



COST ESTIMATION MANUAL 2022-2023

FOR ROAD CONSTRUCTION AND
MAINTENANCE WORKS

THIRD
REVISED
EDITION

POPULAR EDITION



Cost Estimation Manual

for Road Construction and Maintenance Works

Popular Edition | 2022-2023

Foreword



The Kenya Roads Board was established by the Act of Parliament No.7 of 1999, with the mandate to oversee the road network in Kenya and coordinate the maintenance, rehabilitation and development using Road Maintenance Levy Fund (RMLF) and advise the Minister responsible for roads on all matters related thereto.

Our country's long-term development blueprint, Vision 2030 aims to transform Kenya into an industrialized middle-income country offering a high quality of life to all our citizens. Kenya made significant progress in implementing the policies, programmes and projects outlined in the second and third Medium Term Plans (MTP) which were implemented in 2013-2017 and 2018 – 2022 respectively.

One of the activities in the Medium-Term Plans of the Vision 2030 was to contain rising costs in the construction and maintenance of roads and through this, an initiative towards developing a framework for accurate cost estimation in the Roads Sub-Sector led to the development of the Cost Estimation Manual (CEM) for road maintenance works. It was developed by the Ministry in charge of Roads with support from the Japanese International Cooperation Authority (JICA) and officially published in November 2011.

In the year 2020, the Kenya Roads Board was appointed as the administrator of the Cost Estimation system and charged with the responsibility of updating the system every two years. In view of this, the Board has developed this Cost Estimation Manual (CEM 2022) in line with its mandate of contributing to the Government's goals in achieving vision 2030.

This CEM aims at providing guidance and developing a best practice standard for Road Agencies (RAs) mandated with the implementation of road works to understand the pertinent issues in preparing accurate estimates for road maintenance projects. The CEM will also guide the RAs and Contractors in preparation of unit rates, planning and monitoring of costs in construction and maintenance of roads. In view of this, it is necessary to be updating the CEM continuously to reflect changing work methodologies and fiscal conditions.

The Board is required to update this manual every two years with interim revisions conducted depending on the nature of the changes under consideration. Since the publication of the first CEM in 2011, the manual has been revised twice by Kenya Roads Board in conjunction with JICA and the RAs.

I would like to thank all those who participated in the process of the preparation of this Manual, in addition to those who provided inputs and necessary support. In particular, I recognize and acknowledge the contribution and dedication of the consultant team, ITEC Engineering Ltd, the Road Agencies and the secretariat team from KRB.

It is my hope that effective use of this manual, will lead to cost-effectiveness in road maintenance, rehabilitation and development, and hence spurring the country towards the achievement of Vision 2030.

Rashid Mohamed, MBS
DIRECTOR GENERAL

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Kenya National Highways Authority (KeNHA)
Kenya Urban Roads Authority (KURA)
Kenya Rural Roads Authority (KeRRA)
Kenya Wildlife Services (KWS)

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Abbreviations and Acronyms

AASHTO	American Association of State Highway and Transportation Officials
AC	Asphalt Concrete
CBR	California Bearing Ratio
JICA	Japan International Cooperation Agency
KeNHA	Kenya National Highways Authority
KeRRA	Kenya Rural Roads Authority
KNBS	Kenya National Bureau of Statistics
KRB	Kenya Roads Board
KURA	Kenya Urban Roads Authority
KWS	Kenya Wildlife Service
MDD	Maximum Dry Density
MoTIHUD & PW	Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works
MTD	Mechanical and Transport Department
PPRA	Public Procurement Regulatory Authority
PVC	Polyvinyl Chloride
RAs	Road Authorities
RMS	Road Management System
VAT	Value Added Tax

Glossary of Terms

Abutment	Structure support to bridge deck and retains the road embankment.
Adhesion	Sticking quality, for example, holding aggregate to the binder in chip sealing.
Aggregate	Crushed local rock or stone.
Apron	Floor of concrete, masonry or stone at the inlet or outlet of a culvert or waterway to prevent scour.
Asphalt Concrete	Road construction material usually comprising a mixture of bitumen and aggregate, also known as hot-mix or hot-rolled asphalt.
Base Course	The main structural element of the pavement, between the surface course and subbase.
Benching	A stepped platform cut in an embankment to prevent earth slipping and improve slope stability. Can also be used as a stepping to provide a level base for additional fill material.
Berm	A low ridge or bund of soil to collect or redirect surface water.
Binder	An adhesive material, usually bitumen or bitumen emulsion, used to seal the road surface, also providing a waterproof layer to receive and hold aggregate. The most common binders are bitumen based. A binder is also used to hold aggregate together in bituminous mixtures.
Binder Course	The layer forms part of the bituminous surfacing immediately below the wearing course.
Bitumen	Bitumen (called asphalt cement in the US) is a black to dark brown sticky material composed principally of high-molecular-weight hydrocarbons. Most bitumen is derived from the distillation of crude oil. Bitumen is a thermoplastic material that gradually liquefies when heated.
Borrow Pit	An excavation outside the road limits from which suitable material is obtained, usually for earthwork or re-gravelling operations.
Box Culvert	A culvert of rectangular cross-section, usually constructed in reinforced concrete.
Bridge	A structure with a span of 6 metres or more providing a means of transit above land and/or water or above an obstruction, whether natural or artificial.

Camber (Cross Fall)	The transverse slope applied to the carriageway on a section of straight alignment.
Causeway	Low-level structure constructed across streams or rivers with openings to permit water to pass below road level.
Carriageway	The part of the road used by vehicular traffic.
Catchment Area	The area from which water runs off by gravity to a collecting point.
Catchpit	A covered, accessible chamber with a sump for collection of silt forming part of the drainage system and permitting inspection and maintenance of underground drainage pipes.
Centre-line	The middle of the carriageway, normally marked with a yellow dashed line on a paved road.
Compaction	Compacting embankment by roller to increase the density of soil what composes embankment body. It causes to improve mechanical properties of soil.
Cross-fall	The transverse gradient or fall across a formation or pavement.
Cross-section	Section through the road construction at right angles to the centre-line.
Crown	The highest part of a cambered surface, usually on or near the centre-line.
Culvert	A duct, usually rectangular or circular, for carrying surface water under the road.
Cut (Cutting)	Excavation in natural ground usually with graded slopes.
Cut-off Drain	A drain cut to intercept surface water flowing from adjacent land and to prevent it reaching a pavement or other prepared surface.
Cut Slope	A soil plane constructed at an angle to the horizontal.
Cycleway	The track which is mainly used for bicycle traffic. The track is separated with other parts of road by kerb stone or its similar structures.
Ditch (Drain)	A long narrow excavation designed or intended to collect and drain off surface water.

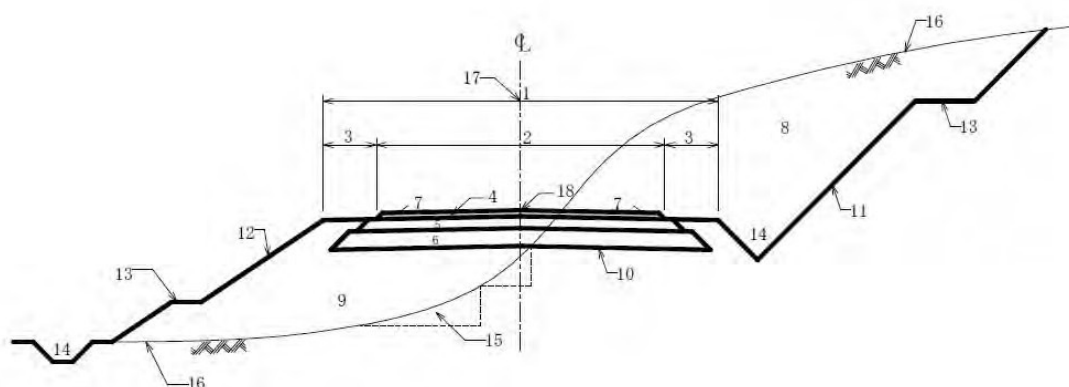
Drainage	The interception and removal of ground and surface water by artificial or natural means.
Drainage Channel	A waterway or gutter to carry away surface water.
Drift or Ford	A stream or river crossing at bed level over which the stream or river water can flow.
Earthworks	General term of construction works involving soil and rocks (e.g. excavation, loading, hauling, spreading and compaction).
Embankment Slope	An artificially constructed soil plane at an angle to the horizontal.
Fill (Embankment)	Earthworks constructed below the pavement raising the road above the surrounding natural ground level.
Footbridge	The overpass bridge crossing carriageway/railway to ensure the safety of pedestrian and smooth vehicle traffic.
Footpath	The track which is mainly used for pedestrian. The track is separated with other parts of road by kerb stone or its similar structures.
Gabion	The steel mesh cage filled with cobble stone or crushed stone. This is mainly used for revetment and foot protection.
Gravel	A non-cohesive, coarse granular material, resulting from natural disintegration of rock with or without finer material. In general, the particles are irregular or flaky. It is used as material of surface course and to correct loss of shape, ruts, potholes and erosion gullies.
Guardrail	A safety barrier on embankment or river crossing
Gutter	A shallow waterway provided at the edge of the road to carry surface water longitudinally.
Headwalls	The walls located on the top of outlet/inlet of culvert. The walls of inlet direct the flow into the culvert, while the walls of outlet provide a transition from the culvert to the outlet channel. Headwalls also protect the embankment from erosion by flood waters.
Inlet	The point at which surface water enters a pipe culvert or box culvert.
Invert	The lowest point of the internal cross section of a ditch or culvert.
Lane	The width of carriageway required to accommodate one line of traffic.
Manhole	Accessible chamber with a cover forming part of the drainage system and permitting inspection and maintenance of underground drainage pipes.

Mitre Drain	Short, open, skew ditches used to remove water from the roadside ditches or gutters. Use of this reduces the necessary size of the side ditches and minimizes the velocity of water and thereby the risk of erosion.
Original Ground Level	Line of natural ground.
Outfall	The point at which water discharges from a pipe or box culvert.
Paved Road	For the purpose of this manual a paved road is a road with a concrete surface, concrete block, bituminous surface or surface dressing.
Pavement	The road structure above the formation, designed to spread the loading over the base and subbase.
Pipe Culvert	A culvert of circular cross-section, usually constructed in pre-cast concrete.
Premix	Premix is a paving material manufactured by mixing aggregates, filler and bitumen. Most premix is mixed and placed hot. Premix is used in the construction of wearing course, binder courses and base courses.
Prime Coat	A coating of low viscosity binder applied to a surface of stabilised or naturally compacted soil before sealing or paving.
Road Reserve (Right-of-way)	The area within the road limits over which members of the public have the right to pass and re-pass.
Road Furniture	Road or street furniture e.g., traffic sign, traffic board, traffic signal, lane marking, guardrail, street light, etc.
Roadway	The portion of a road including shoulders for vehicular use.
Scour Checks	The structures to prevent scouring of drains. Simple scour checks may be constructed of wood pegs or stones. All scour checks should have an apron downstream built of stones or grass turves pinned to the ditch invert with wooden pegs.
Shoulder	Paved or unpaved part of the road next to the outer edge of the pavement. The shoulder provides side support for the pavement and allows vehicles to stop or pass in an emergency.

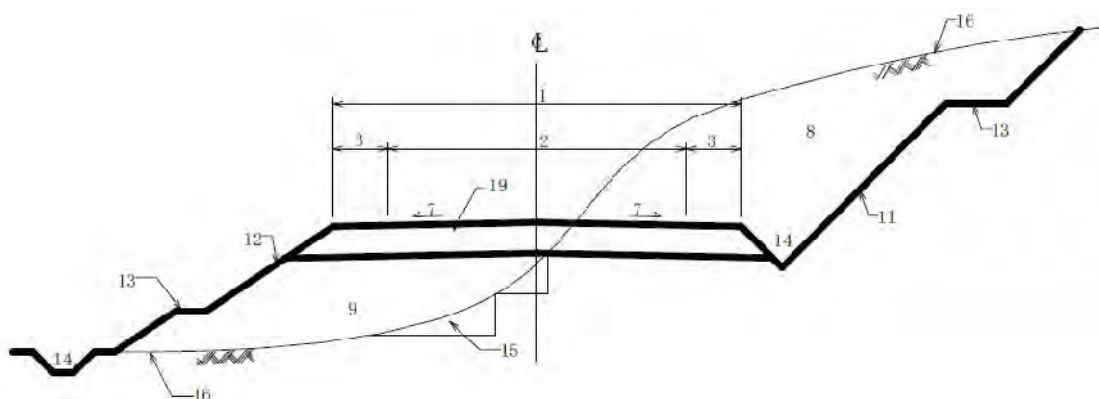
Side Drain	Drain beyond the shoulders, parallel to the centre-line, to take the run-off from the road surface.
Slope	A natural or artificially constructed soil plane at an angle to the horizontal.
Sub-base	The layer of material between the base course and the subgrade.
Subgrade	Upper layer of the soil that supports the pavement
Superelevation	Raising outside edge level of the road above the inner edge level on curves to reduce the effect of centrifugal forces and minimize sliding, skidding, tipping and rolling over of vehicles through curves.
Surfacing	Top layer of the pavement. Consists of wearing course, and sometimes a base course or binder course.
Surface Dressing	A sprayed or hand-applied film of bitumen followed by the application of a layer of stone chippings, which is then rolled.
Tack Coat	Asphalt material to bond lower layer (asphalt material or cement) and upper layer (asphalt mixture). It is sprayed on surface of lower layer.
Traffic Lane	The portion of the carriageway defined by road marking for the movement of a single line of vehicles.
Transverse Joint	Joint at right angles to the road centre-line.
Transverse Joint Taper	Slope or ramp of asphalt mix at the end of a freshly laid asphalt course.
Unpaved Road	For the purpose of this manual an unpaved road is a road with a gravel or earth surface.
Wearing Course	The part of the road surface in contact with traffic wheels.
Wing-wall	Retaining wall at a bridge abutment to retain and protect the embankment fill behind the abutment.

Cross Section

The typical cross sections of paved, unpaved and urban roads are as follows:



Paved Road



Unpaved Road

1. Roadway	2. Carriageway	3. Shoulder	4. Surfacing	5. Base
6. Sub-base	7. Camber (Cross Fall)	8. Cut	9. Embankment	10. Subgrade
11. Cut Slope	12. Embankment Slope	13. Berm	14. Side Ditch	15. Benching
16. Natural Ground Level	17. Centre-line	18. Marking	19. Gravel	20. Footpath
21. Road Reserve	22. Pavement	23. Side Ditch	24. Boundary Stone	

I. Introduction

The Kenya Vision 2030 is the long-term vision which aspires that Kenya becomes a globally competitive and prosperous country by the year 2030. The plan is anchored on three pillars: The Economic, the Social and the Political. Infrastructure is considered one of the foundations and enablers of macroeconomic stability to support the three main pillars. The Third Medium Term Plan 2018 – 2022 (MTP III), which is currently under implementation, outlines the role of the sector in providing cost-effective first-rate infrastructural facilities and services for the 21st century. The roads sub-sector falls under infrastructure, which is one of the foundations of the three pillars, and its programmes and projects include expansion and maintenance of roads.

In line with the above, the Cost Estimation Manual (CEM) for Road Maintenance Works was developed by the Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works (MoTIHUD&PW), with support from the Japanese International Cooperation Authority (JICA) and officially published in November 2011. It provides a basis for accurate and cost-effective construction and maintenance of roads as envisaged in MTP III. Subsequently, the 2011 CEM was updated in 2017 and 2019. The CEM for performance-based contracts was developed in 2015.

I.1. Purpose of the Manual

This manual gives instructions for estimating the cost of road maintenance works, by considering all inputs. This is to provide a standardized procedure for pricing road activities in Kenya, to ensure uniformity in planning and evaluation of the rates by contractors, road agencies, county road departments and engineers.

The manual forms a crucial part of developing a best practice standard for Road Agencies (RAs) to understand the pertinent issues in preparing cost-effective estimates for road maintenance projects. The cost estimation manual need to be updated continuously as per changing work methodologies and physical conditions.

I.2. Application of the Manual

This manual is to be applied in the preparation of the Engineer's cost estimate for tender documentation by procurement entities and provides a benchmark for the evaluation of bidding prices.

The manual shall also be used for the formulation of annual work plans by the Road Agencies and as an auditing tool for ongoing road works.

It can also be used as a reference for bidders to prepare their bidding documents while considering their unique cost settings.

2.Contents of the Manual

2.1. Work items and coding

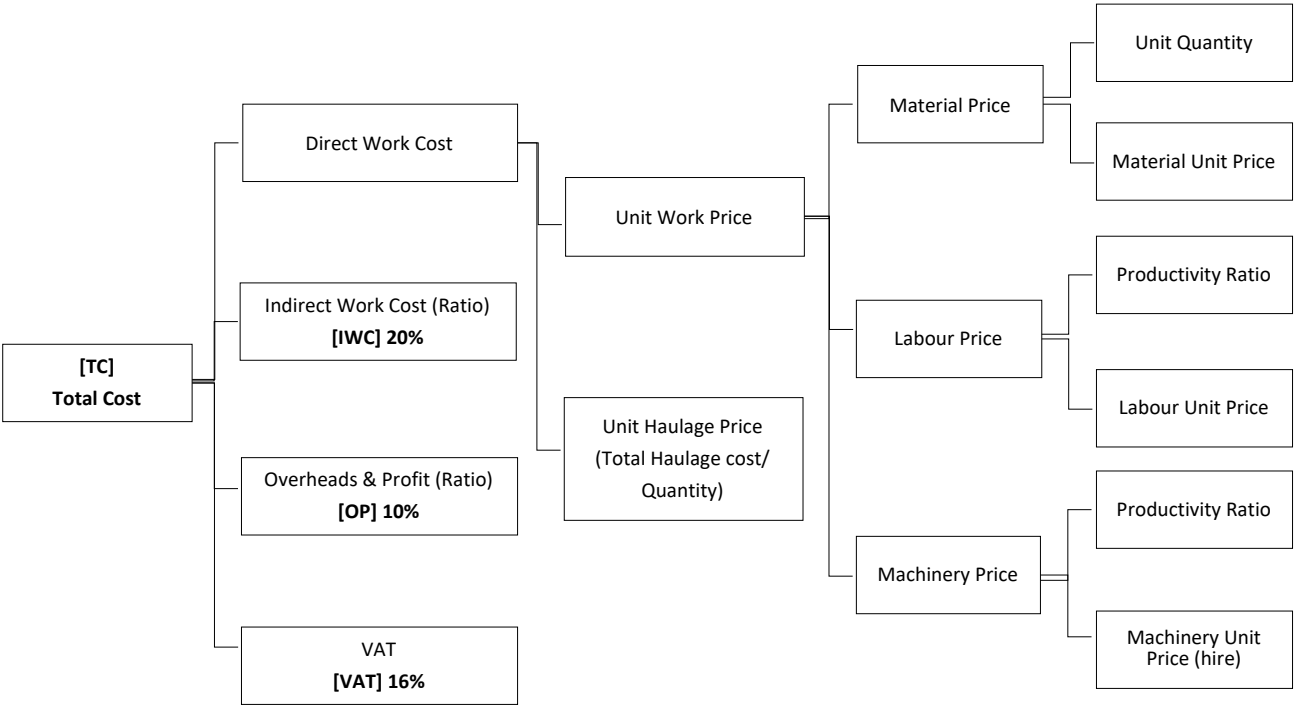
Work items covered in this manual are shown in Appendix I. These are the common types of works which are widely implemented in road maintenance works in Kenya.

The coding for each work item is derived from the Road Management System (RMS), and categorized in accordance with the Standard Specifications for Road and Bridge Construction (1986).

2.2. Cost configuration

Road works consist of various work items that are aggregated into a work package. The total cost of any work package is structured in the formula shown in Figure 21 below.

Figure 1: Cost configuration



$$TC = \sum (Q \times UP) \times (1 + IWC) \times (1 + OP) \times (1 + VAT)$$

Direct Work Costs are the accumulation of all necessary input costs for the execution of each work item. This is the product of the quantity by its unit price, while the unit haulage price is considered separately. The combination of Unit Work Price (a pure work price assuming that all the resources are on site) and Unit Haulage Prices constitute the Unit Price. This takes care of the transportation costs of work items.

Indirect Work Costs are costs related to management and administration. It is given by the ratio of the Direct Work Costs.

Overheads and profits are also given by the ratio of Direct Work Costs. Value-added tax (VAT) is a percentage determined by taxation regulations.

2.3. Price list and source

Material, Labour and Machinery unit prices used for cost estimation by procurement entities are basically derived from official price indices given by government entities. They are open to the public and based on nationwide market surveys. Hence, they can be assumed to be the average prices in Kenya.

- Material Price: Material Price List from Kenya National Bureau of Statistics (KNBS).
- Labour Rates: The Regulation of Wages (General) (Amendment) Order, The Labour Institution Act, Ministry of Labour.
- Machinery Hire Rates: The Equipment Hire Rate List from Mechanical and Transport Department, Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works.

Labour, Material and Machinery rates are provided for eight regions across the country in the CEM 2022.

The official prices are revised periodically. The prices may be updated on an ad-hoc basis when substantial changes take place during the fiscal year (e.g., the case of high inflation or embargo).

When some of the material and machinery prices are obsolete or not covered in the official price indices, average market prices acquired from surveys by manual administrators or provisional prices by referring to similar items are used. Those prices should be revised immediately once the official prices are available.

All prices are also coded based on the RMS coding system. The prices of material, labour and machinery used in the manual with their sources are shown in Appendix 2-1 to 2-8.

Selection of the Survey Areas

The survey areas constituted eight (8) regions decided upon collectively by the Consultant and team from KRB. In total, 22 towns and cities were surveyed for the 2022 CEM.

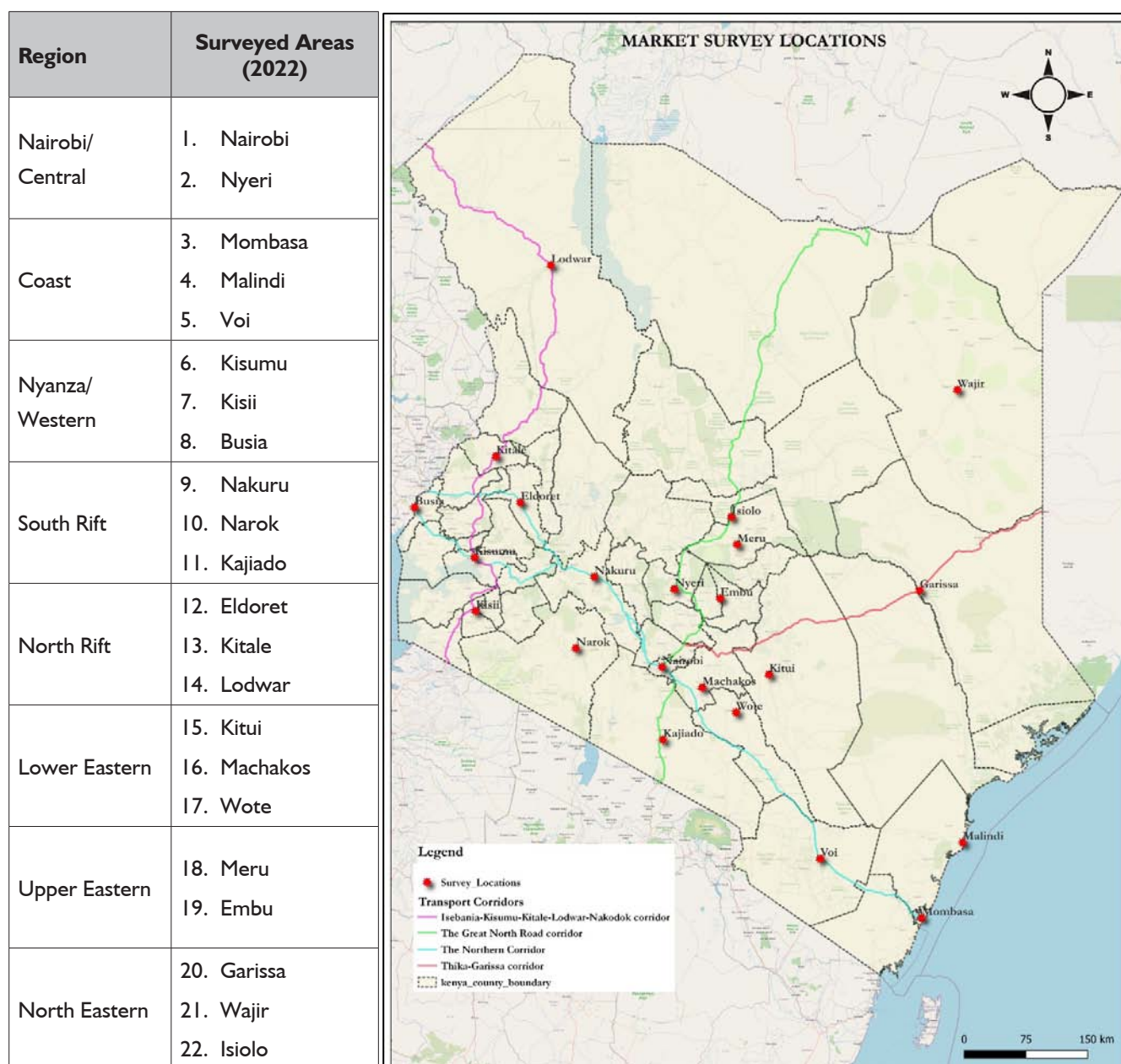


Figure 2: Market survey locations

Source map: Google Earth

Survey Methods

Primary Data Collection

In each of the selected cities/towns, information was obtained by visiting wholesale suppliers, major hardware shops, warehouses, road contractors, items manufacturers etc.

Online market surveys were also employed to retrieve information from available price lists on the internet and verified during the field surveys.

Secondary Data Collection

The following official rates from relevant government bodies and other recognised organisations were obtained and used to update the CEM basic rates.

Table 1: Sources of the secondary data

Item	Source	Document
Labour rates	Laws of Kenya	Regulation of Wages (General) (Amendment) Order, 2022 Legal Notice No. 125 of 2022t
Material	Kenya National Bureau of Statistics	KNBS Price list
Fuel rates	Energy and Petroleum Regulatory Authority	Pump Price list
Machinery	Mechanical and Transport Department (MTD)	MTD Hire Rate List

Unit Price Analysis

Labour

The contractors were selected based on the work they have done with the road agencies.

The unit rates selected were obtained from Contractors. However, unit rates set in the Regulation of Wages (General) (Amendment) Order, 2022 were adopted in cases where the average wage rates from the market survey were comparatively lower.

