



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

PROJECT NUMBER:	JW 10/08/2023
PROJECT LOCATION:	Bushkoppie Works
PROJECT DESCR:	Hiring of a 110 ton mobile crane at Bushkoppie Works

### POSSIBLE RISKS FOR THIS PROJECT

Task	Hazard	Risk	Consequence	Rating	Controls
Shovelling	✓ Repetitive movements	✓ Improper bending ✓	✓ Back pains	<b>L</b>	✓ Training in correct posture during shovelling
	✓ Distance between employees	✓ Hitting each other with tools	✓ Injuries	<b>M</b>	✓ Ensure safe distance between employees
	✓ Damaged hand tools	✓ Contact with skin	✓ Injuries	<b>L</b>	✓ Inspect tools prior to use ✓ Provide employees with gloves
	✓ Loss of grip of tools	✓ Hitting other employees	✓ Injuries	<b>M</b>	✓ Train employees on the use of tools ✓ Provide gloves
Entering the PSTs	✓ Height ✓ Stairs	✓ Falling	✓ Injuries	<b>M</b>	✓ Employees to receive training prior to starting work. ✓ Employees must use stairs when going into PSTs ✓ Stairs must be inspected prior to entering. ✓ Any material on the stairs such as mud must be removed prior to entering. ✓ Employees must maintain a 3-point-contact when entering the PSTs.
	✓ Mud	✓ Trip and fall	✓ Injuries	<b>L</b>	✓ Provide employees with non-slip safety shoes

					✓ Where required, provide employees with gumboots and waders.
Placing the construction vehicles and skip bins inside the PST	✓ Wind / Unfavourable weather	✓ Deflection ✓ Loss of control	✓ Injuries ✓ Property damages	H	✓ Do not use during unfavourable weather conditions
	✓ Incompetent operator	✓ Loss of control ✓ Hitting structures and people	✓ Injuries ✓ Property damages	H	✓ Only trained and competent operators may operate the crane
	✓ Overloading	✓ Collapse of material	✓ Injuries ✓ Property damages	H	✓ Display safe working load on the crane
	✓ Faulty crane	✓ Malfunctioning	✓ Injuries ✓ Property damages	H	✓ Cranes to be inspected by competent persons prior to being used ✓ All faulty cranes to be tagged and locked out
	✓ Unauthorised / unsuitable crane	✓ Hitting employees; ✓ Collapse of material	✓ Injuries ✓ Property damages	M	✓ Crane to be inspected by a competent person prior to use. ✓ Unsuitable crane to be tagged and locked out
	✓ Crane parking	✓ Crane overturning	✓ Injuries ✓ Property damages	M	✓ Crane to be established on solid ground with outriggers fully extended and pads in place
Collecting / Removing the sludge from the PST	✓ Incompetent plant operator ✓ Faulty plant ✓	✓ Overturning ✓ Bumping against people ✓	✓ Serious injuries ✓	M	✓ Only competent personnel may operate the excavator ✓ All excavators must be inspected prior to use ✓ Ensure safe distance between employees and plant ✓ A trained rigger should be appointed to control the plant
Operating construction	✓ Moving bucket / arm	✓ Hitting employees	✓ Injuries	M	✓ Workers to stand clear of the path of the construction vehicles and mobile plant

