



ETHEKWINI MUNICIPALITY
Occupational Health & Safety Unit



SITE BASELINE RISK ASSESSMENT

Construction Regulations 5.1.(a)

Document Title	Baseline S.H.E. Risk Assessment
Client	EThekweni Municipality- COASTAL STORMWATER & CATCHMENT MANAGEMENT
Project Name	Upgrade and installation of stormwater infrastructure along Oakleigh Avenue and William Campbell Drive, Umhlanga, Ward 35
Contract Number	1D35033
Date	16.03.2026
Compiled by (Safety Officer)	<p>Name and Surname: <u>Ntombifuthi Mazibuko</u></p> <p>Signature: </p> <p>Date: <u>16.03.2026</u></p>
Approved by (Safety and Risk Manager)	<p>Name and Surname: <u>Arty Zondi</u></p> <p>Signature: </p> <p>Date: <u>16.03.2026</u></p>
Revision Number	BRA:500/03/26

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.
- (b) An analysis

5. REFERENCES

- (a) Tender document number 1D-35033
- (b) Occupational Health & Safety Act and its Regulation

6.LOCALITY PLAN

From the CBD, take M4, turn left into La Lucia Mall, take right at the traffic light, take left in the traffic circle. The site is at the intersection of Oakleigh Avenue and William Campbell.



SCOPE OF WORK

1 Description of Works:

Upgrade and installation of stormwater infrastructure along Oakleigh Avenue and William Campbell Drive

- A stormwater drainage system consisting of 2 x 1350 mm diameter pipe culverts and gabion protection works (varying in heights 2 meters to 3 meters) is to be provided along the stream within the confines of William Campbell Road, Umhlanga, Ward 35.

The scope of works is as follows:

- Traffic control and diversion, stream diversion
- Removal of reinforced and unreinforced concrete
- Removal of disused pipes
- Excavation for pipe culvert and apron slab foundation
- Trimming of embankments and provision for lateral support system
- Saw-cutting of road edges
- Construction of an artificial foundation base of dump rock and 75 mm blinding layer
- Erect formwork for cast in situ pipe culvert apron slab
- Provision of reinforcement for casting of pipe culvert apron slab and wingwalls
- Allow for Concrete curing and strip formwork after curing
- Provision of erosion protection works and gabion protection works
- Backfilling and compacting the pipe culvert trench with suitable material
- Trench excavation of 450 mm concrete pipe class 100D.
- Installation of stormwater concrete pipe, stormwater manholes and inlets/outlets.
- Reinstatement of roadworks
- Redirect stream to original stream channel and Redirect traffic to normal route
- Backfilling with suitable material from an offsite source.
- Reinstatement ground surface onsite.
- Installation of transition Kerb and channel Type E
- Reinstatement ground surface onsite, clean and tidy site after completion

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							
	<ul style="list-style-type: none">Traveling to and from site in a vehicle.	<ul style="list-style-type: none">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.	<ul style="list-style-type: none">Injuries caused when in vehicle accident.Fatalities when in vehicle accidentRisk of personnel being injured by over speeding vehicles.Involved in accident.	6	6	7	252	4
2	Material delivery to the site							
	<ul style="list-style-type: none">Loading and offloading of equipment manually.Mechanical handling.	Employee being struck by the load.	<ul style="list-style-type: none">Back strainSkeletal damageHead, hand, and foot injuries.Serious injuryFatality	3	6	7	126	3

3	Site establishment							
	<ul style="list-style-type: none"> Manual and mechanical clearing of the land Off-loading and positioning of containers by mobile crane Fencing off the site Installation of temporary water supply, electricity, ablution facilities, 	<ul style="list-style-type: none"> Incompetent construction mobile plant operator Manual Handling of equipment and materials. Uneven surfaces Driving on dangerous and undulating terrain. Reckless driving. Electrocution Incorrect/ poor connection of temporary services 	<ul style="list-style-type: none"> Injuries, Accidents Skeletal injuries Destruction of services Death, burns 	6	6	7	252	4
4	Site clearing							
	<ul style="list-style-type: none"> Clearing of the site using construction mobile plant 	<ul style="list-style-type: none"> Overgrown vegetation Rubble existing on site 	<ul style="list-style-type: none"> Nuisance, poisonous Environmental contamination Death, poison 	6	6	7	252	4

		<ul style="list-style-type: none"> • Snakes • Bees • Incompetent driver/ operator • Unsafe construction mobile plant • Petrol and oil spillages 	<ul style="list-style-type: none"> • Accident/ property damage. Collision with other vehicles • Noise 					
5	Protection of existing services							
	<ul style="list-style-type: none"> • Relocation and maintenance of watermains, sewer, stormwater, electrical cables, telkom/ neotel cables. 	<ul style="list-style-type: none"> • Disturbance of the services, • Improper connection, • Sewer spillage, • Blockage of sewer and stormwater lines • Exposure to biological agents • Electrocutation • Damage to Telkom/ neotel cables, stormwater, 	<ul style="list-style-type: none"> • No water and electricity, community strikes, • Health hazards • Environmental hazards • Burns, death • Financial costs for replacing damaged cables 	6	6	7	252	4

		sewer						
6	Removal of rubble and large trees							
	<ul style="list-style-type: none"> Mechanical and manual loading of rubble Mechanical removal of trees Removal of rubble and trees to damp site 	<ul style="list-style-type: none"> Dust, Mobile plant came into contact with trucks. Incompetent operator and lack of planning. Reckless driving. 	<ul style="list-style-type: none"> Respiratory problem. Damage to equipment. Damage to property. Motor Vehicle Accident 	3	6	7	126	3
7	Construction Activities of Gabions							
	<ul style="list-style-type: none"> Construction of Gabion 	<ul style="list-style-type: none"> Cutting of the mesh fabric Handling wire Poor ergonomics may result in muscular skeletal injuries 	<ul style="list-style-type: none"> Hands Injuries Skeletal injuries Back strain Skeletal damage 	6	3	7	126	3
8	Traffic management							
	<ul style="list-style-type: none"> The use of construction vehicle and mobile plant in the public and 	<ul style="list-style-type: none"> Poor/ no traffic management plan in place Lack of 	<ul style="list-style-type: none"> Accidents, death, broken bones, damage to property Noncompliance 	6	6	7	252	4

