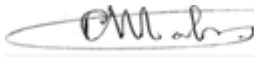
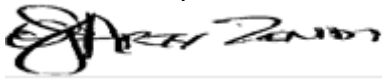




ETHEKWINI MUNICIPALITY Occupational Health & Safety Unit

SITE BASED BASELINE RISK ASSESSMENT

Construction Regulations 5.1(a)

Document Title	Baseline Risk Assessment
Client	EThekweni Municipality-Engineering Unit: Roads and Stormwater Maintenance.
Project	Enquiry for the cleaning of the stormwater infrastructure as and when required within the North region of EThekweni Municipality for 36 Months.
Contract Number	1M-31858.
Revision	00
Date	14 April 2025
Internal Reference no.	BRA 375/04/2025
Compiled by (Safety officer)	Name and surname: Phumlani Mabaso Signature:  Date: 14/04/2025
Reviewed by (Manager: Safety & Risk)	Name and surname: Arty Zondi Signature:  Date: 14/04/2025
Received by Principal contractor	Name:
	Signature:

BASELINE RISK ASSESSMENT

1. INTRODUCTION: In accordance with the Occupational Health and Safety Act, (Act 85 of 1993) the Legislator places specific requirements on an Employer. One of these is prescribed in Section 8(i) of the Act where it requires the Employer to ascertain the risks and dangers which may occur within the workplace or section of the workplace and then goes on to establish working procedures or practices.

2. PURPOSE: This is conducted to create a benchmark of the potential risks that apply to the whole project or business operation.

3. SCOPE: This assessment could be approached on a site, regional or national level concerning any facet of the business operation or process or activity.

4. REVIEW AND MONITORING PLAN

The risk assessment form part of the health and safety plan to be applied on the site and must include the following:

- (a) The identification of the risk and hazards to which to which persons may be exposed to.
- (b) An analysis and evaluation of the risk and hazards identified based on a documented method.

5. REFERENCES

- (a) Tender document number 1M-31858
- (b) Occupational Health & Safety Act and its Regulation

PLEASE NOTE THAT THIS IS A BASELINE RISK ASSESSMENT AND NOT A DETAILED RISK ASSESSMENT OF ALL ANTICIPATED ACTIVITIES ON SITE.

SCOPE OF WORK

The project involves the cleaning of the city's storm water network. This includes cleaning and clearing of drains, pipes, manholes, kerb inlets, pipe culverts, open drains, canals as necessary and keeping the immediate kerb inlet area of all storm water infrastructure (10m either side) free of any sand, weeds, and litter/rubbish. Also included in this contract is the clearing of blockages in the storm water network on written instruction from the engineer and CCTV inspection and its associated reporting. No work is planned in the vicinity of telecommunications infrastructure, where such infrastructure is identified as being in the way of or at risk the contractor is to contact the Wayleaves and Excavation office to assist with identification and liaison with the relevant Telecommunications service provider. The objective of implementing such works is to ensure that the city's stormwater network functions effectively.

Activities involved in this contract are the:-

- Clearing of blockages in storm water pipes (vacuum and pressure jetting)
- Cleaning and clearing of blocked manholes (including storm water chambers), kerb inlets and outlets (manual or mechanical vacuum)
- Cleaning storm water pipes
- Cleaning of culverts.
- Cleaning of open concrete drains (lined, V. Drains and U. Drains).
- Cleaning of open earth drains
- Cleaning of canals
- Removal and disposal of all silt, rubble, etc. to an approved tip site.

The following activities were assessed:

- (a) Access to the site
- (b) Material delivery to the site
- (c) Accommodation of traffic on site.
- (d) Busy residential/commercial/Industrial areas.
- (e) Manual handling of stormwater covers.
- (f) Mechanical clearing of blockages.
- (g) Manual clearing of stormwater system.
- (h) Removal of dumped material off site.

(i) Provision of labour and supervision.

(j) Site security.

1. RISK ESTIMATION AND EVALUATION

RISK CLASSIFICATION USING A RISK SCORE TECHNIQUE

Exposure (E) How frequently does the hazardous event occur		Risk level
Continuously		10
Frequently (daily)		6
Occasionally (weekly)		3
Unusually (monthly)		2
Rarely (few a year)		1

Probability (P) The probability of a loss when the hazardous event does occur		Risk level
Frequent (happens often)		10
Probable (quite possible)		6
Occasional (unusual, but possible)		3
Remotely possible (has happened somewhere)		1
Improbable (practically impossible)		0.5

Severity (S) Consequences of the hazardous event		Risk level
Catastrophic many fatalities; or interruption of longer than 2 weeks; or asset or environmental damage (or both) exceeding R100m		100
Disaster (few fatalities; or interruption between one and 2 weeks; or asset or environmental damage (or both) exceeding R10m)		40
Very serious (one fatality; or interruption of 6 days; or asset or environmental damage (or both) exceeding R100,000		7
Important (temporary disability; or interruption between 6 and 24 hours; or damage exceeding R10,000		3
Noticeable (first aid needed; or interruption of less than 6 hours; damage exceeding R1000)		1

Risk classification (Risk score = E x P x S)	
Risk score	Risk level
Over 400-----5	Very high risk – discontinue operation or activity
200 to 400 -----4	High risk – immediate correction needed
70 to 200-----3	Substantial risk – correction needed
20 to 70-----2	Possible risk – attention needed
Under 20 -----1	Risk accepted

