## BASELINE RISK ASSESSMENT

### Annexure M

<table>
<thead>
<tr>
<th>Risk Value</th>
<th>Probability</th>
<th>Severity</th>
<th>Risk Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very High Risk</td>
<td>Almost certain to happen</td>
<td>5</td>
<td>6 - R60 000</td>
</tr>
<tr>
<td>High Risk</td>
<td>Likely</td>
<td>4</td>
<td>4 - R100 000 - R499 999</td>
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<tr>
<td>Medium Risk</td>
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<td>3</td>
<td>2 - R10 000 - R99 999</td>
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<tr>
<td>Low Risk</td>
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<td>1 - R0 - R99</td>
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### PPE Requirement & Safety Signs

<table>
<thead>
<tr>
<th>Task / General Activities</th>
<th>Risk Identified</th>
<th>Severity Index</th>
<th>Probability Value</th>
<th>Severity Value</th>
<th>Frequency Value</th>
<th>Total Score (%)</th>
<th>Corrective Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improper loading and off loading practices</td>
<td>Health &amp; safety (I)</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>65</td>
<td>5</td>
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<tr>
<td>Traffic congestion</td>
<td>Cost (C)</td>
<td>4</td>
<td>4</td>
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<td>100</td>
<td>5</td>
<td>100</td>
</tr>
<tr>
<td>Movement of vehicles and Plant</td>
<td>Productivity (P)</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>75</td>
<td>5</td>
<td>75</td>
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<tr>
<td>Use of damaged portable electrical tools and hand tools</td>
<td>Environmental (E)</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>50</td>
<td>5</td>
<td>50</td>
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</tbody>
</table>

1. **Mandatory or as per requirement**
2. **Corrective Action**
3. **Responsible Person & Time Frame**

### Site Specific Construction Sign at site entrance

- Principal Contractor
- Site Establishment Risk Assessment and Safe working Procedure / Method Statement to be communicated to all workers

### Site establishment

- Site establishment Risk Assessment and Safe working Procedure / Method Statement to be communicated to all workers
- Site Specific Construction Sign at site entrance

### Tasks

1. Improper loading and off loading practices
2. Traffic congestion
3. Movement of vehicles and Plant
4. Improper electric installation
5. Use of damaged portable electrical tools and hand tools
6. Dust
7. Clearing of ground (leveling)
8. Social / Community Disruption
9. Contractors / Service Providers working on site without being approved by Client or client representative
10. Lifting operations

### Annexure L

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<thead>
<tr>
<th>Task / General Activities</th>
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<td>50</td>
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</table>

1. **Mandatory or as per requirement**
2. **Corrective Action**
3. **Responsible Person & Time Frame**
Lifting Operations - (includes truck crane, mobile crane, Lifting Machinery as per DMR 18(11))

1. Manual loading and offloading procedure
2. Rip & Pinch Points
3. Poor Communication
4. Slipping & Tripping Hazards
5. Employee handling materials / equipment that is to heavy to lift
6. Materials / equipment or tools falling

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<tbody>
<tr>
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Mandatory or as per requirement

1. Manual handling / lifting Safe work Procedure and Risk Assessment to be communicated to all workers on site. (Keep proof of communication in safety file)
2. Workers assisting each other to lift must communicate with each other to ensure safe lifting and lowering of items.
3. Before offloading or handling any materials, equipment or tools, ensure walkways are clear and free from tripping hazards.
4. Workers to assist each other if intended load to be lifted exceeds 25kg (per person).
5. Workers / Supervisors to ensure materials, equipment and tools are secure when offloading.
6. When manual lifting the correct procedure must be used, workers to lift loads using their legs and not their back.

Principal Contractor

Lifting Operations - includes truck crane, mobile crane, Lifting Machinery as per DMR 18(11)

1. Incompetent Operator
2. Unsafe Lifting Machine
3. Substandard
5. Defecting Lifting equipment(slings, chains, ropes etc)
6. Incorrect lifting equipment used for specific operations
7. Uneven surfaces
8. Surrounding structures and other machinery or equipment
9. Incompetent Rigger
10. Incliment Weather (high winds, lightning)
11. Poor ground conditions

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Mandatory or as per requirement