Priority	Survey Data Source	Target Trade
1.	Contractor	Road Construction
2.	Documented Labour Law	Building and Construction

Material

The selection of suppliers in this category was done at random i.e., based on the availability of the material. It was done through visits to contractors and the Road Agencies regional headquarters, the internet, phone and email communication, as well as recommendations.

The procedure to determine the unit price went as follows:

1. The price from the market survey was considered first;
2. The prices in the market survey were collected from a minimum of three suppliers. Then, the prices from the suppliers were averaged to provide one price from the market. Prices which were too low and too high were not considered in the average;
3. If an item was not available in the market, its price was picked from the previous 2019 price list and appropriately factored; and,
4. In instances where the unit price selected from the steps above had increased highly from the price in the 2019 survey, prices from all three sources were compared and the most logical price was selected.

Priority	Source of Data
1.	Market Survey
2.	Kenya National Bureau of Statistics (KNBS)
3.	Road Authorities e.g. KeNHA, KURA, KeRRA

Equipment

The suppliers for hiring equipment were also selected at random; either through the internet or recommendations from the regional RA project team leaders and contractors.

The prices were compared between the two sources of data but prices from the market survey were prioritised.

Priority	Source of Data
1.	Market Survey
2.	Mechanical and Transport Department (MTD) in MoTIHUD & PW

2.4. Haulage cost

Site location is a major parameter to determine the unit price, therefore the haulage cost to transport material or equipment should be carefully estimated. In this manual, haulage cost is estimated using the criteria in Table 2-2.

The calculated total haulage cost is then divided by a given quantity of the work item and added to unit work price to make a unit cost of the work.

If a different quotation for haulage is available, it may be used regardless of the aforementioned equation.

Table 3 : Estimation of Haulage Price

Type of Vehicle:	(specify)
Vehicle price per hour (or dry hire rate) = A	Ksh/hr
Fuel price per hour, B = C/D*E	Ksh/hr
Fuel cost per litre = C	Ksh/litre
Fuel consumption rate = D	km/litre
Average speed during transport = E	km/hr
Driver wage per hour, F = G/8hr	Ksh/hr
Wage per day = G	Ksh/day
Turnboy wage per hour, H = I/8hr	Ksh/hr
Wage per day = I	Ksh/day
Total price per hour of transport, J = A+B+F+H	Ksh/hr
Distance of transport (one way) = K	km
Frequency of transport (no. of round trip) = L	times
Distance of transport (by round trip), M = 2*K	km
Total Distance of transport, N = L*M	km
Total time of Transport, O = N/E	hr
Total Haulage Price, P = J*O	Ksh

2.5. Unit quantity and productivity

Unit quantity of material (the amount of material used per unit of work), labour productivity (the number of people worked per unit of work), and machinery productivity (the number of hours/days of machinery operation needed per unit of work) are determined from the following references:

- Ministry of Transport and Communications, Standard Specification for Road and Bridge Construction, 1986;
- Standard drawings; and,
- Average productivity rates from site surveys and the engineers' past experiences with input from JICA.

2.6. Indirect work costs

Indirect work costs include the following items:

- Human Resource Management costs (e.g., recruiting, staff welfare, transportation, insurance, uniforms);
- Site staff allowances;
- Management cost (e.g., site office maintenance, office equipment, communication, transportation);
- Safety measures; and,
- Social charges (e.g., local taxes and public charges, welfare).

2.7. Overheads and Profit

Overheads and Profit include the following items:

- Head office staff salaries and allowances;
- Head office management costs (e.g., office maintenance, office equipment, communication, transportation);
- Corporate social charges (e.g., insurance, tax and public charges, welfare);
- Research and development;
- Advertisement and publicity;
- Depreciation costs for fixed assets; and,
- Profit margin (bonuses, dividends to shareholders, internal reserves).

Since the precise estimation of the two items above is difficult, the costs are provided as a ratio of the total direct work cost.

2.8. Revision Highlights

2011

1. Developed and published using Japanese productivity rates for labour, machinery and materials multiplied by a factor.
2. Unit rates used are for only two regions i.e. Nairobi, Mombasa and Kisumu as one region and “all other areas” as the other.
3. Unit prices were obtained from the Kenyan market.

2017

1. Update of Unit prices for Nairobi, Mombasa and Kisumu and All other areas.
2. Update of quantities for the following work items:
 - Gabion Installation; and,
 - Pothole Repair.
3. Miscellaneous costs are adjusted as follows:
 - 20% for Concrete works, Structural Works and complicated street furniture works reduced to 10%; and,
 - 10% for Clearing, cleaning, earthwork, base and surfacing works and simple street furniture works reduced to 5%.

2019

1. Update of unit prices for Nairobi, Mombasa and Kisumu.
2. Update of unit rate calculation tables for the following:
 - Labour-based works: Ditch cleaning (Manual) and culvert cleaning;
 - On-carriageway works including pothole repair, headwall repair, re-gravelling and road marking; and,
 - Cement/ lime mixing.
3. Addition of guardrail repair.
4. Indirect costs were reduced from 30% to 20%.

2022

1. Update of unit prices collected from eight (8) regions (19 towns and 3 cities) i.e. Nairobi/ Central, Coast, Nyanza/Western, North Rift, South Rift, Upper Eastern, Lower Eastern and North Eastern.
2. Update of productivity rates for the following equipment:
 - Water tanker;
 - Motor grader; and,
 - Pneumatic roller.

Unit Rates List
(Nairobi/Central Region)

3.1 Unit Rates List (Nairobi/Central Region)

					Nairobi/Central Region	
4. Site Clearance and Topsoil Stripping					KShs	
No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/ profit included)
1	Bush Clearing	04.50.001	Mechanical mowing	m ²	5.7	7.5
2		04.50.002	Grass cutting (manual)	m ²	4.2	5.5
3		04.50.003	Heavy bush clearing	m ²	20.2	26.7
4		04.50.004	Light bush clearing	m ²	11.1	14.7
5		04.50.005	Pruning of tree branches	m ²	120	158
6		04.50.006	Tree cutting and stump removal (200 -450 mm)	No	246	325
7		04.50.007	Tree cutting and stump removal (>450 mm)	No	2,212	2,920
8	Site Clearing and Backfill	04.50.008	Clearing obstructions (mechanical)	m ²	33	44
9		04.50.008a	Clearing obstructions (manual)	m ³	299	395
10		04.50.009	Stripping and grubbing (mechanical)	m ²	95	125
11		04.50.009a	Stripping and grubbing (manual)	m ²	202	267
12		04.60.001	Clearing trees, hedges, bushes, vegetation and deleterious materials (mechanical)	m ²	69.0	91.1
13		04.60.001a	Clearing trees, hedges, bushes, vegetation and deleterious materials (manual)	m ²	92.0	121
14	Concrete Demolition	04.50.010	Excavate remove & disposal of concrete structures	m ³	557	735
15	Top Soil Stripping	04.80.002	Removal of overburden	m ³	228	301
16	Pipe Culvert Removal	04.60.005	Removal of cracked small pipe culverts below 600mm	m	368	486
17		04.60.005a	Removal of cracked large pipe culverts above 600mm	m	553	730

5. Earth Works

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/ profit included)
18	Material Filling	05.50.006	Fill in soft material and compact	m ³	560	739
19		05.50.006a	Fill in soft material and compact (soil purchased)	m ³	887	1,171
20		05.50.007	Fill in hard material and compact	m ³	666	879
21		05.50.007a	Fill in hard material and compact (soil purchased)	m ³	1,142	1,507

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/ profit included)
22	Material Cutting	05.50.008	Cut to spoil in soft	m ³	556	734
23		05.50.008a	Cut to spoil in soft (mechanical)	m ³	223	294
24		05.50.009	Cut to spoil in hard	m ³	1,106	1,460
25		05.50.009a	Cut to spoil in hard (mechanical)	m ³	446	589
26	Concrete Demolition	05.50.012	Rock fill to swamp	m ³	2,758	3,641
27		05.50.125	Rock fill to embankment construction	m ³	3,096	4,087
28	Planting	05.50.014	Grassing	m ²	407	537
29	Pipe Culvert Replacement	05.60.012	Compaction of subgrade in cut	m ²	43.0	56.8
30		05.60.014	Compaction of subgrade in fill	m ³	1,853	2,446
31		05.60.016	Compaction of original ground level	m ³	51.0	67.3
31a		05.60.016a	Compaction of the 300 mm below formation level in cutting to 100% MDD (AASHTO T99)	m ³	1,751	2,311

7. Excavation and Filling for Structure

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/ profit included)
32	Material Excavation for Structures	07.50.001	Excavate for structure in soft material (manual)	m ³	556	734
33		07.50.001a	Excavate for structure in soft material (mechanical)	m ³	223	294
34		07.50.002	Excavate for structure in hard material (manual)	m ³	1,106	1,460
35		07.50.002a	Excavate for structure in hard material (mechanical)	m ³	446	589
36	Gabion	07.70.004	Gabion Installation	m ²	622	821
37		07.70.005	Rock fill to Gabions	m ³	1,896	2,503
38	Stone Pitching	07.70.001	Stone pitching	m ²	1,671	2,206

8. Culverts and Drainage Works

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/ profit included)
39	Ditch Cleaning	08.50.002a	Ditch cleaning - mechanical	m	29.0	38.3
40		08.50.002	Ditch cleaning - manual	m	19.7	26.0
41	Culvert Cleaning	08.60.002	Small culvert cleaning-partially blocked-below 450mm	m	482	636
42		08.60.003	Medium culvert cleaning-partially blocked-600mm	m	368	486
43		08.60.004	Large culvert cleaning-partially blocked-900 mm and above	m	253	334
44		08.50.025	Manhole cleaning	No	835	1,102
45		08.50.016	Gulley pot cleaning	No	165	217
46		08.50.009	Covered (slotted) lined drain cleaning	m	100	132
47		08.50.005a	Ditch/mitre drain excavation in soft (mechanical)	m ³	304	401
48		08.50.005	Ditch/mitre drain excavation in soft (manual)	m ³	324	428
49		08.50.005b	Ditch/mitre drain excavation in hard (mechanical)	m ³	459	606
50	Culvert Cleaning	08.50.005c	Ditch/mitre drain excavation in hard (manual)	m ³	1,633	2,156
51	Pipe Culvert Installation	08.60.021	Culvert installation-300mm with surround	m	6,603	8,716
52		08.60.020	Culvert installation-300mm without surround	m	2,294	3,028
53		08.60.023	Culvert installation-450mm with surround	m	9,609	12,684
54		08.60.022	Culvert installation-450mm without surround	m	3,581	4,727
55		08.60.025	Culvert installation-600mm with surround	m	14,229	18,782
56		08.60.024	Culvert installation-600mm without surround	m	4,288	5,660
57		08.60.027	Culvert installation-900mm with surround	m	22,742	30,019
58		08.60.026	Culvert installation-900mm without surround	m	6,596	8,706
59		08.60.028	Culvert installation-1200mm with surround	m	38,769	51,175
60		08.60.029	Culvert installation-1200mm without surround	m	13,513	17,837
61		08.60.030	Excavate in soft material for culverts	m ³	324	428
62		08.60.031	Excavate in hard material for culverts	m ³	1,633	2,156

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/ profit included)
63	Headwall Construction	08.60.019	Headwall construction for 450mm pipe culvert	No	31,622	41,741
64		08.60.019a	Headwall construction for 600mm pipe culvert	No	36,966	48,795
65		08.60.019b	Headwall construction for 900mm pipe culvert	No	48,379	63,860
66		08.60.019c	Headwall construction for 1200mm pipe culvert	No	64,851	85,604
67	Manhole installation	08.50.024	Manhole construction less than 1m	No	33,233	43,868
68		08.50.024a	Manhole construction more than 1m	No	56,569	74,671
69	Gulley Pot installation Drain Lining	08.50.015	Gulley pot construction	No	10,675	14,091
70		08.50.032	Lay drain lining with concrete	m ²	2,080	2,746
71		08.50.022a	Laying of dressed stones	m ²	1,897	2,504
72		08.50.022	Laying of side slabs	m ²	2,954	3,899
73		08.70.036	Laying of 300mm invert block drain	m	1,463	1,931
74		08.70.037	Laying of 750mm invert block drain	m	3,729	4,922

9. Passage of Traffic

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/ profit included)
75	Traffic Control	09.50.004	Traffic Control	Day	2,165	2,858
76		09.50.005	Watchman	No	2,136	2,820
77		09.50.006	Watering	m ²	13.0	17.2

10. Grading and Gravelling Work

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/ profit included)
78	Grading	10.50.001	Heavy grading without watering or compaction	m ²	6.4	8.4
79		10.50.002	Heavy grading with watering and compaction	m ²	11.2	14.8
80		10.50.003	Light grading	m ²	5.2	6.9
81		10.50.004	Reshaping	m ²	16.6	21.9
82		10.50.005	Dragging	m ²	16.6	21.9
83	Gravelling	10.60.001	Regravelling	m ³	2,045	2,699
84		10.60.001a	Regravelling without watering	m ³	2,029	2,678

11. Paved Roads - Shoulder Maintenance and Repairs

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/ profit included)
85	Shoulder Rebuilding	11.50.001	Shoulder grading	m ²	33.0	43.6
86		11.50.002	Shoulder repairing	m ²	33.0	43.6
87	Shoulder Gravelling	11.50.003	Shoulder gravelling with natural gravel	m ³	2,071	2,734
88		11.50.003a	Shoulder gravelling with quarry waste	m ³	2,885	3,808

12. Natural Material Base and Subbase

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/ profit included)
89	Pavement Removal	12.70.001	Scarify existing pavement to form subbase	m ³	936	1,236
90	Subbase/Base Rebuilding	12.50.001	Handpacked	m ³	5,209	6,876
91		12.50.002	Provide, place and compact quarry waste	m ³	6,464	8,533
92		12.50.003	Provide, place, spread and compact natural gravel	m ³	2,069	2,731

13. Graded Crushed Stone Base and Subbase

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/ profit included)
93	Graded Crushed Stone	13.50.001	Graded Crushed Stone for subbase	m ³	2,520	3,326
94		13.60.001	Graded Crushed Stone for base	m ³	2,520	3,326

14. Cement and Lime Treated Subgrade, Subbase and Base

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/ profit included)
95	Cement/Lime Stabilization	14.50.001	Cement stabilization	m ³	2,950	3,894
96		14.50.002	Lime stabilization	m ³	4,155	5,485
97		14.50.003	Cement/lime mixing	m ³	79.0	104
98		14.50.004	Curing and protection of treated layers	m ²	56.0	73.9

15. Bituminous Surface Treatment & Surface Dressing

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/ profit included)
99	Prime Coat	15.50.002	Prime Coat (MC-30 cutback bitumen)	litre	183	242
100	Tack Coat	15.50.003	Tack Coat (grade bitumen cutback)	litre	205	271
101		15.50.003a	Tack Coat (bitumen emulsion)	litre	187	247
102	Surface Dressing	15.70.001	Seal coat	litre	280	370
103		15.60.002	Provide and roll 3/6 mm precoated chipping	m ³	15,514	20,479
104		15.60.003	Provide and roll 6/10 mm precoated chipping	m ³	18,311	24,171
105		15.60.004	Provide and roll 10/14 mm precoated chipping	m ³	18,463	24,371
106		15.60.005	Provide and roll 14/20 mm precoated chipping	m ³	18,463	24,371

16. Bituminous Mixes

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/ profit included)
107a	Pavement Repairing	16.50.001a	Pothole Cutting and Cleaning	m ³	2,294	3,028
107		16.50.001	Pothole patching - hot mix	m ³	28,130	37,132
108		16.50.002	Pothole patching - cold mix	m ³	50,057	66,075
109		16.50.004	Crack sealing	m	206	272
110		16.60.001	Asphalt concrete for surfacing - hot mix.	m ³	29,044	38,338
111		16.70.001	Base repair - Dense Bitumen Macadam (DBM)	m ³	28,184	37,203
No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/ profit included)
112	Milling and Paving	16.80.010	Milling the existing bituminous layer to spoil	m ³	3,275	4,323
113		16.80.015	Milling the existing bituminous layer for reuse	m ³	12,720	16,790

17. Concrete Works

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/ profit included)
114	Concrete Work	17.60.001	Concrete work (class 15/20)	m ³	13,506	17,828
115		17.60.002	Concrete work (m ³	14,927	19,704
116		17.60.002a	Concrete work (class 25/20)	m ³	16,603	21,916
117	Formwork	17.60.003	Vertical formwork class F2 finish	m ²	1,771	2,338
118		17.60.004	Horizontal formwork class F2 finish	m ²	1,678	2,215
119	Reinforcement	17.80.004	Reinforcement work (below 16mm)	ton	153,394	202,480
120		17.80.005	Reinforcement work (above 16mm)	ton	162,185	214,084

20. Road Furniture Repair and Maintenance

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/ profit included)
121	Boundary posts	20.50.001	Road reserve boundary posts	No	2,929	3,866
122		20.50.004	Edge marker posts	No	3,641	4,806
123	Road Marking	20.50.007	Road markings - white paint	m ²	1,455	1,921
124		20.70.011	Road markings - white thermoplastic material	m ²	2,666	3,519
124a		20.70.011a	Road markings on surface dressed pavement- white thermoplastic material	m ²	2,974	3,926
125		20.50.006	Road markings - yellow paint	m ²	1,455	1,921
126		20.70.010	Road markings - yellow thermoplastic material	m ²	2,773	3,660
126a		20.70.010a	Road markings on surface dressed pavement- yellow thermoplastic material	m ²	3,092	4,081
127		20.50.107	Road marking black paint	m ²	1,423	1,878
128	Road Sign Erection	20.70.002	Warning signs	No	22,727	30,000
129		20.70.005	Priority,	No	22,727	30,000
130		20.70.004	Standard informatory signs	No	22,470	29,660
131		20.70.006	Non-standard informatory signs	No	37,430	49,408
132	Kerb Installation	20.50.012	Kerbs	m	1,877	2,478
133	Kilometre marker post Installation	20.50.013	Kilometre marker posts	No	7,269	9,595
134	Bollard Installation	20.50.017	Concrete bollards	No	3,362	4,438
135		20.50.021	Steel bollards	No	2,204	2,909
136		20.50.019	Reflective studs	No	795	1,049
137	Microtunneling	20.60.002	Microtunneling	m	70,140	92,585
138		20.60.002a	Horizontal drilling	m	42,461	56,049

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/ profit included)
139	Street light Installation	20.60.017	Street lighting pole (7.6m)	No	84,634	111,717
140		20.60.018	Street lighting pole (10m)	No	130,796	172,651
141		20.60.016	Street lighting control panel	No	92,142	121,627
142		20.60.315	Electric cable	m	1,446	1,909
143	Guardrail Repair	20.70.023a	Guardrail Repair Level 1	piece (4m)	7,372	9,730
144		20.70.023b	Guardrail Repair Level 2	piece (4m)	8,146	10,753
145		20.70.023c	Guardrail Repair Level 3	piece (4m)	36,611	48,327

**Unit Rates List
(Coast Region)**

3.2 Unit Rates List (Coast Region)

4. Site Clearance and Topsoil Stripping					Coast Region	
					Kshs	
No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (indirect cost, overhead/profit included)
1	Bush Clearing	04.50.001	Mechanical mowing	m ²	5.2	6.9
2		04.50.002	Grass cutting (manual)	m ²	3.6	4.8
3		04.50.003	Heavy bush clearing	m ²	17.1	22.6
4		04.50.004	Light bush clearing	m ²	9.6	12.7
5		04.50.005	Pruning of tree branches	m ²	103.0	136.0
6		04.50.006	Tree cutting and stump removal (200 -450 mm)	No	213.0	281.2
7		04.50.007	Tree cutting and stump removal (>450 mm)	No	1,918.0	2,531.8
8	Site Clearing and Backfill	04.50.008	Clearing obstructions (mechanical)	m ²	35.0	46.2
9		04.50.008a	Clearing obstructions (manual)	m ³	251.0	331.3
10		04.50.009	Stripping and grubbing (mechanical)	m ²	101.0	133.3
11		04.50.009a	Stripping and grubbing (manual)	m ²	171.0	225.7
12		04.60.001	Clearing trees, hedges, bushes, vegetation and deleterious materials (mechanical)	m ²	76.0	100.3
13		04.60.001a	Clearing trees, hedges, bushes, vegetation and deleterious materials (manual)	m ²	81.0	106.9
14	Concrete Demolition	04.50.010	Excavate remove & disposal of concrete structures	m ³	551.0	727.3
15	Top Soil Stripping	04.80.002	Removal of overburden	m ³	253.0	334.0
16	Pipe Culvert Removal	04.60.005	Removal of cracked small pipe culverts below 600mm	m	364.0	480.5
17		04.60.005a	Removal of cracked large pipe culverts above 600mm	m	547.0	722.0

5. Earth Works

No	Work Category	Code	Work Item Name	Unit	Unit Price (Kshs)	Unit Price (indirect cost, overhead/profit included)
18	Material Filling	05.50.006	Fill in soft material and compact	m ³	567.0	748.4
19		05.50.006a	Fill in soft material and compact (soil purchased)	m ³	882.0	1,164.2
20		05.50.007	Fill in hard material and compact	m ³	692.0	913.4
21		05.50.007a	Fill in hard material and compact (soil purchased)	m ³	1,196.0	1,578.7
22	Material Cutting	05.50.008	Cut to spoil in soft	m ³	508.0	670.6
23		05.50.008a	Cut to spoil in soft (mechanical)	m ³	221.0	291.7
24		05.50.009	Cut to spoil in hard	m ³	959.0	1,265.9
25		05.50.009a	Cut to spoil in hard (mechanical)	m ³	441.0	582.1
26	Concrete Demolition	05.50.012	Rock fill to swamp	m ³	3,158.0	4,168.6
27		05.50.125	Rock fill to embankment construction	m ³	3,456.0	4,561.9
28	Planting	05.50.014	Grassing	m ²	359.0	473.9

No	Work Category	Code	Work Item Name	Unit	Unit Price (Kshs)	Unit Price (indirect cost, overhead/profit included)
29	Pipe Culvert Replacement	05.60.012	Compaction of subgrade in cut	m ²	37.0	48.8
30		05.60.014	Compaction of subgrade in fill	m ³	1,508.0	1,990.6
31		05.60.016	Compaction of original ground level	m ³	49.0	64.7
31a		05.60.016a	Compaction of the 300 mm below formation level in cutting to 100% MDD (AASHTO T99)	m ³	1,659.0	2,189.9

7. Excavation and Filling for Structure

No	Work Category	Code	Work Item Name	Unit	Unit Price (Kshs)	Unit Price (indirect cost, overhead/profit included)
32	Material Excavation for Structures	07.50.001	Excavate for structure in soft material (manual)	m ³	508.0	670.6
33		07.50.001a	Excavate for structure in soft material (mechanical)	m ³	221.0	291.7
34		07.50.002	Excavate for structure in hard material (manual)	m ³	959.0	1,265.9
35		07.50.002a	Excavate for structure in hard material (mechanical)	m ³	441.0	582.1
36	Gabion	07.70.004	Gabion Installation	m ²	609.0	803.9
37		07.70.005	Rock fill to Gabions	m ³	2,151.0	2,839.3
38	Stone Pitching	07.70.001	Stone pitching	m ²	1,589.0	2,097.5

8. Culverts and Drainage Works

No	Work Category	Code	Work Item Name	Unit	Unit Price (Kshs)	Unit Price (indirect cost, overhead/profit included)
39	Ditch Cleaning	08.50.002a	Ditch cleaning - mechanical	m	27.0	35.6
40		08.50.002	Ditch cleaning - manual	m	17.1	22.6
41	Culvert Cleaning	08.60.002	Small culvert cleaning-partially blocked-below 450mm	m	402.0	530.6
42		08.60.003	Medium culvert cleaning-partially blocked-600mm	m	308.0	406.6
43		08.60.004	Large culvert cleaning-partially blocked-900 mm and above	m	214.0	282.5
44		08.50.025	Manhole cleaning	No	748.0	987.4
45		08.50.016	Gulley pot cleaning	No	143.0	188.8
46		08.50.009	Covered (slotted) lined drain cleaning	m	85.0	112.2
47		08.50.005a	Ditch/mitre drain excavation in soft (mechanical)	m ³	292.0	385.4
48		08.50.005	Ditch/mitre drain excavation in soft (manual)	m ³	292.0	385.4
49		08.50.005b	Ditch/mitre drain excavation in hard (mechanical)	m ³	452.0	596.6
50		08.50.005c	Ditch/mitre drain excavation in hard (manual)	m ³	1,601.0	2,113.3

No	Work Category	Code	Work Item Name	Unit	Unit Price (Kshs)	Unit Price (indirect cost, overhead/profit included)
51	Pipe Culvert Installation	08.60.021	Culvert installation-300mm with surround	m	6,796.0	8,970.7
52		08.60.020	Culvert installation-300mm without surround	m	2,388.0	3,152.2
53		08.60.023	Culvert installation-450mm with surround	m	10,897.0	14,384.0
54		08.60.022	Culvert installation-450mm without surround	m	4,804.0	6,341.3
55		08.60.025	Culvert installation-600mm with surround	m	15,187.0	20,046.8
56		08.60.024	Culvert installation-600mm without surround	m	5,371.0	7,089.7
57		08.60.027	Culvert installation-900mm with surround	m	22,356.0	29,509.9
58		08.60.026	Culvert installation-900mm without surround	m	6,569.0	8,671.1
59		08.60.028	Culvert installation-1200mm with surround	m	40,596.0	53,586.7
60		08.60.029	Culvert installation-1200mm without surround	m	16,276.0	21,484.3
61		08.60.030	Excavate in soft material for culverts	m ³	292.0	385.4
62		08.60.031	Excavate in hard material for culverts	m ³	1,601.0	2,113.3
63	Headwall Construction	08.60.019	Headwall construction for 450mm pipe culvert	No	32,095.5	42,366.0
64		08.60.019a	Headwall construction for 600mm pipe culvert	No	37,586.4	49,614.1
65		08.60.019b	Headwall construction for 900mm pipe culvert	No	49,292.8	65,066.5
66		08.60.019c	Headwall construction for 1200mm pipe culvert	No	66,746.9	88,105.9
67	Manhole installation	08.50.024	Manhole construction less than 1m	No	33,946.0	44,808.7
68		08.50.024a	Manhole construction more than 1m	No	57,968.0	76,517.8
69	Gulley Pot installation	08.50.015	Gulley pot construction	No	10,608.0	14,002.6
70	Drain Lining	08.50.032	Lay drain lining with concrete	m ²	1,932.0	2,550.2
71		08.50.022a	Laying of dressed stones	m ²	1,893.0	2,498.8
72		08.50.022	Laying of side slabs	m ²	2,900.0	3,828.0
73		08.70.036	Laying of 300mm invert block drain	m	1,801.0	2,377.3
74		08.70.037	Laying of 750mm invert block drain	m	3,674.0	4,849.7