BASELINE RISK ASSESSMENT WORKSHEET

	Activity	Hazard	Risk	Risk Evaluation			Risk Score	Risk level
				E	P	S		
1	Access to the site.							
	Traveling to and from site in a vehicle.	- Safety belts not worn when traveling in, or operating a vehicle. - Vehicle not equipped with safety belts for all passengers. - Over speeding of vehicles. - Driving on public roads.	- Injuries caused when in vehicle accident. - Fatalities when in vehicle accident - Risk of personnel being injured by over speeding vehicles. - Involved in accident.	6	6	7	252	4
2	Material delivery to the site.							
	Loading and offloading of heavy equipment manually.	Employee being struck by the load.	- Back strain - Skeletal damage - Head, hand, and foot injuries. - Serious injury - Fatality	3	6	7	126	3
3	Accommodation of traffic on site.							
	The use of	Poor/ no	Accidents, death,	6	6	7	252	4

	construction vehicle on the public and streets • Execution of activities on the road in line with the scope of work. • Exposed group/employees • Placing of temporary traffic warning signs.	traffic management plan in place • Lack of traffic management training • Unroadworthy plant and vehicle • Collision with other vehicles • Workers exposed to high traffic volume. • Personnel movement and vehicles • Signs not visible to the road users. • Signs being placed at an unreasonable distance. • Personnel in charge of traffic control not familiar with the traffic management	broken bones, damage to property • Noncompliance with the National Road Traffic Act, Council Road Traffic bi-laws and other applicable Regulations • Blockage/ inconvenient access to industrial/ commercial areas • Personnel are at risk of being bumped by a vehicle or an Accident • It may cause injuries possibility of fatalities.					
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		plan.						
4	Busy residential/ commercial/ industrial areas.							
	Working next to residential, commercial, industrial areas.	- Public exposure to construction activities. - Destruction of businesses and services in the area. - Other activities in the areas - Strikes in the area	- Injuries public and employees, broken bones, damage to property, death, - Production loss, disturbance of personnel activities - Fights, lawsuits, disagreement - Damage to property, injuries to employees	6	6	7	252	4
5	Manual handling of stormwater covers.							
	Lifting of heavy objects by hand.	- Unsafe lifting methodology. - Poor handling of material. - Too much bending. - Employees working close to one another.	- Feet and finger crushed. - Backache. - Damage to property. - Body injuries.	6	6	3	108	3
6	Mechanical clearing of blockages.							
	Use of high-pressure water	Faulty machine.	- Injuries. - Injury to other	6	6	3	108	3

	jetting machine.	• Machine operated by an inexperienced person. • Too much bending. • Faulty machine. • Bad Fumes. • Manual opening of heavy sewer manhole lids. • Finger trapped during opening of lids/covers. • Faulty hand tools • Noise. • Pressure from water. • Contaminated material. • Flying debris. • A flailing hose, an out of control nozzle	employees. • Back strain. • Personal injuries. • Asphyxiation. • Damage to Property. • Back strain. • Hand injuries. • Respiratory failure. • Hand injuries. • NIHL. • Damage to skin. • Microorganisms and sewer debris can be injected through open wounds. • Eye injuries. • Personal injuries. • Trip and fall. • Dizziness.					
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		or separated hose coupling. • Limited ventilation. • Poor access. • Exposure to hazardous chemicals. • Incorrect use of equipment.						
7	Manual clearing of stormwater system.							
	• Opening of heavy stormwater lids. • Entering stormwater inlets. • Manual clearing of stormwater inlets. • Use of hand tools. • Lowering and lifting of bucket during clearing.	• Manual lifting. • Poor access which may lead to trip and fall. • Exposure to bad fumes, hazardous/toxic products • Exposure to hazardous medical waste. • Faulty hand tools. • Sharp protruding objects.	• Backache • Fatigue, Back, shoulder, neck, foot injuries. • Personal injuries. • Respiratory problems. • Injuries. • Hand injuries. • Risk of drowning. • Health risks. • Injuries caused by use of hand tools • Snake bites.	3	6	3	54	2

		- Asphyxiation. - Working in a proximity to or inside water. - Insufficient hand tools on site. - Unserviceable/ broken/modifi ed tools. - Wrong tool for the job. - Snakes.						
8	Removal of dumped material off site.							
	Manual clearing of the site.	- Rubble existing on site - Manual handling of heavy objects. - Lifting of heavy bucket. - Illegal dumping.	- Backache. - Hand injuries due to pulling using a rope. - Fine.	6	6	3	108	3
9	Provision of labour and supervision.							
	- Recruitment of employees. - Continuous supervision on site.	Community members not happy about the local labour being	Community members not happy about the local labour being	2	6	3	36	2

		recruited. Delays on services delivery or work to be executed.	recruited. Delays on services delivery or work to be executed.					
10	Site Security.							
	- Provision of security to staff and property. - Robbery/hijacking/mugging on site.	- Incompetent security personnel - Unguided property - Unprotected/fenced site camp - Working in a high risk zone. - Employees being attacked by robbers with dangerous weapons.	- Loss of property - Theft, - Financial risk - Uncontrolled entry - Serious injuries or death.	6	6	7	252	4