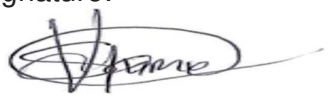
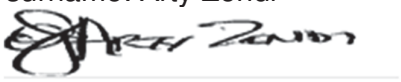
ETHEKWINI MUNICIPALITY
Occupational Health & Safety Unit

Site Specific Health and Safety Specification in terms of 2014 Construction Regulations 5.1(b)

Document Title	BRA 453/10/25
Client	eThekwini Municipality- Road Provision
Project Name	UPGRADING – GRAVEL TO SURFACE OF MSINSi AVENUE, WARD 45, KWA MASHU
Contract Number	1R-33158
Revision	00
Date	27 October 2025
Internal Reference no.	BRA 453/10/2025
Compiled by (Safety officer)	Name and surname: Siziwe Chiliza Signature:  Date: 27/10/25
Reviewed by (Manager: Safety& Risk)	Name and surname: Arty Zondi Signature:  Date: 27/10/2025

UPGRADING – GRAVEL TO SURFACE OF MSINSi AVENUE, WARD 45, KWA MASHU

Roadworks is to upgrade existing 187m length of gravel track / roadway to 5m hardening surface with possible sidewalk and further 90m length of gravel track to 3.5m width. This will involve earthworks, stormwater upgrade, Kerbing, concrete surfacing, and retaining walls / gabions.

TABLE OF CONTENTS (refer to Baseline Risk Assessment attached)

1 PROJECT TITLE

Upgrade and widening and widening of Upgrading – Gravel To Surface of Msinsi Avenue, Ward 45, Kwa Mashu.

The Assessment was conducted on **(INSERT DATE)**, during normal working hours.

3 EXECUTIVE SUMMARIES

The Occupational Health and Safety Act of 1993, and its relevant regulations require Employers to conduct a Baseline Risk Assessment prior to the work being performed.

This assessment and observations were made at the above site under the conditions which prevailed on the date of the assessment. Detailed conclusions are given in the relevant sections of this report**.**

4 SCOPE OF WORK

The works consist of the following:

- Site Clearance, General Clearance of the area of works.
- Relocation of services and other works
- Concrete Works
- Earthworks and Excavation for Roadworks and
- Drainage
- Stormwater
- Kerbing

5 BASELINE RISK ASSESSMENT

a) **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.

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

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

d) **ABREVIATIONS, ACRONYMS AND DEFINITIONS**

ABREVIATION, ACRONYMN OR DEFINITION	**MEANING**
Risk	Uncertain future events that can influence the achievement of the company's objective. Chance of loss
Exposure	Is a condition or practice which involves the employee being subjected to the Hazard or Danger while being **normally unprotected**
Likelihood or Probability	(inevitable to almost impossible) the **Frequency** of the exposure (constant to rarely) being one of the parameters
Consequence or Severity	This could be either having a financial, injury and or illness outcome
Risk Ranking	There are three stages namely: **IDETIFYING the RISK: -** in terms of the hazard, threats **EVALUATING: -** the hazard, threats and or exposures identified to establish the potential magnitude of the RISK involved **VALUE JUDGEMENT or APPRAISING: -** the acceptability and potential impact as well as the magnitude of the hazards, exposure and evaluating the outcome on the business, operations and or the health and safety of people and processes

ABREVIATION, ACRONYMN OR DEFINITION	MEANING
Risk Rating	**Equals = Severity + Frequency + Exposure**
Baseline Risk Assessment	This is conducted to create a benchmark of the potential risks that apply to the whole project or business operation.
Issue based	This is normally focused at operational activities, processes, systems and functions and focuses on identifying the risks within a certain task, process or activity
Continuous Risk Assessment	The processes, systems and activities monitored on an ongoing basis
Hazard	A chemical, physical, social or political condition that has the potential of causing damage or any kind of harm to people, property the environment or business continuity.
OHS Act	Occupational Health and Safety Act, Act 85 of 1993
Task based Risk Assessment	The appointed Contractor develops a Risk Assessment based on the Clients Baseline and project specific activities
Severity / Consequence	The degree of harm, the potential severity of the injuries or ill health and or the number of people potentially affected
Exposure	Chance that a person or persons will be harmed during the exposure period
Frequency	A measure of the rate of occurrence of an event expressed as the number of occurrences in a given time

ABREVIATION, ACRONYMN OR DEFINITION	MEANING
Frequency	A measure of the rate of occurrence of an event expressed as the number of occurrences in a given time
Intolerable Risk	Risk is intolerable and cannot be justified on any grounds
Significant Risk	Risk in which benefit outweighs cost
Moderate Risk	Risk is if cost of reduction would exceed improvement
Tolerable Risk	A Risk that has been reduced to a level that can be endured by the organization having regard to its legal obligations and its own Safety and Health Policy
Residual Risk	The risk that remain after taking into account the effect of the existing controls that have been applied
Average Daily Traffic ADT)	The average daily traffic count is used as a method to determine how many vehicles travel on a road on a given day
Bollard	Rigid posts that can be arranged in a line to close a road or path to vehicles above a certain width
Flag person	The workers who carry these signs provide traffic control in the construction zone.
Median	A median is a barrier, constructed of concrete, asphalt or landscaping that separates two directions of traffic
New Jersey Barrier	A jersey barrier is a concrete barrier that acts as a traffic control device to separate traffic flow
PPE	Personal protective equipment e.g. gloves, hard hat boots etc.

Shoulder	Reserved area by the verge of a road, generally it is kept clear of all traffic
Sub - Base	Is the layer between the top and the selected layers and the bottom
Base	Is the layer immediately below the surfacing and has to meet stringent requirements regarding material quantities and compaction

ABREVIATION, ACRONYMN OR DEFINITION	MEANING
Cut	Consist of all excavations from the existing ground line to the roadbed and includes the side (table) drains
Fill	Consist of imported material above the roadbed
Side drain	Run parallel to the road
Culvert	Conveys water safely from the upper side of the road to the lower side

6.1 RISK ASSESSMENT METHODOLOGY

All Risk identified during Risk Identification has to be assessed for significance in terms of probability of the Risk event to occur and the impact of the event.
Ranking of the Risk can be based on a simple scale ranging from:

- Very likely to almost certainly
- Actual numerical probabilities can be used
- Risk that are ranking High receives highest priority

The approach and process:

a) Identify the risk / hazards associated with the work activities
b) Assess the risk in terms of severity, likelihood of occurring and controllability
c) Evaluate the risks / hazards
d) Determine the level of control
e) Implement controls
f) Monitor the effectiveness of controls

6.2 RISK ESTIMATION AND EVALUATION

RISK CLASSIFICATION USING A RISK SCORE TECHNIQUE

Exposure (E) How frequently does the hazardous event occur **Risk classification**	
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 classification**	
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 classification

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 classification**
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

5	
4	
3	
2	
1	

ETHEKWINI MUNICIPALITY
Occupational Health & Safety Unit

CONTRACT NUMBER : 1R – 33158

BASELINE RISK ASSESSMENT WORKSHEET: IDENTIFYING EXISTING & POTENTIAL RISKS

WORK PROCESS CATEGORY: ACCESS TO THE SITE

RISK REF	ACTIVITY	POTENTIAL HAZARD	RISK	RISK EVALUATION			RISK SCORE ExPxS	RISK LEVEL	RISK RANK	CONTROL MEASURE
				E	P	S				
1	Accessing the site using construction vehicles	Transportation of staff to and from the site	Construction vehicles could crash into other vehicles / buildings resulting in damage to equipment or employees being injured	6	6	7	252	High	4	The Construction Manager must develop a Driving Policy which incorporates the use of cell phones whilst driving and adherence to speed limits. The Contract Manager must ensure all construction

										vehicles and staff comply to CR23
2	Delivering of equipment to the site	Pedestrian /children using public road	Vehicles/trucks could crash into pedestrians walking along the roadside resulting in critical injuries or fatalities	6	6	7	252	High Risk	4	Construction Manager to ensure the truck is deemed roadworthy. Ensure the Environmental Management Plan is adhered to and the vehicle is equipped with a spill control kit.

3		Oil or petrol spill	Oil and petrol spill could cause ground contamination	6	6	1	36	Possible Risk	2	Construction Manager to ensure the truck is deemed roadworthy. Ensure the Environmental Management Plan is adhered to and the vehicle is equipped with a spill control kit.

RISK REF	ACTIVITY	POTENTIAL HAZARD	RISK	RISK EVALUATION			RISK SCORE ExPxS	RISK LEVEL	RISK RANK	CONTROL MEASURE
	WORK PROCESS CATEGORY: **SITE ESTABLISHMENT**									
				E	P	S				
2	Ablutions for male / females	Inadequate Welfare Facilities Inadequate or insufficient Toilet Facilities	Inadequate or insufficient Ablution Facilities may result in employees using areas not designated for the use thereof Unhygienic condition	6	6	3	108	Substant ial Risk	3	CR 28 1 per30 NBR prescribe chemical toilets for construction site. Sufficient showers and changing facilities for both male and female

3	Sheltered eating facilities	Unsafe positioning of ablution and sheltered eating areas	Unsafe positioning of ablutions and sheltered eating areas may result in vehicles veering of the road and into the facilities and resulting in critical injuries	6	6	7	252	High	4	Refuse bins with lids provided. Facilities clean and hygienic

	Clearing of the site area	Snakes	The presence of the snakes may result in snake bites causing fatalities							Snake awareness training developed

4	Maintenance workshop Secure / safe storage of materials / plant and equipment	Incorrect stacking of parts and spares could cause tripping hazards	Slips, trips and falls	6	6	3	108	Substantial Risk	3	Adequately ventilated ignition free Emergency shower / eye wash provided

6	Site clearing using Earthmoving equipment/ machinery	Protected vegetation	Damage to protected vegetation could result in damage to the ecosystem	6	6	3	108	Substantial Risk	3	The Construction Manager must ensure that protected vegetation is clearly demarcated and the Environmental Plan is adhered to
	Site induction	Injuries to person not familiar to site	Property damage Sustainable injuries	6	6	3	54	Substantial Risk	3	Construction Manager to ensure all on site is inducted

7	The storage /usage of flammable liquid/gasses and combustible materials	The incorrect storage of flammable liquids/gasses and combustible materials	The incorrect storage could lead to Environmental spillages							The Construction Manager must ensure that they adhere to the Client H&S Specification with regards to combustible substances.
8	Vehicle leaving / entering the site	Traffic disruption, injury to people	Damage to property	6	6	3	108	Substantial Risk	3	Competent operators/ drivers, use of flag person
9	Unsafe stacking and storage practices	Collapse of stored materials	Collapse of stored materials may result in injury of personnel	6	6	3	108	Substantial Risk	3	The Construction Manager must ensure that they adhere to stacking and storage principles as contained in the

										General Safety Regulations
10	Installation of Temporary Electrical Installations	Exposed Electrical Cables/ Wires	Contact with exposed electrical cables may result in electrocution	6	6	7	252	High	4	CoC, appointments, registers, competent person
11	Housekeeping	Slips, trips and falls	Tripping and falling on superfluous materials can cause cuts on hands, injury to feet	6	6	3	108	Substantial Risk	3	The Construction Manager must ensure that waste is removed periodically, and work areas kept clean at all times

11	Fencing	Access to unauthorized persons	Injury to persons	6	6	3	108	Substantial Risk	3	Construction manager to put system of control in place. No unauthorized entry signs to be posted and access controlled
12	Essential emergency equipment Firefighting equipment First Aid Boxes Drinking water	Not having the essential services on hand	Health / loss of property through fire	6	6	3	108	Substantial Risk	3	Construction manager to ensure these requirements are on site from the day site is established

WORK PROCESS CATEGORY: TRAFFIC ACCOMODATION

RISK REF	ACTIVITY	POTENTIAL HAZARD	RISK	RISK EVALUATION			RISK SCORE ExPxS	RISK LEVEL	RISK RANK	CONTROL MEASURE
				E	P	S				
13	Setting up of temporary road works signage	Placing of incorrect signage at locations	Misinformation may cause drivers to become unable to discern what to do resulting in accidents and irate members of the public	6	6	3	108	Substantial Risk	3	The Construction Manager must ensure that a suitable site specific Traffic Management Plan is developed and implemented, and a competent Traffic Safety Officer is appointed for the duration of the contract. All temporary road traffic signage must comply with the SARTSM