1. Only appointed competent operator will be authorised to operate lifting machinery (Competency must be valid)
2. Lifting Machine must be inspected before use, and findings to be recorded on checklist, any deviations must be recorded and reported to supervisor.
3. Load test certificate and maintenance schedule (Service history) must be available and valid for the lifting machine to be used.
4. All lifting equipment must be inspected before use and findings to be recorded on a checklist, any deviations must be recorded and reported to supervisor. Load test for all lifting equipment must be valid and available on site.
5. Appointed / competent rigger to indicate the correct lifting equipment to be used. Rigger to use a whistle as communication method when lifting is taking place to warn surrounding areas.
6. Operator to inspect work area before work, to identify any unsafe ground conditions or uneven surfaces. Operator to ensure outrigger are used with base plates to level the lifting machine.
7. Lifting operations are not allowed in windy conditions or when raining.
8. SWP & Risk assessment to be communicated to all involved with lifting operations
9. Lifting area to be barricaded with solid barricading and warning signage to be posted. No other work operations will be allowed in close vicinity with the lifting operations
10. Ensure 3 point contact when climbing on and off the lifting machine
11. Lifting equipment to be 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, the table of maximum loads should be used by the drive/operator.
12. Lifting equipment be fitted with a brake or other applicable device capable of holding the MML. This brake or device must automatically prevent the downward movement of the load when the lifting power is interrupted.

Principal Contractor

Principal Contractor

1. Scanning devices to be used prior any excavation issues in order to determine live services and avoid electrocution or damage to existing water lines.
2. Drawings can be used to identify any underground services (if drawings are available)
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<th>Environment (E)</th>
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**Mandatory or as per requirement**

1. All unemployed contractors to maintain Health & Safety identity card.
2. Employees to be provided with a valid identity card and pass card.
3. Mobile plant used on site to be in good working order and maintained.
4. Mobile plant operators must have valid PDP/Competency certificate.
5. Service history must be available on site and Used in accordance with their design and intention for which they were designed.
6. Random alcohol and drug tests to be introduced and maintained.
7. Ensure vehicles are isolated when not in operation; Construction vehicles and mobile plant left unattended after hours adjacent to roads and areas where there is traffic movement.
8. Construction Vehicle to be fitted with adequate signalling devices to make it easy for other vehicles to see.
9. In residential areas, noise generation to be conducted at times specified by the local authority.
10. Random alcohol and drug tests to be introduced and maintained.
11. All hand tools must be inspected and recorded on a checklist.
12. Wide load signage to be erected at the excavated area.
13. Warning sign to be erected at the excavated area.
14. Sabotage / Vandalism / Theft / Theft of Mobile plant / Heavy vehicle / Art been reported to the local police.
15. Incompetent Operator.
16. Heavy vehicle operators to have a valid roadworthy certificate.
17. No unauthorised entry Prohibited.
18. Operators to drive according to the required speed limit on site and on public roads.
19. All drivers must be appointed and must have a valid drivers license and PDP/Competency certificate.
20. Vehicles or plant not to exceed the prescribed weight limit of the plant or vehicle.
21. Construction Vehicle to be fitted with adequate signalling devices to make movement safe including reversing; Fitted with two head and two tail lights that do not come into contact with parked construction vehicles and mobile plant. In addition, construction vehicles and mobile plant left unattended after hours must be parked with all buckets, booms etc. full lowered, the emergency brakes engaged and, where necessary, the wheels chocked, the transmission in neutral and the motor switched off and the ignition key removed and stored safely.
22. Operation of the construction site to be managed to prevent the movement of traffic from a sudden emergency, or to come into contact with the parked construction vehicles and mobile plant.
23. Street lights to be fitted with adequate lighting to make it easy for other vehicles to see.
24. Speed limit signage and Heavy Vehicle Movement signage to be posted on site.
25. Vehicles left unattended when not in operation.
27. Overloading vehicles or Plant.
Hot works (Grinding, Cutting, Welding, Flame cutting, Soldering)

1. Incompetent employees conducting hot works
2. Improper storage of welding material
3. Hot works conducted in view of employees
4. Unsafe / damaged equipment used
5. Sparks
6. Fire
7. Hot work near flammable materials
8. Unsecured / unsafe storage of cylinders
9. Substandard scaffold, not as per SANS 10085
10. Overhead Hotwork operations
11. Hot works in wet conditions
12. Incorrect Discs used when cutting, grinding
13. No Guards in Place when cutting, grinding
14. Incorrect fittings used when connecting pipes to cylinders
15. Gauges not working on cylinders
16. No fire fighting equipment or fire fighter available
17. Hot work area not barricaded

Total Average Risk Value

1. Health & safety (I) 4
2. Cost (C) 4
3. Productivity (P) 3
4. Environment (E) 2

Mandatory or as per requirement

Principal Contractor

Limited resources to conduct all task

1. Contractual non compliance
2. Schedule and cost over run on project

Total Average Risk Value

1. Health & safety (I) 1
2. Cost (C) 4
3. Productivity (P) 4
4. Environment (E) 4

Mandatory or as per requirement

Principal Contractor

Scaffolding

1. Unsafe scaffold materials used
2. Oﬀloading and Loading of scaffold material
3. Incompetent scaffold erectors
4. Incompetent scaffold Inspector
5. Substandard scaffold, not as per SANS 10085
6. Unlevel surfaces / Unstable surfaces
7. Inclement weather conditions
8. Unsafe access
9. Unsafe stacking and storage of scaffold materials
10. Stacking and storage of materials on top of scaffold platform
11. Overhead Powerlines
12. Unsafe / damaged safety harnesses used