9. Passage of Traffic

No	Work Category	Code	Work Item Name	Unit	Unit Price (Kshs)	Unit Price (indirect cost, overhead/profit included)
75	Traffic Control	09.50.004	Traffic Control	Day	1,848.0	2,439.4
76		09.50.005	Watchman	No	1,773.0	2,340.4
77		09.50.006	Watering	m ²	14.0	18.5

10. Grading and Gravelling Works

No	Work Category	Code	Work Item Name	Unit	Unit Price (Kshs)	Unit Price (indirect cost, overhead/profit included)
78	Grading	10.50.001	Heavy grading without watering or compaction	m ²	6.1	8.1
79		10.50.002	Heavy grading with watering and compaction	m ²	10.7	14.1
80		10.50.003	Light grading	m ²	5.0	6.6
81		10.50.004	Reshaping	m ²	14.4	19.0
82		10.50.005	Dragging	m ²	14.4	19.0
83	Gravelling	10.60.001	Regravelling	m ³	1,683.0	2,221.6
84		10.60.001a	Regravelling without watering	m ³	1,666.0	2,199.1

11. Paved Roads - Shoulder Maintenance and Repairs

No	Work Category	Code	Work Item Name	Unit	Unit Price (Kshs)	Unit Price (indirect cost, overhead/profit included)
85	Shoulder	11.50.001	Shoulder grading	m ²	33.0	43.6
86	Rebuilding	11.50.002	Shoulder repairing	m ²	33.0	43.6
87	Shoulder	11.50.003	Shoulder gravelling with natural gravel	m ³	1,708.0	2,254.6
88	Gravelling	11.50.003a	Shoulder gravelling with quarry waste	m ³	2,490.0	3,286.8

12. Natural Material Base and Subbase

No	Work Category	Code	Work Item Name	Unit	Unit Price (Kshs)	Unit Price (indirect cost, overhead/profit included)
89	Pavement Removal	12.70.001	Scarify existing pavement to form subbase	m ³	928.0	1,225.0
90	Subbase/Base Rebuilding	12.50.001	Handpacked stone paving	m ³	5,216.0	6,885.1
91		12.50.002	Provide, place and compact quarry waste	m ³	6,385.0	8,428.2
92		12.50.003	Provide, place, spread and compact natural gravel	m ³	1,705.0	2,250.6

13. Graded Crushed Stone Base and Subbase

No	Work Category	Code	Work Item Name	Unit	Unit Price (Kshs)	Unit Price (indirect cost, overhead/profit included)
93	Graded Crushed Stone	13.50.001	Graded Crushed Stone for subbase	m ³	2,354.0	3,107.3
94		13.60.001	Graded Crushed Stone for base	m ³	2,354.0	3,107.3

14. Cement and Lime Treated Subgrade, Subbase and Base

No	Work Category	Code	Work Item Name	Unit	Unit Price (Kshs)	Unit Price (indirect cost, overhead/profit included)
95	Cement/Lime Stabilization	14.50.001	Cement stabilization	m ³	2,727.0	3,599.6
96		14.50.002	Lime stabilization	m ³	3,922.0	5,177.0
97		14.50.003	Cement/lime mixing	m ³	67.0	88.4
98		14.50.004	Curing and protection of treated layers	m ²	64.6	85.3

15. Bituminous Surface Treatment & Surface Dressing

No	Work Category	Code	Work Item Name	Unit	Unit Price (Kshs)	Unit Price (indirect cost, overhead/profit included)
99	Prime Coat	15.50.002	Prime Coat (MC-30 cutback bitumen)	litre	208.0	274.6
100	Tack Coat	15.50.003	Tack Coat (grade bitumen cutback)	litre	230.0	303.6
101		15.50.003a	Tack Coat (bitumen emulsion)	litre	211.0	278.5
102	Surface Dressing	15.70.001	Seal coat	litre	317.0	418.4
103		15.60.002	Provide and roll 3/6 mm precoated chipping	m ³	13,121.0	17,319.7
104		15.60.003	Provide and roll 6/10 mm precoated chipping	m ³	15,818.0	20,879.8
105		15.60.004	Provide and roll 10/14 mm precoated chipping	m ³	16,973.0	22,404.4
106		15.60.005	Provide and roll 14/20 mm precoated chipping	m ³	18,705.0	24,690.6

16. Bituminous Mixes

No	Work Category	Code	Work Item Name	Unit	Unit Price (Kshs)	Unit Price (indirect cost, overhead/profit included)
107a	Pavement Repairing	16.50.001a	Pothole Cutting and Cleaning	m ³	2,027.0	2,675.6
107		16.50.001	Pothole patching - hot mix	m ³	29,793.0	39,326.8
108		16.50.002	Pothole patching - cold mix	m ³	50,466.0	66,615.1
109		16.50.004	Crack sealing	m	191.0	252.1
110		16.60.001	Asphalt concrete for surfacing - hot mix.	m ³	30,357.0	40,071.2
111		16.70.001	Base repair - Dense Bitumen Macadam (DBM)	m ³	30,357.0	40,071.2
112	Milling and Paving	16.80.010	Milling the existing bituminous layer to spoil	m ³	3,300.0	4,356.0
113		16.80.015	Milling the existing bituminous layer for reuse	m ³	13,058.0	17,236.6

17. Concrete Works

No	Work Category	Code	Work Item Name	Unit	Unit Price (Kshs)	Unit Price (indirect cost, overhead/profit included)
114	Concrete Work	17.60.001	Concrete work (class 15/20)	m ³	12,291.0	16,224.1
115		17.60.002	Concrete work (class 20/20)	m ³	13,749.0	18,148.7
116		17.60.002a	Concrete work (class 25/20)	m ³	15,385.0	20,308.2
117	Formwork	17.60.003	Vertical formwork class F2 finish	m ²	2,017.0	2,662.4
118		17.60.004	Horizontal formwork class F2 finish	m ²	1,932.0	2,550.2
119	Reinforcement	17.80.004	Reinforcement work (below 16mm)	ton	156,103.0	206,056.0
120		17.80.005	Reinforcement work (above 16mm)	ton	165,131.0	217,972.9

20. Road Furniture Repair and Maintenance

No	Work Category	Code	Work Item Name	Unit	Unit Price (Kshs)	Unit Price (indirect cost, overhead/profit included)
121	Boundary posts	20.50.001	Road reserve boundary posts	No	2,938.0	3,878.2
122		20.50.004	Edge marker posts	No	3,847.0	5,078.0
123	Road Marking	20.50.007	Road markings - white paint	m ²	1,399.0	1,846.7
124		20.70.011	Road markings - white thermoplastic material	m ²	2,607.0	3,441.2
124a		20.70.011a	Road markings on surface dressed pavement- white thermoplastic material	m ²	2,897.0	3,824.0
125		20.50.006	Road markings - yellow paint	m ²	1,399.0	1,846.7
126		20.70.010	Road markings - yellow thermoplastic material	m ²	2,787.0	3,678.8
126a		20.70.010a	Road markings on surface dressed pavement- yellow thermoplastic material	m ²	3,095.0	4,085.4
127		20.50.107	Road marking black paint	m ²	1,429.0	1,886.3
128	Road Sign Erection	20.70.002	Warning signs	No	21,991.0	29,028.1
129		20.70.005	Priority, prohibitory or mandatory signs	No	21,991.0	29,028.1
130		20.70.004	Standard informatory signs	No	21,733.0	28,687.6
131		20.70.006	Non-standard informatory signs	No	36,743.0	48,500.8
132	Kerb Installation	20.50.012	Kerbs	m	1,903.0	2,512.0
133	Kilometre marker post Installation	20.50.013	Kilometre marker posts	No	7,784.0	10,274.9
134	Bollard Installation	20.50.017	Concrete bollards	No	3,330.0	4,395.6
135		20.50.021	Steel bollards	No	2,282.0	3,012.2
136	Reflective Stud Installation	20.50.019	Reflective studs	No	800.0	1,056.0
137	Microtunneling	20.60.002	Microtunneling for a 150mm diameter PVC (poly-vinyl chloride) duct	m	68,918.0	90,971.8
138		20.60.002a	Horizontal drilling	m	41,930.0	55,347.6
139	Street light Installation	20.60.017	Street lighting pole (7.6m)	No	82,868.0	109,385.8
140		20.60.018	Street lighting pole (10m)	No	132,303.0	174,640.0
141		20.60.016	Street lighting control panel	No	84,574.0	111,637.7
142		20.60.315	Electric cable	m	1,441.0	1,902.1
143	Guardrail Repair	20.70.023a	Guardrail Repair Level 1	piece (4m)	7,867.4	10,385.0
144		20.70.023b	Guardrail Repair Level 2	piece (4m)	8,563.0	11,303.1
145		20.70.023c	Guardrail Repair Level 3	piece (4m)	36,664.3	48,396.9

**Unit Rates List
(Nyanza/Western Region)**

3.3 Unit Rates List (Nyanza/Western Region)

					Nyanza/Western Region	
4. Site Clearance and Topsoil Stripping					Kshs	
No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (indirect cost, overhead/profit included)
1	Bush Clearing	04.50.001	Mechanical mowing	m ²	5.3	7.0
2		04.50.002	Grass cutting (manual)	m ²	3.7	4.9
3		04.50.003	Heavy bush clearing	m ²	17.7	23.4
4		04.50.004	Light bush clearing	m ²	9.9	13.1
5		04.50.005	Pruning of tree branches	m ²	107.0	141.2
6		04.50.006	Tree cutting and stump removal (200 -450 mm)	No	220.0	290.4
7		04.50.007	Tree cutting and stump removal (>450 mm)	No	1,976.0	2,608.3
8	Site Clearing and Backfill	04.50.008	Clearing obstructions (mechanical)	m ²	36.0	47.5
9		04.50.008a	Clearing obstructions (manual)	m ³	260.0	343.2
10		04.50.009	Stripping and grubbing (mechanical)	m ²	107.0	141.2
11		04.50.009a	Stripping and grubbing (manual)	m ²	177.0	233.6
12		04.60.001	Clearing trees, hedges, bushes, vegetation and deleterious materials (mechanical)	m ²	78.0	103.0
13		04.60.001a	Clearing trees, hedges, bushes, vegetation and deleterious materials (manual)	m ²	83.0	109.6
14	Concrete Demolition	04.50.010	Excavate remove & disposal of concrete structures	m ³	617.0	814.4
15	Top Soil Stripping	04.80.002	Removal of overburden	m ³	257.0	339.2
16	Pipe Culvert Re- moval	04.60.005	Removal of cracked small pipe culverts below 600mm	m	407.0	537.2
17		04.60.005a	Removal of cracked large pipe culverts above 600mm	m	612.0	807.8

5. Earth Works

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (indirect cost, overhead/profit included)
18	Material Filling	05.50.006	Fill in soft material and compact	m ³	641.0	846.1
19		05.50.006a	Fill in soft material and compact (soil purchased)	m ³	956.0	1,261.9
20		05.50.007	Fill in hard material and compact	m ³	802.0	1,058.6
21		05.50.007a	Fill in hard material and compact (soil purchased)	m ³	1,319.0	1,741.1
22	Material Cutting	05.50.008	Cut to spoil in soft	m ³	519.0	685.1
23		05.50.008a	Cut to spoil in soft (mechanical)	m ³	247.0	326.0
24		05.50.009	Cut to spoil in hard	m ³	988.0	1,304.2
25		05.50.009a	Cut to spoil in hard (mechanical)	m ³	493.0	650.8
26	Concrete Demolition	05.50.012	Rock fill to swamp	m ³	2,540.0	3,352.8
27		05.50.125	Rock fill to embankment construction	m ³	2,829.0	3,734.3
28	Planting	05.50.014	Grassing	m ²	360.0	475.2
29	Pipe Culvert Replacement	05.60.012	Compaction of subgrade in cut	m ²	40.0	52.8
30		05.60.014	Compaction of subgrade in fill	m ³	1,437.0	1,896.8
31		05.60.016	Compaction of original ground level	m ³	51.0	67.3
31a		05.60.016a	Compaction of the 300 mm below formation level in cutting to 100% MDD (AASHTO T99)	m ³	1,733.0	2,287.6

7. Excavation and Filling for Structure

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (indirect cost, overhead/profit included)
32	Material Excavation for Structures	07.50.001	Excavate for structure in soft material (manual)	m ³	519.0	685.1
33		07.50.001a	Excavate for structure in soft material (mechanical)	m ³	247.0	326.0
34		07.50.002	Excavate for structure in hard material (manual)	m ³	988.0	1,304.2
35		07.50.002a	Excavate for structure in hard material (mechanical)	m ³	493.0	650.8
36	Gabion	07.70.004	Gabion Installation	m ²	583.0	769.6
37		07.70.005	Rock fill to Gabions	m ³	2,066.0	2,727.1
38	Stone Pitching	07.70.001	Stone pitching	m ²	1,650.0	2,178.0

8. Culverts and Drainage Works

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (indirect cost, overhead/profit included)
39	Ditch Cleaning	08.50.002a	Ditch cleaning - mechanical	m	30.0	39.6
40		08.50.002	Ditch cleaning - manual	m	17.6	23.2
41	Culvert Cleaning	08.60.002	Small culvert cleaning-partially blocked-below 450mm	m	416.0	549.1
42		08.60.003	Medium culvert cleaning-partially blocked-600mm	m	319.0	421.1
43		08.60.004	Large culvert cleaning-partially blocked-900 mm and above	m	221.0	291.7
44		08.50.025	Manhole cleaning	No	767.0	1,012.4
45		08.50.016	Gully pot cleaning	No	147.0	194.0
46		08.50.009	Covered (slotted) lined drain cleaning	m	88.0	116.2
47		08.50.005a	Ditch/mitre drain excavation in soft (mechanical)	m ³	306.0	403.9
48		08.50.005	Ditch/mitre drain excavation in soft (manual)	m ³	299.0	394.7
49	Culvert Cleaning	08.50.005b	Ditch/mitre drain excavation in hard (mechanical)	m ³	505.0	666.6
50		08.50.005c	Ditch/mitre drain excavation in hard (manual)	m ³	1,621.0	2,139.7
51	Pipe Culvert Installation	08.60.021	Culvert installation-300mm with surround	m	7,142.0	9,427.4
52		08.60.020	Culvert installation-300mm without surround	m	2,461.0	3,248.5
53		08.60.023	Culvert installation-450mm with surround	m	10,143.0	13,388.8
54		08.60.022	Culvert installation-450mm without surround	m	3,677.0	4,853.6
55		08.60.025	Culvert installation-600mm with surround	m	14,976.0	19,768.3
56		08.60.024	Culvert installation-600mm without surround	m	4,575.0	6,039.0
57		08.60.027	Culvert installation-900mm with surround	m	23,053.0	30,430.0
58		08.60.026	Culvert installation-900mm without surround	m	6,337.0	8,364.8
59		08.60.028	Culvert installation-1200mm with surround	m	41,685.0	55,024.2
60		08.60.029	Culvert installation-1200mm without surround	m	15,958.0	21,064.6
61		08.60.030	Excavate in soft material for culverts	m ³	299.0	394.7
62		08.60.031	Excavate in hard material for culverts	m ³	1,621.0	2,139.7
63	Headwall Construction	08.60.019	Headwall construction for 450mm pipe culvert	No	33,996.1	44,874.9
64		08.60.019a	Headwall construction for 600mm pipe culvert	No	39,816.1	52,557.3
65		08.60.019b	Headwall construction for 900mm pipe culvert	No	52,223.2	68,934.7
66		08.60.019c	Headwall construction for 1200mm pipe culvert	No	70,767.6	93,413.2

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (indirect cost, overhead/profit included)
67	Manhole installation	08.50.024	Manhole construction less than 1m	No	35,554.0	46,931.3
68		08.50.024a	Manhole construction more than 1m	No	61,024.0	80,551.7
69	Gulley Pot installation	08.50.015	Gulley pot construction	No	10,607.0	14,001.2
70	Drain Lining	08.50.032	Lay drain lining with concrete	m ²	2,037.0	2,688.8
71		08.50.022a	Laying of dressed stones	m ²	1,902.0	2,510.6
72		08.50.022	Laying of side slabs	m ²	3,234.0	4,268.9
73		08.70.036	Laying of 300mm invert block drain	m	1,382.0	1,824.2
74		08.70.037	Laying of 750mm invert block drain	m	3,492.0	4,609.4

9. Passage of Traffic

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (indirect cost, overhead/profit included)
75	Traffic Control	09.50.004	Traffic Control	Day	1,903.0	2,512.0
76		09.50.005	Watchman	No	1,831.0	2,416.9
77		09.50.006	Watering	m ²	14.0	18.5

10. Grading and Graveling Works

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (indirect cost, overhead/profit included)
78	Grading	10.50.001	Heavy grading without watering or compaction	m ²	6.4	8.4
79		10.50.002	Heavy grading with watering and compaction	m ²	11.3	14.9
80		10.50.003	Light grading	m ²	5.2	6.9
81		10.50.004	Reshaping	m ²	14.8	19.5
82		10.50.005	Dragging	m ²	14.8	19.5
83	Graveling	10.60.001	Regraveling	m ³	1,614.0	2,130.5
84		10.60.001a	Regraveling without watering	m ³	1,597.0	2,108.0

11. Paved Roads - Shoulder Maintenance and Repairs

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (indirect cost, overhead/profit included)
85	Shoulder Rebuilding	11.50.001	Shoulder grading	m ²	34.0	44.9
86		11.50.002	Shoulder repairing	m ²	34.0	44.9
87	Shoulder Graveling	11.50.003	Shoulder graveling with natural gravel	m ³	1,639.0	2,163.5
88		11.50.003a	Shoulder graveling with quarry waste	m ³	3,175.0	4,191.0

12. Natural Material Base and Subbase

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (indirect cost, overhead/profit included)
89	Pavement Removal	12.70.001	Scarify existing pavement to form subbase	m ³	1,024.0	1,351.7
90	Subbase/Base Rebuilding	12.50.001	Handpacked stone paving	m ³	4,703.0	6,208.0
91		12.50.002	Provide, place and compact quarry waste	m ³	7,909.0	10,439.9
92		12.50.003	Provide, place, spread and compact natural gravel	m ³	1,635.0	2,158.2

13. Graded Crushed Stone Base and Subbase

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (indirect cost, overhead/profit included)
93	Graded Crushed Stone	13.50.001	Graded Crushed Stone for subbase	m ³	2,511.0	3,314.5
94		13.60.001	Graded Crushed Stone for base	m ³	2,511.0	3,314.5

14. Cement and Lime Treated Subgrade, Subbase and Base

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (indirect cost, overhead/profit included)
95	Cement/Lime Stabilization	14.50.001	Cement stabilization	m ³	2,871.0	3,789.7
96		14.50.002	Lime stabilization	m ³	4,069.0	5,371.1
97		14.50.003	Cement/lime mixing	m ³	77.0	101.6
98		14.50.004	Curing and protection of treated layers	m ²	68.1	89.9

15. Bituminous Surface Treatment & Surface Dressing

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (indirect cost, overhead/profit included)
99	Prime Coat	15.50.002	Prime Coat (MC-30 cutback bitumen)	litre	187.0	246.8
100	Tack Coat	15.50.003	Tack Coat (grade bitumen cutback)	litre	209.0	275.9
101		15.50.003a	Tack Coat (bitumen emulsion)	litre	191.0	252.1
102	Surface Dressing	15.70.001	Seal coat	litre	286.0	377.5
103		15.60.002	Provide and roll 3/6 mm precoated chipping	m ³	14,505.0	19,146.6
104		15.60.003	Provide and roll 6/10 mm precoated chipping	m ³	17,054.0	22,511.3
105		15.60.004	Provide and roll 10/14 mm precoated chipping	m ³	18,298.0	24,153.4
106		15.60.005	Provide and roll 14/20 mm precoated chipping	m ³	18,298.0	24,153.4

16. Bituminous Mixes

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (indirect cost, overhead/profit included)
107a	Pavement Repairing	16.50.001a	Pothole Cutting and Cleaning	m ³	2,251.0	2,971.3
107		16.50.001	Pothole patching - hot mix	m ³	31,020.0	40,946.4
108		16.50.002	Pothole patching - cold mix	m ³	54,169.0	71,503.1
109		16.50.004	Crack sealing	m	203.0	268.0
110		16.60.001	Asphalt concrete for surfacing - hot mix.	m ³	31,670.0	41,804.4
111		16.70.001	Base repair - Dense Bitumen Macadam (DBM)	m ³	29,655.0	39,144.6
112	Milling and Paving	16.80.010	Milling the existing bituminous layer to spoil	m ³	3,348.0	4,419.4
113		16.80.015	Milling the existing bituminous layer for reuse	m ³	12,727.0	16,799.6

17. Concrete Works

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (indirect cost, overhead/profit included)
114	Concrete Work	17.60.001	Concrete work (class 15/20)	m ³	12,954.0	17,099.3
115		17.60.002	Concrete work (class 20/20)	m ³	14,460.0	19,087.2
116		17.60.002a	Concrete work (class 25/20)	m ³	16,171.0	21,345.7
117	Formwork	17.60.003	Vertical formwork class F2 finish	m ²	2,149.0	2,836.7
118		17.60.004	Horizontal formwork class F2 finish	m ²	2,065.0	2,725.8
119	Reinforcement	17.80.004	Reinforcement work (below 16mm)	ton	167,190.0	220,690.8
120		17.80.005	Reinforcement work (above 16mm)	ton	176,900.0	233,508.0

20. Road Furniture Repair and Maintenance

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (indirect cost, overhead/profit included)
121	Boundary posts	20.50.001	Road reserve boundary posts	No	3,120.0	4,118.4
122		20.50.004	Edge marker posts	No	3,766.0	4,971.1
123	Road Marking	20.50.007	Road markings - white paint	m ²	1,433.0	1,891.6
124		20.70.011	Road markings - white thermoplastic material	m ²	2,756.0	3,637.9
124a		20.70.011a	Road markings on surface dressed pavement- white thermoplastic material	m ²	3,065.0	4,045.8
125		20.50.006	Road markings - yellow paint	m ²	1,433.0	1,891.6
126		20.70.010	Road markings - yellow thermoplastic material	m ²	2,867.0	3,784.4
126a		20.70.010a	Road markings on surface dressed pavement- yellow thermoplastic material	m ²	3,187.0	4,206.8
127		20.50.107	Road marking black paint	m ²	1,396.0	1,842.7
128	Road Sign Erection	20.70.002	Warning signs	No	25,044.0	33,058.1
129		20.70.005	Priority, prohibitory or mandatory signs	No	25,044.0	33,058.1
130		20.70.004	Standard informatory signs	No	25,044.0	33,058.1
131		20.70.006	Non-standard informatory signs	No	42,996.0	56,754.7
132	Kerb Installation	20.50.012	Kerbs	m	1,881.0	2,482.9
133	Kilometre marker post Installation	20.50.013	Kilometre marker posts	No	8,307.0	10,965.2
134	Bollard Installation	20.50.017	Concrete bollards	No	3,528.0	4,657.0
135		20.50.021	Steel bollards	No	2,405.0	3,174.6
136	Reflective Stud Installation	20.50.019	Reflective studs	No	785.0	1,036.2
137	Microtunneling	20.60.002	Microtunneling for a 150mm diameter PVC (polyvinyl chloride) duct	m	69,254.0	91,415.3
138		20.60.002a	Horizontal drilling	m	41,014.0	54,138.5
139	Street light Installation	20.60.017	Street lighting pole (7.6m)	No	84,005.0	110,886.6
140		20.60.018	Street lighting pole (10m)	No	133,050.0	175,626.0
141		20.60.016	Street lighting control panel	No	104,457.0	137,883.2
142		20.60.315	Electric cable	m	1,517.0	2,002.4
143	Guardrail Repair	20.70.023a	Guardrail Repair Level 1	piece (4m)	6,449.2	8,513.0
144		20.70.023b	Guardrail Repair Level 2	piece (4m)	7,192.4	9,493.9
145		20.70.023c	Guardrail Repair Level 3	piece (4m)	35,495.9	46,854.6

**Unit Rates List
(South Eastern Region)**

3.4 Unit Rates List (South Eastern Region)

					South Rift Region	
4. Site Clearance and Topsoil Stripping					Kshs	
No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
1	Bush Clearing	04.50.001	Mechanical mowing	m ²	5	7
2		04.50.002	Grass cutting (manual)	m ²	4	5
3		04.50.003	Heavy bush clearing	m ²	19	25
4		04.50.004	Light bush clearing	m ²	10	14
5		04.50.005	Pruning of tree branches	m ²	112	148
6		04.50.006	Tree cutting and stump removal (200 -450 mm)	No	230	304
7		04.50.007	Tree cutting and stump removal (>450 mm)	No	2,070	2,732
8	Site Clearing and Backfill	04.50.008	Clearing obstructions (mechanical)	m ²	37	49
9		04.50.008a	Clearing obstructions (manual)	m ³	275	363
10		04.50.009	Stripping and grubbing (mechanical)	m ²	102	135
11		04.50.009a	Stripping and grubbing (manual)	m ²	186	246
12		04.60.001	Clearing trees, hedges, bushes, vegetation and deleterious materials (mechanical)	m ²	78	103
13		04.60.001a	Clearing trees, hedges, bushes, vegetation and deleterious materials (manual)	m ²	87	115
14	Concrete Demolition	04.50.010	Excavate remove & disposal of concrete structures	m ³	542	715
15	Top Soil Stripping	04.80.002	Removal of overburden	m ³	260	343
16	Pipe Culvert Removal	04.60.005	Removal of cracked small pipe culverts below 600mm	m	358	473
17		04.60.005a	Removal of cracked large pipe culverts above 600mm	m	538	710

5. Earth Works

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
18	Material Filling	05.50.006	Fill in soft material and compact	m ³	602	795
19		05.50.006a	Fill in soft material and compact (soil purchased)	m ³	891	1,176
20		05.50.007	Fill in hard material and compact	m ³	736	972
21		05.50.007a	Fill in hard material and compact (soil purchased)	m ³	1,240	1,637
22	Material Cutting	05.50.008	Cut to spoil in soft	m ³	537	709
23		05.50.008a	Cut to spoil in soft (mechanical)	m ³	217	286
24		05.50.009	Cut to spoil in hard	m ³	1,035	1,366
25		05.50.009a	Cut to spoil in hard (mechanical)	m ³	433	572
26	Concrete Demolition	05.50.012	Rock fill to swamp	m ³	3,428	4,525
27		05.50.125	Rock fill to embankment construction	m ³	3,735	4,930

