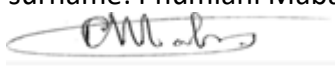
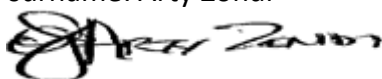




## ETHEKWINI MUNICIPALITY Occupational Health & Safety Unit

### 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 Thermoplastic spray road marking within the North central region of EThekweni Municipality for 36 Months.
Contract Number	1M-31685.
Revision	00
Date	07 March 2025
Internal Reference no.	BRA 354/02/2025
Compiled by (Safety officer)	Name and surname: Phumlani Mabaso Signature:  Date: 07/03/2025
Reviewed by (Manager: Safety & Risk)	Name and surname: Arty Zondi Signature:  Date: 07/03/2025
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-31685
- (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 contract calls for the supply of plant, labour and materials to undertake road marking maintenance work on primarily high order roads, using Thermoplastic hot melt road marking paint.

### **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) Clearing the area to be painted.
- (f) Topping up blasting grit.
- (g) Performing grit blasting.
- (h) Grit removal and emptying the grit.
- (i) Operating a road marking machine.
- (j) Road marking using a retro reflective paint.
- (k) Site security.

## 1. RISK ESTIMATION AND EVALUATION

### RISK CLASSIFICATION USING A RISK SCORE TECHNIQUE

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

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

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

<b>Risk classification (Risk score = E x P x S )</b>	
<b>Risk score</b>	<b>Risk level</b>
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"><li>Traveling to and from site in a vehicle.</li></ul>	<ul style="list-style-type: none"><li>Safety belts not worn when traveling in, or operating a vehicle.</li><li>Vehicle not equipped with safety belts for all passengers.</li><li>Over speeding of vehicles.</li><li>Driving on public roads.</li></ul>	<ul style="list-style-type: none"><li>Injuries caused when in vehicle accident.</li><li>Fatalities when in vehicle accident</li><li>Risk of personnel being injured by over speeding vehicles.</li><li>Involved in accident.</li></ul>	6	6	7	252	4
2	Material delivery to the site.							
	<ul style="list-style-type: none"><li>Loading and offloading of heavy equipment manually.</li></ul>	<ul style="list-style-type: none"><li>Employee being struck by the load.</li></ul>	<ul style="list-style-type: none"><li>Back strain</li><li>Skeletal damage</li><li>Head, hand, and foot injuries.</li><li>Serious injury</li><li>Fatality</li></ul>	3	6	7	126	3
3	Accommodation of traffic on site.							
	<ul style="list-style-type: none"><li>The use of</li></ul>	<ul style="list-style-type: none"><li>Poor/ no</li></ul>	<ul style="list-style-type: none"><li>Accidents, death,</li></ul>	6	6	7	252	4

	<p>construction vehicle on the public and streets</p> <ul style="list-style-type: none"> <li>• Execution of activities on the road in line with the scope of work.</li> <li>• Exposed group/employees</li> <li>• Placing of temporary traffic warning signs.</li> </ul>	<p>traffic management plan in place</p> <ul style="list-style-type: none"> <li>• Lack of traffic management training</li> <li>• Unroadworthy plant and vehicle</li> <li>• Collision with other vehicles</li> <li>• Workers exposed to high traffic volume.</li> <li>• Personnel movement and vehicles</li> <li>• Signs not visible to the road users.</li> <li>• Signs being placed at an unreasonable distance.</li> <li>• Personnel in charge of traffic control not familiar with the traffic management</li> </ul>	<p>broken bones, damage to property</p> <ul style="list-style-type: none"> <li>• Noncompliance with the National Road Traffic Act, Council Road Traffic bi-laws and other applicable Regulations</li> <li>• Blockage/ inconvenient access to industrial/ commercial areas</li> <li>• Personnel are at risk of being bumped by a vehicle or an Accident</li> <li>• It may cause injuries possibility of fatalities.</li> </ul>					
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		plan.						
<b>4</b>	<b>Busy residential/ commercial/ industrial areas.</b>							
	<ul style="list-style-type: none"> <li>Working next to residential, commercial, industrial areas.</li> </ul>	<ul style="list-style-type: none"> <li>Public exposure to construction activities.</li> <li>Destruction of businesses and services in the area.</li> <li>Other activities in the areas</li> <li>Strikes in the area</li> </ul>	<ul style="list-style-type: none"> <li>Injuries public and employees, broken bones, damage to property, death,</li> <li>Production loss, disturbance of personnel activities</li> <li>Fights, lawsuits, disagreement</li> <li>Damage to property, injuries to employees</li> </ul>	6	6	7	252	4
<b>5</b>	<b>Clearing the area to be painted.</b>							
	<ul style="list-style-type: none"> <li>Clearing/blowing the surface to be painted.</li> </ul>	<ul style="list-style-type: none"> <li>Dust accumulation.</li> <li>Working without temporary signs.</li> <li>Pointed objects.</li> <li>Loose material clogging up the drainage system.</li> </ul>	<ul style="list-style-type: none"> <li>Respiratory problems</li> <li>Motor vehicle accidents.</li> <li>Eye injuries.</li> <li>Environmental contamination.</li> </ul>	6	6	3	108	3
<b>6</b>	<b>Topping up blasting grit.</b>							