BASELINE RISK ASSESSMENT WORKSHEET: IDENTIFYING EXISTING & POTENTIAL RISKS

14		Handling and placement of signage without wearing the correct PPE	Handling of signage without gloves, reflective vests and safety	3	3	1	9	Risk Accepted d	1	The Construction Manager must ensure that a task specific risk assessment for PPE
			boots may result in injuries							control is implemented
15	Public vehicular and pedestrian traffic travelling on the public road during construction work	Workers injured by passing traffic	Collision of public vehicles and workers	10	6	7	420	Very High	5	The Construction Manager must ensure that a competent Traffic Safety Officer is appointed and a site specific Traffic Management Plan is implemented

16		Limited or no advanced warning area may result in accidents	Collision of public vehicles and workers	6	6	7	252	High	4	The Traffic Safety Officer must ensure that temporary road works signage is laid out as per the SARTSM and approved Traffic Management Plan

BASELINE RISK ASSESSMENT WORKSHEET: IDENTIFYING EXISTING & POTENTIAL RISKS

WORK PROCESS CATEGORY: MATERIALS DELIVERY TO THE SITE

RISK REF	ACTIVITY	POTENTIAL HAZARD	RISK	RISK EVALUATION			RISK SCORE ExPxS	RISK LEVEL	RISK RANK	CONTROL MEASURE
				E	P	S				
17		incompetent Operators	The use of incompetent operators may result in accidents	6	6	7	252	High	4	The Construction Manager must verify that the Operators are deemed competent to operate the Tippers and are medically fit
18		Reversing into public vehicles or property	Reversing into vehicles and property resulting in damages	6	6	3	108	Substant Risk	3	The Contract Manager must ensure that each driver is accompanied by a competent banks man and designated safe areas for offloading demarcated

19		Uneven ground, soft soil,	Damage to plant and equipment as well as crushing injuries or fatalities	6	6	7	252	High	4	The Construction Manager must ensure that each driver is accompanied by a competent banks man when working in high risk areas
20	Cement / concrete dust	Inhalation. Contact with skin , eyes	Severe irritation, burns, long term damage	6	6	3	108	Substant Risk	3	Wash immediately if coming into contact

21	Loading / off loading the truck	Incorrect slings being used	Property damage and serious injury or fatality	6	6	7	252	High	4	Rigging to be done by a trained and competent rigger and the task to be supervised by the supervisor
22	Aggregate / sand and other materials delivered	Uneven ground, soft soil,	Damage to plant and equipment	6	6	3	108	Substantial Risk	3	The Construction Manager must assess steep gradients on foot before plant is moved onto the site to determine if the area is safe
23	Manual handling Ergonomics	Incorrect posture	Back strain Skeletal damage	3	6	3	54	Possible Risk	2	Employees to be trained in the correct lifting technique

24	Mechanical handling	Employee being struck	Serious injury	3	6	3	198	Substantial Risk	3	Constant supervision
25	Lifting / lowering operation	Employee being struck by the load	Serious injury Fatality	10	6	7	420	Very High	5	Rigging to be done by a trained and competent rigger and the task to be supervised by the supervisor

BASELINE RISK ASSESSMENT WORKSHEET: IDENTIFYING EXISTING & POTENTIAL RISKS

WORK PROCESS CATEGORY: **EXCAVATION**

RISK REF	ACTIVITY	POTENTIAL HAZARD	RISK	RISK EVALUATION			RISK SCORE ExPxS	RISK LEVEL	RISK RANK	CONTROL MEASURE
				E	P	S				
26	Transporting of material to and from the site	Defective tipper trucks, excavators and front-end loaders	The use of defective plant /equipment may result in accidents	6	6	3	108	Substantial Risk	3	The Contraction Manager must verify that all Tipper trucks utilized on site has a recent service inspection register in place and is signed off by the relevant Technical Manager

27	Manual excavation	Open Excavation >1.5m	Excavations > 1.5m caving in may result in multiple fatalities	6	6	7	252	High	4	Daily check of the excavation by the appointed excavation supervisor and recorded in a register
28		Unauthorized entry	Unauthorized access to site may result in critical injury to people	6	6	7	252	High	4	Daily check of the excavation by the appointed excavation supervisor and recorded in a register
29		The use of Hand tools (picks, spades)	An employee using a pick could strike the employee in front/rear resulting in injury	6	6	7	252	High	4	The Construction Manager must ensure that a SWP is developed implemented and that all employees are instructed in the content of the site specific risk assessment
30				6	6	7	252	High	4	Proper PPE to be issued

31		Working in natural elements, sun, rain, glare & wind	Prolonged exposure to extreme high temperatures may result in heat stroke							
		Fast moving vehicles	Passing traffic could crash into employees working in an existing excavation	6	6	7	252	High	4	The Construction Manager must ensure that a SWP is developed implemented and that all employees are instructed in the content of the site specific risk assessment

32		Poor Ergonomics	Poor Ergonomics may result in muscular skeletal injuries	3	6	3	54	Possible Risk	2	The Construction Manager must ensure that a SWP is developed implemented and that all employees are instructed in the content of the site specific risk assessment
33	Mechanical Excavation	The use of Defective Plant	The use of defective plant	6	6	3	108	Sustantial Risk	3	The Construction Manager must verify that all plant utilized
			may result in accidents							on site has a recent service inspection register in place and signed off by the relevant technical manager

34		untrained operator	The use of an untrained operator may result in accidents	6	6	**7**	252	High	4	The Construction Manager must verify that the Operator is deemed competent to operate that specific plant and is medically fit The Safety Officer must take cognizance of the requirements of the Driven Machinery Regulations 2015
35		Public / Contractor interface	Public accessing the work area could result in injuries	6	6	**3**	108	Sustanti Risk	3	The Construction Supervisor must ensure all work are adequately barricaded / cordoned off to prevent member of the public from entering

BASELINE RISK ASSESSMENT WORKSHEET: IDENTIFYING EXISTING & POTENTIAL RISKS

WORK PROCESS CATEGORY: **EARTHWORKS**

RISK REF	ACTIVITY	POTENTIAL HAZARD	RISK	RISK EVALUATION			RISK SCORE ExPxS	RISK LEVEL	RISK RANK	CONTROL MEASURE
				E	P	S				
36	Layer works and Asphalt layer	Traffic accidents on site when transporting materials. Reversing of trucks and mobile plant Dust inhalation High temperature of product	Damage to property Respiratory failure Burns	6	6	**3**	108	Substantial Risk	3	Speed limit to be adhered to Enforced reverse alarms to be fitted Application of dust masks

37	Backfilling	Suitable access and egress in and out of excavations deeper than 1 meter not provided. Collapse of excavation during backfilling operations	Injury to persons Injury to persons Fatality	6	6	**7**	252	High	4	Competent excavation supervisor to ensure that access is provided, employees informed of requirements Only authorized

DRIVING / OPERATING OF CONSTRUCTION VEHICLES AND MOBILE PLANT

RISK REF	ACTIVITY	POTENTIAL HAZARD	RISK	RISK EVALUATION			RISK SCORE ExPxS	RISK LEVEL	RISK RANK	CONTROL MEASURE
				E	P	S				
37	Excavator	Unauthorized opr incompetent person operating the machine	Injury to persons, damage to property	6	6	**7**	252	High	4	Only competent operator to be appointed
38	Bomag roller	Unauthorized opr incompetent person operating the machine	Injury to persons, damage to property	6	6	**7**	252	High	4	Only competent operator to be appointed
39	Plate compactor	Operator working with plate compactor not trained, running over workers feet	Foot injury and bruises	6	6	**7**	252	High	4	Only competent operator to be appointed

40	Front end loader	Unauthorized operator incompetent person operating the machine	Injury to persons, damage to property	6	6	**7**	252	High	4	
41	Concrete breaker (Jack hammer)	Noise	Noise Induced hearing Loss	6	6	**3**	108	Substantial Risk	3	Employee to make use of SABS approved hearing protection, supervisor to ensure that the correct P.P.E is used. Task to be supervised by a competent supervisor

WORKPLACE ENVIRONMENT , HEALTH AND HYGIENE

RISK REF	ACTIVITY	POTENTIAL HAZARD	RISK	RISK EVALUATION			RISK SCORE ExPxS	RISK LEVEL	RISK RANK	CONTROL MEASURE
				E	P	S				
42	Working in close proximity to moving machinery Exposure to noise	Noise	Noise Induced hearing Loss	6	6	**3**	108	Substantial Risk	3	Employee to make use of SABS approved hearing protection, supervisor to ensure that the correct P.P.E is used. Task to be supervised by a competent supervisor

43	Exposure to vibration	Vibration	White finger	6	6	**3**	108	Substantial Risk	3	Supervisor to rotate employees and allow for frequent breaks
44	Protection against dehydration and heat exhaustion	Dehydration/collapse	Health consequences to workers	6	6	**3**	108	Substantial Risk	3	Measures in place to prevent heat exhaustion in heat stress problem areas
45	Wet / cold condition	Affecting ability to work safely	Injury to workers	6	6	**3**	108	Substantial Risk	3	Provide rain wear / wellingtons where necessary Provide protection against the cold

46	Hazardous chemical substances	Contact with skin/ eyes Inhalation or indigestion	Skin irritation, burns or infections Could cause loss in eyesight	6	6	**3**	108	Substantial Risk	3	All substances identified and list available. MSD's Substances stored safely
47	Dust	Inhalation / respiratory problems	Respiratory failure	6	6	**3**	108	Substantial Risk	3	Application of dust masks

PUBLIC SAFETY

RISK REF	ACTIVITY	POTENTIAL HAZARD	RISK	RISK EVALUATION			RISK SCORE ExPxS	RISK LEVEL	RISK RANK	CONTROL MEASURE
				E	P	S				
48	Public exposed to the nature of the construction activities	Emission of HCS, dust and noise	Health risk impact	6	6	**3**	108	Substantial Risk	3	Communication with neighboring businesses is critical. Health risk must be communicated to all employees Dust, noise generated out of the construction work must be managed

BASELINE RISK ASSESSMENT WORKSHEET: IDENTIFYING EXISTING & POTENTIAL RISKS

WORK PROCESS CATEGORY: **PUBLIC SAFETY, SECURITY MEASURES AND EMERGENCY PREPARENESS**

RISK REF	ACTIVITY	POTENTIAL HAZARD	RISK	RISK EVALUATION			RISK SCORE ExPxS	RISK LEVEL	RISK RANK	CONTROL MEASURE
				E	P	S				
49	Notices and signs	Appropriate signage not displayed	Person /s not aware of the danger Injury / serious injury	6	6	**7**	252	High	4	No unauthorized Entry General warning signs
50	Emergency Preparedness	No Emergency Plan in place	Person/s unprepared to respond to the emergency at hand	6	6	**3**	108	Substant ial Risk	3	Emergency contact numbers displayed with designated person
51	Emergency Drill & Evacuation	No training No implementation Planning done	Person/s unprepared to respond to the emergency at hand	6	6	**3**	108	Substant Risk	3	Adequate number of employees trained in the use of fire equipment

52	Development and implementation of an Emergency Management Plan	Failure to have a basic site-specific Emergency Management Plan	Failure to have a basic, site specific Emergency Management Plan may result in injury and damage to property	6	6	**3**	108	Substant Risk	3	The Construction Manager must ensure that a site specific Emergency Management Plan is developed for implementation
53		Workers not trained in the Emergency Plan	Workers not trained in the Emergency Plan may result in their inability to respond to Emergencies	6	6	**3**	108	Substantial Risk	3	The Construction Manager must ensure that those workers are adequately and regularly trained to respond to Emergencies.

54		Insufficient or no Emergency equipment or personnel	Insufficient or no Emergency equipment or personnel on site may result in Emergencies being critical	6	6	**7**	252	High	4	The Construction Manager must ensure that a suitable number of employees are appointed to the Emergency Team and that First Aid boxes, First Aiders, Fire Team members and any other equipment as identified during the risk assessment process is on site.

WORK PROCESS CATEGORY: **COMMUNITY MANAGEMENT**

RISK REF	ACTIVITY	POTENTIAL HAZARD	RISK	RISK EVALUATION			RISK SCORE ExPxS	RISK LEVEL	RISK RANK	CONTROL MEASURE
				E	P	S				
55	Poor liaison with the CLO	Failure to adequately monitor and manage the multi faced social issues	Failure to manage social issues could result in violent protests and	6	6	**3**	108	Substantial Risk	3	The Construction Manager must ensure that a Community Liaison Officer (CLO) and project steering
			injury to employees							Committee is appointed to manage social issues

56		Roads blocked off due to community protest	Construction trucks and vehicles could crash into barricades resulting in damage to equipment or severe injuries	6	6	**7**	252	High	4	The Contraction Manager must ensure that close communication is kept with the local authorities and the appointed Community Liaison Officer to ensure that all personnel accessing the site are timeously alerted.