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
28	Planting	05.50.014	Grassing	m ²	386	510
29	Pipe Culvert Replacement	05.60.012	Compaction of subgrade in cut	m ²	41	54
30		05.60.014	Compaction of subgrade in fill	m ³	1,619	2,137
31		05.60.016	Compaction of original ground level	m ³	50	66
31a		05.60.016a	Compaction of the 300 mm below formation level in cutting to 100% MDD (AASHTO T99)	m ³	1,724	2,276

7. Excavation and Filling for Structure

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
32	Material Excavation for Structures	07.50.001	Excavate for structure in soft material (manual)	m ³	537	709
33		07.50.001a	Excavate for structure in soft material (mechanical)	m ³	217	286
34		07.50.002	Excavate for structure in hard material (manual)	m ³	1,035	1,366
35		07.50.002a	Excavate for structure in hard material (mechanical)	m ³	433	572
36	Gabion	07.70.004	Gabion Installation	m ²	618	816
37		07.70.005	Rock fill to Gabions	m ³	1,914	2,527
38	Stone Pitching	07.70.001	Stone pitching	m ²	1,660	2,191

8. Culverts and Drainage Works

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
39	Ditch Cleaning	08.50.002a	Ditch cleaning - mechanical	m	29	38
40		08.50.002	Ditch cleaning - manual	m	18	24
41	Culvert Cleaning	08.60.002	Small culvert cleaning-partially blocked- below 450mm	m	441	582
42		08.60.003	Medium culvert cleaning-partially blocked- 600mm	m	337	445
43		08.60.004	Large culvert cleaning-partially blocked-900 mm and above	m	233	308
44		08.50.025	Manhole cleaning	No	797	1,052
45		08.50.016	Gulley pot cleaning	No	154	203
46		08.50.009	Covered (slotted) lined drain cleaning	m	92	121
47		08.50.005a	Ditch/mitre drain excavation in soft (mechanical)	m ³	292	385
48		08.50.005	Ditch/mitre drain excavation in soft (manual)	m ³	310	409
49		08.50.005b	Ditch/mitre drain excavation in hard (mechanical)	m ³	446	589
50		08.50.005c	Ditch/mitre drain excavation in hard (manual)	m ³	1,648	2,175

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
51	Pipe Culvert Installation	08.60.021	Culvert installation-300mm with surround	m	7,236	9,552
52		08.60.020	Culvert installation-300mm without surround	m	2,932	3,870
53		08.60.023	Culvert installation-450mm with surround	m	9,690	12,791
54		08.60.022	Culvert installation-450mm without surround	m	3,668	4,842
55		08.60.025	Culvert installation-600mm with surround	m	14,264	18,829
56		08.60.024	Culvert installation-600mm without surround	m	4,330	5,716
57		08.60.027	Culvert installation-900mm with surround	m	22,468	29,658
58		08.60.026	Culvert installation-900mm without surround	m	6,331	8,357
59		08.60.028	Culvert installation-1200mm with surround	m	36,918	48,732
60		08.60.029	Culvert installation-1200mm without surround	m	11,668	15,402
61		08.60.030	Excavate in soft material for culverts	m ³	310	409
62		08.60.031	Excavate in hard material for culverts	m ³	1,648	2,175
63	Headwall Construction	08.60.019	Headwall construction for 450mm pipe culvert	No	31,763	41,927
64		08.60.019a	Headwall construction for 600mm pipe culvert	No	37,126	49,006
65		08.60.019b	Headwall construction for 900mm pipe culvert	No	48,582	64,129
66		08.60.019c	Headwall construction for 1200mm pipe culvert	No	65,084	85,911
67	Manhole installation	08.50.024	Manhole construction less than 1m	No	33,583	44,330
68		08.50.024a	Manhole construction more than 1m	No	57,037	75,289
69	Gulley Pot installation	08.50.015	Gulley pot construction	No	10,634	14,037
70	Drain Lining	08.50.032	Lay drain lining with concrete	m ²	2,095	2,765
71		08.50.022a	Laying of dressed stones	m ²	1,875	2,475
72		08.50.022	Laying of side slabs	m ²	2,943	3,885
73		08.70.036	Laying of 300mm invert block drain	m	1,381	1,823
74		08.70.037	Laying of 750mm invert block drain	m	3,481	4,595

9. Passage of Traffic

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
75	Traffic Control	09.50.004	Traffic Control	Day	2,003	2,644
76		09.50.005	Watchman	No	1,926	2,542
77		09.50.006	Watering	m ²	14	19

10. Grading and Gravelling Works

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
78	Grading	10.50.001	Heavy grading without watering or compaction	m ²	6	8
79		10.50.002	Heavy grading with watering and compaction	m ²	11	15
80		10.50.003	Light grading	m ²	5	7
81		10.50.004	Reshaping	m ²	16	21
82		10.50.005	Dragging	m ²	16	21
83	Gravelling	10.60.001	Regravelling	m ³	1,797	2,372
84		10.60.001a	Regravelling without watering	m ³	1,780	2,350

11. Paved Roads - Shoulder Maintenance and Repairs

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
85	Shoulder Rebuilding	11.50.001	Shoulder grading	m ²	34	45
86		11.50.002	Shoulder repairing	m ²	34	45
87	Shoulder Gravelling	11.50.003	Shoulder gravelling with natural gravel	m ³	1,826	2,410
88		11.50.003a	Shoulder gravelling with quarry waste	m ³	2,492	3,289

12. Natural Material Base and Subbase

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
89	Pavement Removal	12.70.001	Scarify existing pavement to form subbase	m ³	917	1,210
90	Subbase/Base Rebuilding	12.50.001	Handpacked stone paving	m ³	5,700	7,524
91		12.50.002	Provide, place and compact quarry waste	m ³	6,666	8,799
92		12.50.003	Provide, place, spread and compact natural gravel	m ³	1,823	2,406

13. Graded Crushed Stone Base and Subbase

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
93	Graded Crushed Stone	13.50.001	Graded Crushed Stone for subbase	m ³	2,676	3,532
94		13.60.001	Graded Crushed Stone for base	m ³	2,676	3,532

14. Cement and Lime Treated Subgrade, Subbase and Base

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
95	Cement/Lime Stabilization	14.50.001	Cement stabilization	m ³	2,974	3,926
96		14.50.002	Lime stabilization	m ³	3,938	5,198
97		14.50.003	Cement/lime mixing	m ³	72	95
98		14.50.004	Curing and protection of treated layers	m ²	53	70

15. Bituminous Surface Treatment & Surface Dressing

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
99	Prime Coat	15.50.002	Prime Coat (MC-30 cutback bitumen)	litre	206	272
100	Tack Coat	15.50.003	Tack Coat (grade bitumen cutback)	litre	228	301
101		15.50.003a	Tack Coat (bitumen emulsion)	litre	210	277
102	Surface Dressing	15.70.001	Seal coat	litre	315	416
103		15.60.002	Provide and roll 3/6 mm precoated chipping	m ³	13,315	17,576
104		15.60.003	Provide and roll 6/10 mm precoated chipping	m ³	15,884	20,967
105		15.60.004	Provide and roll 10/14 mm precoated chipping	m ³	16,461	21,729
106		15.60.005	Provide and roll 14/20 mm precoated chipping	m ³	17,616	23,253

16. Bituminous Mixes

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
107a	Pavement Repairing	16.50.001a	Pothole Cutting and Cleaning	m ³	2,263	2,987
107		16.50.001	Pothole patching - hot mix	m ³	32,611	43,047
108		16.50.002	Pothole patching - cold mix	m ³	54,597	72,068
109		16.50.004	Crack sealing	m	191	252
110		16.60.001	Asphalt concrete for surfacing - hot mix.	m ³	33,002	43,563
111		16.70.001	Base repair - Dense Bitumen Macadam (DBM)	m ³	33,448	44,151
112	Milling and Paving	16.80.010	Milling the existing bituminous layer to spoil	m ³	3,212	4,240
113		16.80.015	Milling the existing bituminous layer for reuse	m ³	13,164	17,377

17. Concrete Works

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
114	Concrete Work	17.60.001	Concrete work (class 15/20)	m ³	13,515	17,840
115		17.60.002	Concrete work (class 20/20)	m ³	15,034	19,845
116		17.60.002a	Concrete work (class 25/20)	m ³	16,785	22,156
117	Formwork	17.60.003	Vertical formwork class F2 finish	m ²	1,761	2,325
118		17.60.004	Horizontal formwork class F2 finish	m ²	1,672	2,207
119	Reinforcement	17.80.004	Reinforcement work (below 16mm)	ton	165,491	218,448
120		17.80.005	Reinforcement work (above 16mm)	ton	175,069	231,091

20. Road Furniture Repair and Maintenance

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
121	Boundary posts	20.50.001	Road reserve boundary posts	No	2,977	3,930
122		20.50.004	Edge marker posts	No	3,844	5,074
123	Road Marking	20.50.007	Road markings - white paint	m ²	1,442	1,903
124		20.70.011	Road markings - white thermoplastic material	m ²	2,665	3,518
124a		20.70.011a	Road markings on surface dressed pavement- white thermoplastic material	m ²	2,954	3,899
125		20.50.006	Road markings - yellow paint	m ²	1,442	1,903
126		20.70.010	Road markings - yellow thermoplastic material	m ²	2,849	3,761
126a		20.70.010a	Road markings on surface dressed pavement- yellow thermoplastic material	m ²	3,156	4,166
127		20.50.107	Road marking black paint	m ²	1,442	1,903
128	Road Sign Erection	20.70.002	Warning signs	No	26,191	34,572
129		20.70.005	Priority, prohibitory or mandatory signs	No	26,191	34,572
130		20.70.004	Standard informatory signs	No	26,191	34,572
131		20.70.006	Non-standard informatory signs	No	45,085	59,512
132	Kerb Installation	20.50.012	Kerbs	m	1,715	2,264
133	Kilometre marker post Installation	20.50.013	Kilometre marker posts	No	8,797	11,612
134	Bollard Installation	20.50.017	Concrete bollards	No	3,404	4,493
135		20.50.021	Steel bollards	No	2,195	2,897
136	Reflective Stud Installation	20.50.019	Reflective studs	No	802	1,059

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
137	Microtunneling	20.60.002	Microtunneling for a 150mm diameter PVC (polyvinyl chloride) duct	m	72,629	95,870
138		20.60.002a	Horizontal drilling	m	42,291	55,824
139	Street light Installation	20.60.017	Street lighting pole (7.6m)	No	88,009	116,172
140		20.60.018	Street lighting pole (10m)	No	133,174	175,790
141		20.60.016	Street lighting control panel	No	91,027	120,156
142		20.60.315	Electric cable	m	1,529	2,018
143	Guardrail Repair	20.70.023a	Guardrail Repair Level 1	piece (4m)	6,613	8,729
144		20.70.023b	Guardrail Repair Level 2	piece (4m)	7,389	9,754
145		20.70.023c	Guardrail Repair Level 3	piece (4m)	34,362	45,357

Unit Rates List (North Rift Region)

3.5 Unit Rates List (North Rift Region)

4. Site Clearance and Topsoil Stripping					North Rift Region	
					Kshs	
No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
1	Bush Clearing	04.50.001	Mechanical mowing	m ²	5	7
2		04.50.002	Grass cutting (manual)	m ²	3	5
3		04.50.003	Heavy bush clearing	m ²	16	21
4		04.50.004	Light bush clearing	m ²	9	12
5		04.50.005	Pruning of tree branches	m ²	95	125
6		04.50.006	Tree cutting and stump removal (200 -450 mm)	No	196	259
7		04.50.007	Tree cutting and stump removal (>450 mm)	No	1,768	2,334
8	Site Clearing and Backfill	04.50.008	Clearing obstructions (mechanical)	m ²	36	48
9		04.50.008a	Clearing obstructions (manual)	m ³	234	309
10		04.50.009	Stripping and grubbing (mechanical)	m ²	105	139
11		04.50.009a	Stripping and grubbing (manual)	m ²	159	210
12		04.60.001	Clearing trees, hedges, bushes, vegetation and deleterious materials (mechanical)	m ²	79	104
13		04.60.001a	Clearing trees, hedges, bushes, vegetation and deleterious materials (manual)	m ²	74	98
14	Concrete Demolition	04.50.010	Excavate remove & disposal of concrete structures	m ³	574	758
15	Top Soil Stripping	04.80.002	Removal of overburden	m ³	262	346
16	Pipe Culvert Removal	04.60.005	Removal of cracked small pipe culverts below 600mm	m	379	500
17		04.60.005a	Removal of cracked large pipe culverts above 600mm	m	570	752

5. Earth Works

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
18	Material Filling	05.50.006	Fill in soft material and compact	m ³	531	701
19		05.50.006a	Fill in soft material and compact (soil purchased)	m ³	833	1,100
20		05.50.007	Fill in hard material and compact	m ³	643	849
21		05.50.007a	Fill in hard material and compact (soil purchased)	m ³	1,273	1,680

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
22	Material Cutting	05.50.008	Cut to spoil in soft	m ³	461	609
23		05.50.008a	Cut to spoil in soft (mechanical)	m ³	230	304
24		05.50.009	Cut to spoil in hard	m ³	884	1,167
25		05.50.009a	Cut to spoil in hard (mechanical)	m ³	459	606
26	Concrete Demolition	05.50.012	Rock fill to swamp	m ³	2,402	3,171
27		05.50.125	Rock fill to embankment construction	m ³	2,693	3,555
28	Planting	05.50.014	Grassing	m ²	392	517
29	Pipe Culvert Replacement	05.60.012	Compaction of subgrade in cut	m ²	35	46
30		05.60.014	Compaction of subgrade in fill	m ³	1,297	1,712
31		05.60.016	Compaction of original ground level	m ³	52	69
31a		05.60.016a	Compaction of the 300 mm below formation level in cutting to 100% MDD (AASHTO T99)	m ³	1,743	2,301

7. Excavation and Filling for Structure

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
32	Material Excavation for Structures	07.50.001	Excavate for structure in soft material (manual)	m ³	461	609
33		07.50.001a	Excavate for structure in soft material (mechanical)	m ³	230	304
34		07.50.002	Excavate for structure in hard material (manual)	m ³	884	1,167
35		07.50.002a	Excavate for structure in hard material (mechanical)	m ³	459	606
36	Gabion	07.70.004	Gabion Installation	m ²	553	730
37		07.70.005	Rock fill to Gabions	m ³	2,010	2,653
38	Stone Pitching	07.70.001	Stone pitching	m ²	1,563	2,063

8. Culverts and Drainage Works

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
39	Ditch Cleaning	08.50.002a	Ditch cleaning - mechanical	m	28	37
40		08.50.002	Ditch cleaning - manual	m	16	21
41	Culvert Cleaning	08.60.002	Small culvert cleaning-partially blocked-below 450mm	m	375	495
42		08.60.003	Medium culvert cleaning-partially blocked-600mm	m	287	379
43		08.60.004	Large culvert cleaning-partially blocked-900 mm and above	m	199	263
44		08.50.025	Manhole cleaning	No	683	902
45		08.50.016	Gulley pot cleaning	No	132	174
46		08.50.009	Covered (slotted) lined drain cleaning	m	79	104
47		08.50.005a	Ditch/mitre drain excavation in soft (mechanical)	m ³	322	425
48		08.50.005	Ditch/mitre drain excavation in soft (manual)	m ³	266	351
49		08.50.005b	Ditch/mitre drain excavation in hard (mechanical)	m ³	470	620
50	Culvert Cleaning	08.50.005c	Ditch/mitre drain excavation in hard (manual)	m ³	1,422	1,877
51	Pipe Culvert Installation	08.60.021	Culvert installation-300mm with surround	m	6,406	8,456
52		08.60.020	Culvert installation-300mm without surround	m	2,276	3,004
53		08.60.023	Culvert installation-450mm with surround	m	8,857	11,691
54		08.60.022	Culvert installation-450mm without surround	m	3,098	4,089
55		08.60.025	Culvert installation-600mm with surround	m	13,691	18,072
56		08.60.024	Culvert installation-600mm without surround	m	4,252	5,613
57		08.60.027	Culvert installation-900mm with surround	m	21,939	28,960
58		08.60.026	Culvert installation-900mm without surround	m	6,649	8,777
59		08.60.028	Culvert installation-1200mm with surround	m	39,195	51,737
60		08.60.029	Culvert installation-1200mm without surround	m	15,373	20,292
61		08.60.030	Excavate in soft material for culverts	m ³	266	351
62		08.60.031	Excavate in hard material for culverts	m ³	1,422	1,877

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
63	Headwall Construction	08.60.019	Headwall construction for 450mm pipe culvert	No	30,540	40,312
64		08.60.019a	Headwall construction for 600mm pipe culvert	No	35,716	47,145
65		08.60.019b	Headwall construction for 900mm pipe culvert	No	46,771	61,738
66		08.60.019c	Headwall construction for 1200mm pipe culvert	No	62,826	82,930
67	Manhole installation	08.50.024	Manhole construction less than 1m	No	32,471	42,862
68		08.50.024a	Manhole construction more than 1m	No	55,161	72,813
69	Gulley Pot installation	08.50.015	Gulley pot construction	No	10,571	13,954
70	Drain Lining	08.50.032	Lay drain lining with concrete	m ²	1,936	2,556
71		08.50.022a	Laying of dressed stones	m ²	1,745	2,303
72		08.50.022	Laying of side slabs	m ²	3,199	4,223
73		08.70.036	Laying of 300mm invert block drain	m	1,436	1,896
74		08.70.037	Laying of 750mm invert block drain	m	3,772	4,979

9. Passage of Traffic

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
75	Traffic Control	09.50.004	Traffic Control	Day	1,716	2,265
76		09.50.005	Watchman	No	1,643	2,169
77		09.50.006	Watering	m ²	15	20

10. Grading and Gravelling Works

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
78	Grading	10.50.001	Heavy grading without watering or compaction	m ²	7	9
79		10.50.002	Heavy grading with watering and compaction	m ²	12	15
80		10.50.003	Light grading	m ²	5	7
81		10.50.004	Reshaping	m ²	13	18
82		10.50.005	Dragging	m ²	13	18
83	Gravelling	10.60.001	Regravelling	m ³	1,493	1,971
84		10.60.001a	Regravelling without watering	m ³	1,475	1,947

11. Paved Roads - Shoulder Maintenance and Repairs

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
85	Shoulder Rebuilding	11.50.001	Shoulder grading	m ²	34	45
86		11.50.002	Shoulder repairing	m ²	34	45
87	Shoulder Gravelling	11.50.003	Shoulder gravelling with natural gravel	m ³	1,511	1,995
88		11.50.003a	Shoulder gravelling with quarry waste	m ³	2,653	3,502

12. Natural Material Base and Subbase

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
89	Pavement Removal	12.70.001	Scarify existing pavement to form subbase	m ³	954	1,259
90	Subbase/Base Rebuilding	12.50.001	Handpacked stone paving	m ³	4,514	5,959
91		12.50.002	Provide, place and compact quarry waste	m ³	6,150	8,118
92		12.50.003	Provide, place, spread and compact natural gravel	m ³	1,508	1,991

13. Graded Crushed Stone Base and Subbase

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
93	Graded Crushed Stone	13.50.001	Graded Crushed Stone for subbase	m ³	2,448	3,231
94		13.60.001	Graded Crushed Stone for base	m ³	2,448	3,231

14. Cement and Lime Treated Subgrade, Subbase and Base

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
95	Cement/Lime Stabilization	14.50.001	Cement stabilization	m ³	2,873	3,792
96		14.50.002	Lime stabilization	m ³	4,014	5,299
97		14.50.003	Cement/lime mixing	m ³	68	90
98		14.50.004	Curing and protection of treated layers	m ²	60	79

15. Bituminous Surface Treatment & Surface Dressing

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
99	Prime Coat	15.50.002	Prime Coat (MC-30 cutback bitumen)	litre	211	279
100	Tack Coat	15.50.003	Tack Coat (grade bitumen cutback)	litre	231	305
101		15.50.003a	Tack Coat (bitumen emulsion)	litre	214	283
102	Surface Dressing	15.70.001	Seal coat	litre	321	424
103		15.60.002	Provide and roll 3/6 mm precoated chipping	m ³	16,243	21,441
104		15.60.003	Provide and roll 6/10 mm precoated chipping	m ³	18,774	24,782
105		15.60.004	Provide and roll 10/14 mm precoated chipping	m ³	19,272	25,439
106		15.60.005	Provide and roll 14/20 mm precoated chipping	m ³	19,272	25,439

16. Bituminous Mixes

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
107a	Pavement Repairing	16.50.001a	Pothole Cutting and Cleaning	m ³	2,841	3,750
107		16.50.001	Pothole patching - hot mix	m ³	30,003	39,604
108		16.50.002	Pothole patching - cold mix	m ³	53,259	70,302
109		16.50.004	Crack sealing	m	192	253
110		16.60.001	Asphalt concrete for surfacing - hot mix.	m ³	30,781	40,631
111		16.70.001	Base repair - Dense Bitumen Macadam (DBM)	m ³	27,642	36,487
112	Milling and Paving	16.80.010	Milling the existing bituminous layer to spoil	m ³	3,265	4,310
113		16.80.015	Milling the existing bituminous layer for reuse	m ³	13,189	17,410

17. Concrete Works

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
114	Concrete Work	17.60.001	Concrete work (class 15/20)	m ³	12,558	16,577
115		17.60.002	Concrete work (class 20/20)	m ³	14,110	18,625
116		17.60.002a	Concrete work (class 25/20)	m ³	15,865	20,942
117	Formwork	17.60.003	Vertical formwork class F2 finish	m ²	1,741	2,298
118		17.60.004	Horizontal formwork class F2 finish	m ²	1,663	2,195
119	Reinforcement	17.80.004	Reinforcement work (below 16mm)	ton	156,959	207,186
120		17.80.005	Reinforcement work (above 16mm)	ton	166,083	219,230

20. Road Furniture Repair and Maintenance

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
121	Boundary posts	20.50.001	Road reserve boundary posts	No	2,840	3,749
122		20.50.004	Edge marker posts	No	3,684	4,863
123	Road Marking	20.50.007	Road markings - white paint	m ²	1,309	1,728
124		20.70.011	Road markings - white thermoplastic material	m ²	2,649	3,497
124a		20.70.011a	Road markings on surface dressed pavement- white thermoplastic material	m ²	2,947	3,890
125		20.50.006	Road markings - yellow paint	m ²	1,309	1,728
126		20.70.010	Road markings - yellow thermoplastic material	m ²	2,760	3,643
126a		20.70.010a	Road markings on surface dressed pavement- yellow thermoplastic material	m ²	3,069	4,051
127		20.50.107	Road marking black paint	m ²	1,282	1,692
128	Road Sign Erection	20.70.002	Warning signs	No	22,008	29,051
129		20.70.005	Priority, prohibitory or mandatory signs	No	22,008	29,051
130		20.70.004	Standard informatory signs	No	21,751	28,711
131		20.70.006	Non-standard informatory signs	No	36,731	48,485
132	Kerb Installation	20.50.012	Kerbs	m	1,787	2,359
133	Kilometre marker post Installation	20.50.013	Kilometre marker posts	No	7,857	10,371
134	Bollard Installation	20.50.017	Concrete bollards	No	3,231	4,265
135		20.50.021	Steel bollards	No	2,124	2,804

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
136	Reflective Stud Installation	20.50.019	Reflective studs	No	767	1,012
137	Microtunneling	20.60.002	Microtunneling for a 150mm diameter PVC (polyvinyl chloride) duct	m	68,331	90,197
138		20.60.002a	Horizontal drilling	m	41,255	54,457
139	Street light Installation	20.60.017	Street lighting pole (7.6m)	No	85,204	112,469
140		20.60.018	Street lighting pole (10m)	No	132,164	174,457
141		20.60.016	Street lighting control panel	No	93,518	123,444
142		20.60.315	Electric cable	m	1,468	1,938
143	Guardrail Repair	20.70.023a	Guardrail Repair Level 1	piece (4m)	7,445	9,828
144		20.70.023b	Guardrail Repair Level 2	piece (4m)	8,162	10,774
145		20.70.023c	Guardrail Repair Level 3	piece (4m)	36,567	48,268

**Unit Rates List
(Lower Eastern Region)**

3.6 Unit Rates List (Lower Eastern Region)

					Lower Eastern Region	
4. Site Clearance and Topsoil Stripping					Kshs	
No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (indirect cost, overhead/profit included)
1	Bush Clearing	04.50.001	Mechanical mowing	m ²	6	7
2		04.50.002	Grass cutting (manual)	m ²	4	5
3		04.50.003	Heavy bush clearing	m ²	19	24
4		04.50.004	Light bush clearing	m ²	10	14
5		04.50.005	Pruning of tree branches	m ²	111	147
6		04.50.006	Tree cutting and stump removal (200 -450 mm)	No	229	302
7		04.50.007	Tree cutting and stump removal (>450 mm)	No	2,061	2,721
8	Site Clearing and Backfill	04.50.008	Clearing obstructions (mechanical)	m ²	36	48
9		04.50.008a	Clearing obstructions (manual)	m ³	272	359
10		04.50.009	Stripping and grubbing (mechanical)	m ²	100	132
11		04.50.009a	Stripping and grubbing (manual)	m ²	185	244
12		04.60.001	Clearing trees, hedges, bushes, vegetation and deleterious materials (mechanical)	m ²	76	100
13		04.60.001a	Clearing trees, hedges, bushes, vegetation and deleterious materials (manual)	m ²	87	115
14	Concrete Demolition	04.50.010	Excavate remove & disposal of concrete structures	m ³	537	709
15	Top Soil Stripping	04.80.002	Removal of overburden	m ³	252	333
16	Pipe Culvert Removal	04.60.005	Removal of cracked small pipe culverts below 600mm	m	355	469
17		04.60.005a	Removal of cracked large pipe culverts above 600mm	m	533	704

5. Earth Works

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (indirect cost, overhead/profit included)
18	Material Filling	05.50.006	Fill in soft material and compact	m ³	511	675
19		05.50.006a	Fill in soft material and compact (soil purchased)	m ³	788	1,040
20		05.50.007	Fill in hard material and compact	m ³	603	796
21		05.50.007a	Fill in hard material and compact (soil purchased)	m ³	1,085	1,432
22	Material Cutting	05.50.008	Cut to spoil in soft	m ³	538	710
23		05.50.008a	Cut to spoil in soft (mechanical)	m ³	215	284
24		05.50.009	Cut to spoil in hard	m ³	1,030	1,360
25		05.50.009a	Cut to spoil in hard (mechanical)	m ³	430	568