<b>vehicles and mobile plant</b>					✓ Rigger to direct the loading and offloading activities
	✓ Incompetent operator	✓ Hitting employees; ✓ Bumping vehicles and properties	✓ Injuries ✓ Property damages	<b>M</b>	✓ Only trained, competent and appointed operators may operate a concrete truck ✓ Flagman to be posted to direct the operator
	✓ Unhealthy operator	✓ Collapsing whilst operating	✓ Fatalities ✓ Injuries to other people ✓ Property damages	<b>H</b>	✓ All operators to undergo annual medical examinations prior to resumption of duties ✓ All sick employees must report to their supervisors, and not be allowed to operate construction vehicles and mobile plant.
	✓ Speeding	✓ Hitting employees; ✓ Bumping vehicles and properties	✓ Injuries ✓ Property damages	<b>M</b>	✓ Site speed limits to be adhered to at all times
<b>Parking</b>	✓ No visibility ✓ Parking on a blind spot ✓ Uncontrollable movement	✓ Collision with other vehicles ✓ Bumping into people	✓ Fatalities ✓ Property damages	<b>H</b>	✓ Ensure that construction vehicles are parked at safe areas while conducting operations ✓ Use signage where trucks are parked in / near the road ✓ Place stop blocks to prevent any movement. ✓ Ensure that the key is removed from the ignition when parked.
<b>Use of plant</b>	✓ Dripping of fuels	✓ Trip and falls ✓ Contact with soil / sludge	✓ Injuries ✓ Soil contamination	<b>L</b>	✓ Provide drip trays where plant is used or parked.
<b>Maintenance &amp; inspection</b>	✓ Suction hose ✓ Vacuum pump	✓ Heating up during operations	✓ Severe burns	<b>M</b>	✓ Avoid contact with the vacuum pump during or immediately after operation. ✓ Do not touch hot fluid or equipment

					<ul style="list-style-type: none"> <li>✓ Do not touch exhaust pipe of truck unless you are a trained professional carrying out maintenance or repairs</li> <li>✓ Refueling to be carried out in designated areas. Ensure spill kits are available and shutdown valve of the pump is available.</li> <li>✓ Conduct a risk assessment of the refueling station</li> </ul>
	✓ Hydraulic oil	✓ Contact with skin	<ul style="list-style-type: none"> <li>✓ Severe burns</li> <li>✓ Skin disease</li> </ul>	<b>M</b>	<ul style="list-style-type: none"> <li>✓ All pipe clamps fitted</li> <li>✓ Pressure protection valves and Anti Drop valves fitted to hydraulic system.</li> <li>✓ High pressure warning decals</li> <li>✓ Hydraulic fluid lines to be inspected daily; cracks, tears and deformed lines must be reported and repaired prior to use.</li> </ul>
<b>General activities</b>	✓ Site access	<ul style="list-style-type: none"> <li>✓ Unattended visitors</li> <li>✓ Not following site rules</li> </ul>	✓ Injuries	<b>L</b>	<ul style="list-style-type: none"> <li>✓ Induction to be conducted when entering site</li> <li>✓ Personnel to be escorted</li> </ul>
	✓ Work temperature	✓ Exposure to temperature extremes	✓ Ill health	<b>L</b>	<ul style="list-style-type: none"> <li>✓ Staff to take rest breaks</li> <li>✓ Drinking water must be available</li> </ul>
	✓ Exposure to communicable diseases	✓ Using of communal facilities	✓ Ill health	<b>L</b>	<ul style="list-style-type: none"> <li>✓ Employees to be informed about the risks</li> </ul>

## 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

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### 1. SCOPE OF WORK:

Hiring of a 110 ton mobile crane at Bushkoppie Works

### 2. PURPOSE

The aim of the SHE specification is to ensure that any contractor which is appointed by Johannesburg Water to conduct any work complies with the SHE requirements of the SHE specification and any other legislative requirement applicable to the contract scope.

### 3. APPLICABILITY

This document is applicable to all contractors and suppliers conducting contractual activities for and on behalf of Johannesburg Water.

### 4. APPOINTMENTS

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 found to be competent for the responsibilities there are assigned for.

Copies of all relevant appointments and the relevant competence certificates must be kept in the relevant SHE file.