WORK PROCESS CATEGORY: **SUB – CONTRACTOR MANAGEMENT**

RISK REF	ACTIVITY	POTENTIAL HAZARD	RISK	RISK EVALUATION			RISK SCORE ExPxS	RISK LEVEL	RISK RANK	CONTROL MEASURE
				E	P	S				
57	No proper management control	Failure to adequately assess Sub Contractors S.H.E Management System before work commences and at regular intervals	Failure to manage Sub Contractors may result in injury and	6	6	**3**	108	Substant ial Risk	3	The Safety Officer must ensure that the appointed Sub Contractors S.H.E system is audited monthly and on site
			noncompliance to Legislation							activities supervised or monitored

58	Inadequate supervision	Inadequate Supervision may result in a high level of employee unsafe behavior	Injury / property damage	6	6	**3**	108	Substant ial Risk	3	The Construction Manager must ensure that Sub Contractors have adequate competent Supervision on site at all times
59	Utilizing incompetent Sub-Contractors	Utilizing incompetent Sub Contractors may result in accidents		6	6	**7**	252	High	4	The Construction Manager must be reasonably satisfied that the Sub Contractors intended to be appointed have the necessary competencies and resources to carry out the work safely

60	Utilizing incompetent Sub-Contractors	Utilizing incompetent Sub Contractors may result in damage to the Environment		6	6	**7**	252	High	4	The Construction Manager must be reasonably satisfied that the Sub Contractors intended to be appointed have the necessary competencies and resources to carry out the work safely

BASELINE RISK ASSESSMENT WORKSHEET: IDENTIFYING EXISTING & POTENTIAL RISKS

WORK PROCESS CATEGORY: **CONSTRUCTION ACTIVITIES**

RISK REF	ACTIVITY	POTENTIAL HAZARD	RISK	RISK EVALUATION			RISK SCORE ExPxS	RISK LEVEL	RISK RANK	CONTROL MEASURE
				E	P	S				
61	Brickwork at manholes	Repetitive strain injuries	Poor ergonomics may result in muscular skeletal injuries	6	6	3	108	Substantial Risk	3	The Construction Manager must ensure that a SWP is developed implemented and that all employees are instructed in the content of this SWP.

62	Mixing mortar	Repetitive strain injuries	Loading / unloading material	3	6	3	54	Possible Risk	2	The Construction Manager must ensure that a SWP is developed implemented about safe lifting and loading procedures.
63	Clean, grout and seal joints	Pressure equipment dislodge from source	Injury to persons	6	6	**7**	252	High		

64	Removal of asphalt inter layer using conventional method	Poor Ergonomics	Poor Ergonomics may result in muscular skeletal injuries	3	6	**3**	54	Possible Risk	2	The Construction Manager must ensure that workers are trained in the risk of ergonomically injuries and methods to mitigate the risks
65	Clear and grub pavement areas	Poor Ergonomics	Poor Ergonomics may result in muscular skeletal injuries	3	6	**3**	54	Possible Risk	2	The construction Manager must ensure that workers are trained in the risk of ergonomically

										injuries and methods to mitigate the risks
66	Placing of, plastic pipes for underground services	Operating of TLB or Excavator in close proximity to workers and public vehicles	Critical injuries caused by TLB/ Excavator striking workers or TLB rolling over	6	6	**7**	252	High Risk	4	The Construction Manager must ensure that the TLB/ Excavator Operator utilize a banks man
67		Using TLB for lifting pipes or other material	Critical injuries caused by the TLB or Excavator striking workers or rolling over	6	6	**7**	252	High Risk	4	The Construction Manager must ensure that the TLB/ Excavator has been modified or designed to be used as lifting equipment and the load test certificates provided.

68		Incorrect use of defective hand tools	The incorrect and or defective hand tools could result in non-disabling/ first aid case i.e. the hand or eyes	6	6	**3**	108	Substantial Risk	3	The Construction Supervisors must ensure that all hand tools are inspected monthly and recorded in an applicable register with all defective hand tools removed from the site
69		Incorrect use of defective electrical tools	The incorrect and or defective hand tools could result in non-disabling/ first aid case i.e. the hand or eyes	6	6	**3**	108	Substantial Risk	3	The Construction Supervisors must ensure that all portable electrical tools are inspected monthly and recorded in an applicable register with all defective equipment removed from the site

70	Construction of drains	Poor Ergonomics	Poor Ergonomics may result in muscular	3	6	**3**	54	Possible Risk	2	The Construction Manager must ensure that workers are
			skeletal injuries							trained in the risk of ergonomically injuries and methods to mitigate the risks

BASELINE RISK ASSESSMENT WORKSHEET: IDENTIFYING EXISTING & POTENTIAL RISKS

WORK PROCESS CATEGORY: **CONSTRUCTION ACTIVITIES**

RISK REF	ACTIVITY	POTENTIAL HAZARD	RISK	RISK EVALUATION			RISK SCORE ExPxS	RISK LEVEL	RISK RANK	CONTROL MEASURE
				E	P	S				
71	Pouring Ready Mix concrete	Concrete truck tipping over	Concrete truck tipping over could result in serious injury to the operator and workers close by	6	6	**7**	252	High	4	The Construction Manager must ensure that safe access to the pouring platform is created before the truck arrives on the site

73	Excavation of trenches	Excavation collapse	Plant striking operatives Public falling into it	6	6	**7**	252	High	4	Suitable protection to be installed around the excavation
74	Use of hand tools	Defective tools	Injury to person	6	6	**7**	252	High	4	Visual check before tool is used. Tool to be stored if not in use
75	Waste removal	Falling materials grab striking persons/ property	Injury to persons /damage to property	6	6	**7**	252	High	4	Only use grab or excavator, when operator has clear view of surroundings. No person allowed within the working range of the grab or excavator

BASELINE RISK ASSESSMENT WORKSHEET: IDENTIFYING EXISTING & POTENTIAL RISKS

WORK PROCESS CATEGORY: **CONSTRUCTION ACTIVITIES**

RISK REF	ACTIVITY	POTENTIAL HAZARD	RISK	RISK EVALUATION			RISK SCORE ExPxS	RISK LEVEL	RISK RANK	CONTROL MEASURE
				E	P	S				
76	Relocation of water Sewer and Electrical cables	Disruption of essential services	Community effected	6	6	3	108	Substantial Risk	3	Notification of supply service being disrupted to be communicated well in advance

BASELINE RISK ASSESSMENT WORKSHEET: IDENTIFYING EXISTING & POTENTIAL RISKS

WORK PROCESS CATEGORY: CONSTRUCTION ACTIVITIES

RISK REF	ACTIVITY	POTENTIAL HAZARD	RISK	RISK EVALUATION			RISK SCORE ExPxS	RISK LEVEL	RISK RANK	CONTROL MEASURE
				E	P	S				
78	Kerb inlet	Work zone not demarcated	Persons/s struck by vehicle	6	6	7	252	High	4	Traffic Management Plan to be fully implemented
79	Cut off drains	Work zone not demarcated	Persons/s struck by vehicle	6	6	7	252	High	4	Traffic Management Plan to be fully implemented

80	Inlet and outlet structures	Work zone not demarcated	Persons/s struck by vehicle	6	6	7	252	High	4	Traffic Management Plan to be fully implemented
81	Applying tack	Contamination	Eye injury	6	6	**7**	252	High	4	Close supervision at all times
82	Disposal of waste	Contamination	illness	6	6	**7**	252	High	4	Close supervision at all times
83	Working with hot asphalt	Heat stress / Burns	Injury to persons	6	6	**7**	252	High	4	Close supervision at all times
84	Cleaning tools with solvent	Use of chemical substance	Injury to persons	6	6	**7**	252	High	4	Close supervision at all times

WORK PROCESS CATEGORY: **ROAD PATCHING**

RISK REF	ACTIVITY	POTENTIAL HAZARD	RISK	RISK EVALUATION			RISK SCORE ExPxS	RISK LEVEL	RISK RANK	CONTROL MEASURE
				E	P	S				
85	Use of jackhammer to open patch	Crushing and pinching Slip, trip, falls in loose material	Incompetent employee working the jackhammer can cause injury to body parts	6	6	3	108	Substantial Risk	3	Employees using the jackhammer need to be trained by competent person
86	Filling of the road patch with cold mix or approved mix	Manual handling Back injury	Poor work performance. Back sprains and strains	6	6	7	252	High	4	Handling of asphalt bags need to be done by two employees. Training must be done to employees concerning manual handling

87	Compaction with small ride on roller	vibration	Operator losing control and hitting employees	6	6	7	252	High	4	All employees need to be trained not to stand close to moving plant. They need to stand 20m cleared of the work zone

8 REFERENCE

REFERENCE DOCUMENT

Occupational Health and Safety Act, Act 85 of 1993

Environmental Act

Construction Regulations 2014

120 1500 1200 700 1 in 50


TW336


TR104


TD4

Site Specific Health and Safety Specification in terms of 2014 Construction Regulations 5.1(b)

Document Title	Site Specific Health and Safety Specification
Client	eThekwini Municipality- Road Provision
Project Name	UPGRADING – GRAVEL TO SURFACE OF Mnisi Avenue, WARD 45, KWA MASHU
Contract Number	1R-33158
Revision	00
Date	27 October 2025
Internal Reference no.	SSHSS 452/10/2025
Compiled by (Safety officer)	Name and surname: Siziwe Chiliza Signature: Date: 27/10/25
Reviewed by (Manager: Safety& Risk)	Name and surname: Arty Zondi Signature: Date: 27/10/2025

Table of contents

1. DEFINITIONS

For the purpose of this Construction Health and Safety Specification, all definitions in the Occupational Health and Safety Act and Regulations, the abbreviations and the definitions given hereunder shall apply; where definitions may overlap, the most onerous requirement shall apply:

Acronym or Definition	Meaning
Agent	Refer to the Agent appointed by the Client to act on its behalf, and who is appointed in writing
CHSS	Refers to this document as the Construction Health and Safety Specification
Client	Refers to eThekwini Municipality
COIDA	Means Compensation for Occupational Injuries and Diseases Act 130 of 1993
Construction Site	Means the premises and grounds where construction work is being performed
Principal Contractor	Means an employer appointed by the Client to perform construction works
CR	Refers to the Construction Regulations of 2014
DSTI	Refer to a documented daily safe task compiled and issued by a contractor and trained to all relevant employees
H&S	Refers to Health and Safety
Medical Certificate of Fitness	Means a valid medical certificate of fitness issued by an occupational medicine practitioner, such medical testing shall be relevant to the risks of the construction work on the construction site and shall conform to the Occupational Health and Safety Act and Regulations and to the requ irement of this Health and Safety Specification
Method Statement	Refer to a document detailing the key activities to be performed in order to reduce as reasonably as practicable the hazards identified in the Risk Assessment
OHSA	Refer to the Occupational Health and Safety Act
Regulations	Refer to the Regulations stipulated in the OHSA
S	Refer to a section in the OHSA
SACPCMP	Means the South African Council for the Project and Construction Management Professions
Sub-Contractor	Means an employer appointed by the Principal Contractor
RRM	Road Reservation maintenance work
SADC	Southern Africa Development Community

2. PROJECT DESCRIPTION

2.1 Description of Site and Access

Description of Works

Roadworks is to upgrade existing 187m length of gravel track / roadway to 5m hardening surface with possible sidewalk and further 90m length of gravel track to 3.5m width. This will involve earthworks, stormwater upgrade, Kerbing, concrete surfacing, and retaining walls / gabions

3.LIMITATIONS OF LIABILITY

The Client or its Agent shall not be responsible for any acts or omissions of any contractor which may directly or indirectly result from the application of the CHSS or any project specific version thereof.

All contractors must ensure that articles, work, equipment, machinery, plant and work practices are, always compliant to the legal requirements as these apply.

The Client or its Agent shall limit its responsibility to the application of the Construction Regulations Clients Requirements only.

The Principal Contractor shall enter into a Mandatory Agreement with the Client, as defined in Section 37(2) of the Occupational Health and Safety Act.