Total Average Risk Value

1. Health & safety (I) 5
2. Cost (C) 5
3. Productivity (P) 3
4. Environment (E) 2

Mandatory or as per requirement

Principal Contractor

1. Only competent workers with the required skills and knowledge will be appointed to operate such machinery like grinders, welding machines, cutting torch etc.
2. Gas cylinders when used to be safely stored and to be secured, when not in use, in a cool place, upright position and locked store room.
3. All hot works to be conducted in an enclosed place away from public and employees conducting other activities. Welding screens to be placed at working areas and solid barricading used to close off areas
4. All equipment used for Hot works must be inspected before use, all findings to be recorded on a checklist and any deviation must be recorded and reported to a supervisor, all guards must be in place and correct blades / discs or drill bits to be used
5. If conducting hot works near flammable materials or the bush, spark containment must be used, for example fire blankets, welding screens and wetting the areas with water.
6. Fire extinguishers must be placed near areas where hot works are conducted, and a trained competent appointed fire fighter to be available onsite
7. SABS approved PPE to be issued and used on site. Tasks specific PPE is required for Hot works activities, for example welding helmet, face shield when cutting, safety glasses, dust masks, welding Apron etc.
8. No Overhead Hotworks will be allowed, if hot work is required at height it should be done from a approved scaffold or MEWP. Then the area below should be barricaded to prevent workers from entering that area
9. Hot work will not be allowed in wet conditions, electrical cables must be made safe and free from water.
10. All employees conducting onsite must be ﬁtted with the correct ﬁttings and clamps when connecting the hoses. All gauges must be in good working condition
11. All new vessels must be checked for leaks, leaking vessels should NOT be used. Equipment must be identiﬁed numbered and entered into a register

Principal Contractor

1. Client to ensure that contractor is well aware of current scope deﬁnition as well as the requirements stipulated in the tender speciﬁcations.
2. Contractor to ensure compliance on set speciﬁcations from client

Principal Contractor

1. No damaged or unsafe scaffold materials allowed to be used for erecting of scaffold
2. Workers to assist each other when lifting and handling of scaffold materials, gloves must be worn to prevent pinch point on hand and fingers.
3. Only appointed / competent scaffold erector to erect and dismantle scaffold.
4. Proof of competency must be valid and available on site.
5. Only appointed / competent scaffold inspector to inspect and approve scaffold. Proof of competency must be valid and available on site.
6. Scaffold must be erected by competent person as per SANS 10085 standard. Scaffold must then be inspected by a competent inspector and record all findings on a checklist, deviations must be recorded and reported to scaffold supervisor.
7. Ground must be inspected stability before scaffold can be erected. If ground is unstable scaffold can be erected, base jacks must be used to level the scaffold
8. All scaffold work must be stopped when its raining due to the slippery surface, scaffold work can only continue if scaffold is dry and scaffold supervisor / inspector has inspected scaffold and approved it
9. Stacking of materials on scaffold will only be allowed with the approval of the scaffold supervisor, after inspecting the height and weight of stacked materials. All materials must be removed daily on end of shift.
10. All scaffold materials must be stacked neatly in a safe manner
11. NO scaffold work will be allowed near overhead powerlines
12. SWP & Risk Assessment for scaffold work must be communicated to relevant and all involved with scaffold work
13. All safety harnesses must be inspected before use, all findings must be recorded on a checklist, any deviations must be recorded and reported to supervisor. DOC for harness must be available in safety file
14. Workers must be trained on the usage of safety harnesses and working at height. Proof of competency must be available
15. All workers working on scaffold must be medically ﬁt (proof of valid medical must be available in the form of annexure 3. Medical must include ﬁt for work at height)

Principal Contractor

1. Only appointed / competent scaffold erector to erect and dismantle scaffold.
2. Only appointed / competent scaffold inspector to inspect and approve scaffold. Proof of competency must be valid and available on site.
3. All workers working on scaffold must be medically ﬁt (proof of valid medical must be available in the form of annexure 3. Medical must include ﬁt for work at height)
### Stacking and storage of material & Housekeeping

1. Unstable stacking of goods / materials / Unsafe Stacking Procedures
2. Stacking & Storage area not identified and demarcated
3. Pinch Points
4. Environmental contamination from spills/ages
5. Snakes
6. No clear walkways at stacking and storage areas
7. Unauthorised entry
8. Poor waste removal
9. Unstable Aggregate or Sand

#### Mandatory or as per requirement

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</tr>
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<tbody>
<tr>
<td>3</td>
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</tbody>
</table>