	<ul style="list-style-type: none"> <li>Filling up the machine.</li> </ul>	<ul style="list-style-type: none"> <li>Incorrect working methodology.</li> </ul>	<ul style="list-style-type: none"> <li>Physical injuries</li> </ul>	6	6	3	108	3
<b>7</b>	<b>Performing grit blasting.</b>							
	<ul style="list-style-type: none"> <li>Operating a grit blasting machine.</li> </ul>	<ul style="list-style-type: none"> <li>Strike by compressed air/grit /hose.</li> <li>Inhalation of fumes from a diesel operated air compressor.</li> <li>Dust accumulation.</li> <li>Flying debris.</li> </ul>	<ul style="list-style-type: none"> <li>Body injuries.</li> <li>Lung diseases.</li> </ul>	6	6	3	108	3
<b>8</b>	<b>Grit removal and emptying the grit.</b>							
	<ul style="list-style-type: none"> <li>Removal and emptying of grit.</li> </ul>	<ul style="list-style-type: none"> <li>Dust inhalation.</li> <li>Bending.</li> </ul>	<ul style="list-style-type: none"> <li>Lung diseases.</li> <li>Back pain.</li> </ul>	6	6	3	108	3
<b>9</b>	<b>Operating a road marking machine.</b>							
	<ul style="list-style-type: none"> <li>Use of a road marking machine.</li> </ul>	<ul style="list-style-type: none"> <li>Faulty machine.</li> <li>Machine operated by an incompetent operator.</li> <li>Inhalation of fumes from machine fuel.</li> </ul>	<ul style="list-style-type: none"> <li>Personal injuries.</li> <li>Damaged to passing vehicles.</li> <li>Respiratory problems.</li> </ul>	6	6	3	108	3



<b>10</b>	<b>Road marking using a retro reflective paint (Screeding).</b>							
	<ul style="list-style-type: none"> <li>Cleaning the area to be painted.</li> <li>Setting out and premarking.</li> <li>Painting using a retro-reflective paint and brush.</li> <li>Cleaning of brushes using a thinner.</li> </ul>	<ul style="list-style-type: none"> <li>Dust accumulation.</li> <li>Paint in contact with skin.</li> <li>Thinners in contact with skin.</li> <li>Fire.</li> <li>Inhalation of HCS fumes.</li> <li>Exposure to moving vehicles.</li> <li>Bending.</li> </ul>	<ul style="list-style-type: none"> <li>Respiratory problems.</li> <li>Skin irritation.</li> <li>Burns.</li> <li>Chest pains.</li> <li>Accidents.</li> <li>Back strain.</li> </ul>	6	6	7	252	4
<b>11</b>	<b>Site Security.</b>							
	<ul style="list-style-type: none"> <li>Provision of security to staff and property.</li> <li>Robbery/hijacking/mugging on site.</li> </ul>	<ul style="list-style-type: none"> <li>Incompetent security personnel</li> <li>Unguided property</li> <li>Unprotected/fenced site camp</li> <li>Working in a high risk zone.</li> <li>Employees being</li> </ul>	<ul style="list-style-type: none"> <li>Loss of property</li> <li>Theft,</li> <li>Financial risk</li> <li>Uncontrolled entry</li> </ul> <p>Serious injuries or death.</p>	6	6	7	252	4

		attacked by robbers with dangerous weapons.						