The Principal Contractor shall ensure that each contractor appointed by the Principal Contractor and each sub-contractor appointed by a contractor also into a Mandatory Agreement with the Principal Contractor, as defined in Section 37(2) of the Occupational Health and Safety Act. These agreements shall be included in the Principal Contractor's H&S File on site and be valid for the duration of the contractors' work on the construction site.

4. PURPOSE OF THE CONSTRUCTION H&S SPECIFICATION

This document defines the minimum management requirement that is to be implemented by the Principal Contractor/Contractor for the management of Health and Safety on any eThekwini Municipality project.
The aim of this document is to present the health and safety aspects that need to be controlled and managed on the project.
This Health and Safety specification identifies and encompasses the working behaviours and safe work practices that are expected of all employees, Vendors and Contractors, Sub-Contractors and Visitors, engaged on construction site.
Providing a guideline to comply with best Health & Safety practices and the Occupational Health and Safety Act85/1993 as amended, including reference to applicable legislative requirement.

5. PROJECT HEALTH AND SAFETY COST

The Client must ensure that potential Principal Contractor submitting tenders have made adequate provision for the cost of health and safety measures.
The Principal Contractor shall allow in their cost provision for complying with the requirements of this CHSS; resources for the following H&S controls shall be in place.

	H&S cost item	Description
1.	Construction Safety Officer.	Construction safety officer is required to ensure that the health and safety plan is implemented on site.
2.	Medical certificate of fitness.	Medical examination of all employees and certification of fitness by an Occupational Medicine Practitioner
3.	Personal Protective Equipment.	PPE to be provided as per risk exposure, including but not limited to: respiratory, adapted hearing protection, adapted hand protection, adapted eye and head protection.
4.	Public protection and barricading.	To reduce risk exposure to the employees and members of the public.
5.	Training and competency.	Occupational Health and Safety Training in accordance with the skills matrix included in the approved H&S Plan.
6.	Dust mitigation.	To reduce dust exposure to the employees and the public
7.	Employee facilities.	Refer to the Facilities Regulations (drinking water, changing facility, personal lockers, and wash facilities, eating facilities.
8.	First Aiders.	Standard first aid training.
9.	Other.	Items not indicated in the Specification

6. SCOPE AND DESCRIPTION OF WORK

Scope of Works

List of activities to be undertaken

- Site Clearance, General Clearance of the area of works.
- Relocation of services and other works
- Concrete Works
- Earthworks and Excavation for Roadworks and
- Drainage
- Stormwater
- Kerbing

7. COMPENSATION FOR OCCUPATIONAL INJURIES AND DISEASES ACT

The Principal Contractor, each contractor and each sub-contractor shall submit proof of Good Standing with COIDA Commissioner, or a Mutual Association licensed in terms of Section 30 of COIDA, prior to starting any work on site.

A copy of the Letter of Good Standing with COIDA Commissioner must be included in the H&S Plan of each contractor working on the site and must remain updated for the duration of the construction work.

8. APPLICATION FOR CONSTRUCTION WORK PERMIT

The Principal Contractor shall assist the Client in compiling the evidence required by the Department of Labor for the issuing of the Construction Work Permit.

The Principal Contractor shall ensure that the H&S Plan presented for approvals includes:

- Evidence that the Principal Contractor made adequate provision for the cost of H&S measures
- Evidence that the Principal Contractor has the necessary competencies and resources to carry out the construction work safely.
- A copy of the Letter of appointment of the Construction Manager in terms of CR 8(1) + proof of his qualification, competence and registration where applicable.
- Proof of the registration of the Principal Contractors safety officer with the SACPCMP.

The Principal Contractor shall display the work permit number at the main site entrance. This display must be conspicuous to the satisfaction of the Department of Labor. The permit must be notified.

The construction work can only commence once the construction work permit is issued by the Department of Labor.

9. NOTIFICATION OF CONSTRUCTION WORK

The Principal Contractormust at least 7 days before that work is to be carried out notify the provincial director in writing in a form like Annexure 2 if the intended construction work will—
Include excavation work.

Include working at a height where there is risk of falling.

Include the demolition of a structure; or

Include the use of explosives to perform construction work.

A contractor who intends to carry out construction work that involves construction of a single storey dwelling for a client who is going to reside in such dwelling upon completion, must at least 7 days before that work is to be carried out notify the provincial director in writing in a form similar to Annexure 2

10. MANAGEMENT AND SUPERVISION OF CONSTRUCTION WORK

10.1 Construction Manager

The Principal Contractor shall appoint a full-time competent person as the construction manager with the duty of managing all construction on the site including the duty of ensuring occupational health and safety compliance.

The Construction Manager must demonstrate competence in relation to work being performed and the ability to manage construction work which may include making all statutory appointments in terms of health and safety.

10.2. Construction Safety Officer

The Principal Contractor shall appoint a competent Construction Safety Officer for the construction work. The Construction Safety Officer shall be full/part time on the construction site for this project.

The Safety Officer shall be registered with the South African Council for the Projects and Construction Management Professions. Proof of competence and registration of the appointed Construction Safety Officer must be included in the H&S Plan.

10.3. Construction Supervisor

A Construction Manager must appoint construction supervisors responsible for construction activities and ensuring occupational health and safety compliance on the construction site.

A contractor must, upon having considered the size of the project, in writing appoint one or more competent employees for different sections thereof to assist the construction supervisor contemplated in sub regulation (7)**,** and every such employee has, to the extent clearly defined by the contractor in the letter of appointment, the same duties as the construction supervisor: Provided that the designation of any such employee does not relieve the construction supervisor of any personal accountability for failing in his or her supervisory duties in terms of this regulation.

11. PRINCIPAL CONTRACTOR'S HEALTH AND SAFETY PLAN

The Principal Contractor shall submit a suitable, sufficiently documented and coherent specific health and safety plan based on the Client documented Health and Safety Specification. The health and safety plan shall include but not limited to the following

- Introduction.
- Project Details.
- Full Description of the works.
- Objectives and Targets for the Project.
- Implementation of the Client Health and Safety Specification.
- Management of construction and supervision.
- Compensation of Occupational Injuries and Diseases Act 130 of 1993 (COIDA).
- Notification of construction work.
- Sub-Contractor and Supplier Management.
- Hazard Identification, Risk Assessment & Risk Control.
- Monitoring and review plan.

- Written Safe Working Procedures.
- Excavation method statements.
- Working at height on the existing structure.
- Water Environments.
- Incident Management & First Aid.
- Emergency Evacuation Plan/Procedures.
- Fire Prevention & Protection on Construction Site.
- Public/Pedestrian Safety.
- PPE Provision and Maintenance on Construction Site.
- Health & Safety Signage on Construction Site.
- Construction Vehicles and Mobile Plants.
- Use and Temporary Storage of Flammable Liquids on Construction Site
- Hand & Electrical Tool Management.
- Construction Employees Facilities.
- Health & Safety Policies.
- Health and safety training & competencies.
- Housekeeping and general safeguarding on construction Site.
- Hazardous chemicals.
- Site barricading.
- Traffic accommodation on site.
- Induction.
- Medicals certificates of fitness.
- Site Security.
- Stacking and storage on construction site.
- Heat stress.
- Transportation of employees to different sites.
- Provision of drinking water.
- Working on a stepladder during trimming of trees.
- Manual handling of heavy objects.
- Refuelling, maintenance of brush cutters on site.
- Removal of waste on construction site.
- Internal and external Audit.
- Site inspection and keeping of records/registers.
- Toolbox talks.

12. HAZARD IDENTIFICATION AND RISK ASSESSMENT

The Principal Contractor shall before commencement of any construction and during such construction works have risk assessments performed by appointed competent person in writing which forms part of the health and safety plan to be applied.

The provisions of Regulation 9 of the Construction Regulations shall be followed in every detail.

13. HEALTH AND SAFETY FILE

The Client must discuss and negotiate with a Principal Contractor the content of the Health and Safety Plan and thereafter finally approve the Health and Safety plan for implementation. The recommended Health and Safety file shall include the following:

- Copy of Construction Work Permit (Where applicable)
- Notification of Construction Work
- Client Health & Safety Specification
- SHE Policy
- Principal Contractor Health & Safety Plan
- Updated letter of good standing with Commissioner
- Section 37.2 Mandatory Agreement
- Contractor appointment letter in terms of CR 5.1(k)
- Organogram as per appointments
- Legal appointment letters and competencies (Construction Manager, Construction Supervisor, Traffic/Construction Safety Officer, Risk assessor, Incident Investigator, First aider, Fire equipment Inspector, Construction Vehicle and Mobile Plant, Excavation Supervisor and Health and safety representative) etc.
- Risk Assessments as per scope of work
- Written Safe Working Procedures as per scope of work
- Applicable Inspection Registers
- Incident/Accident Management Procedure/Policy, Register and relevant forms (Annexure 1, Wcl2) etc.
- Award letter from SCM
- Latest copy of OHS Act and other relevant regulations
-
- Health and Safety Induction programme
- Site Emergency Evacuation Plan
- Key Personnel contact numbers
- Site Safety Rules
- Medical Records – Medical Fitness Certificate
- Toolbox Talks Programme
- Material Safety Data Sheets and Hazardous Chemical Register.
- First Aid box and competent first aider
- Traffic management plan
- Subcontractor appointments and the subcontractors list.
- Site SHE internal and external audit records.
- Personal protective equipment issuing and maintenance records.

14. CLOSE-OUT CONSOLIDATED HEALTH AND SAFETY FILE

The Principal Contractor shall compile a consolidated H&S file and hand it over to the Business Unit, OHS Unit will conduct a project close out using the appropriate checklist before the completion of the project.

15. INDUCTION AND HEALTH AND SAFETY AWARENESS

The Principal Contractor shall ensure that all employees have gone through the induction training before commencing duties on site.

The Principal Contractor must ensure that all visitors to the construction undergo health and safety induction pertaining hazards prevalent on the site and ensure that visitors have

appropriate PPE. The Principal Contractor must always, on his or her construction site keep records of health and safety induction training.

15.1 Health and Safety Training

The Principal Contractor shall ensure that employees are trained in health and safety measures this shall include but not limited to:

- Written Safe Working Procedures
- Risk Assessments
- Health and Safety Plan and other policies
- Emergency Management Plan
- Incident management procedures
- Environmental management procedures
- Induction
- Toolbox Talks
- MSDS
- Traffic management plan

16. INCIDENTS MANAGEMENT & FIRST AID

All incidents and accidents as per Section of the Act must be reported, recorded and investigated as per General Administration Regulation 8 & 9

Where a fatality or permanent disabling injury or incident occurs on the Construction site, the Client must ensure that the Principal Contractor provides the Provincial Director with a report contemplated in Section 24 of the Act and the report includes the measures that the Principal Contractor intends to implement to ensure a safe construction site.

17. HEALTH AND SAFETY AUDITS

The Client must ensure that periodic health and safety audits are conducted at intervals mutually agreed upon between the Principal Contractor and the Client at least every 30 days, the copy of the health and safety audit report must be provided to the Principal Contractor within seven days after the audit.

18. FIRE PRECAUTIONS ON CONSTRUCTION SITE

The Principal Contractor shall provide suitable fire extinguishers which shall be serviced regularly in accordance with the manufacture's recommendations.

Safety signs shall be prominently displayed in all areas where fire extinguishers are located. The Principal Contractor shall arrange for training of the relevant personnel, in the use of fire extinguishers.

The provisions of Regulation 29 of the Construction Regulations as well as Regulation 9 of Environmental Regulation for Workplaces shall be followed in every detail.

19. ELECTRICAL INSTALLATIONS AND MACHINERY ON CONSTRUCTION SITE.

The Principal Contractor shall designate a competent electrician in writing who shall control all electrical installations.

All temporary electrical installations used by the contractor are inspected at least once a week by a competent person and the inspection findings are recorded in a register kept on the construction site.

All Electrical machinery is inspected by the authorized operator or user on daily basis using a relevant checklist prior to use and the inspection findings are recorded in a register kept on the construction site.

The provisions of Regulation 5, 6 & 9 of the Electrical Installation Regulations shall be followed in every detail.

20. PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING.

The Principal Contractor shall ensure that every employee is issued with, and wears SANS-approved P.P.E. as per the conducted risk assessment.

Failure to use protective equipment as per the risk assessment shall require disciplinary intervention and this process shall be documented in the induction.

