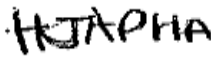




## ETHEKWINI MUNICIPALITY Occupational Health & Safety Unit

### BASELINE RISK ASSESSMENT

|                                       |                                                                                                                                                          |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Document Title                        | Baseline Risk Assessment                                                                                                                                 |
| Client                                | EThekwini Municipality – Water and Sanitation                                                                                                            |
| Project                               | Water metering project for eThekwini Municipality area of supply for a period of 36 months.                                                              |
| Contract Number                       | 35023-5W                                                                                                                                                 |
| Compiled by (Safety officer)          | Name and Surname: Hlengiwe Njapha<br>Signature: <br>Date: 03/08/2026 |
| Approved by (Safety and Risk Manager) | Name and Surname: Hlengiwe Njapha<br>Signature: <br>Date: 03/08/2026 |
| Reference Number                      | BRA 04/08/2026                                                                                                                                           |

## **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 persons may be exposed.
- (b) An analysis and evaluation of the risks and hazards identified based on a documented method.

### **5. REFERENCES**

- (a) Occupational Health & Safety Act and its Regulation
- (b) Tender Document 35023-5W

## 6. LOCALITY PLAN



## SCOPE OF WORK

Investigations (Desktop and on site)

Liaison with consumer regarding accessing properties, installation re-siting (where necessary) and consolidation of meters (if applicable).

Trenching, bedding, backfilling for reticulation/connection pipes.

Earthworks to include for pipeline trenching.

Barricading all trenches.

Fabrication, supplying, laying, jointing, testing of pipes and fittings, that shall connect to the the existing pipework.

Reinstatement of site to original condition.

All useable materials to be returned to stores.

## 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 classification</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 classification</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 classification</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 classification</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: IDENTIFYING EXISTING & POTENTIAL RISKS**

|   |                                                                                                                                                                                                |                                                                                                                                                                   |                                                                                                                                                                                                                 |                 |   |   |            |            |           |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---|---|------------|------------|-----------|
| 1 | Site Access                                                                                                                                                                                    |                                                                                                                                                                   |                                                                                                                                                                                                                 |                 |   |   |            |            |           |
|   | Activity                                                                                                                                                                                       | Hazard                                                                                                                                                            | Risk                                                                                                                                                                                                            | Risk Evaluation |   |   | Risk Score | Risk level | Risk Rank |
|   |                                                                                                                                                                                                |                                                                                                                                                                   |                                                                                                                                                                                                                 | E               | P | S |            |            |           |
|   | Accessing the site using construction vehicles or walking to site.<br>Delivering of equipment and material to the site                                                                         | Excessive speed, head on collusion, employees knocked by moving vehicles.<br>Road blocked off due to community protest.<br>Manual Handling and excessive lifting. | Accidents, damage to equipment or severe injuries or death.<br>Back injuries,                                                                                                                                   | 6               | 6 | 7 | 252        |            | 4         |
| 2 | Site Establishment                                                                                                                                                                             |                                                                                                                                                                   |                                                                                                                                                                                                                 |                 |   |   |            |            |           |
|   | Manual and mechanical clearing of the land.<br>Off-loading and positioning of offices by mobile crane.<br>Fencing.<br>Installation of temporary water supply, electricity, ablution facilities | Dust, Snakes, Bees & Wasps.<br>Incompetent operator.<br>Poor connection of temporary services.                                                                    | Poisoned and death.<br>Collision/impacts of mobile lifting equipment loads and dropped loads with process plant, pipe work, electrical cables and people.<br>Water leaks,<br>Electrocution, improper connection | 6               | 6 | 7 | 252        |            | 4         |

|          |                                                                         |                                                                                                                                             |                                                                                                |   |   |   |     |  |   |
|----------|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|---|---|---|-----|--|---|
| <b>3</b> | <b>Site Fencing</b>                                                     |                                                                                                                                             |                                                                                                |   |   |   |     |  |   |
|          | Clearing bush using bush knives<br>Digging holes using pick and spade   | Manual handling of material<br>Dust<br>Moving vehicles                                                                                      | Manual handling injuries<br>Dust being inhaled/getting in eyes<br>Vehicle collision and damage | 3 | 6 | 7 | 126 |  | 3 |
| <b>4</b> | <b>Existing Services</b>                                                |                                                                                                                                             |                                                                                                |   |   |   |     |  |   |
|          | Identify the existing services                                          | Snakes<br>Unforeseen hazards<br>Unknown/ Unidentified underground services                                                                  | Poisoned and death.<br>Personal injuries.<br>Electrocution                                     | 6 | 6 | 7 | 252 |  | 4 |
| <b>5</b> | <b>Traffic Accommodation</b>                                            |                                                                                                                                             |                                                                                                |   |   |   |     |  |   |
|          | Installation of temporally signs<br>Traffic diverting/ Management       | Knocked down by moving vehicles, poor demarcation/ displaying of signs.<br>Poor traffic management plan.<br>Incompetent traffic controllers | Personal injuries or death.<br>Road Accident                                                   | 6 | 6 | 7 | 252 |  | 4 |
| <b>6</b> | <b>Excavation Work</b>                                                  |                                                                                                                                             |                                                                                                |   |   |   |     |  |   |
|          | Mechanical and manual excavation.<br>Back filling mechanical and manual | Incompetent operator.<br>Machine running out of control.<br>Open excavation.<br>Dust.                                                       | Personal injury/possible disabling injuries.<br>Property to damage<br>Respiratory problem.     | 6 | 6 | 7 | 252 |  | 4 |