### Offloading construction Materials

1. Tip truck reversing over personnel.
2. Vehicle to vehicle collisions
3. Man machine interaction.
4. Exposure to dust
5. Incompetent Operator
6. Unauthorised to offload
7. Incorrect plant used for offloading

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### Working near overhead powerlines

1. Sagging KV line
2. Roof inclining near the KV LINE
3. Scaffolding erected close to the KV Line
4. Untrained employees working near the KV line
5. Construction Vehicles or plant operations near overhead powerlines

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### Use of Portable Electrical Tools and Hand Tools

1. **Unsafe, Sub-standard and/or Defective equipment used**
2. **Untrained employees using portable electrical tools**

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<tr>
<td>86%</td>
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### Use and Storage of Flammables

1. **Use and Storage of flammables could result in fires or explosions**
2. **Unsafe stacking and Storage of flammable could result in spillages**

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</tbody>
</table>

### Illumination during Night Works

1. **Personal injury due to poor illumination at night**
2. **Damage to equipment**
3. **Unauthorised work at Night**

#### Mandatory or as per requirement

<table>
<thead>
<tr>
<th>1. Health &amp; Safety ($)</th>
<th>2. Cost ($)</th>
<th>3. Productivity ($)</th>
<th>4. Environment ($)</th>
</tr>
</thead>
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<tr>
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</table>

#### Total Average Risk Value

<table>
<thead>
<tr>
<th>1. Health &amp; Safety ($)</th>
<th>2. Cost ($)</th>
<th>3. Productivity ($)</th>
<th>4. Environment ($)</th>
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</thead>
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<tr>
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<tr>
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</tbody>
</table>
## Hazardous Chemical Substances

1. Improper storage of chemicals, transportation and handling
2. Unsafe use and/or storage of flammables could result in fires
3. Spilled chemical substances may also impact negatively on the health of employees and negative implications for the environment
4. Health hazards when ingesting, inhaling or skin contact with HCS

### Mandatory or as per requirement

<table>
<thead>
<tr>
<th>Health &amp; safety (I)</th>
<th>Cost (C)</th>
<th>Productivity (P)</th>
<th>Environment (E)</th>
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</tr>
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</table>

### Total Average Risk Value

55%

## Lack of communication between various parties involved.

1. Instructions not adequately followed through
2. Information not transmitted as supposed to
3. Schedule slippage due to rework

### Mandatory or as per requirement

<table>
<thead>
<tr>
<th>Health &amp; safety (I)</th>
<th>Cost (C)</th>
<th>Productivity (P)</th>
<th>Environment (E)</th>
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</tr>
</tbody>
</table>

### Total Average Risk Value

55%

## Temporary Structure (Temporary works)

1. Inadequate designs
2. Incompetent formwork erectors and inspectors
3. Temporary structure collapse due to poor design
4. Unsafe access to elevated areas
5. Poor stacking and storage of formwork materials
6. Manual handling
7. Pinch points
8. Work at Fall Positions

### Mandatory or as per requirement

<table>
<thead>
<tr>
<th>Health &amp; safety (I)</th>
<th>Cost (C)</th>
<th>Productivity (P)</th>
<th>Environment (E)</th>
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<td>3</td>
<td>3</td>
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</tbody>
</table>

### Total Average Risk Value

75%

## Principal Contractor

1. The principal contractor to ensure that:
   - Employees receive the necessary information and training to be able to use, handle and store hazardous chemical substances safely.
   - The risk assessments required in terms of Construction Regulation 9 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. This Risk Assessment must be communicated to all employees exposed to HCS.
   - Suppliers provide the necessary information in the form of material safety data sheets regarding hazardous chemical substances required to ensure the safe use, handling and storage of these substances. This MSDS must be available on site and communicated to employees exposed to the HCS.
   - 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 said hazardous chemical substances.
   - Hazardous chemical substances containers be clearly marked as to the contents and main hazardous category e.g. “Flammable” or “Corrosive”
   - No person eats or drinks in a hazardous chemical substances workplace;
   - Hazardous chemical substances waste is disposed of safely in terms of hazardous waste disposal requirements at a registered facility.
2. HCS to be properly stored in a cool locked store room or storage area
3. Employees handling hazardous chemical substance to be trained. Possible preventive measures to be put in place in order to prevent harm to employees. PPE to be used when necessary.