No employer shall in respect of anything which he is in terms of this Act required to provide or to do in the interest of health or safety of an employee, make any reductions from any employee's remuneration or require or permit any employee to make any payment to him or to any other person.

The provisions of Regulation 2 of the General Safety Regulations shall be followed in every detail.

21. OCCUPATIONAL HEALTH ANDSAFETY SIGNAGE

The Principal Contractor shall erect and maintain quality safety signage

The signage shall include but is not limited to:

- Traffic control signs.
- Emergency telephone number(s)
- PPE to be worn at the site
- When falling objects may occur, relevant barricading and warning signs must be erected

22. DUTIES OF PRINCIPAL CONTRACTORS AND CONTRACTORS

Contractors and sub-contractors must be given a copy of the H&S specification and any additional specification issued by the Client and shall comply with these specifications integrally. All employers working on the site shall conform to the standard in the CHSS. All the duties of the Principal Contractor in this CHSS equally apply, in full, to contractors of such Principal Contractor and to sub-contractors of such contractors.

The Principal Contractor shall ensure that the comprehensive and updated list of all the contractors and sub-contractors on site includes:

- A reference to the agreements between the parties, including all contractors Section 37(2) agreements with the Principal Contractor
- The type of work being done
- The date of the approval of the H&S Plan
- The date of expiry of the COIDA certificate of good standing
- Appointments and competencies.
- Medical certification of employees.
- The date of the last monthly audit.

The provisions of Regulation 7 of the Construction Regulations shall be followed in every detail.

23. EXCAVATION WORK

- The Principal Contractor must ensure that all excavation work is carried out under the supervision of a competent person who has been appointed in writing for that purpose.
- The Principal Contractor shall take cognisance of the geotechnical study pertaining to the conditions of the construction site and must plan all excavation work in accordance with the recommendations of the professional engineer.
- The Principal Contractor must ensure that every excavation, including all bracing and shoring, is inspected daily, prior to the commencement of each shift and that no person enters the excavation or works in a risk zone until the excavation is assessed and declared safe.
- All excavations must be left open for the minimum of time required and those that are left open on the site must be protected by a barrier or a fence of at least one meter in height as close to the excavation as is practicable. The protective barrier or fence must adequately prevent persons from falling into the excavation and barrier taping is not sufficient for this purpose
- Excavation shoring and bracing, if required shall be designed by a designer appointed in writing who shall inspect and approve the installed shoring and bracing
- Where persons work, inspect or test excavations, warning signs must be in place next to an excavation

The provisions of Regulation 13 of the Construction Regulations shall be followed in every detail.

24. PUBLIC HEALTH AND SAFETY

The site shall always be secured to prevent unauthorized access of people to construction risk areas.

Appropriate health and safety signage shall be posted and access control to sites must be exercised via a single access point.

All members entering the site must indicate in what capacity they are visiting the site.

The access point must be designed and constructed to allow for temporary parking, entry of construction vehicles, entry of personnel transport vehicles and entry of individual workers and other people.

The principal Contractor shall ensure that each person visiting the site shall be inducted to the site and such abridged induction shall outline the hazards from on-site activities and the precautions to be observed to avoid or minimize those risks

Visitors must only enter when accompanied by a responsible person designated by the Principal Contractor.

25. CONSTRUCTION EMPLOYEES FACILITIES

The Principal Contractor shall provide at or within reasonable access of every construction site, the following clean, hygienic and maintained facilities:
(a) Shower facilities after consultation with the employees or employees representatives, or at least one shower facility for every 15 persons.
(b) at least one sanitary facility for each sex and for every 30 workers.
(c) changing facilities for each sex; and
(d) sheltered eating areas.

The provisions of Regulation 2, 3, 4, 6, 7, 9 of the Facilities Regulations shall be followed in every detail.

26. STORAGE AND USE OF FLAMMABLE LIQUIDS

No flammable substances must be stored on site unless these are stored in a flammable store or cabinet approved by the Municipal Chief Fire Officer, no other materials shall be stored in the flammable store or cabinet

Where required the H&S Plan shall include a method statement detailing the safe use, storage, decanting and spill controls for all flammable liquids used and stored on site.

The provisions of Regulation 25 of the Construction Regulations shall be followed in every detail.

27. HAZARDOUS CHEMICAL SUBSTANCE

With respect to hazardous chemical substances used, the contractor shall ensure that:

- All MSDS are included in the H&S File
- A HCS risk assessment is included in the H&S Plan
- The safe use, storage, emergency procedures and safe disposal of hazardous substances are addressed in a method statement(s) included in the H&S Plan.
- Proof of competency and signed letters of appointment of the person responsible for chemical handling is included in the H&S File.

Any hazardous chemical substance intended to be applied on site during the project (i.e. after approval of the H&S Plan) shall be subject to an issue-based risk assessment and method statement which must be presented to the Client Agent prior to the substance being introduced on site.

The provisions of Regulation 3, 5, 7, 8, 9, 9A, 10, 11, 14, 15 of the Hazardous Chemical Substances Regulations shall be followed in every detail.

28. HOUSEKEEPING AND GENERAL SAFEGUARDING ON CONSTRUCTION SITE

The Principal Contractor shall appoint a person responsible for general housekeeping and stacking and storage of materials and equipment on the entire site.

The provisions of Regulation 27 of the Construction Regulations shall be followed in every detail.

29. CONSTRUCTION MEDICALS

A Principal Contractor must ensure that all his or her employees have a valid medical certificate of fitness specific to the construction work to be performed and issued by an Occupational Health Practitioner in the form of Annexure 3.

30. STACKING AND STORAGE ON CONSTRUCTION SITE

A Principal Contractor must, in addition to compliance with the provisions for the stacking of articles in the General Safety Regulations, 2003, ensure that—

A competent person is appointed in writing with the duty of supervising all stacking and storage on a construction site.

*A*dequate storage areas are provided.

*T*here are demarcated storage areas; and *s*torage areas are kept neat and under control.

31. INDUCTION AND TOOLBOX PROGRAMME

No contractor may allow or permit any employee or person to enter any site, unless that employee or person has undergone health and safety induction training pertaining to the hazards prevalent on the site at the time of entry.

A contractor must ensure that all visitors to a construction site undergo health and safety induction pertaining to the hazards prevalent on the site and must ensure that such visitors have the necessary personal protective equipment.

A contractor must always keep on his or her construction site records of the health and safety induction training contemplated in sub regulation (6) and such records must be made available on request to an inspector, the client, the client's agent or the principal contractor.

The Principal Contractor must ensure that the toolbox talks are conducted on weekly basis and the training records kept on the safety file

32. CONTIGENCY/EMERGENCY PLAN, PROCEDURE AND CONTACT NUMBERS

Principal Contractor shall prepare an emergency procedure which will address any emergency that is likely to occur on a project site.
The Emergency Preparedness Plan deals with the emergency as fast and efficiently as possible, to minimise loss of life, the protection of property and the maintenance of services

necessary for the wellbeing of employees. The plan shall include valid local emergency contact numbers and must be easily accessible.

33. TRAFFIC MANAGEMENT PLAN.

PRIMARY RESPONSIBILITIES

PRINCIPAL CONTRACTOR
The following are the Principal Contractor's primary responsibilities for traffic accommodation

- Develop a traffic accommodation strategy and submit it for evaluation prior to commencement of work.
- This will be sent to the client for approval
- Included to the traffic management strategy must be drawings of how traffic will be managed
- Implement traffic accommodation measures in accordance with the traffic accommodation strategy.
- Ensure that all sub-contractors comply with the traffic accommodation strategy.
- Monitor the work zone to ensure that the traffic accommodation strategy is effective for both day and nighttime conditions during period of construction.
- Maintain all traffic control devices.
- Modify the traffic accommodation strategy if necessary. Take appropriate and timely action to correct any deficiencies by the contractor, in case of imminent danger, corrective action must immediate.
- All Traffic accommodation contractors shall have at least one First aider (Level 1) for each section of work.
- If the traffic Safety Officer have got the necessary first aid competency it will be accepted.
- It is also a recommendation and good practice that a Fire fighter be appointed for the site.
- Report all third-party vehicle accidents immediately to the Client. Provide a copy of the completed accident report within 48 hours of the occurrence.
- On construction projects, submit completed daily reports of the traffic accommodation details (location, date, time, signs, barricades) on weekly basis.
- On construction projects attend meetings to address any concerns regarding the performance of the traffic accommodation strategy.
- Provide a knowledgeable individual at the work zone to maintain the traffic control devices and address any traffic accommodation issues which arises, the contractor must identify the individual at the pre-construction meeting.
- All traffic controllers must have the necessary competency to be able to control traffic.

The provisions of Southern Africa Development Community (SADC) Road Traffic Signs Manual Volume 2: Chapter 13 and eThekwini Transport Authority Road works signing shall be followed in every detail.

N.B: For more information please do not hesitate to contact Siziwe Chiliza on 076 253 3339 or 031 322 2844 or email Siziwe.kweyama@durban.gov.za

ANNEXURE 3

OCCUPATIONAL HEALTH AND SAFETY ACT, 85 of 1993 Construction Regulations. 2014

Medical Certificate of Fitness

Name of Employee …… ID Number …… Co Number ……..

	***Possible Exposure** e.g. noise, heat, fall, risk, confined space, etc.	*** Job specific Requirement** **e**.g. Operating Mobile Crane, Digging Trenches, Erecting formwork & Support work, etc.	*** Protective Equipment** e.g. Dust respirator(Light Duty) Welding Gloves, etc.
**Occupation* *e.g. General worker , Welder, Bricklayer, Steel fixer, Mobile Crane, Operator, etc.*			

*** The employer to complete the information in the spaces marked with an before sending the employee for a medical examination**

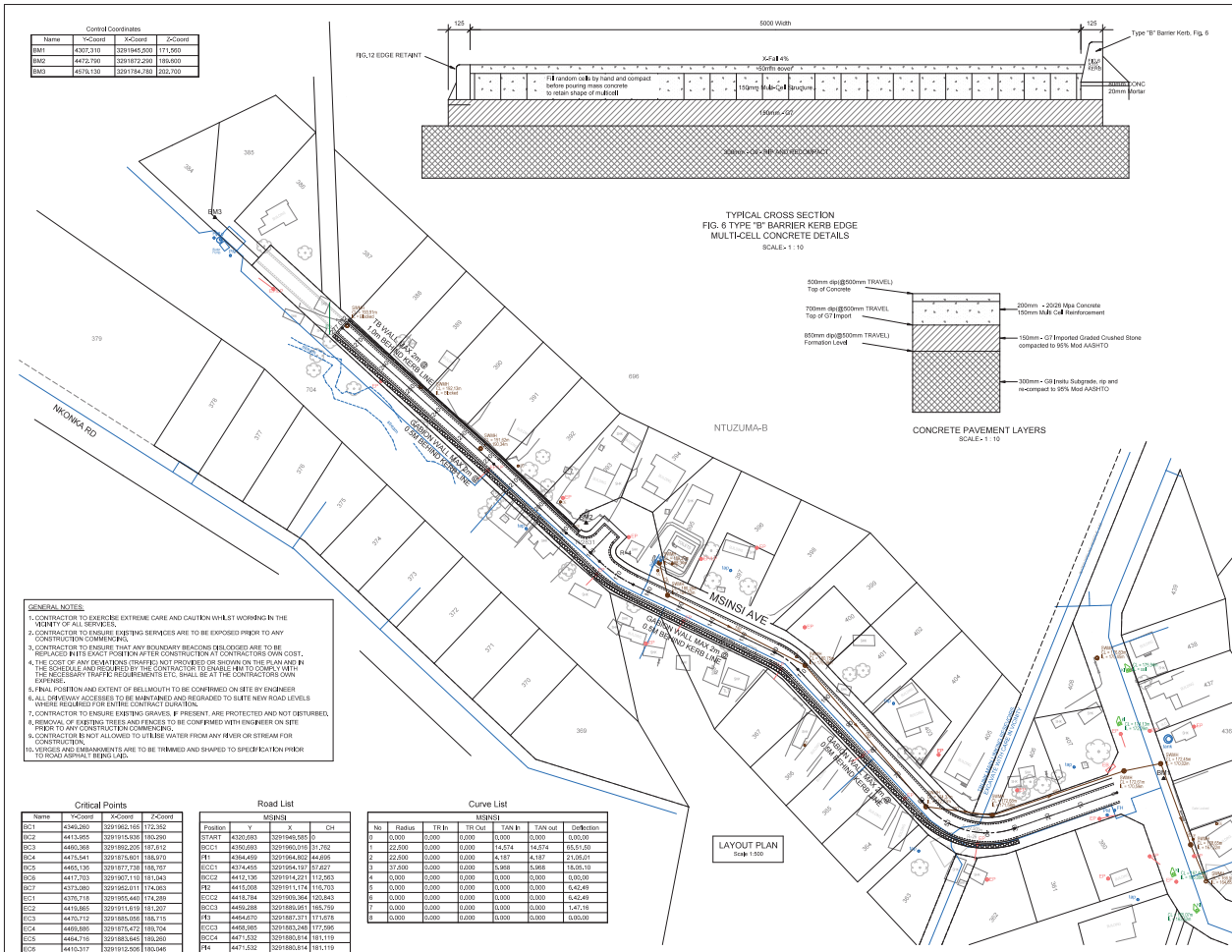
Declaration by the Medical Examiner:

I certify that I have, by examination and testing, using the above criteria specified by the employer, satisfied myself that the abovementioned employee is fit to perform the duties by the employer in the matrix above.