- Site Supervisor
- Construction vehicles Inspector / Supervisor
- Construction vehicles operators
- First Aider (if more than 10 employees will be on site)
- SHE Representative (if more than 10 employees will be on site)
- Incident Investigator
- Emergency Coordinator
- Hand tools inspector

### 5.INSURANCE

The contractor and all its appointed sub-contractor(s) shall be registered with an appropriate compensation commissioner and have a valid letter of good standing from commissioner. The contractor is responsible for ensuring the Letter of Good Standing is valid for the entire duration of the project/contract. A copy of the letter of Good Standing must be kept in the SHE file.

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## 6. COSTING FOR SHE REQUIREMENTS

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

## 7. INDUCTION

An initial induction shall be done with key personnel to familiarize them with the requirements on site and for compiling the SHE file.

Once labourers are appointed JW will conduct an induction on SHE requirements, and the contractor is also required to conduct their company specific induction.

## 8. SUBMISSION OF SAFETY FILE

- Once appointed the contractor must submit their safety file for approval to OHS department.
- Approval will be granted when the critical items have been sufficiently addressed.

## 9. RISK ASSESSMENT

- Every Contractor who has been appointed contractually to conduct work for Johannesburg water shall do compile a baseline risk assessment prior to starting with work, subject to the approval of the Client.
- Thereafter the task based risk assessments will be done daily with every task being done.

## 10. SAFE WORKING PROCEDURES / METHOD STATEMENTS

The following method statements / safe working procedures must be compiled:

- Loading of soil / sludge
- Use of hand tools
- Emergency preparedness
- Incident Management

## 11. MEDICAL SCREENING REQUIREMENTS

- The contractor shall ensure that a medical surveillance programme is implemented for all employees.
- The medical examination shall be conducted in line with the employee job profile/job description.
- A valid medical fitness certificate must be submitted together with the SHE File for approval for all employees who will be doing work for Johannesburg Water.
- Any employee(s) who are declared conditionally fit must be provided with employment which does not aggravate their medical condition as to endanger themselves or other employees.
- The following tests shall be done:



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- Audiograms.
- A cardio-respiratory examination
- Lung function tests.
- Eye/ sight tests.
- A general physical examination.
- A review of previous medical history.
- Blood pressure tests
- Glucose tests


## 12. TOOLBOX TALKS

- The contractor shall ensure they conduct toolbox talks with their employees on a weekly basis and records of these must be kept in the SHE file.
- The objective of toolbox talks should be to communicate relevant site information to assist in improvement of occupational health and safety performance.
- Employees must acknowledge the receipt of toolbox talks and this record must also be kept in the SHE file.

## 13. PERSONAL PROTECTIVE EQUIPMENT (PPE)

- Contractor must issue their employees SABS approved PPE. A copy of the PPE issue register signed by the employee issued with the PPE must be kept in the SHE file.
- Contractor supervisor are required to conduct continuous inspections of the PPE issued to their employees to ensure that they are still in good condition to be used by the employee or they still comply with manufacture requirements.
- The contractor is responsible for ensuring that employees are trained on the safe use of the PPE issued to them, how to maintain it and the limitations of the PPE.
- NO SHORTS OR DRESSES WILL BE ALLOWED ON SITE
- The following minimum PPE will be required for employees
  - Overalls (with reflective strips)
  - Safety boots / gumboots with steel toe cap
  - Dust masks
  - Hard hats
  - Gloves



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#### **14. WORKPLACE SIGNAGE**

- Appropriate symbolic signage must be displayed where it is required by legislation.
- Appropriate warning, mandatory and information signs must be placed where required.
- All signs must comply to SANS/SABS requirements.
- Contractors shall use mandatory and prescribed symbolic safety signs at their lay down and site areas.

#### **15. INCIDENT REPORTING AND INVESTIGATION**

- All incidents shall be reported to the Client before the end of the shift or within 24hrs of occurrence.
- Section 24 incidents shall be reported to DOL using the prescribed format.
- The contractor shall develop an incident management procedure and communicate with all employees.

#### **16. NOTIFICATION OF CONSTRUCTION WORK**

- Not applicable.