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (indirect cost, overhead/profit included)
26	Concrete Demolition	05.50.012	Rock fill to swamp	m ³	2,523	3,330
27		05.50.125	Rock fill to embankment construction	m ³	2,830	3,736
28	Planting	05.50.014	Grassing	m ²	466	615
29	Pipe Culvert Replacement	05.60.012	Compaction of subgrade in cut	m ²	38	50
30		05.60.014	Compaction of subgrade in fill	m ³	1,293	1,707
31		05.60.016	Compaction of original ground level	m ³	50	66
31a		05.60.016a	Compaction of the 300 mm below formation level in cutting to 100% MDD (AASHTO T99)	m ³	1,716	2,265

7. Excavation and Filling for Structure

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (indirect cost, overhead/profit included)
32	Material Excavation for Structures	07.50.001	Excavate for structure in soft material (manual)	m ³	538	710
33		07.50.001a	Excavate for structure in soft material (mechanical)	m ³	215	284
34		07.50.002	Excavate for structure in hard material (manual)	m ³	1,030	1,360
35		07.50.002a	Excavate for structure in hard material (mechanical)	m ³	430	568
36	Gabion	07.70.004	Gabion Installation	m ²	628	829
37		07.70.005	Rock fill to Gabions	m ³	1,973	2,604
38	Stone Pitching	07.70.001	Stone pitching	m ²	1,638	2,162

8. Culverts and Drainage Works

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (indirect cost, overhead/profit included)
39	Ditch Cleaning	08.50.002a	Ditch cleaning - mechanical	m	30	40
40		08.50.002	Ditch cleaning - manual	m	18	24
41	Culvert Cleaning	08.60.002	Small culvert cleaning-partially blocked-below 450mm	m	436	576
42		08.60.003	Medium culvert cleaning-partially blocked-600mm	m	334	441
43		08.60.004	Large culvert cleaning-partially blocked-900 mm and above	m	231	305
44		08.50.025	Manhole cleaning	No	797	1,052
45		08.50.016	Gulley pot cleaning	No	154	203
46		08.50.009	Covered (slotted) lined drain cleaning	m	92	121
47		08.50.005a	Ditch/mitre drain excavation in soft (mechanical)	m ³	294	388
48		08.50.005	Ditch/mitre drain excavation in soft (manual)	m ³	310	409
49		08.50.005b	Ditch/mitre drain excavation in hard (mechanical)	m ³	442	583
50	Culvert Cleaning	08.50.005c	Ditch/mitre drain excavation in hard (manual)	m ³	1,665	2,198
51	Pipe Culvert Installation	08.60.021	Culvert installation-300mm with surround	m	6,643	8,769
52		08.60.020	Culvert installation-300mm without surround	m	2,267	2,992
53		08.60.023	Culvert installation-450mm with surround	m	9,163	12,095
54		08.60.022	Culvert installation-450mm without surround	m	3,084	4,071
55		08.60.025	Culvert installation-600mm with surround	m	14,201	18,745
56		08.60.024	Culvert installation-600mm without surround	m	4,309	5,688
57		08.60.027	Culvert installation-900mm with surround	m	22,172	29,267
58		08.60.026	Culvert installation-900mm without surround	m	6,196	8,179
59		08.60.028	Culvert installation-1200mm with surround	m	35,106	46,340
60		08.60.029	Culvert installation-1200mm without surround	m	10,329	13,634
61		08.60.030	Excavate in soft material for culverts	m ³	310	409
62		08.60.031	Excavate in hard material for culverts	m ³	1,665	2,198

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (indirect cost, overhead/profit included)
63	Headwall Construction	08.60.019	Headwall construction for 450mm pipe culvert	No	31,989	42,226
64		08.60.019a	Headwall construction for 600mm pipe culvert	No	37,440	49,421
65		08.60.019b	Headwall construction for 900mm pipe culvert	No	49,070	64,773
66		08.60.019c	Headwall construction for 1200mm pipe culvert	No	66,167	87,341
67	Manhole installation	08.50.024	Manhole construction less than 1m	No	33,579	44,324
68		08.50.024a	Manhole construction more than 1m	No	57,459	75,846
69	Gulley Pot installation	08.50.015	Gulley pot construction	No	10,621	14,020
70	Drain Lining	08.50.032	Lay drain lining with concrete	m ²	1,951	2,575
71		08.50.022a	Laying of dressed stones	m ²	1,824	2,408
72		08.50.022	Laying of side slabs	m ²	2,578	3,403
73		08.70.036	Laying of 300mm invert block drain	m	1,258	1,661
74		08.70.037	Laying of 750mm invert block drain	m	3,166	4,179

9. Passage of Traffic

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (indirect cost, overhead/profit included)
75	Traffic Control	09.50.004	Traffic Control	Day	1,991	2,628
76		09.50.005	Watchman	No	1,914	2,527
77		09.50.006	Watering	m ²	14	19

10. Grading and Graveling Work

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (indirect cost, overhead/profit included)
78	Grading	10.50.001	Heavy grading without watering or compaction	m ²	6	8
79		10.50.002	Heavy grading with watering and compaction	m ²	11	15
80		10.50.003	Light grading	m ²	5	7
81		10.50.004	Reshaping	m ²	16	21
82		10.50.005	Dragging	m ²	16	21
83	Graveling	10.60.001	Regraveling	m ³	1,483	1,958
84		10.60.001a	Regraveling without watering	m ³	1,467	1,936

11. Paved Roads - Shoulder Maintenance and Repairs

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (indirect cost, overhead/profit included)
85	Shoulder Rebuilding	11.50.001	Shoulder grading	m ²	33	44
86		11.50.002	Shoulder repairing	m ²	33	44
87	Shoulder Gravelling	11.50.003	Shoulder gravelling with natural gravel	m ³	1,511	1,995
88		11.50.003a	Shoulder gravelling with quarry waste	m ³	2,935	3,874

12. Natural Material Base and Subbase

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (indirect cost, overhead/profit included)
89	Pavement Removal Subbase/Base Rebuilding	12.70.001	Scarify existing pavement to form subbase	m ³	910	1,201
90		12.50.001	Handpacked stone paving	m ³	4,906	6,476
91		12.50.002	Provide, place and compact quarry waste	m ³	6,020	7,946
92		12.50.003	Provide, place, spread and compact natural gravel	m ³	1,508	1,991

13. Graded Crushed Stone Base and Subbase

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (indirect cost, overhead/profit included)
93	Graded Crushed Stone	13.50.001	Graded Crushed Stone for subbase	m ³	2,415	3,188
94		13.60.001	Graded Crushed Stone for base	m ³	2,415	3,188

14. Cement and Lime Treated Subgrade, Subbase and Base

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (indirect cost, overhead/profit included)
95	Cement/Lime Stabilization	14.50.001	Cement stabilization	m ³	2,880	3,802
96		14.50.002	Lime stabilization	m ³	3,931	5,189
97		14.50.003	Cement/lime mixing	m ³	67	88
98		14.50.004	Curing and protection of treated layers	m ²	53	70

15. Bituminous Surface Treatment & Surface Dressing

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (indirect cost, overhead/profit included)
99	Prime Coat	15.50.002	Prime Coat (MC-30 cutback bitumen)	litre	187	247
100	Tack Coat	15.50.003	Tack Coat (grade bitumen cutback)	litre	208	275
101		15.50.003a	Tack Coat (bitumen emulsion)	litre	190	251
102	Surface Dressing	15.70.001	Seal coat	litre	286	378
103		15.60.002	Provide and roll 3/6 mm precoated chipping	m ³	15,312	20,212
104		15.60.003	Provide and roll 6/10 mm precoated chipping	m ³	18,321	24,184
105		15.60.004	Provide and roll 10/14 mm precoated chipping	m ³	18,473	24,384
106		15.60.005	Provide and roll 14/20 mm precoated chipping	m ³	18,761	24,765

16. Bituminous Mixes

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (indirect cost, overhead/profit included)
107a	Pavement Repairing	16.50.001a	Pothole Cutting and Cleaning	m ³	2,257	2,979
107		16.50.001	Pothole patching - hot mix	m ³	31,924	42,140
108		16.50.002	Pothole patching - cold mix	m ³	56,151	74,119
109		16.50.004	Crack sealing	m	194	256
110		16.60.001	Asphalt concrete for surfacing - hot mix.	m ³	32,525	42,933
111		16.70.001	Base repair - Dense Bitumen Macadam (DBM)	m ³	32,027	42,276
112	Milling and Paving	16.80.010	Milling the existing bituminous layer to spoil	m ³	3,200	4,224
113		16.80.015	Milling the existing bituminous layer for reuse	m ³	12,683	16,742

17. Concrete Works

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (indirect cost, overhead/profit included)
114	Concrete Work	17.60.001	Concrete work (class 15/20)	m ³	12,841	16,950
115		17.60.002	Concrete work (class 20/20)	m ³	14,359	18,954
116		17.60.002a	Concrete work (class 25/20)	m ³	16,068	21,210
117	Formwork	17.60.003	Vertical formwork class F2 finish	m ²	1,915	2,528
118		17.60.004	Horizontal formwork class F2 finish	m ²	1,827	2,412
119	Reinforcement	17.80.004	Reinforcement work (below 16mm)	ton	159,188	210,128
120		17.80.005	Reinforcement work (above 16mm)	ton	168,375	222,255

20. Road Furniture Repair and Maintenance

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (indirect cost, overhead/profit included)
121	Boundary posts	20.50.001	Road reserve boundary posts	No	2,959	3,906
122		20.50.004	Edge marker posts	No	3,920	5,174
123	Road Marking	20.50.007	Road markings - white paint	m ²	1,699	2,243
124		20.70.011	Road markings - white thermoplastic material	m ²	2,679	3,536
124a		20.70.011a	Road markings on surface dressed pavement- white thermoplastic material	m ²	2,977	3,930
125		20.50.006	Road markings - yellow paint	m ²	1,699	2,243
126		20.70.010	Road markings - yellow thermoplastic material	m ²	2,787	3,679
126a		20.70.010a	Road markings on surface dressed pavement- yellow thermoplastic material	m ²	3,095	4,085
127		20.50.107	Road marking black paint	m ²	1,341	1,770
128	Road Sign Erection	20.70.002	Warning signs	No	22,295	29,429
129		20.70.005	Priority, prohibitory or mandatory signs	No	22,295	29,429
130		20.70.004	Standard informatory signs	No	22,039	29,092
131		20.70.006	Non-standard informatory signs	No	37,007	48,849
132	Kerb Installation	20.50.012	Kerbs	m	1,765	2,330
133	Kilometre marker post Installation	20.50.013	Kilometre marker posts	No	9,250	12,210
134	Bollard Installation	20.50.017	Concrete bollards	No	3,359	4,434
135		20.50.021	Steel bollards	No	2,248	2,967
136	Reflective Stud Installation	20.50.019	Reflective studs	No	758	1,001
137	Microtunneling	20.60.002	Microtunneling for a 150mm diameter PVC (polyvinyl chloride) duct	m	70,000	92,400
138		20.60.002a	Horizontal drilling	m	42,250	55,770
139	Street light Installation	20.60.017	Street lighting pole (7.6m)	No	84,139	111,064
140		20.60.018	Street lighting pole (10m)	No	130,337	172,045
141		20.60.016	Street lighting control panel	No	92,133	121,616
142		20.60.315	Electric cable	m	1,438	1,898
143	Guardrail Repair	20.70.023a	Guardrail Repair Level 1	piece (4m)	7,925	10,461
144		20.70.023b	Guardrail Repair Level 2	piece (4m)	8,657	11,428
145		20.70.023c	Guardrail Repair Level 3	piece (4m)	36,609	48,324

**Unit Rates List
(Upper Eastern Region)**

3.7 Unit Rates List (Upper Eastern Region)

					Upper Eastern Region	
4. Site Clearance and Topsoil Strippingt					Kshs	
No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
1	Bush Clearing	04.50.001	Mechanical mowing	m ²	5	6
2		04.50.002	Grass cutting (manual)	m ²	3	5
3		04.50.003	Heavy bush clearing	m ²	16	21
4		04.50.004	Light bush clearing	m ²	9	12
5		04.50.005	Pruning of tree branches	m ²	97	128
6		04.50.006	Tree cutting and stump removal (200 -450 mm)	No	199	263
7		04.50.007	Tree cutting and stump removal (>450 mm)	No	1,789	2,362
8	Site Clearing and Backfill	04.50.008	Clearing obstructions (mechanical)	m ²	36	48
9		04.50.008a	Clearing obstructions (manual)	m ³	235	310
10		04.50.009	Stripping and grubbing (mechanical)	m ²	108	143
11		04.50.009a	Stripping and grubbing (manual)	m ²	160	211
12		04.60.001	Clearing trees, hedges, bushes, vegetation and deleterious materials (mechanical)	m ²	76	100
13		04.60.001a	Clearing trees, hedges, bushes, vegetation and deleterious materials (manual)	m ²	75	99
14	Concrete Demolition	04.50.010	Excavate remove & disposal of concrete structures	m ³	643	849
15	Top Soil Stripping	04.80.002	Removal of overburden	m ³	253	334
16	Pipe Culvert Removal	04.60.005	Removal of cracked small pipe culverts below 600mm	m	424	560
17		04.60.005a	Removal of cracked large pipe culverts above 600mm	m	639	844

5. Earth Works

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
18	Material Filling	05.50.006	Fill in soft material and compact	m ³	518	684
19		05.50.006a	Fill in soft material and compact (soil purchased)	m ³	796	1,051
20		05.50.007	Fill in hard material and compact	m ³	628	829
21		05.50.007a	Fill in hard material and compact (soil purchased)	m ³	1,112	1,468
22	Material Cutting	05.50.008	Cut to spoil in soft	m ³	471	622
23		05.50.008a	Cut to spoil in soft (mechanical)	m ³	257	339
24		05.50.009	Cut to spoil in hard	m ³	895	1,181
25		05.50.009a	Cut to spoil in hard (mechanical)	m ³	514	679

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
26	Concrete Demolition	05.50.012	Rock fill to swamp	m ³	3,101	4,093
27		05.50.125	Rock fill to embankment construction	m ³	3,391	4,476
28	Planting	05.50.014	Grassing	m ²	385	508
29	Pipe Culvert Replacement	05.60.012	Compaction of subgrade in cut	m ²	35	46
30		05.60.014	Compaction of subgrade in fill	m ³	1,506	1,988
31		05.60.016	Compaction of original ground level	m ³	55	73
31a		05.60.016a	Compaction of the 300 mm below formation level in cutting to 100% MDD (AASHTO T99)	m ³	1,823	2,406

7. Excavation and Filling for Structure

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
32	Material Excavation for Structures	07.50.001	Excavate for structure in soft material (manual)	m ³	471	622
33		07.50.001a	Excavate for structure in soft material (mechanical)	m ³	257	339
34		07.50.002	Excavate for structure in hard material (manual)	m ³	895	1,181
35		07.50.002a	Excavate for structure in hard material (mechanical)	m ³	514	679
36	Gabion	07.70.004	Gabion Installation	m ²	594	784
37		07.70.005	Rock fill to Gabions	m ³	1,876	2,476
38	Stone Pitching	07.70.001	Stone pitching	m ²	1,556	2,054

8. Culverts and Drainage Works

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
39	Ditch Cleaning	08.50.002a	Ditch cleaning - mechanical	m	31	41
40		08.50.002	Ditch cleaning - manual	m	16	21
41	Culvert Cleaning	08.60.002	Small culvert cleaning-partially blocked-below 450mm	m	376	496
42		08.60.003	Medium culvert cleaning-partially blocked-600mm	m	288	380
43		08.60.004	Large culvert cleaning-partially blocked-900 mm and above	m	200	264
44		08.50.025	Manhole cleaning	No	695	917
45		08.50.016	Gulley pot cleaning	No	134	177
46		08.50.009	Covered (slotted) lined drain cleaning	m	79	104
47		08.50.005a	Ditch/mitre drain excavation in soft (mechanical)	m ³	353	466
48		08.50.005	Ditch/mitre drain excavation in soft (manual)	m ³	271	358
49		08.50.005b	Ditch/mitre drain excavation in hard (mechanical)	m ³	525	693

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
50	Culvert Cleaning	08.50.005c	Ditch/mitre drain excavation in hard (manual)	m ³	1,474	1,946
51	Pipe Culvert Installation	08.60.021	Culvert installation-300mm with surround	m	6,668	8,802
52		08.60.020	Culvert installation-300mm without surround	m	2,315	3,056
53		08.60.023	Culvert installation-450mm with surround	m	9,593	12,663
54		08.60.022	Culvert installation-450mm without surround	m	3,537	4,669
55		08.60.025	Culvert installation-600mm with surround	m	13,847	18,278
56		08.60.024	Culvert installation-600mm without surround	m	3,970	5,240
57		08.60.027	Culvert installation-900mm with surround	m	22,320	29,462
58		08.60.026	Culvert installation-900mm without surround	m	6,351	8,383
59		08.60.028	Culvert installation-1200mm with surround	m	38,929	51,386
60		08.60.029	Culvert installation-1200mm without surround	m	14,124	18,644
61		08.60.030	Excavate in soft material for culverts	m ³	271	358
62		08.60.031	Excavate in hard material for culverts	m ³	1,474	1,946
63	Headwall Construction	08.60.019	Headwall construction for 450mm pipe culvert	No	31,786	41,958
64		08.60.019a	Headwall construction for 600mm pipe culvert	No	37,191	49,093
65		08.60.019b	Headwall construction for 900mm pipe culvert	No	48,729	64,322
66		08.60.019c	Headwall construction for 1200mm pipe culvert	No	65,644	86,650
67	Manhole installation	08.50.024	Manhole construction less than 1m	No	33,343	44,013
68		08.50.024a	Manhole construction more than 1m	No	57,006	75,248
69	Gulley Pot installation	08.50.015	Gulley pot construction	No	10,586	13,974
70	Drain Lining	08.50.032	Lay drain lining with concrete	m ²	1,977	2,610
71		08.50.022a	Laying of dressed stones	m ²	1,737	2,293
72		08.50.022	Laying of side slabs	m ²	2,501	3,301
73		08.70.036	Laying of 300mm invert block drain	m	1,370	1,808
74		08.70.037	Laying of 750mm invert block drain	m	3,531	4,661

9. Passage of Traffic

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
75	Traffic Control	09.50.004	Traffic Control	Day	1,730	2,284
76		09.50.005	Watchman	No	1,821	2,404
77		09.50.006	Watering	m ²	14	19

10. Grading and Graveling Works

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
78	Grading	10.50.001	Heavy grading without watering or compaction	m ²	7	10
79		10.50.002	Heavy grading with watering and compaction	m ²	12	16
80		10.50.003	Light grading	m ²	6	8
81		10.50.004	Reshaping	m ²	13	18
82		10.50.005	Dragging	m ²	13	18
83	Graveling	10.60.001	Regraveling	m ³	1,722	2,273
84		10.60.001a	Regraveling without watering	m ³	1,706	2,252

11. Paved Roads - Shoulder Maintenance and Repairs

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
85	Shoulder Rebuilding	11.50.001	Shoulder grading	m ²	35	46
86		11.50.002	Shoulder repairing	m ²	35	46
87	Shoulder Graveling	11.50.003	Shoulder graveling with natural gravel	m ³	1,735	2,290
88		11.50.003a	Shoulder graveling with quarry waste	m ³	3,071	4,054

12. Natural Material Base and Subbase

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
89	Pavement Removal	12.70.001	Scarify existing pavement to form subbase	m ³	1,055	1,393
90	Subbase/Base Rebuilding	12.50.001	Handpacked stone paving	m ³	5,421	7,156
91		12.50.002	Provide, place and compact quarry waste	m ³	6,471	8,542
92		12.50.003	Provide, place, spread and compact natural gravel	m ³	1,730	2,284

13. Graded Crushed Stone Base and Subbase

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
93	Graded Crushed Stone	13.50.001	Graded Crushed Stone for subbase	m ³	2,529	3,338
94		13.60.001	Graded Crushed Stone for base	m ³	2,529	3,338

14. Cement and Lime Treated Subgrade, Subbase and Base

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
95	Cement/Lime Stabilization	14.50.001	Cement stabilization	m ³	2,802	3,699
96		14.50.002	Lime stabilization	m ³	4,266	5,631
97		14.50.003	Cement/lime mixing	m ³	69	91
98		14.50.004	Curing and protection of treated layers	m ²	43	57

15. Bituminous Surface Treatment & Surface Dressing

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
99	Prime Coat	15.50.002	Prime Coat (MC-30 cutback bitumen)	litre	181	239
100	Tack Coat	15.50.003	Tack Coat (grade bitumen cutback)	litre	202	267
101		15.50.003a	Tack Coat (bitumen emulsion)	litre	185	244
102	Surface Dressing	15.70.001	Seal coat	litre	277	366
103		15.60.002	Provide and roll 3/6 mm precoated chipping	m ³	15,533	20,504
104		15.60.003	Provide and roll 6/10 mm precoated chipping	m ³	18,395	24,281
105		15.60.004	Provide and roll 10/14 mm precoated chipping	m ³	18,972	25,043
106		15.60.005	Provide and roll 14/20 mm precoated chipping	m ³	18,972	25,043

16. Bituminous Mixes

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
107a	Pavement Repairing	16.50.001a	Pothole Cutting and Cleaning	m ³	2,217	2,926
107		16.50.001	Pothole patching - hot mix	m ³	31,775	41,943
108		16.50.002	Pothole patching - cold mix	m ³	50,863	67,139
109		16.50.004	Crack sealing	m	187	247
110		16.60.001	Asphalt concrete for surfacing - hot mix.	m ³	31,915	42,128
111		16.70.001	Base repair - Dense Bitumen Macadam (DBM)	m ³	31,999	42,239

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
112	Milling and Paving	16.80.010	Milling the existing bituminous layer to spoil	m ³	3,449	4,553
113		16.80.015	Milling the existing bituminous layer for reuse	m ³	12,737	16,813

17. Concrete Works

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
114	Concrete Work	17.60.001	Concrete work (class 15/20)	m ³	12,930	17,068
115		17.60.002	Concrete work (class 20/20)	m ³	14,387	18,991
116		17.60.002a	Concrete work (class 25/20)	m ³	16,064	21,205
117	Formwork	17.60.003	Vertical formwork class F2 finish	m ²	1,876	2,476
118		17.60.004	Horizontal formwork class F2 finish	m ²	1,796	2,371
119	Reinforcement	17.80.004	Reinforcement work (below 16mm)	ton	147,219	194,329
120		17.80.005	Reinforcement work (above 16mm)	ton	155,731	205,565

20. Road Furniture Repair and Maintenance

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
121	Boundary posts	20.50.001	Road reserve boundary posts	No	2,905	3,835
122		20.50.004	Edge marker posts	No	3,606	4,760
123	Road Marking	20.50.007	Road markings - white paint	m ²	1,379	1,820
124		20.70.011	Road markings - white thermoplastic material	m ²	2,608	3,443
124a		20.70.011a	Road markings on surface dressed pavement- white thermoplastic material	m ²	2,896	3,823
125		20.50.006	Road markings - yellow paint	m ²	1,379	1,820
126		20.70.010	Road markings - yellow thermoplastic material	m ²	2,789	3,682
126a		20.70.010a	Road markings on surface dressed pavement- yellow thermoplastic material	m ²	3,094	4,084
127		20.50.107	Road marking black paint	m ²	1,435	1,894
128		20.70.002	Warning signs	No	22,172	29,267
129	Road Sign Erection	20.70.005	Priority, prohibitory or mandatory signs	No	22,172	29,267
130		20.70.004	Standard informatory signs	No	21,915	28,928
131		20.70.006	Non-standard informatory signs	No	36,895	48,701
132	Kerb Installation	20.50.012	Kerbs	m	1,772	2,339
133	Kilometre marker post Installation	20.50.013	Kilometre marker posts	No	9,399	12,407
134	Bollard Installation	20.50.017	Concrete bollards	No	3,310	4,369
135		20.50.021	Steel bollards	No	2,234	2,949
136	Reflective Stud Installation	20.50.019	Reflective studs	No	750	990

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
137	Microtunneling	20.60.002	Microtunneling for a 150mm diameter PVC (polyvinyl chloride) duct	m	71,458	94,325
138		20.60.002a	Horizontal drilling	m	41,784	55,155
139	Street light Installation	20.60.017	Street lighting pole (7.6m)	No	84,067	110,968
140		20.60.018	Street lighting pole (10m)	No	130,277	171,966
141		20.60.016	Street lighting control panel	No	90,707	119,733
142		20.60.315	Electric cable	m	1,434	1,893
143	Guardrail Repair	20.70.023a	Guardrail Repair Level 1	piece (4m)	7,741	10,218
144		20.70.023b	Guardrail Repair Level 2	piece (4m)	8,479	11,193
145		20.70.023c	Guardrail Repair Level 3	piece (4m)	36,570	48,272

**Unit Rates List
(North Eastern Region)**

3.8 Unit Rates List (North Eastern Region)

					North Eastern Region	
4. Site Clearance and Topsoil Stripping					Kshs	
No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
1	Bush Clearing	04.50.001	Mechanical mowing	m ²	7	10
2		04.50.002	Grass cutting (manual)	m ²	5	7
3		04.50.003	Heavy bush clearing	m ²	24	31
4		04.50.004	Light bush clearing	m ²	13	17
5		04.50.005	Pruning of tree branches	m ²	140	185
6		04.50.006	Tree cutting and stump removal (200-450 mm)	No	288	380
7		04.50.007	Tree cutting and stump removal (>450 mm)	No	2,594	3,424
8	Site Clearing and Backfill	04.50.008	Clearing obstructions (mechanical)	m ²	42	55
9		04.50.008a	Clearing obstructions (manual)	m ³	346	457
10		04.50.009	Stripping and grubbing (mechanical)	m ²	119	157
11		04.50.009a	Stripping and grubbing (manual)	m ²	235	310
12		04.60.001	Clearing trees, hedges, bushes, vegetation and deleterious materials (mechanical)	m ²	89	118
13		04.60.001a	Clearing trees, hedges, bushes, vegetation and deleterious materials (manual)	m ²	109	144
14	Concrete Demolition	04.50.010	Excavate remove & disposal of concrete structures	m ³	655	865
15	Top Soil Stripping	04.80.002	Removal of overburden	m ³	295	389
16	Pipe Culvert Removal	04.60.005	Removal of cracked small pipe culverts below 600mm	m	433	572
17		04.60.005a	Removal of cracked large pipe culverts above 600mm	m	650	858