Occupational Medicine Practitioner/ Occupational Health Nursing Practitioner: (Please Print Name)……

Signature …… Practice Number …… Date ……..

Address ……

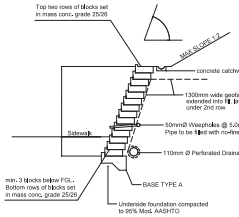


LAYOUT PLAN
Scale 1:500

Control Coordinates

Name	Y-Coord	X-Coord	Z-Coord
BM1	4307,310	3291945,500	171,560
BM2	4472,790	3291872,290	189,920
BM3	4576,130	3291784,780	202,700

TYPICAL CROSS SECTION
FIG. 6 TYPE "B" BARRIER KERB EDGE
MULTI-CELL CONCRETE DETAILS
SCALE - 1 : 10

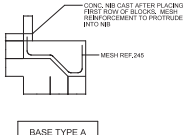


TYPICAL WALL 0.0m TO 2.0m HIGH
Scale 1 : 50

RETAINING WALL NOTES :

1. BLOCK TYPE : GEOLOK BLOCKS OR SIMILAR APPROVED BLOCKS TO BE SANS 509:2012 CERTIFIED.
2. ALL FOUNDATION TRENCHES TO BE APPROVED BY THE ENGINEER ON SITE PRIOR TO CASTING OF CONCRETE..
3. BOTTOM ROW OF BLOCKS TO BE PLACED WHILE THE BASE CONCRETE IS STILL WORKABLE.
4. FILL BEHIND WALL TO BE COMPACTED TO 95% Mod. AASHTO AND AS PER PART DD OF eTHEKWINI'S STANDARD ENGINEERING SPECIFICATIONS. NO ALLOWANCE(S) BENCHING OF EXISTING AND/OR CUT SLOPED MATERIAL AND/OR ROCK WHERE NECESSARY.
5. CONCRETE IN WALL BASE - GR. 25/26 OR AS SPECIFIED.
6. CEMENT STABILISED FILL- 12:1 CLEAN COARSE SAND : CEMENT , WELL RAMMED BETWEEN BLOCKS, IN BLOCKS AND 500mm BEHIND BLOCKS AS DETAILED.
7. MINIMUM OF 8 BLOCKS TO BE LAID PER SQ M, (OR AS PER THE MANUFACTURES SPECIFICATION).
8. CONTRACTOR TO MAKE ALLOWANCE FOR +/- 75mm "STEP BACK" WITH EACH 200mm STEP UP WHEN SETTING OUT THE BASE, (OR AS PER THE MANUFACTURES SPECIFICATION).
9. CONTRACTOR TO REFER TO DETAILED SURVEY DRAWINGS FOR THE LOCATION OF SERVICES, PROPERTY BOUNDARIES ETC..
10. LEVELS AND DIMENSIONS INDICATED ON THIS DRAWING ARE ONLY A GUIDE AND THESE NEED TO BE CONFIRMED BY THE ENGINEER ON SITE.
11. POSITION OF RETAINING WALLS TO BE CONFIRMED BY ENGINEER ON SITE.
12. ALL RETAINING WALLS AS PER STRUCTURES DEPARTMENT DETAILS (ISSUED SEPARATELY IF REQUIRED).

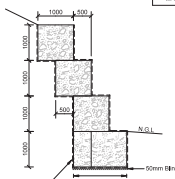
CONCRETE PAVEMENT LAYERS
SCALE - 1 : 10



BASE TYPE A
1 : 20

GABION BASKET NOTES:

1. THE GABION DESIGN SHOWN IS TYPICAL . EACH APPLICATION OF GABION BOXES SHALL BE DESIGNED BY THE PLANNING OR ENGINEER TO SUIT THE SPECIFIC CONDITIONS PREVAILING.
2. FOUNDATIONS TO BE STEPPED AND PREPARED AS INSTRUCTED BY THE ENGINEER.
3. GEOTEXTILE FABRIC TO BE GRADE C OR SIMILAR AS INSTRUCTED BY THE ENGINEER.
4. ALL WIRE USED IN THE MAKING OF GABIONS SHALL BE GALVANISED IN ACCORDANCE WITH THE PROVISIONS SABS 1580:1993 FOR CLASS A HEAVY GALVANISED MILD-STEEL WIRE.
5. THE STANDARD SIZES OF GABIONS ARE AS FOLLOWS : LENGTH : 1,0m & 2,0m WIDTH : 1,0m & 2,0m DEPTH : 0,5m & 1,0m DIAPHRAGM SPACING : 1,0m
6. LACING AND BRACING TO BE DONE IN ACCORDANCE WITH MANUFACTURES RECOMMENDATIONS.



TYPICAL WALL UPTO 3,0m
Scale 1 : 50

GENERAL NOTES:

1. CONTRACTOR TO EXERCISE EXTREME CARE AND CAUTION WHILST WORKING IN THE VICINITY OF ALL SERVICES.
2. CONTRACTOR TO ENSURE EXISTING SERVICES ARE TO BE EXPOSED PRIOR TO ANY CONSTRUCTION COMMENCING.
3. CONTRACTOR TO ENSURE THAT ANY BOUNDARY BEACONS DISLODGED ARE TO BE REPLACED INTO EXACT POSITION AFTER CONSTRUCTION AT CONTRACTORS OWN COST.
4. THE COST OF ANY DEVIATIONS (TRAFFIC) NOT PROVIDED OR SHOWN ON THE PLAN AND IN THE SCHEDULE AND REQUIRED BY THE CONTRACTOR TO ENABLE HIM TO COMPLY WITH THE NECESSARY TRAFFIC REQUIREMENTS ETC. SHALL BE AT THE CONTRACTORS OWN EXPENSE.
5. FINAL POSITION AND EXTENT OF BELLMOUTH TO BE CONFIRMED ON SITE BY ENGINEER
6. ALL DRIVEWAY ACCESSES TO BE MAINTAINED AND REGRADED TO SUITE NEW ROAD LEVELS WHERE REQUIRED FOR ENTIRE CONTRACT DURATION.
7. CONTRACTOR TO ENSURE EXISTING GRAVES, IF PRESENT, ARE PROTECTED AND NOT DISTURBED.
8. REMOVAL OF EXISTING TREES AND FENCES TO BE CONFIRMED WITH ENGINEER ON SITE PRIOR TO ANY CONSTRUCTION COMMENCING.
9. CONTRACTOR IS NOT ALLOWED TO UTILISE WATER FROM ANY RIVER OR STREAM FOR CONSTRUCTION.
10. VERGES AND EMBANKMENTS ARE TO BE TRIMMED AND SHAPED TO SPECIFICATION PRIOR TO ROAD ASPHALT BEING LAID.

Critical Points

Name	Y-Coord	X-Coord	Z-Coord
BC1	4346,260	3291962,165	172,352
BC2	4413,955	3291915,936	180,290
BC3	4460,368	3291892,205	187,612
BC4	4475,541	3291875,801	188,970
BC5	4465,135	3291854,738	188,767
BC6	4417,703	3291907,110	181,043
BC7	4373,080	3291952,011	174,063
EC1	4376,718	3291955,440	174,289
EC2	4419,865	3291911,619	181,207
EC3	4470,712	3291885,056	188,715
EC4	4469,886	3291875,472	189,704
EC5	4464,716	3291883,645	189,260
EC6	4410,317	3291912,506	180,046
EC7	4360,092	3291957,442	172,164
PT1	4320,039	3291952,005	171,727
PT10	4465,560	3291874,668	188,991
PT2	4500,389	3291856,701	191,593
PT3	4543,790	3291817,750	193,573
PT4	4541,416	3291815,178	193,427
PT5	4467,971	3291884,170	191,449
PT6	4467,468	3291872,941	189,214
PT7	4463,853	3291876,395	188,842
PT8	4458,207	3291887,696	187,433
PT9	4321,923	3291947,262	171,526

Road List

MSINSI

Position	Y	X	CH
START	4320,693	3291946,585	0
BCC1	4350,693	3291966,016	31,762
PI1	4364,459	3291964,802	44,695
ECC1	4374,455	3291954,197	57,427
BCC2	4412,136	3291914,221	112,563
PI2	4415,208	3291911,174	116,703
ECC2	4418,764	3291905,364	120,843
BCC3	4459,288	3291889,951	165,759
PI3	4464,670	3291887,371	171,678
ECC3	4468,985	3291883,248	177,595
BCC4	4471,532	3291880,814	181,119
PI4	4471,532	3291880,814	181,119
ECC4	4471,532	3291880,814	181,119
BCC5	4473,340	3291879,087	183,619
PI5	4473,340	3291879,087	183,619
ECC5	4473,340	3291879,087	183,619
BCC6	4478,465	3291875,228	190,034
PI6	4478,465	3291875,228	190,034
ECC6	4478,465	3291875,228	190,034
BCC7	4499,200	3291855,417	218,712
PI7	4499,200	3291855,417	218,712
ECC7	4499,200	3291855,417	218,712
END	4542,803	3291816,463	277,032

Curve List

MSINSI

No	Radius	TR In	TR Out	TAN In	TAN out	Deflection
0	0,000	0,000	0,000	0,000	0,000	0,00,00
1	22,500	0,000	0,000	14,574	14,574	65,51,50
2	22,500	0,000	0,000	4,187	4,187	21,05,01
3	37,500	0,000	0,000	5,968	5,968	18,05,10
4	0,000	0,000	0,000	0,000	0,000	0,00,00
5	0,000	0,000	0,000	0,000	0,000	6,42,49
6	0,000	0,000	0,000	0,000	0,000	6,42,49
7	0,000	0,000	0,000	0,000	0,000	1,47,16
8	0,000	0,000	0,000	0,000	0,000	0,00,00