#### **17. 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.

#### **18. ACCOMMODATION ON SITE**

No employees shall be accommodated on site.

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## 19. 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


## 20. 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.

## 21. 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.

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- 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-aider(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.

## **22. 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

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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

### **23. 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:

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- 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;
- 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.

#### **24. 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;

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- When used for transporting persons must have seats firmly secured and sufficient for the number of persons being transported.

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.

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- 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);
- 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.

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## 25. LIFTING EQUIPMENT & MACHINERY

Lifting equipment must be designed and constructed in accordance with the manufactures/designers specifications as well as generally accepted technical standards and operated, used, inspected and maintained in accordance with the manufactures requirements as well as that of the of Driven Machinery Regulations promulgated in terms of the Occupational Health and Safety Act (Act no 85 of 1993).

The Driven Machinery Regulations requires that:

- Lifting equipment is clearly and conspicuously marked with the maximum mass load (MML) that it is designed to carry safely. When the MML varies with the conditions of use a table showing the maximum mass load with respect to every variable condition shall be posted up by the user in a conspicuous, place easily visible to the operator and the table shall be used by the driver/operator;
- Each winch on a lifting machine must at all times have, at least, three full turns of rope on the drum when the winch has been run to its lowest limit;
- Lifting equipment shall be fitted with a brake or other device capable of holding the MML. This brake or device shall automatically prevent the downward movement of the load when the lifting power is interrupted;
- Lifting equipment shall be fitted with a load limiting device that automatically arrest the lift when the load reaches its highest safe position or when the mass of the load is greater than the MML;
- Every chain or rope on a lifting machine that forms an integral part of the machine must have a factor of safety as prescribed by the manufacturer of the machine. Where no standard is available the factor of safety must be:
  - chains – 4 (four)
  - steel wire ropes 5 (five)
  - fibre ropes- 10 (ten)
- Every hook or load attaching device must be designed to prevent the load from slipping off or disconnecting;
- Every lifting machine must be inspected and load tested by a competent person every time it has been dismantled and re-erected and every 12 months after that. The load test must be in accordance with the manufacturer's requirements or to 110% of the MML. In addition, all ropes, chains, hooks or other attaching devices, sheaves, brakes and safety devices forming an integral part of a lifting machine must be inspected every 6 months by a competent person;
- All maintenance, repairs, alterations and inspection results must be recorded in a log book and each lifting machine must have its own log book; and
- No person may be lifted by a lifting machine not designed for lifting persons unless in a cradle approved by the inspector of the Department of Labour.

### General requirements for cranes and lifting equipment

All documentation must be provided to the Johannesburg Water SOC Ltd Project Engineer prior to mobilisation. Failure to do so and the resulting cost of any delays and/or remedial activities will be for the Contractor's account.



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All crane operators must be authorised by the relevant Engineer before they may operate a crane or lifting machine. The Load charts must be displayed at the crane.

Daily pre-use inspections of the cranes must be done and be kept on the file. The inspections must be logged in a logbook. The area in which a lift is performed must always be barricaded to prevent employees from entering.

A crane or lifting machine must not be left unattended and the keys may never be left in the ignition when the operator is not present. Properly constructed out rigger pads must be used when soil is uneven or unstable. (Only sleepers or appropriately designed steel plate pads may be used for this purpose).

Only a competent rigger may direct a lift of any kind unless the following requirements are met. Rigger assistants used for performing lifting operations shall be limited to lifts with all of the following requirements:

- Lifts lower than 5 tons
- Easy lifts that does not require the load to be lifted over structures, equipment or machinery
- Equipment that is not critical
- Rigging configuration that requires the attachment of several parts of lifting equipment such as chain blocks to adjust the angle of loads.
- All safety devices on a crane or lifting machine must be functional.