|          |                                                                           |                                                                                                                                           |                                                                                                                                                             |   |   |   |     |  |   |
|----------|---------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|-----|--|---|
|          |                                                                           | Operating mobile plant next to open excavation.                                                                                           |                                                                                                                                                             |   |   |   |     |  |   |
| <b>7</b> | <b>Bedding and Pipelaying</b>                                             |                                                                                                                                           |                                                                                                                                                             |   |   |   |     |  |   |
|          | Accessing trenches<br>Mechanical lifting of Pipes                         | Trench collapse, falling objects/material<br>Incorrect lifting of pipes                                                                   | Personal injuries/death<br>Injury to muscle                                                                                                                 | 6 | 6 | 7 | 252 |  |   |
| <b>8</b> | <b>Backfilling and Compaction</b>                                         |                                                                                                                                           |                                                                                                                                                             |   |   |   |     |  |   |
|          | Lay the soil and weathered rock<br>Operating a Bomag, Roller and a Wacker | Dust<br>Incompetent operator.<br>Noise.<br>Vibration.                                                                                     | Respiratory problem<br>Personal injuries and damage to property.<br>Noise Induce. Hearing loss.<br>Kidney problem.<br>Body pain.                            | 3 | 6 | 7 | 126 |  | 3 |
| <b>9</b> | <b>Road work construction and asphalting</b>                              |                                                                                                                                           |                                                                                                                                                             |   |   |   |     |  |   |
|          | Layer works<br>Compaction<br>Asphalting                                   | Nose, dust<br>Inclement weather, including localized flooding<br>Smoking/open fires<br>Vibration (rolling compaction)<br>Asphalt emulsion | Rain causing slippery conditions and localised flooding causing property damage, injury and possible death<br>Heat stroke from being exposed to the sun for | 3 | 6 | 7 | 126 |  | 3 |

|           |                                                                                                                       |                                                                                                                        |                                                                                                                        |   |   |   |     |  |   |
|-----------|-----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|---|---|---|-----|--|---|
|           |                                                                                                                       |                                                                                                                        | too long and sunburn<br>Bush fires caused by<br>cigarette/open fires<br>causing smoke,<br>inhalation possible<br>death |   |   |   |     |  |   |
| <b>10</b> | <b>Construction of Pedestrian Walkways</b>                                                                            |                                                                                                                        |                                                                                                                        |   |   |   |     |  |   |
|           | Pouring of concrete by<br>ready mix truck.<br>Excavations for<br>walkways.<br>Manual and<br>Mechanical<br>Excavation. | Reckless driving.<br>Incompetent operator.<br>Unsafe hand tools.                                                       | Motor Vehicle Accident.<br>Personal injuries.                                                                          | 3 | 3 | 7 | 63  |  | 2 |
| <b>11</b> | <b>Construction Mobile Plant and Equipment</b>                                                                        |                                                                                                                        |                                                                                                                        |   |   |   |     |  |   |
|           | Use of Plant &<br>Equipment on site                                                                                   | Incompetent operator<br>Unsafe plant &<br>equipment.<br>Collusion with other<br>vehicles.<br>Petrol and oil spillages. | Personal injuries.<br>Motor vehicle accident.<br>Environmental<br>contamination.                                       | 6 | 6 | 7 | 252 |  | 4 |
| <b>12</b> | <b>Emergency Management</b>                                                                                           |                                                                                                                        |                                                                                                                        |   |   |   |     |  |   |
|           | Development and<br>Implementation of an<br>Emergency<br>Management Plan                                               | Failure to have a basic,<br>site specific emergency<br>management plan.<br>Workers not trained in                      | Injury or damage to<br>property.<br>Inability to respond to<br>emergencies.                                            | 6 | 6 | 3 | 108 |  | 3 |

|           |                                  |                                                                                                                                                                                                           |                                                                                                                                     |   |   |   |     |  |   |
|-----------|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|---|---|---|-----|--|---|
|           |                                  | the Emergency Plan.<br>Insufficient or no<br>emergency equipment<br>or personnel.                                                                                                                         | Insufficient or no<br>emergency equipment.                                                                                          |   |   |   |     |  |   |
| <b>13</b> | <b>Community Risk Management</b> |                                                                                                                                                                                                           |                                                                                                                                     |   |   |   |     |  |   |
|           | Managing community<br>risk       | Failure to adequately<br>monitor and manage<br>the multi-faced social<br>issues.                                                                                                                          | Violent protests.<br>Injury to employees and<br>property damage.                                                                    | 6 | 6 | 3 | 108 |  | 3 |
| <b>14</b> | <b>Subcontractor Management</b>  |                                                                                                                                                                                                           |                                                                                                                                     |   |   |   |     |  |   |
|           | Managing<br>subcontractors       | Failure to adequately<br>assess subcontractors<br>S.H.E Management<br>System before work<br>commences and at<br>regular intervals.<br>Inadequate Supervision.<br>Utilizing incompetent<br>Subcontractors. | Injury and non-<br>compliance to<br>legislation.<br>High level of employee<br>unsafe behavior.<br>Accidents and property<br>damage. | 6 | 6 | 3 | 108 |  | 3 |