Edge Levels

Name	Y-Coord	X-Coord	Z-Coord
0	4320,693	3291901,084	183,518
0L	4319,872	3291951,947	171,725
0R	4321,514	3291947,224	171,525
10	4330,138	3291952,869	171,744
100	4403,519	3291923,263	178,746
100L	4405,338	3291925,078	178,846
100R	4401,700	3291921,648	178,646
105	4406,949	3291924,171	178,930
105L	4408,768	3291921,439	178,400
105R	4405,130	3291918,010	179,200
10L	4329,317	3291955,231	171,944
10R	4330,959	3291950,508	171,644
110	4410,378	3291916,086	179,876
110L	4412,175	3291917,825	179,976
110R	4408,582	3291914,347	179,776
115	4413,901	3291912,542	180,453
115L	4415,503	3291914,475	180,553
115R	4412,298	3291910,608	180,353
120	4416,031	3291909,743	181,029
120L	4418,283	3291911,914	181,129
120R	4415,780	3291907,571	180,929
125	4422,533	3291907,568	181,605
125L	4423,817	3291909,020	181,705
125R	4421,449	3291905,315	181,505
130	4427,042	3291905,406	182,187
130L	4428,122	3291907,661	182,287
130R	4425,961	3291903,152	182,087
135	4431,550	3291903,245	182,821
135L	4432,631	3291905,500	182,921
135R	4430,470	3291900,991	182,721
140	4436,059	3291901,084	183,518
140L	4437,140	3291903,339	183,618
140R	4434,979	3291898,830	183,418
145	4440,568	3291898,923	184,279
145L	4441,649	3291901,178	184,379
145R	4439,487	3291896,669	184,179
15	4334,361	3291954,511	171,803
150	4445,077	3291896,762	185,068
150L	4446,157	3291899,016	185,168
150R	4443,996	3291894,508	184,968
155	4449,586	3291894,601	185,829
155L	4450,666	3291896,855	186,029
155R	4448,505	3291892,346	185,829
15L	4334,040	3291956,873	171,903
15R	4335,682	3291952,150	171,703
160	4454,095	3291892,440	186,747
160L	4455,175	3291894,694	186,847
160R	4453,014	3291890,185	186,647
165	4458,603	3291890,279	187,432
165L	4459,738	3291892,507	187,532
165R	4457,469	3291888,050	187,332
170	4463,000	3291887,906	188,011
170L	4464,315	3291890,037	188,111
170R	4461,686	3291885,774	187,911
175	4467,047	3291884,975	188,463
175L	4468,672	3291886,876	188,563
175R	4465,486	3291883,148	188,357
180	4470,723	3291881,587	188,757
180L	4472,447	3291883,391	188,856
180R	4469,379	3291880,180	188,679
185	4474,443	3291878,296	188,930
185L	4475,836	3291880,106	189,022
185R	4473,050	3291877,071	188,870
190	4478,437	3291875,246	189,129
190L	4479,571	3291876,585	189,199
190R	4477,303	3291873,912	189,059
195	4482,056	3291871,797	189,374
195L	4483,264	3291873,063	189,374
195R	4480,847	3291870,531	189,434
20	4339,054	3291956,153	171,987
200	4485,671	3291868,343	190,088
200L	4486,879	3291869,608	190,070
200R	4484,462	3291867,078	189,930
205	4489,286	3291864,889	190,500
205L	4490,495	3291866,154	190,370
205R	4488,077	3291863,624	190,430
20L	4338,763	3291958,515	171,987
20R	4340,406	3291953,792	171,787
210	4492,901	3291861,435	190,688
210L	4494,110	3291862,700	191,058
210R	4491,692	3291860,170	190,918
215	4496,516	3291857,981	191,358
215L	4497,720	3291859,251	191,428
215R	4495,312	3291856,711	191,288
220	4500,158	3291854,556	191,582
220L	4501,342	3291855,845	191,652
220R	4498,974	3291853,267	191,512
225	4503,880	3291851,217	191,860
225L	4505,048	3291852,519	191,730
225R	4502,711	3291849,914	191,990
230	4507,601	3291847,877	191,605
230L	4508,770	3291849,179	191,675
230R	4506,432	3291846,575	191,535
235	4511,322	3291844,537	191,524
235L	4512,491	3291845,840	191,594
235R	4510,153	3291843,236	191,454
240	4515,043	3291841,198	191,443
240L	4516,212	3291842,500	191,513
240R	4513,874	3291839,895	191,373
245	4518,764	3291837,858	191,362
245L	4519,933	3291839,161	191,432
245R	4517,595	3291836,556	191,292
25	4344,307	3291957,796	172,021
250	4522,485	3291834,519	191,356
250L	4523,654	3291835,821	191,426
250R	4521,316	3291833,216	191,286
255	4526,206	3291831,179	191,502
255L	4527,375	3291832,481	191,572
255R	4525,038	3291829,877	191,432
25L	4343,486	3291960,157	172,121
25R	4345,128	3291955,434	171,921
260	4529,928	3291827,839	191,797
260L	4531,096	3291829,142	191,867
260R	4528,759	3291826,537	191,727
265	4533,649	3291824,500	192,244
265L	4534,818	3291825,802	192,314
265R	4532,480	3291823,197	192,174
270	4537,370	3291821,160	192,766
270L	4538,539	3291822,463	192,836
270R	4536,201	3291819,858	192,696
275	4541,091	3291817,821	193,288
275L	4542,260	3291819,123	193,358
275R	4539,922	3291816,518	193,218
277	4542,603	3291816,463	193,500
277L	4543,772	3291817,766	193,570
277R	4541,434	3291815,161	193,430
30	4349,029	3291959,437	172,204
30L	4348,263	3291961,818	172,304
30R	4349,795	3291957,057	172,104
35	4353,817	3291960,695	172,436
35L	4353,358	3291963,327	172,536
35R	4354,277	3291958,385	172,336
40	4358,791	3291961,253	172,718
40L	4358,871	3291963,767	172,818
40R	4358,712	3291958,738	172,618
45	4363,730	3291960,543	173,049
45L	4364,362	3291962,978	173,149
45R	4363,099	3291958,108	172,949
5	4326,416	3291951,227	171,684
50	4368,392	3291958,763	173,430
50L	4369,544	3291960,999	173,530
50R	4367,239	3291956,527	173,330
55	4372,546	3291955,899	173,860
55L	4374,137	3291957,943	173,960
55R	4370,955	3291954,054	173,760
5L	4324,595	3291953,589	171,784
5R	4328,237	3291948,865	171,584
60	4376,083	3291952,470	174,340
60L	4377,876	3291954,213	174,440
60R	4374,290	3291950,727	174,240
65	4378,512	3291948,832	174,869
65L	4381,331	3291950,546	174,969
65R	4377,693	3291947,117	174,769
70	4382,942	3291945,193	175,423
70L	4384,761	3291946,908	175,523
70R	4381,123	3291943,478	175,323
75	4386,371	3291941,555	175,977
75L	4388,191	3291943,270	176,077
75R	4384,552	3291939,840	175,877
80	4389,801	3291937,916	176,531
80L	4391,620	3291939,631	176,631
80R	4387,982	3291936,202	176,431
85	4393,230	3291934,278	177,085
85L	4395,050	3291935,993	177,185
85R	4391,411	3291932,563	176,985
90	4396,660	3291930,640	177,638
90L	4398,479	3291932,354	177,738
90R	4394,841	3291928,925	177,538
95	4400,090	3291927,001	178,192
95L	4401,909	3291928,716	178,292
95R	4398,270	3291925,286	178,092
P1	4475,541	3291875,601	188,970
P2	4469,886	3291875,472	189,704
P3	4467,468	3291872,941	189,214
P4	4463,853	3291876,395	188,842
P5	4465,135	3291877,738	188,767
P6	4464,577	3291883,753	188,243
P7	4465,560	3291874,668	188,991

Cadastral Coordinates

Name	Y-Coord	X-Coord	Z-Coord
CAD1	4320,026	3291924,802	0,000
CAD10	4390,695	3291927,112	0,000
CAD11	4393,395	3291924,192	0,000
CAD12	4403,645	3291913,242	0,000
CAD13	4407,745	3291908,862	0,000
CAD14	4415,495	3291903,172	0,000
CAD15	4419,375	3291901,312	0,000
CAD16	4426,585	3291897,862	0,000
CAD17	4440,115	3291891,371	0,000
CAD18	4443,724	3291889,651	0,000
CAD19	4449,764	3291886,751	0,000
CAD2	4320,396	3291938,022	0,000
CAD20	4453,724	3291889,262	0,000
CAD21	4462,734	3291884,941	0,000
CAD22	4473,764	3291899,681	0,000
CAD23	4476,394	3291872,701	0,000
CAD24	4480,054	3291884,701	0,000
CAD25	4496,083	3291854,531	0,000
CAD26	4507,103	3291844,361	0,000
CAD27	4518,133	3291834,191	0,000
CAD28	4529,163	3291824,011	0,000
CAD29	4540,183	3291813,841	0,000
CAD3	4323,466	3291944,392	0,000
CAD30	4543,123	3291811,131	0,000
CAD31	4548,453	3291806,211	0,000
CAD32	4563,152	3291792,651	0,000
CAD33	4564,512	3291794,121	0,000
CAD34	4573,252	3291785,791	0,000
CAD35	4580,142	3291783,781	0,000
CAD36	4568,542	3291796,331	0,000

Cadastral Coordinates

Name	Y-Coord	X-Coord	Z-Coord
CAD37	4600,915	3291708,699	0,000
CAD38	4588,572	3291798,531	0,000
CAD39	4466,014	3291892,271	0,000
CAD4	4336,896	3291949,982	0,000
CAD40	4451,344	3291899,201	0,000
CAD41	4420,875	3291914,201	0,000
CAD42	4408,215	3291925,821	0,000
CAD43	4397,975	3291936,871	0,000
CAD44	4387,735	3291947,921	0,000
CAD45	4377,476	3291958,771	0,000
CAD46	4374,746	3291961,691	0,000
CAD47	4365,706	3291907,031	0,000
CAD48	4360,746	3291968,202	0,000
CAD49	4352,516	3291957,172	0,000
CAD5	4355,556	3291955,532	0,000
CAD50	4346,716	3291968,202	0,000
CAD51	4332,716	3291960,292	0,000
CAD52	4319,496	3291955,702	0,000
CAD53	4313,116	3291958,772	0,000
CAD54	4307,496	3291974,832	0,000
CAD6	4362,186	3291950,602	0,000
CAD7	4365,976	3291953,492	0,000
CAD8	4374,266	3291944,032	0,000
CAD9	4377,056	3291941,662	0,000

DRAUGHTING SYMBOLS

DETAIL	Proposed	Existing
CENTERLINE		
WATERMAIN DUCT		
TELKOM CABLE DUCT		
ELECTRIC CABLE DUCT		
ELECTRIC CABLES		
ELECTRIC LIGHT POLE		
TRAFFIC SIGNAL	TS	TS
CONSUMER DISTRIB. UNIT	CDU	CDU
TELKOM CABLES		
TELEPHONE POLE	TP	TP
SEWER		
STORMWATER DRAIN		
STORMWATER INLET		
SCOOP		
KERB AND CHANNEL		
EARTH EMBANKMENT		
WATERMAIN		
VALVE	Valve / Air Valve	
FIRE PLUG		
STANDARD HYDRANT		
EXISTING MH's TO BE CONVERTED TO CATCH-PIT		
EXISTING CATCH-PIT TO BE CONVERTED TO MH's		

FOR TENDER PURPOSES ONLY

New Road Area ..... m²
Unsurfaced to Surfaced ..... km's
AS BUILT
Date ..... Sign .....

eTHEKWINI MUNICIPALITY
ENGINEERING UNIT
ROADS PROVISION DEPARTMENT

PLAN DESCRIPTION	DWG. NO.
CONTINUED FROM	
CONTINUED ON	
CROSS SECTIONS	
TYPICAL CROSS SECTION	
SURVEY LAYOUT	

REDUCED PLAN USE SCALE BELOW
0 10 20 30 40 50 60 70
70mm ON ORIGINAL PLAN
DRAWN IN ALLYWINDOWS

Revision	Date	Description

NOTE:
No construction work to commence until land and servitude acquisitions have been completed
Acquisitions completed
Date Engineer
NORTH POINT

UNDERGROUND SERVICES CHECKED

SERVICE	DATE	SIGNATURE
SOKISHING		
SEWERS		
WATER MAINS		
GAS LINES		
ELECTRIC CABLES		
TELKOM CABLES		
NAVAL CABLES		
NAVAL CABLES		
OIL PIPELINE		

NOTE:
Only underground services affected by new construction work are shown. Care must be taken during excavations for road foundations, trenches etc., to avoid damage to underground services such as sewers, drains, cables, water mains and connections. Wherever possible these must be located before work proceeds.