Certification will be required for record purpose, and shall cover the following:

- A Brake or other device capable of holding the maximum mass should the power fail, or which is such that it shall automatically prevent the uncontrolled downward movement of the load when the raising effort is interrupted; and
- A Limiting device which shall automatically arrest the driving effort when:
- The Hook or Load attachment point of the Power Driven lifting machine reaches its highest safe position; and
- In the case of a Winch Operated lifting machine with a lifting capacity of 5000kg or more, the load is greater than the rated mass load of such machine.

The user shall ensure that every lifting machine is operated by an Operator specifically trained for a particular type of lifting machine; the user shall not require or permit a person to operate such lifting machine unless the operator is in possession of a certificate of training, issued by an accredited person or organisation.

No Crane shall be used at arrival on site before copies of all documentation have been handed over to the Johannesburg Water SOC Ltd and the Crane have been checked by a person duly authorised and signed off as acceptable. Copies of all documentation shall be kept in the OHS File at all times.

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No Crane shall be used without a pre-use check and findings entered on an approved checklist. Before any cranes are established on site the following must be inspected and approved:

- Operator's licences
- Training certificates
- Medical fitness certificate.
- The cranes load test certificate.
- Rope test certificates including Mill / Destructive test.
- The lifting gear load test certificates.
- The load limiting device calibration certificate.
- Proof that the hooks have been measured for spreading.
- The service inspection history.
- Monthly comprehensive inspection certificate
- Operation and maintenance Manuals and crane condition.

#### Cranes and Lifting Machines

A contractor shall ensure that where tower cranes are used:


- Account is taken of the effects of wind forces on the structure;
- Account is taken of the bearing capacity of the ground on which the tower crane is to stand;
- The bases for the tower cranes and tracks for rail-mounted tower cranes are firm and level;
- The tower cranes are erected at a safe distance from excavations;
- There is sufficient clear space available for erection, operation and dismantling;
- The tower crane operators are competent to carry out the work safely; and
- The tower crane operators are physically and psychologically fit to work in such an environment by being in possession of a medical certificate of fitness."

No user shall use or permit any person to use a Jib-Crane with a lifting capacity of 5000kg or more at a minimum Jib radius, unless it is provided with:

- A load indicator that shall indicate to the operator of the Jib-Crane the mass of the load being lifted, provided that such a device shall not require manual adjustment from the application of the load, to the Jib-Crane, until the release of the load.
- A Limiting Device, which shall automatically arrest the driving effort whenever the load is lifted, is greater than the rated mass load of the Jib-Crane.

#### Mobile Crane near Power Lines

No mobile cranes are to be used near overhead power lines until the Johannesburg Water SOC Ltd representative has been notified and provided safe access conditions and a valid permit to work is obtained. Mobile cranes shall be effectively earthed when working in the vicinity of electrical wires. Assume that all electrical equipment and wires are live and avoid them.

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### Skyjacks

The following requirements for skyjacks shall apply:

- No Skyjack shall be used before the Jack has been inspected and passed by the Resident Engineer.
- The Test Certificate, no older than three (3) months shall be produced.
- The Safe Working Load shall be clearly displayed.
- The Operators shall make use of Safety belts / Harnesses at all times.
- Only trained, competent and appointed persons shall operate Skyjacks.
- Proof of Training and Training program shall be submitted.
- No person shall stand of the Handrails of a Skyjack.
- When a Skyjack is not operational, it shall be stopped, no lower than three (3) meters above ground level.
- The Operator shall make use of a ladder to get in and out of the Skyjack. The ladder shall be removed to safekeeping when stopped and not in use.
- The Power supply shall be disconnected when not in use thus preventing unauthorised

### Overhead Cranes

Contractors and their employees shall not go onto any operational overhead crane runway or crane for any purpose without a valid permit to work.

When ascending to, or descending from, crane runways, always use the access provided for this purpose.

When crane runways are operational, prior to the commencement of any work being carried out on or near a crane runway, or in circumstances as necessary, the Principal Contractor shall arrange to isolate appropriate sections of the crane runway by fitting stops to the crane rail tracks.