5. Earth Works

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
18	Material Filling	05.50.006	Fill in soft material and compact	m ³	651	859
19		05.50.006a	Fill in soft material and compact (soil purchased)	m ³	966	1,275
20		05.50.007	Fill in hard material and compact	m ³	771	1,018
21		05.50.007a	Fill in hard material and compact (soil purchased)	m ³	1,254	1,655
22	Material Cutting	05.50.008	Cut to spoil in soft	m ³	667	880
23		05.50.008a	Cut to spoil in soft (mechanical)	m ³	262	346
24		05.50.009	Cut to spoil in hard	m ³	1,297	1,712
25		05.50.009a	Cut to spoil in hard (mechanical)	m ³	524	692

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
26	Concrete	05.50.012	Rock fill to swamp	m ³	4,265	5,630
27	Demolition	05.50.125	Rock fill to embankment construction	m ³	4,685	6,184
28	Planting	05.50.014	Grassing	m ²	642	847
29	Pipe Culvert Replacement	05.60.012	Compaction of subgrade in cut	m ²	49	65
30		05.60.014	Compaction of subgrade in fill	m ³	1,617	2,134
31		05.60.016	Compaction of original ground level	m ³	60	79
31a		05.60.016a	Compaction of the 300 mm below formation level in cutting to 100% MDD (AASHTO T99)	m ³	2,064	2,725

7. Excavation and Filling for Structure

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
32	Material Excavation for Structures	07.50.001	Excavate for structure in soft material (manual)	m ³	667	880
33		07.50.001a	Excavate for structure in soft material (mechanical)	m ³	262	346
34		07.50.002	Excavate for structure in hard material (manual)	m ³	1,297	1,712
35		07.50.002a	Excavate for structure in hard material (mechanical)	m ³	524	692
36	Gabion	07.70.004	Gabion Installation	m ²	676	892
37		07.70.005	Rock fill to Gabions	m ³	2,282	3,012
38	Stone Pitching	07.70.001	Stone pitching	m ²	1,990	2,627

8. Culverts and Drainage Works

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
39	Ditch Cleaning	08.50.002a	Ditch cleaning - mechanical	m	33	44
40		08.50.002	Ditch cleaning - manual	m	23	31
41	Culvert Cleaning	08.60.002	Small culvert cleaning-partially blocked-below 450mm	m	556	734
42		08.60.003	Medium culvert cleaning-partially blocked-600mm	m	425	561
43		08.60.004	Large culvert cleaning-partially blocked-900 mm and above	m	293	387
44		08.50.025	Manhole cleaning	No	993	1,311
45		08.50.016	Gulley pot cleaning	No	194	256
46		08.50.009	Covered (slotted) lined drain cleaning	m	116	153
47		08.50.005a	Ditch/mitre drain excavation in soft (mechanical)	m ³	374	494
48		08.50.005	Ditch/mitre drain excavation in soft (manual)	m ³	386	510
49		08.50.005b	Ditch/mitre drain excavation in hard (mechanical)	m ³	540	713

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
50	Culvert Cleaning	08.50.005c	Ditch/mitre drain excavation in hard (manual)	m ³	2,021	2,668
51	Pipe Culvert Installation	08.60.021	Culvert installation-300mm with surround	m	8,101	10,693
52		08.60.020	Culvert installation-300mm without surround	m	2,982	3,936
53		08.60.023	Culvert installation-450mm with surround	m	11,194	14,776
54		08.60.022	Culvert installation-450mm without surround	m	4,023	5,310
55		08.60.025	Culvert installation-600mm with surround	m	16,772	22,139
56		08.60.024	Culvert installation-600mm without surround	m	4,915	6,488
57		08.60.027	Culvert installation-900mm with surround	m	27,487	36,283
58		08.60.026	Culvert installation-900mm without surround	m	8,207	10,833
59		08.60.028	Culvert installation-1200mm with surround	m	46,427	61,284
60		08.60.029	Culvert installation-1200mm without surround	m	16,214	21,403
61		08.60.030	Excavate in soft material for culverts	m ³	386	510
62		08.60.031	Excavate in hard material for culverts	m ³	2,021	2,668
63	Headwall Construction	08.60.019	Headwall construction for 450mm pipe culvert	No	37,123	49,003
64		08.60.019a	Headwall construction for 600mm pipe culvert	No	43,402	57,290
65		08.60.019b	Headwall construction for 900mm pipe culvert	No	56,811	74,990
66		08.60.019c	Headwall construction for 1200mm pipe culvert	No	76,141	100,506
67	Manhole installation	08.50.024	Manhole construction less than 1m	No	38,216	50,445
68		08.50.024a	Manhole construction more than 1m	No	65,638	86,642
69	Gulley Pot installation	08.50.015	Gulley pot construction	No	10,773	14,220
70	Drain Lining	08.50.032	Lay drain lining with concrete	m ²	2,400	3,168
71		08.50.022a	Laying of dressed stones	m ²	2,230	2,944
72		08.50.022	Laying of side slabs	m ²	3,247	4,286
73		08.70.036	Laying of 300mm invert block drain	m	1,579	2,084
74		08.70.037	Laying of 750mm invert block drain	m	3,968	5,238

9. Passage of Traffic

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
75	Traffic Control	09.50.004	Traffic Control	Day	2,526	3,334
76		09.50.005	Watchman	No	2,421	3,196
77		09.50.006	Watering	m ²	17	22

10. Grading and Gravelling Works

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
78	Grading	10.50.001	Heavy grading without watering or compaction	m ²	8	10
79		10.50.002	Heavy grading with watering and compaction	m ²	13	18
80		10.50.003	Light grading	m ²	6	8
81		10.50.004	Reshaping	m ²	20	26
82		10.50.005	Dragging	m ²	20	26
83	Gravelling	10.60.001	Regravelling	m ³	1,848	2,439
84		10.60.001a	Regravelling without watering	m ³	1,828	2,413

11. Paved Roads - Shoulder Maintenance and Repairs

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
85	Shoulder Rebuilding	11.50.001	Shoulder grading	m ²	40	53
86		11.50.002	Shoulder repairing	m ²	40	53
87	Shoulder Gravelling	11.50.003	Shoulder gravelling with natural gravel	m ³	1,875	2,475
88		11.50.003a	Shoulder gravelling with quarry waste	m ³	3,223	4,254

12. Natural Material Base and Subbase

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
89	Pavement Removal	12.70.001	Scarify existing pavement to form subbase	m ³	1,107	1,461
90	Subbase/Base Rebuilding	12.50.001	Handpacked stone paving	m ³	7,037	9,289
91		12.50.002	Provide, place and compact quarry waste	m ³	7,308	9,647
92		12.50.003	Provide, place, spread and compact natural gravel	m ³	1,872	2,471

13. Graded Crushed Stone Base and Subbase

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
93	Graded Crushed Stone	13.50.001	Graded Crushed Stone for subbase	m ³	3,447	4,550
94		13.60.001	Graded Crushed Stone for base	m ³	3,447	4,550

14. Cement and Lime Treated Subgrade, Subbase and Base

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
95	Cement/Lime Stabilization	14.50.001	Cement stabilization	m ³	3,303	4,360
96		14.50.002	Lime stabilization	m ³	4,352	5,745
97		14.50.003	Cement/lime mixing	m ³	73	96
98		14.50.004	Curing and protection of treated layers	m ²	75	99

15. Bituminous Surface Treatment & Surface Dressing

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
99	Prime Coat	15.50.002	Prime Coat (MC-30 cutback bitumen)	litre	214	283
100	Tack Coat	15.50.003	Tack Coat (grade bitumen cutback)	litre	238	314
101		15.50.003a	Tack Coat (bitumen emulsion)	litre	218	288
102	Surface Dressing	15.70.001	Seal coat	litre	327	432
103		15.60.002	Provide and roll 3/6 mm precoated chipping	m ³	15,878	20,959
104		15.60.003	Provide and roll 6/10 mm precoated chipping	m ³	18,867	24,904
105		15.60.004	Provide and roll 10/14 mm precoated chipping	m ³	20,070	26,492
106		15.60.005	Provide and roll 14/20 mm precoated chipping	m ³	20,070	26,492

16. Bituminous Mixes

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
107a	Pavement Repairing	16.50.001a	Pothole Cutting and Cleaning	m ³	2,157	2,847
107		16.50.001	Pothole patching - hot mix	m ³	30,557	40,335
108		16.50.002	Pothole patching - cold mix	m ³	58,857	77,691
109		16.50.004	Crack sealing	m	214	283
110		16.60.001	Asphalt concrete for surfacing - hot mix.	m ³	31,607	41,721
111		16.70.001	Base repair - Dense Bitumen Macadam (DBM)	m ³	30,611	40,407
112	Milling and Paving	16.80.010	Milling the existing bituminous layer to spoil	m ³	3,611	4,767
113		16.80.015	Milling the existing bituminous layer for reuse	m ³	13,470	17,780

17. Concrete Works

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
114	Concrete Work	17.60.001	Concrete work (class 15/20)	m ³	16,259	21,462
115		17.60.002	Concrete work (class 20/20)	m ³	17,800	23,496
116		17.60.002a	Concrete work (class 25/20)	m ³	19,630	25,912
117	Formwork	17.60.003	Vertical formwork class F2 finish	m ²	2,076	2,740
118		17.60.004	Horizontal formwork class F2 finish	m ²	1,962	2,590
119	Reinforcement	17.80.004	Reinforcement work (below 16mm)	ton	163,184	215,403
120		17.80.005	Reinforcement work (above 16mm)	ton	172,431	227,609

20. Road Furniture Repair and Maintenance

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
121	Boundary posts	20.50.001	Road reserve boundary posts	No	3,408	4,499
122		20.50.004	Edge marker posts	No	3,777	4,986
123	Road Marking	20.50.007	Road markings - white paint	m ²	1,524	2,012
124		20.70.011	Road markings - white thermoplastic material	m ²	2,779	3,668
124a		20.70.011a	Road markings on surface dressed pavement- white thermoplastic material	m ²	3,088	4,076
125		20.50.006	Road markings - yellow paint	m ²	1,524	2,012
126		20.70.010	Road markings - yellow thermoplastic material	m ²	2,883	3,806
126a		20.70.010a	Road markings on surface dressed pavement- yellow thermoplastic material	m ²	3,203	4,228
127		20.50.107	Road marking black paint	m ²	1,587	2,095
128	Road Sign Erection	20.70.002	Warning signs	No	24,211	31,959
129		20.70.005	Priority, prohibitory or mandatory signs	No	24,211	31,959
130		20.70.004	Standard informatory signs	No	23,953	31,618
131		20.70.006	Non-standard informatory signs	No	38,980	51,454
132	Kerb Installation	20.50.012	Kerbs	m	2,208	2,915
133	Kilometre marker post Installation	20.50.013	Kilometre marker posts	No	9,744	12,862
134	Bollard Installation	20.50.017	Concrete bollards	No	3,907	5,157
135		20.50.021	Steel bollards	No	2,547	3,362
136	Reflective Stud Installation	20.50.019	Reflective studs	No	784	1,035
137	Microtunneling	20.60.002	Microtunneling for a 150mm diameter PVC (polyvinyl chloride) duct	m	78,278	103,327
138		20.60.002a	Horizontal drilling	m	44,473	58,704

No	Work Category	Code	Work Item Name	Unit	Unit Price	Unit Price (Indirect cost, overhead/profit included)
139	Street light Installation	20.60.017	Street lighting pole (7.6m)	No	88,878	117,319
140		20.60.018	Street lighting pole (10m)	No	136,933	180,752
141		20.60.016	Street lighting control panel	No	94,138	124,262
142		20.60.315	Electric cable	m	1,494	1,972
143	Guardrail Repair	20.70.023a	Guardrail Repair Level 1	piece (4m)	7,047	9,302
144		20.70.023b	Guardrail Repair Level 2	piece (4m)	7,967	10,517
145		20.70.023c	Guardrail Repair Level 3	piece (4m)	35,343	46,653

APPENDICES

Appendix I: Work Items and Coding

4. Site Clearance and Topsoil Stripping

No	Work Category	Code	Work Item Name	Unit	Description
1	Bush Clearing	04.50.001	Mechanical mowing	m ³	Cut grass by machine along the side of the road or on slopes.
2		04.50.002	Grass cutting (manual)	m ³	Cut grass manually along the side of the road or on slopes.
3		04.50.003	Heavy bush clearing	m ³	Cut, remove and dispose bushes along the side of the road, slopes or alongside ditches.
4		04.50.004	Light bush clearing	m ³	Cut grass by hand from shoulders, slopes, inlet ditches, and side ditches including back slopes, turnouts and culvert outlet.
5		04.50.005	Pruning of tree branches	m ³	Cut, remove and dispose branches of trees along the side of the road, slopes or alongside ditches.
6		04.50.006	Tree cutting and stump removal (200 -450 mm)	No	Cut, remove and dispose whole trees of 200 - 450mm in girth including their stumps along the side of the road, slopes or alongside ditches.
7		04.50.007	Tree cutting and stump removal (>450 mm)	No	Cut, remove and dispose whole trees of above 450mm in girth including their stumps along the side of the road, slopes or alongside ditches.
8	Site Clearing and Backfill	04.50.008	Clearing obstructions (mechanical)	m ³	Mechanically clear any obstruction including boulders and debris out of road reserve.
9		04.50.008a	Clearing obstructions (manual)	m ³	Manually clear any obstruction including boulders and debris out of road reserve.
10		04.50.009	Stripping and grubbing (mechanical)	m ³	Clear site on road reserve mechanically by stripping and grubbing roots.
11		04.50.009a	Stripping and grubbing (manual)	m ³	Clear site on road reserve manually by stripping and grubbing roots.
12		04.60.001	Clearing trees, hedges, bushes, vegetation and deleterious materials (mechanical)	m ³	Clear site on road reserve mechanically by removal of trees, hedges, bushes, vegetation and other deleterious materials.
13		04.60.001a	Clearing trees, hedges, bushes, vegetation and deleterious materials (manual)	m ³	Clear site on road reserve manually by removal of trees, hedges, bushes, vegetation and other deleterious materials.
14	Concrete Demolition	04.50.010	Excavate remove & disposal of concrete structures	m ³	Demolish reinforced or mass concrete structures and cart to spoil or stockpile for re-use.
15	Top Soil Stripping	04.80.002	Removal of overburden	m ³	Remove topsoil to a maximum depth of 200mm.
16	Pipe Culvert Removal	04.60.005	Removal of cracked small pipe culverts below 600mm	m	Excavate, remove and dispose cracked pipe culverts below 600mm in diameter.
17		04.60.005a	Removal of cracked large pipe culverts above 600mm	m	Excavate, remove and dispose cracked pipe culverts above 600mm in diameter.

5. Earth Works

No	Work Category	Code	Work Item Name	Unit	Description
18	Material Filling	05.50.006	Fill in soft material and compact	m ³	Provide, place and compact soft patching material to surface defects or gravel road. It is assumed that soil to be filled is on the site or provided from cut area.
19		05.50.006a	Fill in soft material and compact (soil purchased)	m ³	Provide, place and compact soft purchased patching material to surface defects or gravel road.
20		05.50.007	Fill in hard material and compact	m ³	Provide, place and compact hard patching material to surface defects or gravel road. It is assumed that soil to be filled is on the site or provided from cut area.
21		05.50.007a	Fill in hard material and compact (soil purchased)	m ³	Provide, place and compact hard purchased patching material to surface defects or gravel road.

No	Work Category	Code	Work Item Name	Unit	Description
22	Material Cutting	05.50.008	Cut to spoil in soft	m ³	Cut manually soft material to spoil
23		05.50.008a	Cut to spoil in soft (mechanical)	m ³	Cut mechanically soft material to spoil
24		05.50.009	Cut to spoil in hard	m ³	Cut manually hard material to spoil
25		05.50.009a	Cut to spoil in hard (mechanical)	m ³	Cut mechanically hard material to spoil
26	Rock filling	05.50.012	Rock fill to swamp	m ³	Manually provide and place rock fill to swamp
27		05.50.125	Rock fill to embankment construction	m ³	Manually provide and place rock fill to construct embankment.
28	Planting	05.50.014	Grassing	m ³	Plant grass on the slope and inverts of ditches to reduce scour effects, or on slopes to reduce soil erosion and to improve stability.
29	Pipe Culvert Replacement	05.60.012	Compaction of subgrade in cut	m ³	Trim and compact.
30		05.60.014	Compaction of subgrade in fill	m ³	Compaction of subgrade in fill.
31		05.60.016	Compaction of original ground level	m ³	Compact the top 150 mm layer of existing ground below fills and cuts to 95% MDD (AASHTO T99)
31a		05.60.016a	Compaction of the 300 mm below formation level in cutting to 100% MDD (AASHTO T99)	m ³	Compaction of the top 300mm below formation level in cuts and fills (subgrade) to 100% MDD

7. Excavation and Filling for Structure

No	Work Category	Code	Work Item Name	Unit	Description
32	Material Excavation for Structures	07.50.001	Excavate for structure in soft material (manual)	m ³	Excavate manually soft material for structures.
33		07.50.001a	Excavate for structure in soft material (mechanical)	m ³	Excavate mechanically soft material for structures.
34		07.50.002	Excavate for structure in hard material (manual)	m ³	Excavate manually in hard material for structures.
35		07.50.002a	Excavate for structure in hard material (mechanical)	m ³	Excavate mechanically in hard material for structures.
36	Gabion	07.70.004	Gabion Installation	m ³	Provide and place Macaferri or equivalent gabion boxes (2m * 1m * 1m).
37		07.70.005	Rock fill to Gabions	m ³	Provide and place rock fill to gabions.
38	Stone Pitching	07.70.001	Stone pitching	m ³	Provide stone pitching including grouting of ratio 1:4 cement to mortar.

8. Culverts and Drainage Works

No	Work Category	Code	Work Item Name	Unit	Description
39	Ditch Cleaning	08.50.002a	Ditch cleaning - mechanical	m	Mechanically desilt, shape inlets outfalls, side drains to free flow conditions
40		08.50.002	Ditch cleaning - manual	m	Manually desilt, shape inlets outfalls, side drains to free flow conditions.
41	Culvert Cleaning	08.60.002	Small culvert cleaning-partially blocked-below 450mm	m	Clean culverts of below 450mm in diameter to free flow conditions
42		08.60.003	Medium culvert cleaning-partially blocked-600mm	m	Clean culverts of 600mm in diameter to free flow conditions
43		08.60.004	Large culvert cleaning-partially blocked-900 mm and above	m	Clean culverts of 900mm and above in diameter to free flow conditions
44		08.50.025	Manhole cleaning	No	Remove all silt and debris and wash out manhole to free flow conditions.
45		08.50.016	Gulley pot cleaning	No	Clean siltation and debris from gulley pot to good impoundment conditions.
46		08.50.009	Covered (slotted) lined drain cleaning	m	Remove all silt and debris and wash out covered lined drain to free flow conditions
47		08.50.005a	Ditch/mitre drain excavation in soft (mechanical)	m ³	Excavate mechanically for inlet, outfall, mitre and catchwater drains in soft material

No	Work Category	Code	Work Item Name	Unit	Description
48	Culvert Cleaning	08.50.005	Ditch/mitre drain excavation in soft (manual)	m ³	Excavate manually for inlet, outfall, mitre and catchwater drains in soft material
49		08.50.005b	Ditch/mitre drain excavation in hard (mechanical)	m ³	Excavate mechanically in hard material for inlet, outfall, mitre and catchwater drains.
50		08.50.005c	Ditch/mitre drain excavation in hard (manual)	m ³	Excavate manually in hard material for inlet, outfall, mitre and catchwater drains
51	Pipe Culvert Installation	08.60.021	Culvert installation-300mm with surround	m	Provide, lay and joint pipe culvert of 300mm in diameter with surround
52		08.60.020	Culvert installation-300mm without surround	m	Provide, lay and joint unhounded pipe culvert of 300mm in diameter without surround
53		08.60.023	Culvert installation-450mm with surround	m	Provide, lay and joint pipe culvert of 450mm in diameter with surround.
54		08.60.022	Culvert installation-450mm without surround	m	Provide, lay and joint pipe culvert of 450mm in diameter without surround.
55		08.60.025	Culvert installation-600mm with surround	m	Provide, lay and joint pipe culvert of 600mm in diameter with surround
56		08.60.024	Culvert installation-600mm without surround	m	Provide, lay and joint pipe culvert of 600mm in diameter without surround
57		08.60.027	Culvert installation-900mm with surround	m	Provide, lay and joint pipe culvert of 900mm in diameter with surround.
58		08.60.026	Culvert installation-900mm without surround	m	Provide, lay and joint pipe culvert of 900mm in diameter without surround
59		08.60.028	Culvert installation-1200mm with surround	m	Provide, lay and joint pipe culvert of 1200mm in diameter with surround
60		08.60.029	Culvert installation-1200mm without surround	m	Provide, lay and joint culvert of 1200mm in diameter without surround
61		08.60.030	Excavate in soft material for culverts	m ³	Excavation manually in soft material for culvert in any size.
62		08.60.031	Excavate in hard material for culverts	m ³	Excavation manually in hard material for culvert in any size.
63	Headwall Construction	08.60.019	Headwall construction for 450mm pipe culvert	No	Reconstruct or repair damaged headwall (wingwall and apron) for 450mm pipe culvert to prevent the collapse and the potential slippage of the material and pavement above the culvert.
64		08.60.019a	Headwall construction for 600mm pipe culvert	No	Reconstruct or repair damaged headwall (wingwall and apron) for 600mm pipe culvert to prevent the collapse and the potential slip of the material and pavement above the culvert.
65		08.60.019b	Headwall construction for 900mm pipe culvert	No	Reconstruct or repair damaged headwall (wingwall and apron) for 900mm pipe culvert to prevent the collapse and the potential slip of the material and pavement above the culvert.
66		08.60.019c	Headwall construction for 1200mm pipe culvert	No	Reconstruct or repair damaged headwall (wingwall and apron) for 1200mm pipe culvert to prevent the collapse and the potential slip of the material and pavement above the culvert.
67	Manhole installation	08.50.024	Manhole construction less than 1m	No	Install new small manhole of less than 1m in depth (900-1200mm in inner diameter)
68		08.50.024a	Manhole construction more than 1m	No	Install new large manhole of more than 1m in depth (900-1200mm in inner diameter)
69	Gulley Pot installation	08.50.015	Gulley pot construction	No	Provide and place gulley pots including grating (H=900mm) for inlet structures as directed by the Engineer.

No	Work Category	Code	Work Item Name	Unit	Description
70	Drain Lining	08.50.032	Lay drain lining with concrete	m ³	Place concrete lining to the slopes and invert of the ditch to prevent the scour.
71		08.50.022a	Laying of dressed stones	m ³	Place dressed stone lining to the slopes and invert of the ditch to prevent the scour.
72		08.50.022	Laying of side slabs	m ³	Place side slab lining to the slopes and invert of the ditch to prevent the scour.
73		08.70.036	Laying of 300mm invert block drain	m	Provide, lay and joint invert block drain of 300mm in diameter
74		08.70.037	Laying of 750mm invert block drain	m	Provide, lay and joint invert block drain of 750mm in width

9. Passage of Traffic

No	Work Category	Code	Work Item Name	Unit	Description
75	Traffic Control	09.50.004	Traffic Control	Day	Place warning signs, barriers and cones around the working lane on the carriageway and guide the passage of traffic through the works
76		09.50.005	Watchman	No	Provide watchman for all round surveillance.
77		09.50.006	Watering	m ³	Sprinkle water to control dust for passage of traffic through the works or compaction at earth works

10. Grading and Gravelling Works

No	Work Category	Code	Work Item Name	Unit	Description
78	Grading	10.50.001	Heavy grading without watering or compaction	m ³	Trim with Motor Grader or heavy towed grader existing carriageway surface to camber, including slopes and ditches without providing watering and compaction
79		10.50.002	Heavy grading with watering and compaction	m ³	Trim with Motor Grader or heavy towed grader existing carriageway surface to camber, including slopes and ditches providing watering and compaction
80		10.50.003	Light grading	m ³	Trim with motor grader existing carriageway to camber, including slopes and ditches.
81		10.50.004	Reshaping	m ³	Restore manually the camber on earth or gravel roads by returning material from road sides and shoulder toward road centre.
82		10.50.005	Dragging	m ³	Remove manually loose material from the surface to delay the formation of corrugations
83	Gravelling	10.60.001	Regravelling	m ³	Prepare for road formation and provide, place spread, shape and compact with watering gravel of not less than CBR 20%
84		10.60.001a	Regravelling without watering	m ³	Prepare for road formation and provide, place spread, shape and compact without watering gravel of not less than CBR 20%

11. Paved Roads - Shoulder Maintenance and Repairs

No	Work Category	Code	Work Item Name	Unit	Description
85	Shoulder Rebuilding	11.50.001	Shoulder grading	m ³	Prepare surface of existing shoulders, accesses and bus bays, including benching where necessary, water process and compact
86		11.50.002	Shoulder repairing	m ³	Prepare surface of existing shoulders, accesses and bus bays, water process and compact
87	Shoulder Gravelling	11.50.003	Shoulder gravelling with natural gravel	m ³	Provide, place, spread, shape and compact 150mm of natural gravel of CBR 30% to shoulders, accesses and bus bays
88		11.50.003a	Shoulder gravelling with quarry waste	m ³	Provide, place and compact quarry waste material to shoulders, accesses and bus bays

12. Natural Material Base and Subbase

No	Work Category	Code	Work Item Name	Unit	Description
89	Pavement Removal	12.70.001	Scarify existing pavement to form subbase	m ³	Break or scarify mechanically the existing pavement layer, and compact.
90	Subbase/Base Rebuilding	12.50.001	Handpacked stone paving	m ³	Provide, lay, and compact hand packed stone material including filling of voids with stone dust
91		12.50.002	Provide, place and compact quarry waste	m ³	Provide, spread, shape and compact approved quarry waste of CBR 30% and above for 5cm in thickness.
92		12.50.003	Provide, place, spread and compact natural gravel	m ³	Provide, spread, shape and compact approved natural gravel of CBR 30% and above for 15cm in thickness.