## Principal Contractor

1. Implement and ensure a proper communication system between various parties involved.
2. Site meetings to be conducted on set intervals including integration between various parties

### Total Average Risk Value

55%

## Principal Contractor

1. A contractor to appoint a temporary works designer in writing, to design, inspect and approve the erected temporary works.
2. Temporary works to be carried out under the supervision of a competent person appointed in writing.
3. To be erected by competent persons.
4. Temporary structure to be inspected by a competent person immediately, before, during and after the placement of concrete. After inclement weather or any other imposed load and at least on a daily basis until the temporary works has been removed and results recorded in a register.
5. All temporary works to be carried out as per Construction regulations 12.
6. Temporary work structures to be so designed, erected, supported, braced and maintained that they will be able to support any vertical or lateral loads that may be applied.
7. No load to be imposed onto a structure that the structure is not designed to carry.
8. Temporary work to be erected in accordance with the structural design drawings for such temporary work and if there is any uncertainty, the designer must be consulted before proceeding with the erection/use of the temporary work.
9. The foundation or base upon which the temporary work is erected to be able to bear the weight and keep the structure stable.
10. Employees erecting temporary work to be trained in the safe work procedures for the erection, moving and dismantling of the temporary work.
11. Safe access and emergency escape to be provided for employees.
12. Only employees trained to work at height with a valid medical fitness to work allowed to erect temporary works

### Total Average Risk Value

75%
Exposure to poisonous / Venomous or other dangerous animals, reptiles or insects

Venomous snakes, insects / spiders in bushes, stacking areas and other confined spaces
Poisonous insects
Insects, reptiles and other animal bites, stings that causes allergic reactions

1. Health & safety (I) 4
2. Cost (C) 4
3. Productivity (P) 2
4. Environment (E) 2

Total Average Risk Value

Mandatory or as per requirement

1. The principal contractor to ensure that the following are duly adhered to:
- the emergency procedure to be expanded to provide for the effective treatment of employees or other persons visiting exposed to bites or stings from poisonous animals or insects, i.e. the contact details of the nearest medical unit that could treat employees exposed to bites or stings be obtained and arrangements be made with this service provider on the procedures to be followed to ensure swift response when required;
- confirmation to be obtained or made available from the nearest medical unit that they have and venom reserved to treat employees or other persons visiting that may be exposed to snake bites or scorpion stings;
- the potential exposure posed by poisonous or venomous animals or insects and awareness thereof to be discussed with all employees as part of the toolbox talks and general awareness training and other persons visiting as part of the pre-site visit induction process.
2. If snakes are located on site contact nearest snake handler to assist with removal of the snake. Do not attempt to remove snake if not trained.
3. Emergency contacts to be freely available on site and in safety file.

Principal Contractor

Working on Heights (Work in fall risk positions)

1. Inadequate fall protection
2. Employees not medically fit to work at height
3. Workers not trained to work at height
4. Failing objects
5. Workers falling
6. Inadequate / unsafe or damaged fall prevention equipment used
7. Inclement Weather

Total Average Risk Value

Mandatory or as per requirement

1. Designate a competent person to be responsible for the preparation of a fall protection plan.
2. Ensure that the Fall protection plan is implemented, amended and maintained. - FPP must be developed by a competent / appointed person, proof of competency must be available on site.
3. Take steps to ensure continued adherence to the fall protection plan.
4. The fall protection plan must include but not limited: A Risk assessment of all work carried out from a fall risk position, procedures and methods used to address all the risks identified.
5. Appointed 16 (2) to ensure that employees comply with Construction regulations 10 Fall protection.
6. As far as is practicable, any person working in a fall risk position will work from a stable platform, ladder or other device that is at least as safe as if he or she is working at ground level and whilst working in this position be wearing suitable fall arrest equipment to prevent the person falling from the platform, ladder or other device utilised. This fall arrest equipment 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 SANS 10063 code of practice for the design, erection, use and inspection of access scaffolding.
7. Employees working at height must be provided with a full body harness that will be worn and attached above the wearer’s head at all times and the lanyard must be fitted with a shock absorbing device or the person must be attached to a fall arrest system that is approved by the Client.
8. If no fall protection is not practicable or employee does not have a secured / approved anchor point for a lifetime a suitable catch net, which is able to sustain the weight of at least the average person working in a fall risk position, will be erected.
9. Employees working in a fall risk position will be trained to do this safely and without risk to their or other person’s health and safety. Proof of competency must be available in safety file.
10. Where work on roofs is carried out, the risk assessment must take into account the possibility of persons falling through fragile material openings in the roof.
11. The physical and psychological fitness of employees working fall risk positions (Medical fitness to work at height) must be valid and available on site.
12. FPP, Risk Assessment and Safe working Procedures must be communicated to all workers working in a fall risk position.

Principal Contractor

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<thead>
<tr>
<th>Health &amp; safety (I)</th>
<th>Cost (C)</th>
<th>Productivity (P)</th>
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Principal Contractor
1. The principal contractor to implement an early warning system to identify inclement weather and to prevent such weather from posing negative implications on the safety of employees and other persons visiting.
2. The early warning system to, as a minimum, provide for the following:

- **Construction work done during electrical storms**
  a. The principal contractor to ensure that all employees are removed from heights and all employees are as safe as possible, in inclement weather conditions.
  b. No work to be allowed on the construction site during electric storms where employees cannot be protected from it. Protection involves:
     - eating area fitted with a lightning mast
     - workshops
     - inside buildings
     - No work to be allowed in electrical storms on top of open structural steel, even when earthed.
  c. No work to be allowed on height where the lightning is within a 10 kilometre radius.
  d. After inclement weather on-site risk assessments to be reviewed to include wet conditions.