If this is impracticable, the Principal Contractor shall provide a watcher who shall take up a position in the crane cab. In cases where there is more than one crane on the same runway, a watcher is to be provided in the cab of each crane, which may approach the work area. The Contractor shall note that the use of a crane watcher is not permitted for repairs or replacements of the crane rails.

The prime responsibility of the watcher is to keep the employee, who may be in or move into a position of danger, constantly in view and warn the crane driver when necessary. It is important that watchers are given clear and concise instructions in carrying out their responsibilities so as to ensure maximum safety.

The watcher shall not engage in conversation with the driver.

In cases where the watcher stationed in the crane cab is unable at all times to view employees working on the runway, a second watcher shall be placed in a position where there is a clear vision of both the employees working on the crane runway and the watcher in the crane cabin.

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When sections of runway are being replaced or repaired, arrangements shall be made to isolate the working position by fitting permanent rail stops to the crane rail tracks. If necessary, they are to be fitted on both sides of the section under repair. When the stops are fitted, they shall be at least three (3) metres clear of the area under repair.

When rail stops are fitted for this purpose, members of the group or groups working on the crane runway shall fix Danger Tags to the stops.

The Contractor shall provide the watcher with a hooter or suitable warning device.

#### Lifting tackle

The following requirements will apply to lifting tackle:

- Manufactured of sound material, well-constructed and free from patent defects;
- Clearly and conspicuously marked with an identity number;
- MML factor of safety:
  - Natural fibre ropes - 10(ten)
  - Man-made fibre ropes and woven webbing - 06(six)
  - Steel wire ropes – single rope - 06(six)
  - Steel wire ropes – combination slings - 08(eight)
  - Mild Steel chains - 05(five)
  - High tensile/alloy steel chains - 04(four)
- Steel wire ropes must be examined by a competent person every three months and the results recorded in a designated logbook. The ropes must be discarded (not used any further for lifting purposes) when wear and corrosion is evident.

## **26. COMPLIANCE MONITORING**

- Weekly inspections and monthly audits will be conducted on site.

## **27. PROJECT COMPLETION**

- Upon completion of the project the SHE file shall be returned to the Client for retention and close out.



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Project details				
<b>Project Scope:</b>	Hiring of a 110 ton mobile crane at Bushkoppie Works			
<b>Depot / Site / Department:</b>	Bushkoppie Works			
<b>Estimated duration:</b>	TBC			
Documents required				
Letter of Good Standing	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/> N/A <input type="checkbox"/>
SHE plan	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/> N/A <input type="checkbox"/>
Risk Assessment	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/> N/A <input type="checkbox"/>
Safe working Procedures	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/> N/A <input type="checkbox"/>
Notification of Construction work	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/> N/A <input type="checkbox"/>
Inspection registers	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/> N/A <input type="checkbox"/>
Items required before starting				
Medicals	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/> N/A <input type="checkbox"/>
Vaccinations	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/> N/A <input type="checkbox"/>
PPE (boots, hard hats, overall)	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/> N/A <input type="checkbox"/>
Induction	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/> N/A <input type="checkbox"/>
Approval from OHS	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/> N/A <input type="checkbox"/>
APPOINTMENTS AND COMPETENCIES				
<u>Construction Supervisor</u>				
Appointment	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/> N/A <input type="checkbox"/>
CV (and/ certificates)	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/> N/A <input type="checkbox"/>
<u>Safety Officer</u>				
Appointment	Yes	<input type="checkbox"/>	No	<input type="checkbox"/> N/A <input checked="" type="checkbox"/>
CV (and/ certificates)	Yes	<input type="checkbox"/>	No	<input type="checkbox"/> N/A <input checked="" type="checkbox"/>
<b>NB* Other appointments will be based on the number of employees on site as required by law.</b>				

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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, Annexure 1: Baseline risk assessment 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