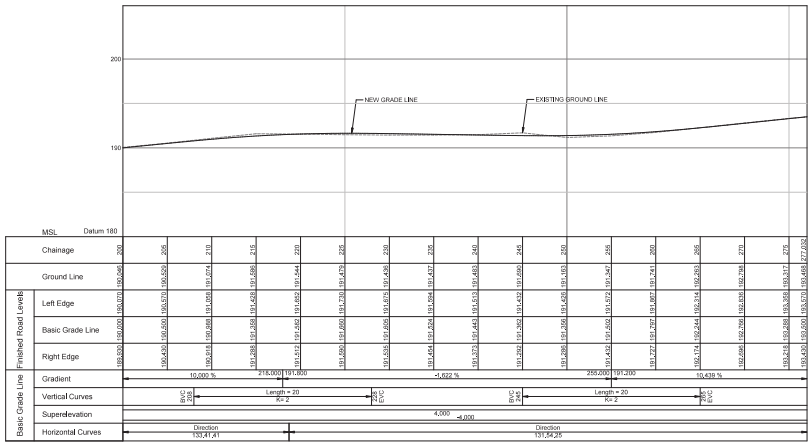
Contract No. 1R-33158

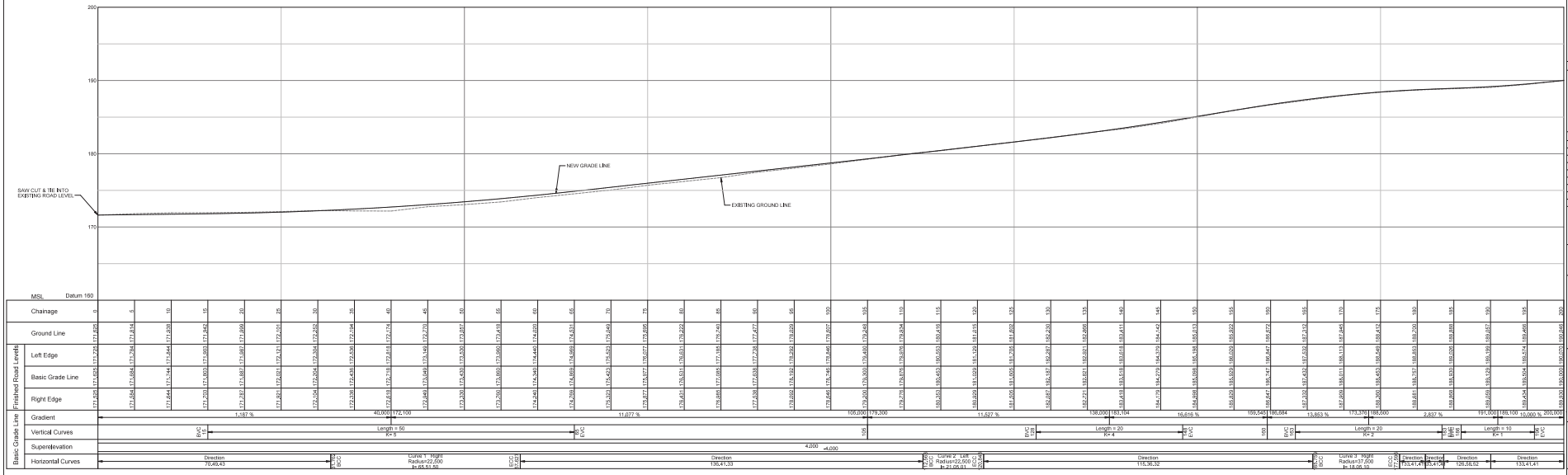
Project Title
MSINSI AVENUE
WARD 45
GRAVEL TO SURFACE

Drawing Title
DIMENSIONS AND SETTING OUT PLAN

Scales	Reference
AS SHOWN	
Designed: LNJ CLOETE	Date: 15 OCTOBER 2025
Checked: B.GOVENDER	Drawn in AllyWindows by: LNJ CLOETE
Manager RD (N)	
GM / RP	
Head : Engineering	

Drawing No. 49491
Sheet 01 of 03 Sheets





FOR TENDER PURPOSES ONLY

New Road Area ..... m²

Unsurfaced to Surfaced ..... km's

AS BUILT

Date ..... Sign .....

eTHEKWINI MUNICIPALITY

ENGINEERING UNIT
ROADS PROVISION DEPARTMENT

PLAN DESCRIPTION	DWG. NO.	
CONTINUED FROM		
CONTINUED ON		
CROSS SECTIONS		
TYPICAL CROSS SECTION		
SURVEY LAYOUT		

REDUCED PLAN USE SCALE BELOW

0 10 20 30 40 50 60 70

70mm ON ORIGINAL PLAN

DRAWN IN ALLYSWINDOWS

Revision	Date	Description

NOTE:
No construction work to commence until land and servitude acquisitions have been completed

Acquisitions completed

Date Engineer

NORTH POINT

UNDERGROUND SERVICES CHECKED

SERVICE	DATE	SIGNATURE
SANCRAING		
SEWERS		
WATER MAINS		
GAS/CABLES		
ELECTRIC CABLES		
TELE CABLES		
TRAFFIC CABLES		
STREET LIGHTING		

NOTE:
The underground services affected by new construction work are shown. Care must be taken during excavations for road foundations, trenches etc., to avoid damage to underground services such as sewers, drains, cables, water mains and connections. Wherever possible these must be located before work proceeds.

Contract No. 1R-33158

Project Title
MSINSI AVENUE
WARD 45
GRAVEL TO SURFACE

Drawing Title
LONGITUDINAL SECTION
CH0.000 TO CH277.032

Scales	Reference
Vert 1:200 Horiz 1:200	

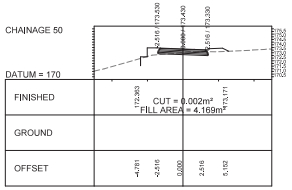
Designed	Date
LNJ CLOETE	15 OCTOBER 2025
Checked	Drawn in AllyWindows by
B.GOVENDER	LNJ CLOETE

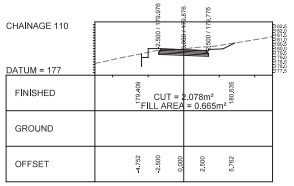
Manager RD (N)

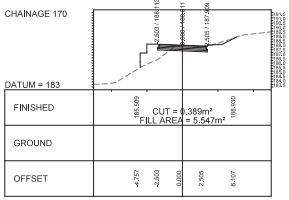
DM / PP

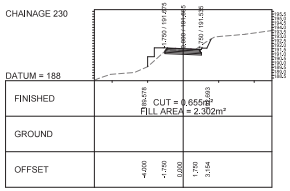
Head : Engineering

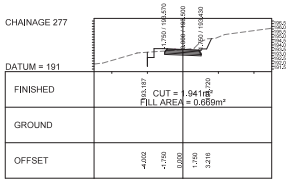
Drawing No.	Sheet
49491	02 of 03 Sheets

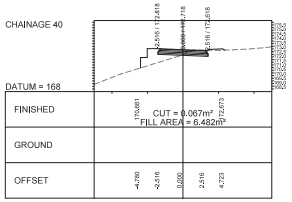


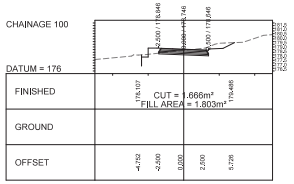


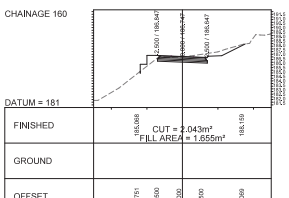


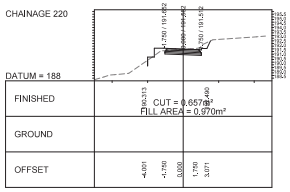


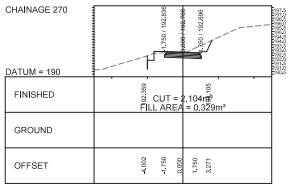


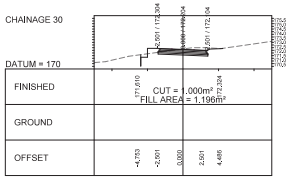


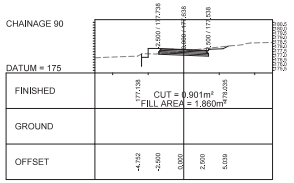


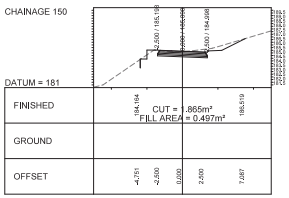


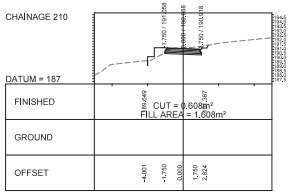


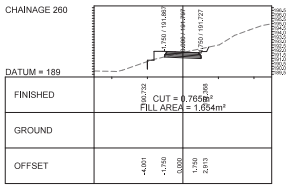


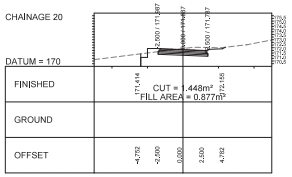


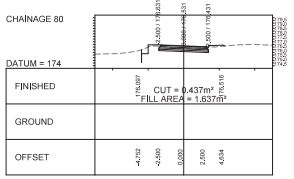


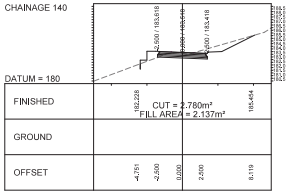


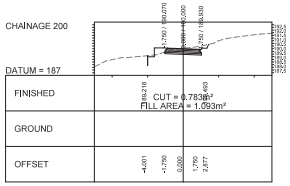


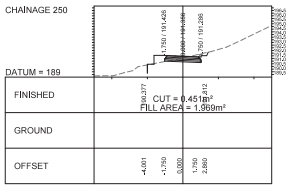


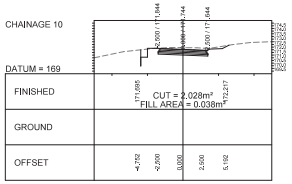


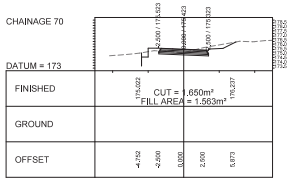


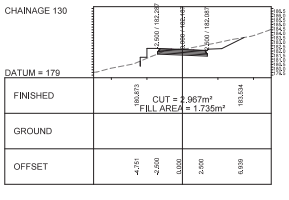


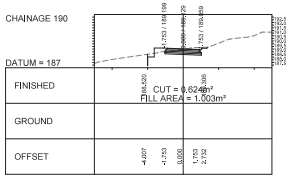


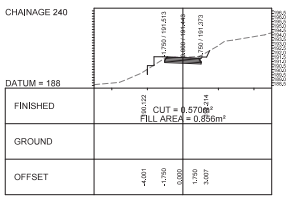


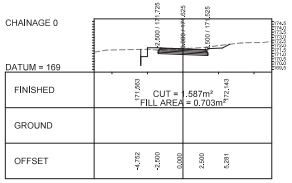


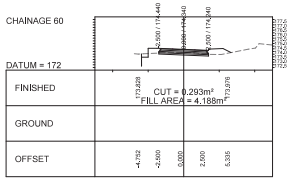


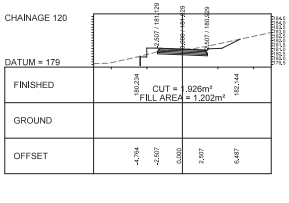


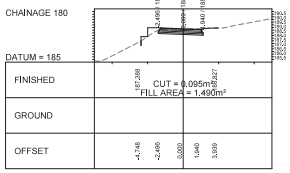












FOR TENDER PURPOSES ONLY

New Road Area ..... m²

Unsurfaced to Surfaced ..... km's

AS BUILT

Date ..... Sign .....

eTHEKWINI MUNICIPALITY

ENGINEERING UNIT
ROADS PROVISION DEPARTMENT

PLAN DESCRIPTION	DWG. NO.
CONTINUED FROM	
CONTINUED ON	
CROSS SECTIONS	
TYPICAL CROSS SECTION	
SURVEY LAYOUT	

REDUCED PLAN USE SCALE BELOW

0 10 20 30 40 50 60 70

70mm ON ORIGINAL PLAN

DRAWN IN ALLYWINDOWS

WGS 84

Revision	Date	Description

NOTE:
No construction work to commence until land and servitude acquisitions have been completed

Acquisitions completed

Date Engineer

NORTH POINT

UNDERGROUND SERVICES CHECKED

SERVICE	DATE	SIGNATURE
SEWERS		
WATER MAINS		
ELECTRIC CABLES		
TELE CABLES		
GAS MAINS		
ALTERNATIVE		

NOTE:
Underground services affected by new construction work are shown. Care must be taken during excavations for road foundations, trenches etc., to avoid damage to underground services such as sewers, drains, cables, water mains and connections. Wherever possible these must be located before work proceeds.

Contract No. 1R-33158

Project Title
MSINSI AVENUE
WARD 45
GRAVEL TO SURFACE

Drawing Title
CROSS SECTIONS
CH0.000 TO CH277.032

Scales	Reference
Vert 1:200 Horz 1:200	

Designed	Date
LNJ CLOETE	15 OCTOBER 2025
Checked	Drawn in AllyWindows by
B.GOVENDER	LNJ CLOETE

Manager RD (N)

GM / RP

Head : Engineering

Drawing No. 49491 Sheet 03 of 03 Sheets