements.

## **2 MEDICAL SURVEILLANCE OBJECTIVES**

The Johannesburg Water main objectives for medical surveillance are:

- a) To ensure compliance with all applicable medical surveillance legal requirements.
- b) To ensure compliance with all Johannesburg Water's requirements regarding medical surveillance.
- c) To ensure that employees are fit to execute the work for which they have been employed.
- d) To prevent employees from acquiring occupational diseases or illnesses.
- e) To ensure early detection and treatment of occupational diseases and to prevent the aggravation of existing medical conditions.
- f) To ensure that employees on departure from the project have not contracted any occupational diseases and to enable any such condition that arises to be suitably addressed.

All contractors are required to demonstrate total commitment towards the achievement of these objectives.

### **3 GENERAL REQUIREMENTS**

- 3.1 The Principal Contractor shall ensure that a medical surveillance programme is implemented for all employees.
- 3.2** An initial health evaluation shall be carried out by an occupational health practitioner immediately after a person commences employment, where any exposure exists or may exist, which comprises:
- an evaluation of the employees medical and occupational history;
  - a physical examination; and
  - any other essential examination which in the opinion of the occupational health practitioner is desirable in order to enable the practitioner to do a proper evaluation.
- 3.3 Medical surveillance & Immunization shall be done accredited institutions or occupational health doctor, including, but not limited to:
- a) Audiograms.
  - b) A cardio-respiratory examination, including full size chest x-rays (If lung function tests are abnormal)
  - c) Lung function tests.
  - d) Eye/ sight tests.
  - e) A general physical examination.
  - f) A review of previous medical history.
  - g) Blood pressure tests
  - h) Glucose tests

Copies of all medical certificates shall be submitted to the Johannesburg Water Project Specialist or Appointed OHS Agent to prior to site establishment and before an employee is allowed to come onto site.

Specific attention shall be given to the physical and psychological fitness of people who will be required to work in elevated positions and operators of mobile machinery.

An exit medical certificate shall be obtained for all workers at the end of the contract and for all workers who leave the employment of the Contractor before the end of the Project. Copies of all exit medical certificates shall be submitted to the Johannesburg Water Project Specialist or Appointed OHS Agent.

Medical surveillance shall address all occupational health risks to which the employee is exposed, identified through the risk assessment referred to in section 4 below.

Retention monies will be withheld if the exit medical is not complete for all employees.

The cost of all medical examinations will be borne by the Contractor as provision is made on the bill of quantities.

#### **4 OCCUPATIONAL HEALTH RISK ASSESSMENT**

- 4.1 The Contractor shall conduct an occupational health risk assessment prior to site establishment.
- 4.2 The Contractor shall ensure that, as far as is reasonably practicable, ergonomic related hazards are analyzed, evaluated and addressed in the risk assessment.
- 4.3 The methodology used by the contractor to assess occupational health risks associated with their activities shall be submitted to Johannesburg Water for approval by the Johannesburg Water Project Specialist or Appointed OHS Agent prior to site establishment. The methodology should take the following into consideration, among others:
  - a) Legal requirements.
  - b) Normal activities undertaken by the contractor.
  - c) Abnormal situations (e.g. unanticipated breakdown of equipment etc).
  - d) Emergency situations (e.g. fires, exposure to chemicals).
  - e) Changes in work procedures and methods.
  - f) Previous experience.