- **Crane operations during inclement weather**
  a. Crane operations to stop during lightning within a 10 kilometre radius and wind above 28 km/h, crane driver will not be allowed to leave the crane with the booms extended.
  b. Lifting operation to stop during rain, rigging and hand lifts.
  c. Booms on all cranes to be retracted.
  d. All rigging operations to stop and employees will be removed from site.

- **Construction work done during rain**
  a. During rainy conditions all work on steel structures to stop.
  b. No electrical tools to be used during rainy weather in open areas.
  c. If necessary work only to be done in water proof areas where there is a zero risk for electrocution.

- **Scaffolding activities during inclement weather conditions**
  a. During inclement weather only limited scaffolding actions to be permitted i.e. erecting and dismantling activities.
  b. When absolutely necessary to allow scaffolding activities to continue during abnormal equipment and process conditions so not to impair personnel safety or pose an environmental risk. In such cases, scaffolding activities may continue with the provision that the relevant team ensures that a comprehensive risk assessment is done, whilst considering both work and weather conditions.
  c. All scaffold users to:
    - Ensure that scaffolding is inspected immediately after inclement weather conditions.
    - Ensure that the risks associated with working at heights during inclement weather are identified and reasonably mitigated.
    - Be cautious of slip/hill hazards when performing activities during inclement weather.
## Working in Confined spaces

1. **Health & safety (I)**
2. **Cost (C)**
3. **Productivity (P)**
4. **Environment (E)**

### Total Average Risk Value

<table>
<thead>
<tr>
<th>Component</th>
<th>Score</th>
<th>Risk Value</th>
</tr>
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<tbody>
<tr>
<td>Health &amp; safety (I)</td>
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</tr>
<tr>
<td>Environment (E)</td>
<td>2</td>
<td>100%</td>
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</tbody>
</table>

### Mandatory or as per requirement

1. Principal Contractor to ensure confined space works comply to the following:
   - **Ventilation**
     a) The confined space to be opened and allowed to ventilate for at least 15 minutes before entering the manhole. All open manholes to be barricaded and maintained at all times.
     b) A gas monitor to be lowered to the bottom of the confined space with a rope to test the presence of any toxic/flammable gas. If any gas is detected, the space to be force ventilated by means of a blower for at least 15 minutes where after the air should be tested again. Under no circumstances may any space be entered while there is a toxic/flammable gas present.
     c) After the undertaking of the necessary work, the person in charge of the activities to confirm that all the employees are accounted for.
   - **Entering a confined space**
     a) When entering a confined space, the person entering the space to wear a safety harness and fully operational gas detector. A lifeline should be attached to the safety harness and a person on the surface should be in continuous contact with the person in the confined space. All construction activities to be explained to the person in the confined space. A minimum one person on the surface to be trained in basic first-aid (level 1) with proof of such training as well as a fully-equipped first-aid box available on site.
     b) No person shall remain within a confined space for a period of more than one hour at a time. A minimum of 5 minute rest periods on the surface to be taken after this period before re-entering.
     c) Should the alarm sound on the gas monitor, all employees to exit the confined space and the immediate area should also be evacuated immediately. The area to be properly ventilated and re-tested before re-entering the confined space. Professional support should be called if necessary.
     d) Employees to be provided with flameproof lighting when entering a confined space with the possibility of flammable gases. No naked lights, smoking or unprotected electrical apparatus which may cause sparks, shall be permitted in any confined space or in its vicinity.
   - **Training**
     a) All employees that have to enter a confined space to be formally trained and confirmed competent before being permitted to enter such areas (new employees to complete this training and be declared competent before allowed to work in a confined space).
     b) Refresher courses to be attended by employees at least once every 2 years or immediately if new methodologies or equipment are adopted or acquired.
     c) Continuous onsite training (Safety moments / toolbox talks) and support by supervisory staff to be undertaken and enforced where required.
     d) Competent person to conduct continuous gas monitoring of confined spaces.
   - **Equipment**
     1. Gas monitor to be lowered to the bottom of the confined space with a rope to test the presence of any toxic/flammable gas. If any gas is detected, the space to be force ventilated by means of a blower for at least 15 minutes where after the air should be tested again. Under no circumstances may any space be entered while there is a toxic/flammable gas present.
   - **Supervision**
     a) The confined space to be opened and allowed to ventilate for at least 15 minutes before entering the manhole. All open manholes to be barricaded and maintained at all times.
     b) All tools and equipment to be used must be inspected and registered on a weekly basis.