13. Graded Crushed Stone Base and Subbase

No	Work Category	Code	Work Item Name	Unit	Description
93	Graded Crushed Stone	13.50.001	Graded Crushed Stone for subbase	m ³	Provide, place and spread approved graded crushed stone for subbase.
94		13.60.001	Graded Crushed Stone for base	m ³	Provide, place and spread approved graded crushed stone for base.

14. Cement and Lime Treated Subgrade, Subbase and Base

No	Work Category	Code	Work Item Name	Unit	Description
95	Cement/Lime Stabilization	14.50.001	Cement stabilization	m ³	Provide, spread cement on natural gravel or graded crushed stone
96		14.50.002	Lime stabilization	m ³	Provide, spread lime on natural gravel or graded crushed stone
97		14.50.003	Cement/lime mixing	m ³	Mixing in cement/lime into natural gravel or graded crushed stone
98		14.50.004	Curing and protection of treated layers	m ³	Cure and protect layers treated with cement or lime stabilizers

15. Bituminous Surface Treatment & Surface Dressing

No	Work Category	Code	Work Item Name	Unit	Description
99	Prime Coat	15.50.002	Prime Coat (MC-30 cutback bitumen)	litre	Prepare surface of carriageway, bus bays and repair areas, provide and spray MC-30 cutback bitumen at a rate of 0.8-1.2 litre/m ³ as prime coat
100	Tack Coat	15.50.003	Tack Coat (grade bitumen cutback)	litre	Prepare surface of carriageway and bus bays, provide and spray 80/100 penetration grade bitumen cut back using 5-15% kerosene as tack coat for asphalt concrete wearing course at a spray rate of 0.5-0.7 litre/m ³
101		15.50.003a	Tack Coat (bitumen emulsion)	litre	Prepare surface of repair areas provide and spray KI-60 bitumen emulsion as tack coat or seal to repair areas at a spray rate of 0.8-1.0 litre/m ³

No	Work Category	Code	Work Item Name	Unit	Description
102	Surface Dressing	15.70.001	Seal coat	litre	Cover a large worn surface area with aggregate distributed over spread bitumen to seal cracks and to recover adequate surface texture
103		15.60.002	Provide and roll 3/6 mm precoated chipping	m ³	Treat worn surface with graded aggregates of 3 to 6mm precoated with bitumen to recover adequate surface texture
104		15.60.003	Provide and roll 6/10 mm precoated chipping	m ³	Treat worn surface with graded aggregates of 6 to 10mm precoated with bitumen to recover adequate surface texture
105		15.60.004	Provide and roll 10/14 mm precoated chipping	m ³	Treat worn surface with graded aggregates of 10 to 14mm precoated with bitumen to recover adequate surface texture
106		15.60.005	Provide and roll 14/20 mm precoated chipping	m ³	Treat worn surface with graded aggregates of 14 to 20mm precoated with bitumen to recover adequate surface texture

16. Bituminous Mixes

No	Work Category	Code	Work Item Name	Unit	Description
107a	Pavement Repairing	16.50.001a	Pothole Cutting and Cleaning	m ³	Trim, cut and clean failed bituminous surface
107		16.50.001	Pothole patching - hot mix	m ³	Provide, place and compact asphaltic concrete to repair areas and for regulation to carriageway
108		16.50.002	Pothole patching - cold mix	m ³	Repair defects on bituminous surface by cold bituminous mixture
109		16.50.004	Crack sealing	m	Repair transverse or longitudinal cracking on surface dressed or asphalt concrete
110	Pavement Repairing	16.60.001	Asphalt concrete for surfacing - hot mix.	m ³	Overlay or continuously repave surface by hot bituminous mixture
111		16.70.001	Base repair - Dense Bitumen Macadam (DBM)	m ³	Place dense bitumen macadam for base material and roll
112	Milling and Paving	16.80.010	Milling the existing bituminous layer to spoil	m ³	Mill mechanically the existing bituminous layer to spoil
113		16.80.015	Milling the existing bituminous layer for reuse	m ³	Mill mechanically the existing bituminous layer and stockpile for reuse or recycle

17. Concrete Works

No	Work Category	Code	Work Item Name	Unit	Description
114	Concrete Work	17.60.001	Concrete work (class 15/20)	m ³	Provide, place and compact class 15/20 concrete mixture for blinding.
115		17.60.002	Concrete work (class 20/20)	m ³	Provide, place and compact class 20/20 concrete mixture.
116		17.60.002a	Concrete work (class 25/20)	m ³	Provide, place and compact class 25/20 concrete mixture.
117	Formwork	17.60.003	Vertical formwork class F2 finish	m ³	Provide and erect formwork of class F2 finish to the vertical direction
118		17.60.004	Horizontal formwork class F2 finish	m ³	Provide and erect formwork of class F2 finish to the horizontal direction
119	Reinforcement	17.80.004	Reinforcement work (below 16mm)	ton	Provide, cut bend and fix into position high yield reinforcement bar below 16mm
120		17.80.005	Reinforcement work (above 16mm)	ton	Provide, cut bend and fix into position high yield reinforcement bar above 16mm

20. Road Furniture Repair and Maintenance

No	Work Category	Code	Work Item Name	Unit	Description
121	Boundary posts	20.50.001	Road reserve boundary posts	No	Provide and erect road reserve boundary posts (size 1.2 x 0.2 x 0.2)
122		20.50.004	Edge marker posts	No	Provide and erect edge marker posts
123	Road Marking	20.50.007	Road markings - white paint	m ³	Provide reflectorized white paint for road markings (w = 10cm)
124		20.70.011	Road markings - white thermoplastic material	m ³	Renew faded or missing white road markings (w = 10cm) with thermoplastic material
124a		20.70.011a	Road markings on surface dressed pavement- white thermoplastic material	m ³	Renew faded or missing white road markings on surface dressed pavement (w = 10cm) with thermoplastic material
125		20.50.006	Road markings - yellow paint	m ³	Provide reflectorized yellow paint for road markings (w = 10cm)
126		20.70.010	Road markings - yellow thermoplastic material	m ³	Upgrade faded or missing yellow road markings (w = 10cm) with thermoplastic material
126a		20.70.010a	Road markings on surface dressed pavement- yellow thermoplastic material	m ³	Renew faded or missing yellow road markings on surface dressed pavement (w = 10cm) with thermoplastic material
127		20.50.107	Road marking black paint	m ³	Provide reflectorized black paint for road markings (w = 10cm)
128	Road Sign Erection	20.70.002	Warning signs	No	Provide and erect priority, prohibitory or mandatory signs
129		20.70.005	Priority, prohibitory or mandatory signs	No	Priority, prohibitory or mandatory signs
130		20.70.004	Standard informatory signs	No	Provide and erect informatory signs
131		20.70.006	Non-standard informatory signs	No	Provide and erect non-standard warning signs
132	Kerb Installation	20.50.012	Kerbs	m	Provide lay and joint concrete class 20/20 kerbs in support to carriageway, bus bays and junctions
133	Kilometre marker post Installation	20.50.013	Kilometre marker posts	No	Kilometre marker post Installation.
134	Bollard Installation	20.50.017	Concrete bollards	No	Concrete bollard Installation (diameter 0.2m, length 0.9m, embedded depth 0.45m)
135		20.50.021	Steel bollards	No	Place and provide gauge 16 steel pipe Bollards of diameter 150 mm and 1.05m above the ground embedded to a depth of 0.45m at place
136	Reflective Stud Installation	20.50.019	Reflective studs	No	Install reflective studs along the centre line
137	Microtunneling	20.60.002	Microtunneling for a 150mm diameter PVC (polyvinyl chloride) duct	m	Conduct microtunneling with a 150mm dia. PVC duct (under silt or sand condition)
138		20.60.002a	Horizontal drilling	m	Conduct horizontal drilling for 150mm hole in diameter (under gravel condition)
139	Street light Installation	20.60.017	Street lighting pole (7.6m)	No	Provide and install 7.6m street lighting pole including cables accessories and lamp.
140		20.60.018	Street lighting pole (10m)	No	Provide and install 10.0m street lighting pole including cables accessories and lamp.
141		20.60.016	Street lighting control panel	No	Provide and install 10.0m street lighting pole including cables accessories and lamp.
142		20.60.315	Electric cable	m	Provide and install supply cables between the street lighting poles.
143	Guardrail Repair	20.70.023a	Guardrail Repair Level 1	piece (4m)	Removal of damaged guardrail and replacement with straightened beam
144		20.70.023b	Guardrail Repair Level 2	piece (4m)	Removal of damaged guardrail, replacement with a straightened beam and realignment of posts
145		20.70.023c	Guardrail Repair Level 3	piece (4m)	Complete removal of damaged guardrail beam and installation with new beam, posts and spacers

Nairobi/Central Region

Appendix 2- I : Price List - Labour, Machinery, Material (Nairobi/Central Region)

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
I	Labour	22.50.001	Support Staff		Person Day	900	2022 June Market rate
		22.50.002	Unskilled labour		Person Day	873	2022 June Market rate
		22.50.005	Artisans G2		Person Day	1,612	2022 June Market rate
		22.50.007	Skilled Labour: Overseer		Person Day	1,800	2022 June Market rate
		22.50.101	Skilled Labour: Operator		Person Day	2,045	2022 June Market rate
2	Machinery	22.61.101	Truck Flat bed : 2.5 - 5 Tonnes		Hour	1,700	2022 June Market rate
		22.61.102	Truck with crane	4t	Hour	3,729	2022 June Market rate
		22.62.015	Water Tanker : 6000 - 8000 Lt.		Hour	2,375	2022 June Market rate
		22.63.012	Motor Grader (e.g. CAT 112F): 100 - 130 HP		Hour	6,375	2022 June Market rate
		22.63.101	Bulldozer	BD65EX	Hour	5,625	2022 June Market rate
		22.63.102	Excavator	130-150hp	Hour	6,438	2022 June Market rate
		22.63.103	Backhoe loader	130-150hp	Hour	4,829	2022 June Market rate
		22.64.001	Pedestrian Roller : 700 - 1000 Kg.		Hour	1,625	2022 June Market rate
		22.64.004	Single drum steel Vibrator roller: 9-10T, 130 HP		Hour	4,840	2022 June Market rate
		22.64.005	Pneumatic Roller: 10T, 130HP		Hour	3,650	2022 June Market rate
		22.65.008	Road Marking Machine		Hour	570	2022 June Market rate
		22.65.101	Melting pod (for paint)	200 - 350kg	Hour	2,188	2022 June Market rate
		22.67.001	Grass cutter	150cm, 35hp	Hour	150	2022 June Market rate
		22.67.004	Bitumen Sprayer H/ Operated	200L	Hour	550	2022 June Market rate
		22.67.005	Vibrator P/Tamper		Hour	530	2022 June Market rate
		22.67.101	Milling machine	197hp	Hour	2,000	2022 June Market rate
		22.67.102	Resurface machine	120hp	Hour	31,985	2022 June Market rate
		22.67.103	Road heater	63hp	Hour	25,000	2022 RA rate
		22.67.104	Asphalt finisher	37H	Hour	6,313	2022 June Market rate
		22.67.105	Power suction car	4t	Hour	6,664	2022 June Market rate
		22.67.106	Muddy water processing machine		Day	51,177	2019 Feb. Market rate
		22.67.107	Boring machine	81kw	Day	53,333	2019 Feb. Market rate
		22.67.108	Air compressor	150CFM, 4250LPM	Day	9,625	2022 June Market rate
		22.67.109	Asphalt/Bitumen cutter		Hour	1,750	2022 June Market rate

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
3	Material	22.67.110	Chip spreader		Hour	5,375	2022 June Market rate
		22.69.009	Fine aggregates		m ³	2,483	2022 June Market price
		22.70.001	Fine aggregates		m ³	1,800	2022 June Market price
		22.70.002	Graded aggregates (ballast)		m ³	1,404	2022 June Market price
		22.70.003	Water		m ³	204	2022 June Market price
		22.70.004	Cement (ordinary portland)		Kg	14	2022 June Market price
		22.70.006	Hydrated lime		Kg	24	2022 June Market price
		22.71.012	Square twisted bars 16mm		t	121,091	2022 June Market price
		22.72.001	Precast concrete culvert - 450mm		m	2,550	2022 June Market price
		22.72.002	Precast concrete culvert - 600mm		m	3,031	2022 June Market price
		22.72.003	Precast concrete culvert - 900mm		m	4,813	2022 June Market price
		22.72.004	Precast concrete culvert - 1200mm		m	10,750	2022 June Market price
		22.72.016	Coarse aggregates(chippings) - 3/6mm		m ³	9,594	2022 June Market price
		22.72.017	Coarse aggregates(chippings) - 6/10mm		m ³	9,594	2022 June Market price
		22.72.018	Coarse aggregates(chippings) - 10/14mm		m ³	9,725	2022 June Market price
		22.72.019	Coarse aggregates(chippings) - 14/20mm		m ³	9,725	2022 June Market price
		22.72.020	Stone dust		m ³	1,467	2022 June Market price
		22.72.021	Gravel material (murrum)		m ³	1,442	2022 June Market price
		22.72.022	Hardcore		m ³	1,433	2022 June Market price
		22.72.023	Crusher run material (Graded crushed stone)		m ³	1,800	2022 June Market price
		22.72.024	Quarry waste material		m ³	1,973	2022 June Market price
		22.72.101	Precast concrete culvert - 300mm		m	1,470	2022 June Market price
		22.72.102	Stone		m ³	1,005	2022 June Market price
		22.72.103	Gully pot with grating		Set	15,000	2022 June Market price
		22.72.104	Invert block drain	600*330*355	No.	475	2022 June Market price
		22.72.105	Invert block drain	600*760*190	No.	1,500	2022 June Market price
		22.72.106	Side Slab concrete block	3'*9'*24"	No.	242	2022 June Market price
		22.72.107	Manhole cover slab	1220*150	No.	5,000	2022 June Market price
		22.72.108	Soil (soft)		m ³	260	2022 June Market price
		22.72.109	Soil (hard)		m ³	378	2022 June Market price
		22.73.002	Premix - AC Type I (cold)		m ³	40,000	2022 June Market price

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
3	Material	22.73.003	Premix - AC Type I (hot)		m ³	21,602	2022 June Market price
		22.73.004	Dense Bitumen Macadam		m ³	20,857	2022 June Market price
		22.73.006	Bituminous sealant (K-160)		m ³	96,839	2022 June Market price
		22.73.012	MC 30 Bitumen		litre	129	2022 June Market price
		22.73.013	80/100 Pen grade bitumen		litre	110	2022 June Market price
		22.74.002	Fuel	Diesel	litre	140	2022 July. ERC Pump Price
		22.77.001	Mesh wire 8' x 4' gauge 18		m ²	750	2022 June Market price
		22.77.101	Gabion mesh	2m*1m = 2	No.	5,148	2022 June Market price
		22.77.102	Gabion Mattress	10mm	m ²	2,672	2022 June Market price
		22.77.103	Flat metal plate	1/16-1/18	m ²	679	2022 June Market price
		22.77.104	Steel pipe	2inch	m	658	2022 June Market price
		22.77.105	Bolts with nuts	8cm	Set	250	2022 June Market price
		22.77.106	Brackets		No	275	2022 June Market price
		22.77.107	Steel angle	125*5mm	kg	246	2022 June Market price
		22.77.108	Steel plate	450*3mm	kg	107	2022 June Market price
		22.77.109	Steel bollard	SGP. 5B. 125A	kg	181	2022 June Market price
		22.77.110	Mesh wire	A142	m ²	372	2022 June Market price
		22.77.111	Cast iron manhole cover	600*450 heavy duty with frame	No.	7,205	2022 June Market price
		22.78.101	Cypress	for fixed deck	m ³	41,902	2022 June Market price
		22.78.102	Wooden formwork panel		m ²	1,200	2022 June Market price
		22.79.003	Road marking paint yellow		litre	1,084	2022 June Market price
		22.79.004	Road marking paint white		litre	1,052	2022 June Market price
		22.79.005	Thermoplastic paint yellow	premixed with primer and glass beads	Kg	388	2022 June Market price
		22.79.006	Thermoplastic paint white	premixed with primer and glass beads	Kg	372	2022 June Market price
		22.79.012	Reflective 'cat' eyes		No	692	2022 June Market price
		22.79.013	Reflective mark posts	White PVC post 1400	No.	3,125	2022 June Market price
		22.79.101	Road marking paint black		litre	1,002	2022 June Market price
		22.79.104	Reflective paint		litre	826	2022 June Market price
		22.79.105	White paint		litre	772	2022 June Market price
		22.79.106	Black paint		litre	811	2022 June Market price
		22.79.107	Road Kerb	12.25*24.5	No.	431	2022 June Market price
		22.79.108	Road channel	9.8*12.25	No.	302	2022 June Market price
		22.79.109	Duct Pipe (PVC150)		m	451	2022 June Market price

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
3	Material	22.79.110	Equipment for lead pipe jacking	196kN	Day	30,000	2022 RA rate
		22.79.111	Equipment for lead pipe jacking (fixing part)		Day	1,300	2022 RA rate
		22.79.112	Equipment for lead pipe jacking (moving part)		m	100	2022 RA rate
		22.79.113	Equipment for Underground pipe jacking	196kN	Day	18,658	2019 Feb. Market rate
		22.79.114	Equipment for Underground pipe jacking (fixing part)		Day	12,000	2022 RA rate
		22.79.115	Equipment for Underground pipe jacking (moving part)		m	8,796	2019 Feb. Market rate
		22.79.116	Water stopper		No.	2,239	2019 Feb. Market Price
		22.79.117	Concrete anchor		No.	269	2019 Feb. Market Price
		22.79.118	Water stop cement		Kg	200	2022 June Market price
		22.79.119	Aggregation(jacking)		kg	10	2019 Feb. Market Price
		22.79.120	Aggregation(washing)		kg	10	2019 Feb. Market Price
		22.79.121	Shank-rod	90mm	No.	283,604	2019 Feb. Market Price
		22.79.122	Driving-adapter		No.	1,514	2019 Feb. Market Price
		22.79.123	drilling-pipe		No.	49,258	2019 Feb. Market Price
		22.79.124	Ring-bit		No.	97,022	2019 Feb. Market Price
		22.79.125	Water-swivel		No.	90,625	2019 Feb. Market Price
		22.79.126	Cutter-set		No.	44,033	2019 Feb. Market Price
		22.79.127	Core-tube		No.	44,460	2019 Feb. Market Price
		22.79.128	Magnifying-bit		No.	481,914	2019 Feb. Market Price
		22.79.129	Earth bar	10*1500mm	No.	500	2022 June Market price
		22.79.130	Lighting pole	7.6m	No.	39,460	2022 June Market price
		22.79.131	Lighting pole	10.0m	No.	74,227	2022 June Market price
		22.79.132	Cable	for light	m	500	2022 June Market price
		22.79.133	Accessories	for light	Set	4,000	2022 June Market price
		22.79.134	Lamp		No.	14,367	2022 June Market price
		22.79.135	Control panel		No.	35,967	2022 June Market price
		22.79.136	Cable	for control panel	m	1,102	2022 June Market price
		22.79.137	Accessories	for control panel	Set	39,227	2022 June Market price
		22.79.138	Meter		No.	4,500	2022 June Market price
		22.79.139	Grass		m ²	100	2022 June Market price
		22.79.140	Red soil		m ³	1,100	2022 June Market price
		22.79.141	Manure		m ³	4,000	2022 June Market price
		22.79.142	Warning triangular sign	600mm	No.	13,983	2022 June Market price
		22.79.143	Priority triangular sign	600mm	No.	13,983	2022 June Market price
		22.79.144	Standard informatory sign		No.	13,750	2022 June Market price

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
3	Material	22.79.145	Non-standard informatory sign	less than 1	No.	27,350	2022 June Market price
		22.79.150	Guardrail Beam	4m	No.	11,350	2022 June Market price
		22.79.151	Guardrail Post	140 mm dia, 6 gauge	m	4,542	2022 June Market price
		22.79.152	Bolts with nuts and washers (short)		No.	272	2022 June Market price
		22.79.153	Bolts with nuts and washers (long)		No.	322	2022 June Market price
		22.79.154	Fuel	Petrol	litre	160	2022 July. ERC Pump Price
		22.79.155	Pick up truck		day	7,600	2022 June Market rate
		22.79.156	Truck	2 ton	day	6,750	2022 June Market rate
		22.79.157	Thinner		litre	290	2022 June Market price
		22.79.158	Cement (OPC)		kg	14	2022 June Market price
		22.79.159	Pulveriser		Hour	6,250	2022 June Market rate
		22.79.160	Hessian cloth		m ²	168	2022 June Market price
		22.79.161	K-160		litre	97	2022 June Market price
		22.79.162	Reflecting Glass Beads		kg	165	2022 June Market price
		22.79.163	Electricity		Kw/h	24	2022 KPLC Price
		22.79.164	Beam Straightener		Hour	10,662	2019 Feb. Market Price

Coast Region

Appendix 2-2 : Price List - Labour, Machinery, Material (Coast Region)

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
1	Labour	22.50.001	Support Staff		Person Day	716	2022 June Market rate
		22.50.002	Unskilled labour		Person Day	716	2022 June Market rate
		22.50.005	Artisans G2		Person Day	1,417	2022 June Market rate
		22.50.007	Skilled Labour: Overseer		Person Day	1,975	2022 June Market rate
		22.50.101	Skilled Labour: Operator		Person Day	2,000	2022 June Market rate
2	Machinery	22.61.101	Truck Flat bed: 2.5 - 5 Tonnes		Hour	2,520	2022 June Market rate
		22.61.102	Truck with crane	4t	Hour	3,563	2022 June Market rate
		22.62.015	Water Tanker: 6000 - 8000 Lt.		Hour	2,745	2022 June Market rate
		22.63.012	Motor Grader (e.g. CAT 112F): 100 - 130 HP		Hour	6,026	2022 June Market rate
		22.63.101	Bulldozer	BD65EX	Hour	6,889	2022 June Market rate
		22.63.102	Excavator	130-150hp	Hour	6,383	2022 June Market rate
		22.63.103	Backhoe loader	130-150hp	Hour	4,417	2022 June Market rate
		22.64.001	Pedestrian Roller: 700 - 1000 Kg.		Hour	2,000	2022 June Market rate
		22.64.004	Single drum steel Vibrator roller: 9-10T, 130 HP		Hour	3,958	2022 June Market rate
		22.64.005	Pneumatic Roller: 10T, 130HP		Hour	3,488	2022 June Market rate
		22.65.008	Road Marking Machine		Hour	742	2022 June Market rate
		22.65.101	Melting pod (for paint)	200 - 350kg	Hour	2,583	2022 June Market rate
		22.67.001	Grass cutter	150cm, 35hp	Hour	153	2022 June Market rate
		22.67.004	Bitumen Sprayer H/Oper-ated	200L	Hour	568	2022 June Market rate
		22.67.005	Vibrator P/Tamper		Hour	500	2022 June Market rate
		22.67.101	Milling machine	197hp	Hour	2,500	2022 June Market rate
		22.67.102	Resurface machine	120hp	Hour	31,985	2022 June Market rate
		22.67.103	Road heater	63hp	Hour	25,000	2022 RA rate
		22.67.104	Asphalt finisher	37H	Hour	6,500	2022 June Market rate
		22.67.105	Power suction car	4t	Hour	6,664	2022 June Market rate
		22.67.106	Muddy water processing machine		Day	51,177	2019 Feb. Market rate
		22.67.107	Boring machine	81 kw	Day	53,333	2019 Feb. Market rate
		22.67.108	Air compressor	150CFM, 4250LPM	Day	8,500	2022 June Market rate
		22.67.109	Asphalt/Bitumen cutter		Hour	1,508	2022 June Market rate
		22.67.110	Chip spreader		Hour	6,167	2022 June Market rate

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
3	Material	22.69.009	Fine aggregates(sand)		m ³	1,794	2022 June Market price
		22.70.001	Fine aggregates (stone dust)		m ³	1,567	2022 June Market price
		22.70.002	Graded aggregates (ballast)		m ³	1,212	2022 June Market price
		22.70.003	water		m ³	247	2022 June Market price
		22.70.004	Cement (ordinary portland)		Kg	14	2022 June Market price
		22.70.006	Hydrated lime		Kg	24	2022 June Market price
		22.71.012	Square twisted bars 16mm		t	124,344	2022 June Market price
		22.72.001	Precast concrete culvert - 450mm		m	3,717	2022 June Market price
		22.72.002	Precast concrete culvert - 600mm		m	4,075	2022 June Market price
		22.72.003	Precast concrete culvert - 900mm		m	4,875	2022 June Market price
		22.72.004	Precast concrete culvert - 1200mm		m	13,371	2022 June Market price
		22.72.016	Coarse aggregates(chippings) - 3/6mm		m ³	7,000	2022 June Market price
		22.72.017	Coarse aggregates(chippings) - 6/10mm		m ³	7,000	2022 June Market price
		22.72.018	Coarse aggregates(chippings) - 10/14mm		m ³	8,000	2022 June Market price
		22.72.019	Coarse aggregates(chippings) - 14/20mm		m ³	9,500	2022 June Market price
		22.72.020	Stone dust		m ³	1,150	2022 June Market price
		22.72.021	Gravel material (murrum)		m ³	1,164	2022 June Market price
		22.72.022	Hardcore		m ³	1,785	2022 June Market price
		22.72.023	Crusher run material (Graded crushed stone)		m ³	1,679	2022 June Market price
		22.72.024	Quarry waste material		m ³	1,686	2022 June Market price
		22.72.101	Precast concrete culvert - 300mm		m	1,600	2022 June Market price
		22.72.102	Stone		m ³	1,268	2022 June Market price
		22.72.103	Gully pot with grating		Set	18,000	Conversion Factor of Nairobi Region Market Survey
		22.72.104	Invert block drain	600*330*355	No.	658	2022 June Market price
		22.72.105	Invert block drain	600*760*190	No.	1,500	2022 June Market price
		22.72.106	Side Slab concrete block	3'*9'*24"	No.	243	2022 June Market price
		22.72.107	Manhole cover slab	1220*150	No.	5,405	2022 June Market price
		22.72.108	Soil (soft)		m ³	250	2022 June Market price
		22.72.109	Soil (hard)		m ³	400	2022 June Market price
		22.73.002	Premix - AC Type I (cold)		m ³	40,000	2022 June Market price
		22.73.003	Premix - AC Type I (hot)		m ³	22,414	2022 June Market price
		22.73.004	Dense Bitumen Macadam		m ³	22,414	2022 June Market price
		22.73.006	Bituminous sealant (K-160)		m ³	133,667	2022 June Market price
		22.73.012	MC 30 Bitumen		litre	151	2022 June Market price
		22.73.013	80/100 Pen grade bitumen		litre	133	2022 June Market price
		22.74.002	Fuel	Diesel	litre	138	2022 July. ERC Pump Price
		22.77.001	Mesh wire 8' x 4' gauge 18		m ²	600	2022 June Market price
		22.77.101	Gabion mesh	2m*1m = 2m ²	No.	5,100	2022 June Market price
		22.77.102	Gabion Mattress	10mm	m ²	3,000	2022 June Market price
		22.77.103	Flat metal plate	1/16-1/18	m ²	943	2022 June Market price