- 
- 4.4 A risk register that will include the following shall be submitted to the Johannesburg Water Project Specialist or Appointed OHS Agent before site establishment.
- a) All occupational health risks identified during the occupational health risk assessment.
  - b) A list of the occupational health risks that have been identified as being significant.
  - c) Reference to the method statements, measures or procedures that will be followed to either eliminate or reduce the significant risks to tolerable levels.
- 4.5 The Contractor shall, in writing, clearly explain how each occupational health risk assessed to be significant will be addressed to eliminate or reduce it to a tolerable level and submit it for approval by the Johannesburg Water Project Specialist or Appointed OHS Agent before site establishment. This may be through method statements or written operational control procedures. Associated responsibilities and authorities shall be clearly defined. All method statements shall reflect at least:
- a) When the activities relating to the method statement will be conducted (timing).
  - b) Materials to be used.
  - c) Equipment and staffing requirements.
  - d) The proposed construction procedure designed to implement the relevant requirements.
  - e) The system to be implemented to ensure compliance with the method statement.
  - f) Any other information deemed to be necessary by the Johannesburg Water Project Specialist or Appointed OHS Agent and/or the contractor's responsible person.
- 4.6 For significant occupational health risks identified after site establishment, method statements shall be submitted to the Johannesburg Water Project Specialist or Appointed OHS Agent at least 10 working days before the start of the associated activity, when possible.
- 4.7 All changes to approved method statements or procedures shall be approved in writing by the Johannesburg Water Project Specialist or Appointed OHS Agent.
- 4.8 The contractor's Responsible Person shall retain records of any amendments and shall ensure that only the most current approved version of any method statement or procedure is used.

- 4.9 Every occupational health risk that is identified during the risk assessment process shall be conveyed to every employee whose work is associated with the risk. This may be done in the form of a toolbox talk but does not replace the toolbox talk entirely. Each employee shall sign to confirm an understanding of the occupational health risks in the tasks.
- 4.10 Occupational health risk assessments may be combined with safety and environmental risk assessments, but the consideration of occupational health issues shall be clearly reflected in the records generated and maintained.
- 4.11 The occupational health risk assessment process and effective implementation of measures to eliminate or reduce identified risks is the responsibility of the Contractor. Johannesburg Water will closely monitor the effectiveness of implemented measures.



### Acknowledgement of JW Medical Screening Policy

**Name of Contractor**

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**I, the undersigned, hereby acknowledge that I have obtained copies of JW Medical Screening Policy and confirm that I fully understand them and the consequences of non-compliance.**

**Signed at ..... on this ..... Day of ..... 20.....**

**Signature of Contractor / Mandatory**

**Date**

-----

-----

**Signature of 16.2 / Construction Manager**

**Date**

-----

-----

**Witness 1 .....**

**Witness 2 .....**



**OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION**

|                   |   |
|-------------------|---|
| PROJECT NUMBER:   | JW 14335  |
| PROJECT LOCATION: | COSMO CITY  |
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**ANNEXURE 3:  
SIGN OFF FORM**

**SHE CONTRACTORS' MANAGEMENT SYSTEM****TENDER DOCUMENT SHE SPECS SIGN-OFF FORM****REQUESTED BY** LUCIA MADISENG **DATE** 08/08/2022**JW 14335****JW 14335: SUPPLY AND INSTALLATION OF STS METERS IN COSMO CITY – PHASE 2****LIST OF SHE SYSTEM ATTACHED TO THE TENDER DOCUMENT**

| <b>SHE SYSTEM ATTACHED</b>                        | <b>Y/N</b> | <b>VERSION</b> | <b>NO PAGES</b> | <b>REMARKS</b>              |
|---|------------|----------------|-----------------|-----------------------------|
| Volume 2 SHE Specification & Acknowledgement Form | Y          | V2 – 05/15     | 37              | For info                    |
| Baseline Risk Assessment                          | Y          | V01 – 05/15    | 8               | For info                    |
| Medical Screening Policy                          | Y          | V01 – 05/15    | 8               | For info                    |
| Returnable Annexure A                             | Y          | V02 - 02/20    | 1               | Return with tender document |

**NB\* All documents shall be returned with the tender documents and copies thereof to be submitted with the safety file by the successful bidder.**



## OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION

|                   |   |
|-------------------|---|
| PROJECT NUMBER:   | JW 14335  |
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# ANNEXURE 4: ENVIRONMENTAL MANAGEMENT PLAN