## Public health & safety and Pedestrians access to site

1. **Health & safety (I)**
2. **Cost (C)**
3. **Productivity (P)**
4. **Environment (E)**

### Total Average Risk Value

<table>
<thead>
<tr>
<th>Component</th>
<th>Score</th>
<th>Risk Value</th>
</tr>
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<tr>
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<tr>
<td>Environment (E)</td>
<td>2</td>
<td>100%</td>
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</tbody>
</table>

### Mandatory or as per requirement

1. The principal contractor will be responsible for ensuring that non-employees affected by the construction work are made aware of the dangers likely to arise from said construction work as well as the precautionary measures to be observed to avoid or minimise those dangers. This includes among others:
   - Non-employees entering the site for whatever reason;
   - The surrounding community;
   - Public bystanders;
   - Pedestrian crossings to be conducted and utilized;
   - No construction work near public vehicles.
   - Construction area must be barricaded (No Danger tape) or fenced to prevent Public from entering work area.

## Steel work (Steel fixing / steel reinforcing)

1. **Health & safety (I)**
2. **Cost (C)**
3. **Productivity (P)**
4. **Environment (E)**

### Total Average Risk Value

<table>
<thead>
<tr>
<th>Component</th>
<th>Score</th>
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<tr>
<td>Environment (E)</td>
<td>2</td>
<td>50%</td>
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</tbody>
</table>

### Mandatory or as per requirement

1. Employees to be provided with proper walkways during steel erection and never to walk on erected steel.
2. Workers to be supplied with the required PPE for Steel-fixing and cutting of steel rebar.
3. Truck drivers to ensure loads are sufficiently secured before transporting materials to site.
4. Workers to ensure to use correct lifting procedure when lifting steel rebar.
5. Cutting of steel rebar to be conducted in a designated safe hot work area.
6. All tools and equipment to be used must be inspected and registered on a checklist. Deviations must be recorded and reported to appointed supervisor.
### Emergency Preparedness

**Patient Safety (Fire Prevention, First aid)**

1. Inadequate emergency planning could result in the inability to effectively respond to emergencies.
2. Inadequate first aid arrangements could impact negatively on the ability to respond to first aid injuries or to stabilise injured employees or other persons that may require advanced medical care.
3. Inadequate fire prevention and protection measures may impact negatively on the ability to fight fires.

<table>
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<tr>
<td>Environment (E)</td>
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</tbody>
</table>

**Total Average Risk Value**

### Site Security and Public Protection

1. Public gaining access to the construction site.
2. Theft
3. Vandalism

<table>
<thead>
<tr>
<th>Risk Category</th>
<th>Total Average Risk Value</th>
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<tr>
<td>Environment (E)</td>
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**Total Average Risk Value**

### Abution Facilities

1. Inadequate provision of welfare facilities may have negative implications on the health of employees and other persons as well as the environment.

<table>
<thead>
<tr>
<th>Risk Category</th>
<th>Total Average Risk Value</th>
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<tbody>
<tr>
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<tr>
<td>Environment (E)</td>
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**Total Average Risk Value**

**Emergency Preparedness**

1. The principal contractor to appoint a competent person to act as emergency controller and coordinator.
2. The principal contractor to conduct an emergency identification exercise and establish what emergencies (such as health, safety, environmental, third party or community related actions etcetera) could possibly develop. Contractor must then develop detailed contingency plans and emergency procedures, taking into account any emergency plan that the project/site may have in place.
3. 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. Emergency evacuation points must be available and signage displayed.

**First Aid**

1. The principal contractor to provide first aid equipment and have qualified first-aiders on site as required by General Safety Regulation 3 of the OHSACT.
2. The contingency plan of the principal contractor to include arrangements for the speedily and timeously transportation of injured and/or ill person(s) to a medical facility or getting emergency medical support to person(s) who may require it.
3. The principal contractor to have firm arrangements with his contractors in place regarding the responsibility of these contractors’ first-aid arrangements as well as treatment of injured and/or ill employees.

**Fire Prevention and Protection**

The principal contractor to ensure that:

- Sufficient number of employees are appointed and trained to act as an emergency controller to deal with fires and other emergencies;
- Employees are informed regarding emergency evacuation procedures and escape routes this must be included in the induction of all workers and visitors;
- Emergency escape routes are kept clear at all times and clearly marked;
- Roll call is held after evacuation to account for all employees and to ensure that no one including visitors and disabled persons have been left behind;
- A clearly audible siren or alarm is fitted and regularly tested. If this is not practicable to the site, other method of warning employees must be used, for example wistles.