	next to private roads/ streets	traffic management training <ul style="list-style-type: none"> Unroadworthy plant and vehicle Collision with other vehicles 	with the National Road Traffic Act, Council Road Traffic by-laws and other applicable Regulations <ul style="list-style-type: none"> Blockage/ inconvenient access to industrial/ commercial areas 					
9	Busy residential areas							
	<ul style="list-style-type: none"> Working next to residential, commercial, industrial areas 	<ul style="list-style-type: none"> Public exposure to construction activities. Destruction of businesses and services in the area. Other activities in the areas Strikes in the area 	<ul style="list-style-type: none"> 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	3	7	126	3
10	Construction mobile plant and machinery							
	<ul style="list-style-type: none"> Use of construction vehicles and mobile plants and equipment 	<ul style="list-style-type: none"> Unsafe construction plants and equipment Incompetent 	<ul style="list-style-type: none"> Accidents. Property damage. Noncompliance with DMR. Noncompliance 	6	6	7	252	4

		drivers/ operators <ul style="list-style-type: none"> • Uneven surface • Equipment/ machinery failure • Running out of control • Noise • Vibration • Oil Spillage • Dust 	with stipulated safe working load. <ul style="list-style-type: none"> • Capsizing of mobile construction plants. Jammed construction mobile plants, death • Injury to employees and community, death, loss of limb/ disablement • Damage to property • Noise induced hearing loss • Muscular pains, kidney damage, • Environmental contamination • Lung disease 					
11	Breaking and removal of existing paving.							
	<ul style="list-style-type: none"> • Use of a breaker and a saw cutting machine. 	<ul style="list-style-type: none"> • Defective machine. • Incorrect operating methodology /breaker operated by 	<ul style="list-style-type: none"> • Injury to employees. • Muscular pains, kidney damage, • Noise induced hearing loss. 	3	6	7	126	3

		an incompetent person. <ul style="list-style-type: none"> Pointed objects e.g. wires, nails, crusher and glasses. Vibration. Noise. 						
12	Construction of concrete Pipes							
	<ul style="list-style-type: none"> Steel fixing Pouring of ready-mix concrete Floating of the slab 	<ul style="list-style-type: none"> Manual handling of steel/ sharp points Cement contact with body Over bending 	<ul style="list-style-type: none"> Hand injuries, Environmental contamination Lung disease, eye irritation Injury to hands Backache 	6	6	3	108	3
13	Construction/upgrading of stormwater drainage system							
	<ul style="list-style-type: none"> Excavation above 1m deep using and excavator and TLB Preparation and laying of concrete pipes using a lifting equipment Construction of above 1m deep 	<ul style="list-style-type: none"> Excavating in an in fill and dumped material Collapsing of trenches. Unsafe access to trench 	<ul style="list-style-type: none"> Collapsing of trench walls Death, dislocation, trauma/ panic attack Broken bone, dislocation, Falling into excavation. 	6	6	7	252	4

	<p>manhole using cement, blocks, handtools and concrete manhole rings/ cover</p> <ul style="list-style-type: none"> • Connection of the stormwater pipes into the existing stormwater drainage system 	<ul style="list-style-type: none"> • Unprotected trenches • People exposure to excavations • Unsafe lifting devices • Incompetent lifting machinery operator • Equipment failure • Overloading of equipment/ machinery • Working/ operating equipment too close to the excavation • Contact with and inhalation of cement dust • Manual handling of heavy manhole 	<ul style="list-style-type: none"> • Injury to body. Accidents. • Property Damage. • Noncompliance with DMR. • Noncompliance with stipulated safe working load. • Falling into excavation. Property damage. • Respiratory diseases. Skin disease/ irritation • Back/ spine problems. Possible of pinch. Skeletal injuries. Injury to hands and toes. • Destruction/ blockage of stormwater drainage system 					
--	--	--	--	--	--	--	--	--

		rings and covers <ul style="list-style-type: none"> • Incorrect connection of storm water pipes 						
14	Manual moving of precast product							
	<ul style="list-style-type: none"> • Manual handling and moving of precast product using wheelbarrows, 	<ul style="list-style-type: none"> • Unsafe wheelbarrows, • Manual handling of precast product • Lifting of excess/ heavy load • Ergonomics hazards 	<ul style="list-style-type: none"> • Injury to hands/ toes • Skeletal injuries • Slippery surface • Tripping hazards • Ergonomic risks 	3	3	3	27	2
16	Site security							
	<ul style="list-style-type: none"> • Provision of security to staff and property 	<ul style="list-style-type: none"> • Incompetent security personnel • Unguided property • Unprotected / fenced site camp • Working in a high risk 	<ul style="list-style-type: none"> • Loss of property • Theft, • Financial risk • Uncontrolled entry • Hijacking/ Mugging 	6	6	3	108	3

		zone						
17	Excavation Work							
	<ul style="list-style-type: none"> Excavation work 	<ul style="list-style-type: none"> Manual and mechanical excavation 	<ul style="list-style-type: none"> Unforeseen underground services Unsafe hand tools Unsafe construction mobile plants Uneven surface/ ground condition Incompetent construction mobile plant operatoin 	6	6	3	108	3