### Ablution Facilities

**Mandatory or as per requirement**

- **Signage required for Men / Ladies bathroom / Changeroom and designated sheltered eating area**
  - To be available at Site as per requirements such as Bylaws of the local municipality.
  - Available, reasonable and suitable living accommodation must be provided where the sun, wind and rain must be provided.
  - Eating facility / area Principal Contractor to provide some form of eating facility sheltered from the sun, wind and rain. No eating areas are to be situated outdoors. Living accommodation Where the site is in a remote location and transport to home is not readily available, reasonable and suitable living accommodation must be provided after obtaining the necessary permission from authorities and adhering to requirements such as Bylaws of the local municipality.

### Principal Contractor

- **Construction Signage**
  - Required for location of Fire extinguishing equipment
  - First - Aid
  - EHSACT

### Total Average Risk Value

- **Health & Safety (I)**: 40%
- **Cost (C)**: 60%
- **Productivity (P)**: 60%
- **Environment (E)**: 60%

**Mandatory or as per requirement**
### Concrete Works

#### Concrete Mixing and Pouring (Manually and Mixer) and use of Concrete Pump

1. Concrete spillages
2. Use of hand tools
3. Oil spillages
4. Dust generation
5. Incompetent operators
6. Miscommunication between operator and flagman
7. Mixer operating near excavation
8. Incompetent Concrete Pump Operators
9. Unsafe operation or control of Concrete Pump - Hoses / pipes moving around uncontrolled
10. Inhaling of Cement dust and skin contact with wet cement (cement Burns)

#### Installation of fence

1. Transportation and handling of fence. (Poor Ergonomics)
2. Offsetting of fence poles and heavy wire rolls
3. Use of ladders
4. Use of scaffolding
5. Contact with underground services/ electricity
6. Fencing collapses on employees or surrounding property
7. Use of unsafe / damaged tools.

#### Safe guarding / Dealing with existing Structures

1. Damage to existing services and structures.

### Risk Assessment

<table>
<thead>
<tr>
<th>1. Health &amp; safety (I)</th>
<th>2. Cost (C)</th>
<th>3. Productivity (P)</th>
<th>4. Environment (E)</th>
<th>Total Average Risk Value</th>
</tr>
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<tbody>
<tr>
<td>4</td>
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</table>

**Mandatory or as per requirement**

1. Ensure identification of all existing services and structures before commencing with site establishment.

### Mandatory or as per requirement

1. Rolf's of fence to be transported mechanically.
2. Proper PPE and suitable hand gloves to be provided to employees involved.
3. Ladders to be inspected by a competent person appointed in writing and to be well positioned and secure when in use. No wooden ladders to be used.
4. Tools to be inspected daily before work start Faulty tools to be repaired or removed from site immediately.
5. Drawings / plans or Underground scans must be available for areas to be excavated to identify any underground services like electrical cables, water or sewer lines.
6. All fence poles to be inserted into the ground as per drawing requirements and to be secured with Concrete.

### Principal Contractor

- Housekeeping must be done after each pour. Concrete waste should be disposed at designated waste areas. Concrete Mixers, Readymix truck and Concrete Pump trucks to be cleaned after each use.
- All plant or equipment used for concrete works must be inspected before use and findings recorded on a checklist, deviations must be reported to Construction manager / Supervisor.

### Total Average Risk Value

- 60%
### Temporary electrical equipment/ installations

<table>
<thead>
<tr>
<th>Health &amp; Safety (I)</th>
<th>4</th>
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<th>5</th>
<th>5</th>
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<th>80%</th>
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<tbody>
<tr>
<td>Cost (C)</td>
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<td>75%</td>
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<tr>
<td>Environment (G)</td>
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#### Total Average Risk Value
- **Mandatory or as per requirement**

### Construction Trades

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#### Total Average Risk Value
- **Mandatory or as per requirement**

### Asbestos handling and removal (if applicable)

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</tbody>
</table>

#### Total Average Risk Value
- **Mandatory or as per requirement**

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1. Health & safety (I)
2. Cost (C)
3. Productivity (P)
4. Environment (G)

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**Temporary electrical equipment/ installations**

1. Illegal connections
2. Unsafe electrical installations could result in employees and other persons being electrocuted with subsequent injuries or even fatalities as well as asset damage due to fire
3. Sub standard equipment
4. Poor cable management
5. Incompetent Installer
6. Unauthorised Access to DB's

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**Construction Trades**

1. Ceilling / roof works
2. Brickwork
3. Painting
4. Paving
5. Tiling
6. Grinders, SkillSaw / jigsaw)
7. Cutter, Concrete Mixer, Tile cutter, adhesive, Cement, Bonding agents)
8. (Paint, Thinner, Sillicon, Tile adhesive, Cement, Bonding agents)

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**Asbestos handling and removal (if applicable)**

1. Inhalation of Asbestos fibres.
2. Improper Asbestos removal
3. Incompetent person conducting removal

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**Risk Assessment and Method statement for Handling of Asbestos to be communicated to the relevant exposed employees.**

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**Principal Contractor & Registered Competent Asbestos removal contractor**