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
3	Material	22.77.104	Steel pipe	2inch	m	759	2022 June Market price
		22.77.105	Bolts with nuts	8cm	Set	268	Conversion Factor of Nairobi Region Market Survey
		22.77.106	Brackets		No	294	Conversion Factor of Nairobi Region Market Survey
		22.77.107	Steel angle	125*5mm	kg	274	2022 June Market price
		22.77.108	Steel plate	450*3mm	kg	105	2022 June Market price
		22.77.109	Steel bollard	SGP. 5B. 125A	kg	193	2022 June Market price
		22.77.110	Mesh wire	A142	m ²	289	2022 June Market price
		22.77.111	Cast iron manhole cover	600*450 heavy duty with frame	No.	7,788	2022 June Market price
		22.78.101	Cypress	for fixed deck	m ³	43,427	2022 June Market price
		22.78.102	Wooden formwork panel		m ²	1,400	2022 June Market price
		22.79.003	Road marking paint yellow		litre	992	2022 June Market price
		22.79.004	Road marking paint white		litre	950	2022 June Market price
		22.79.005	Thermoplastic paint yellow	premixed with primer and glass beads	Kg	388	2022 June Market price
		22.79.006	Thermoplastic paint white	premixed with primer and glass beads	Kg	362	2022 June Market price
		22.79.012	Reflective 'cat' eyes		No	704	Conversion Factor of Nairobi Region Market Survey
		22.79.013	Reflective mark posts	White PVC post 1400	No.	3,344	Conversion Factor of Nairobi Region Market Survey
		22.79.101	Road marking paint black		litre	970	2022 June Market price
		22.79.104	Reflective paint		litre	1370	Conversion Factor of Nairobi Region Market Survey
		22.79.105	White paint		litre	833	2022 June Market price
		22.79.106	Black paint		litre	839	2022 June Market price
		22.79.107	Road Kerb	12.25*24.5	No.	488	2022 June Market price
		22.79.108	Road channel	9.8*12.25	No.	297	2022 June Market price
		22.79.109	Duct Pipe (PVC150)		m	483	2022 June Market price
		22.79.110	Equipment for lead pipe jacking	196kN	Day	35,000	2022 RA rate
		22.79.111	Equipment for lead pipe jacking (fixing part)		Day	1,300	2017 RA rate
		22.79.112	Equipment for lead pipe jacking (moving part)		m	100	2017 RA rate
		22.79.113	Equipment for Underground pipe jacking	196kN	Day	21,000	2022 RA rate
		22.79.114	Equipment for Underground pipe jacking (fixing part)		Day	9,000	2022 RA rate
		22.79.115	Equipment for Underground pipe jacking (moving part)		m	9,000	2022 RA rate
		22.79.116	Water stopper		No.	2,239	2019 Feb. Market Price
		22.79.117	Concrete anchor		No.	269	2019 Feb. Market Price
		22.79.118	Water stop cement		Kg	200	Conversion Factor of Nairobi Region Market Survey
		22.79.119	Aggregation(jacking)		kg	15	2022 RA rate
		22.79.120	Aggregation(washing)		kg	15	2022 RA rate

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
3	Material	22.79.121	Shank-rod	90mm	No.	300,000	2022 RA rate
		22.79.122	Driving-adapter		No.	1,500	2022 RA rate
		22.79.123	drilling-pipe		No.	50,000	2022 RA rate
		22.79.124	Ring-bit		No.	95,000	2022 RA rate
		22.79.125	Water-swivel		No.	95,000	2022 RA rate
		22.79.126	Cutter-set		No.	45,000	2022 RA rate
		22.79.127	Core-tube		No.	45,000	2022 RA rate
		22.79.128	Magnifying-bit		No.	480,000	2022 RA rate
		22.79.129	Earth bar	10*1500mm	No.	575	2022 June Market price
		22.79.130	Lighting pole	7.6m	No.	42,213	2022 June Market price
		22.79.131	Lighting pole	10.0m	No.	80,047	2022 June Market price
		22.79.132	Cable	for light	m	503	2022 June Market price
		22.79.133	Accessories	for light	Set	3,800	2022 June Market price
		22.79.134	Lamp		No.	11,067	2022 June Market price
		22.79.135	Control panel		No.	34,500	2022 June Market price
		22.79.136	Cable	for control panel	m	1,110	2022 June Market price
		22.79.137	Accessories	for control panel	Set	34,713	2022 June Market price
		22.79.138	Meter		No.	3,982	2022 June Market price
		22.79.139	Grass		m ²	30	2022 June Market price
		22.79.140	Red soil		m ³	1,905	2022 June Market price
		22.79.141	Manure		m ³	3,095	2022 June Market price
		22.79.142	Warning triangular sign	600mm	No.	14,030	2022 June Market price
		22.79.143	Priority triangular sign	600mm	No.	14,030	2022 June Market price
		22.79.144	Standard informatory sign		No.	13,796	2022 June Market price
		22.79.145	Non-standard informatory sign	less than 1m ²	No.	27,441	2022 June Market price
		22.79.150	Guardrail Beam	4m	No.	11,388	2022 June Market price
		22.79.151	Guardrail Post	140 mm dia, 6 gauge	m	4,557	Conversion Factor of Nairobi Region Market Survey
		22.79.152	Bolts with nuts and washers (short)		No.	273	Conversion Factor of Nairobi Region Market Survey
		22.79.153	Bolts with nuts and washers (long)		No.	323	Conversion Factor of Nairobi Region Market Survey
		22.79.154	Fuel	Petrol	litre	157	2022 July. ERC Pump Price
		22.79.155	Pick up truck		day	6,438	2022 June Market Rate
		22.79.156	Truck	2 ton	day	7,333	2022 June Market Rate
		22.79.157	Thinner		litre	331	2022 June Market price
		22.79.158	Cement (OPC)		kg	13.79	2022 June Market price
		22.79.159	Pulveriser		Hour	5,000	2022 June Market Rate
		22.79.160	Hessian cloth		m ²	206	2022 June Market price
		22.79.161	K-160		litre	134	2022 June Market price
		22.79.162	Reflecting Glass Beads		kg	165	Conversion Factor of Nairobi Region Market Survey
		22.79.163	Electricity		Kw/h	24	2022 KPLC Price
		22.79.164	Beam Straightener		Hour	10,662	2019 Feb. Market Price

Nyanza/Western Region

Appendix 2-3 : Price List - Labour, Machinery, Material (Nyanza/Western Region)

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
1	Labour	22.50.001	Support Staff		Person Day	716	2022 June Market rate
		22.50.002	Unskilled labour		Person Day	716	2022 June Market rate
		22.50.005	Artisans G2		Person Day	1,417	2022 June Market rate
		22.50.007	Skilled Labour: Overseer		Person Day	1,975	2022 June Market rate
		22.50.101	Skilled Labour: Operator		Person Day	2,000	2022 June Market rate
2	Machinery	22.61.101	Truck Flat bed: 2.5 - 5 Tonnes		Hour	2,520	2022 June Market rate
		22.61.102	Truck with crane	4t	Hour	3,563	2022 June Market rate
		22.62.015	Water Tanker: 6000 - 8000 Lt.		Hour	2,745	2022 June Market rate
		22.63.012	Motor Grader (e.g. CAT 112F): 100 - 130 HP		Hour	6,026	2022 June Market rate
		22.63.101	Bulldozer	BD65EX	Hour	6,889	2022 June Market rate
		22.63.102	Excavator	130-150hp	Hour	6,383	2022 June Market rate
		22.63.103	Backhoe loader	130-150hp	Hour	4,417	2022 June Market rate
		22.64.001	Pedestrian Roller: 700 - 1000 Kg.		Hour	2,000	2022 June Market rate
		22.64.004	Single drum steel Vibrator roller: 9-10T, 130 HP		Hour	3,958	2022 June Market rate
		22.64.005	Pneumatic Roller: 10T, 130HP		Hour	3,488	2022 June Market rate
		22.65.008	Road Marking Machine		Hour	742	2022 June Market rate
		22.65.101	Melting pod (for paint)	200 - 350kg	Hour	2,583	2022 June Market rate
		22.67.001	Grass cutter	150cm, 35hp	Hour	153	2022 June Market rate
		22.67.004	Bitumen Sprayer H/ Operated	200L	Hour	568	2022 June Market rate
		22.67.005	Vibrator P/Tamper		Hour	500	2022 June Market rate
		22.67.101	Milling machine	197hp	Hour	2,500	2022 June Market rate
		22.67.102	Resurface machine	120hp	Hour	31,985	2022 June Market rate
		22.67.103	Road heater	63hp	Hour	25,000	2022 RA rate
		22.67.104	Asphalt finisher	37H	Hour	6,500	2022 June Market rate
		22.67.105	Power suction car	4t	Hour	6,664	2022 June Market rate
		22.67.106	Muddy water processing machine		Day	51,177	2019 Feb. Market rate
		22.67.107	Boring machine	81kw	Day	53,333	2019 Feb. Market rate
		22.67.108	Air compressor	150CFM, 4250LPM	Day	8,500	2022 June Market rate
		22.67.109	Asphalt/Bitumen cutter		Hour	1,508	2022 June Market rate
		22.67.110	Chip spreader		Hour	6,167	2022 June Market rate
3	Material	22.69.009	Fine aggregates(sand)		m ³	1,794	2022 June Market price
		22.70.001	Fine aggregates (stone dust)		m ³	1,567	2022 June Market price
		22.70.002	Graded aggregates (ballast)		m ³	1,212	2022 June Market price
		22.70.003	water		m ³	247	2022 June Market price
		22.70.004	Cement (ordinary portland)		Kg	14	2022 June Market price
		22.70.006	Hydrated lime		Kg	24	2022 June Market price

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
3	Material	22.71.012	Square twisted bars 16mm		t	124,344	2022 June Market price
		22.72.001	Precast concrete culvert - 450mm		m	3,717	2022 June Market price
		22.72.002	Precast concrete culvert - 600mm		m	4,075	2022 June Market price
		22.72.003	Precast concrete culvert - 900mm		m	4,875	2022 June Market price
		22.72.004	Precast concrete culvert - 1200mm		m	13,371	2022 June Market price
		22.72.016	Coarse aggregates(chippings) - 3/6mm		m ³	7,000	2022 June Market price
		22.72.017	Coarse aggregates(chippings) - 6/10mm		m ³	7,000	2022 June Market price
		22.72.018	Coarse aggregates(chippings) - 10/14mm		m ³	8,000	2022 June Market price
		22.72.019	Coarse aggregates(chippings) - 14/20mm		m ³	9,500	2022 June Market price
		22.72.020	Stone dust		m ³	1,150	2022 June Market price
		22.72.021	Gravel material (murram)		m ³	1,164	2022 June Market price
		22.72.022	Hardcore		m ³	1,785	2022 June Market price
		22.72.023	Crusher run material (Graded crushed stone)		m ³	1,679	2022 June Market price
		22.72.024	Quarry waste material		m ³	1,686	2022 June Market price
		22.72.101	Precast concrete culvert - 300mm		m	1,600	2022 June Market price
		22.72.102	Stone		m ³	1,268	2022 June Market price
		22.72.103	Gully pot with grating		Set	18,000	Conversion Factor of Nairobi Region Market Survey
		22.72.104	Invert block drain	600*330*355	No.	658	2022 June Market price
		22.72.105	Invert block drain	600*760*190	No.	1,500	2022 June Market price
		22.72.106	Side Slab concrete block	3'*9'*24"	No.	243	2022 June Market price
		22.72.107	Manhole cover slab	1220*150	No.	5,405	2022 June Market price
		22.72.108	Soil (soft)		m ³	250	2022 June Market price
		22.72.109	Soil (hard)		m ³	400	2022 June Market price
		22.73.002	Premix - AC Type I (cold)		m ³	40,000	2022 June Market price
		22.73.003	Premix - AC Type I (hot)		m ³	22,414	2022 June Market price
		22.73.004	Dense Bitumen Macadam		m ³	22,414	2022 June Market price
		22.73.006	Bituminous sealant (K-160)		m ³	133,667	2022 June Market price
		22.73.012	MC 30 Bitumen		litre	151	2022 June Market price
		22.73.013	80/100 Pen grade bitumen		litre	133	2022 June Market price
		22.74.002	Fuel	Diesel	litre	138	2022 July. ERC Pump Price
		22.77.001	Mesh wire 8' x 4' gauge 18		m ²	600	2022 June Market price
		22.77.101	Gabion mesh	2m*1m = 2m ²	No.	5,100	2022 June Market price
		22.77.102	Gabion Mattress	10mm	m ²	3,000	2022 June Market price
		22.77.103	Flat metal plate	1/16-1/18	m ²	943	2022 June Market price
		22.77.104	Steel pipe	2inch	m	759	2022 June Market price
		22.77.105	Bolts with nuts	8cm	Set	268	Conversion Factor of Nairobi Region Market Survey
		22.77.106	Brackets		No	294	Conversion Factor of Nairobi Region Market Survey

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
3	Material	22.77.107	Steel angle	125*5mm	kg	274	2022 June Market price
		22.77.108	Steel plate	450*3mm	kg	105	2022 June Market price
		22.77.109	Steel bollard	SGP. 5B. 125A	kg	193	2022 June Market price
		22.77.110	Mesh wire	A142	m ²	289	2022 June Market price
		22.77.111	Cast iron manhole cover	600*450 heavy duty with frame	No.	7,788	2022 June Market price
		22.78.101	Cypress	for fixed deck	m ³	43,427	2022 June Market price
		22.78.102	Wooden formwork panel		m ²	1,400	2022 June Market price
		22.79.003	Road marking paint yellow		litre	992	2022 June Market price
		22.79.004	Road marking paint white		litre	950	2022 June Market price
		22.79.005	Thermoplastic paint yellow	premixed with primer and glass beads	Kg	388	2022 June Market price
		22.79.006	Thermoplastic paint white	premixed with primer and glass beads	Kg	362	2022 June Market price
		22.79.012	Reflective 'cat' eyes		No	704	Conversion Factor of Nairobi Region Market Survey
		22.79.013	Reflective mark posts	White PVC post 1400	No.	3,344	Conversion Factor of Nairobi Region Market Survey
		22.79.101	Road marking paint black		litre	970	2022 June Market price
		22.79.104	Reflective paint		litre	1370	Conversion Factor of Nairobi Region Market Survey
		22.79.105	White paint		litre	833	2022 June Market price
		22.79.106	Black paint		litre	839	2022 June Market price
		22.79.107	Road Kerb	12.25*24.5	No.	488	2022 June Market price
		22.79.108	Road channel	9.8*12.25	No.	297	2022 June Market price
		22.79.109	Duct Pipe (PVC 150)		m	483	2022 June Market price
		22.79.110	Equipment for lead pipe jacking	196kN	Day	35,000	2022 RA rate
		22.79.111	Equipment for lead pipe jacking (fixing part)		Day	1,300	2017 RA rate
		22.79.112	Equipment for lead pipe jacking (moving part)		m	100	2017 RA rate
		22.79.113	Equipment for Underground pipe jacking	196kN	Day	21,000	2022 RA rate
		22.79.114	Equipment for Underground pipe jacking (fixing part)		Day	9,000	2022 RA rate
		22.79.115	Equipment for Underground pipe jacking (moving part)		m	9,000	2022 RA rate
		22.79.116	Water stopper		No.	2,239	2019 Feb. Market Price
		22.79.117	Concrete anchor		No.	269	2019 Feb. Market Price
		22.79.118	Water stop cement		Kg	200	Conversion Factor of Nairobi Region Market Survey
		22.79.119	Aggregation(jacking)		kg	15	2022 RA rate
		22.79.120	Aggregation(washing)		kg	15	2022 RA rate
		22.79.121	Shank-rod	90mm	No.	300,000	2022 RA rate
		22.79.122	Driving-adapter		No.	1,500	2022 RA rate
		22.79.123	drilling-pipe		No.	50,000	2022 RA rate
		22.79.124	Ring-bit		No.	95,000	2022 RA rate

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
3	Material	22.79.125	Water-swivel		No.	95,000	2022 RA rate
		22.79.126	Cutter-set		No.	45,000	2022 RA rate
		22.79.127	Core-tube		No.	45,000	2022 RA rate
		22.79.128	Magnifying-bit		No.	480,000	2022 RA rate
		22.79.129	Earth bar	10*1500mm	No.	575	2022 June Market price
		22.79.130	Lighting pole	7.6m	No.	42,213	2022 June Market price
		22.79.131	Lighting pole	10.0m	No.	80,047	2022 June Market price
		22.79.132	Cable	for light	m	503	2022 June Market price
		22.79.133	Accessories	for light	Set	3,800	2022 June Market price
		22.79.134	Lamp		No.	11,067	2022 June Market price
		22.79.135	Control panel		No.	34,500	2022 June Market price
		22.79.136	Cable	for control panel	m	1,110	2022 June Market price
		22.79.137	Accessories	for control panel	Set	34,713	2022 June Market price
		22.79.138	Meter		No.	3,982	2022 June Market price
		22.79.139	Grass		m ²	30	2022 June Market price
		22.79.140	Red soil		m ³	1,905	2022 June Market price
		22.79.141	Manure		m ³	3,095	2022 June Market price
		22.79.142	Warning triangular sign	600mm	No.	14,030	2022 June Market price
		22.79.143	Priority triangular sign	600mm	No.	14,030	2022 June Market price
		22.79.144	Standard informatory sign		No.	13,796	2022 June Market price
		22.79.145	Non-standard informatory sign	less than 1m ²	No.	27,441	2022 June Market price
		22.79.150	Guardrail Beam	4m	No.	11,388	2022 June Market price
		22.79.151	Guardrail Post	140 mm dia, 6 gauge	m	4,557	Conversion Factor of Nairobi Region Market Survey
		22.79.152	Bolts with nuts and washers (short)		No.	273	Conversion Factor of Nairobi Region Market Survey
		22.79.153	Bolts with nuts and washers (long)		No.	323	Conversion Factor of Nairobi Region Market Survey
		22.79.154	Fuel	Petrol	litre	157	2022 July. ERC Pump Price
		22.79.155	Pick up truck		day	6,438	2022 June Market Rate
		22.79.156	Truck	2 ton	day	7,333	2022 June Market Rate
		22.79.157	Thinner		litre	331	2022 June Market price
		22.79.158	Cement (OPC)		kg	13.79	2022 June Market price
		22.79.159	Pulveriser		Hour	5,000	2022 June Market Rate
		22.79.160	Hessian cloth		m ²	206	2022 June Market price
		22.79.161	K-160		litre	134	2022 June Market price
		22.79.162	Reflecting Glass Beads		kg	165	Conversion Factor of Nairobi Region Market Survey
		22.79.163	Electricity		Kw/h	24	2022 KPLC Price
		22.79.164	Beam Straightener		Hour	10,662	2019 Feb. Market Price

South Rift Region

Appendix 2-4 : Price List - Labour, Machinery, Material (South Rift Region)

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
1	Labour	22.50.001	Support Staff		Person Day	790	2022 June Market rate
		22.50.002	Unskilled labour		Person Day	790	2022 June Market rate
		22.50.005	Artisans G2		Person Day	1,461	2022 June Market rate
		22.50.007	Skilled Labour: Overseer		Person Day	1,953	2022 June Market rate
		22.50.101	Skilled Labour: Operator		Person Day	2,033	2022 June Market rate
2	Machinery	22.61.101	Truck Flat bed		Hour	2,678	2022 June Market rate
		22.61.102	Truck with crane	4t	Hour	4,750	2022 June Market rate
		22.62.015	Water Tanker		Hour	2,738	2022 June Market rate
		22.63.012	Motor Grader (e.g. CAT 112F): 100 - 130 HP		Hour	5,938	2022 June Market rate
		22.63.101	Bulldozer	BD65EX	Hour	7,125	2022 June Market rate
		22.63.102	Excavator	130-150hp	Hour	6,125	2022 June Market rate
		22.63.103	Backhoe loader	130-150hp	Hour	3,750	2022 June Market rate
		22.64.001	Pedestrian Roller		Hour	2,150	2022 June Market rate
		22.64.004	Single drum steel Vibrator roller: 9-10T, 130 HP		Hour	3,231	2022 June Market rate
		22.64.005	Pneumatic Roller: 10T, 130HP		Hour	3,204	2022 June Market rate
		22.65.008	Road Marking Machine		Hour	760	2022 June Market rate
		22.65.101	Melting pod (for paint)	200 - 350kg	Hour	2,500	2022 June Market rate
		22.67.001	Grass cutter	150cm, 35hp	Hour	135	2022 June Market rate
		22.67.004	Bitumen Sprayer H/Operated	200L	Hour	513	2022 June Market rate
		22.67.005	Vibrator P/Tamper		Hour	500	2022 June Market rate

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
3	Material	22.67.101	Milling machine	197hp	Hour	2,000	2022 June Market rate
		22.67.102	Resurface machine	120hp	Hour	31,985	2022 June Market rate
		22.67.103	Road heater	63hp	Hour	26,655	2022 RA rate
		22.67.104	Asphalt finisher	37H	Hour	6,000	2022 June Market rate
		22.67.105	Power suction car	4t	Hour	6,664	2022 June Market rate
		22.67.106	Muddy water processing machine		Day	51,177	2019 Feb. Market rate
		22.67.107	Boring machine	81kw	Day	53,333	2019 Feb. Market rate
		22.67.108	Air compressor	150CFM, 4250LPM	Day	13,200	2022 June Market rate
		22.67.109	Asphalt/Bitumen cutter		Hour	1,750	2022 June Market rate
		22.67.110	Chip spreader		Hour	4,375	2022 June Market rate
		22.69.009	Fine aggregates		m ³	2,471	2022 June Market price
		22.70.001	Fine aggregates		m ³	1,477	2022 June Market price
		22.70.002	Graded aggregates (ballast)		m ³	1,466	2022 June Market price
		22.70.003	Water		m ³	185	2022 June Market price
		22.70.004	Cement (ordinary portland)		Kg	15.22	2022 June Market price
		22.70.006	Hydrated lime		Kg	24	2022 June Market price
		22.71.012	Square twisted bars 16mm		t	131,926	2022 June Market price
		22.72.001	Precast concrete culvert - 450mm		m	2,650	2022 June Market price
		22.72.002	Precast concrete culvert - 600mm		m	3,089	2022 June Market price
		22.72.003	Precast concrete culvert - 900mm		m	4,600	2022 June Market price
		22.72.004	Precast concrete culvert - 1200mm		m	9,111	2022 June Market price
		22.72.016	Coarse		m ³	7,500	2022 June Market price
		22.72.017	Coarse aggregates		m ³	7,500	2022 June Market price
		22.72.018	Coarse aggregates		m ³	8,000	2022 June Market price
		22.72.019	Coarse aggregates		m ³	9,000	2022 June Market price

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
3	Material	22.72.020	Stone dust		m ³	1,494	2022 June Market price
		22.72.021	Gravel material (murrum)		m ³	1,250	2022 June Market price
		22.72.022	Hardcore		m ³	1,950	2022 June Market price
		22.72.023	Crusher run material (Graded crushed stone)		m ³	1,927	2022 June Market price
		22.72.024	Quarry waste material		m ³	1,681	2022 June Market price
		22.72.101	Precast concrete culvert - 300mm		m	2,067	2022 June Market price
		22.72.102	Stone		m ³	1,052	2022 June Market price
		22.72.103	Gully pot with grating		Set	15,000	Conversion Factor of Nairobi Region Market Survey
		22.72.104	Invert block drain	600*330*355	No.	439	2022 June Market price
		22.72.105	Invert block drain	600*760*190	No.	1,386	2022 June Market price
		22.72.106	Side Slab concrete block	3'*9'*24"	No.	242	2022 June Market price
		22.72.107	Manhole cover slab	1220*150	No.	5,296	2022 June Market price
		22.72.108	Soil (soft)		m ³	229	2022 June Market price
		22.72.109	Soil (hard)		m ³	400	2022 June Market price
		22.73.002	Premix - AC Type I (cold)		m ³	43,500	2022 June Market price
		22.73.003	Premix - AC Type I (hot)		m ³	24,699	2022 June Market price
		22.73.004	Dense Bitumen Macadam		m ³	25,086	2022 June Market price
		22.73.006	Bituminous sealant (K-160)		m ³	137,667	2022 June Market price
		22.73.012	MC 30 Bitumen		litre	15	2022 June Market price
		22.73.013	80/100 Pen grade bitumen		litre	13	2022 June Market price
		22.74.002	Fuel	Diesel	litre	140	2022 July. ERC Pump Price
		22.77.001	Mesh wire 8' x 4' gauge 18		m ²	700	2022 June Market price
		22.77.101	Gabion mesh	2m*1m = 2	No.	5,156	2022 June Market price
		22.77.102	Gabion Mattress	10mm	m ²	2,200	2022 June Market price

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
3	Material	22.77.103	Flat metal plate	1/16-1/18	m ²	800	2022 June Market price
		22.77.104	Steel pipe	2inch	m	697	2022 June Market price
		22.77.105	Bolts with nuts	8cm	Set	266	Conversion Factor of Nairobi Region Market Survey
		22.77.106	Brackets		No	293	Conversion Factor of Nairobi Region Market Survey
		22.77.107	Steel angle	125*5mm	kg	355	2022 June Market price
		22.77.108	Steel plate	450*3mm	kg	103	2022 June Market price
		22.77.109	Steel bollard	SGP. 5B. 125A	kg	192	2022 June Market price
		22.77.110	Mesh wire	A142	m ²	337	2022 June Market price
		22.77.111	Cast iron manhole cover	600*450 heavy duty with frame	No.	7,632	Conversion Factor of Nairobi Region Market Survey
		22.78.101	Cypress	for fixed deck	m ³	40,000	2022 June Market price
		22.78.102	Wooden formwork panel		m ²	1,200	2022 June Market price
		22.79.003	Road marking paint yellow		litre	938	2022 June Market price
		22.79.004	Road marking paint white		litre	971	2022 June Market price
		22.79.005	Thermoplastic paint yellow	premixed with primer and glass beads	Kg	397	2022 June Market price
		22.79.006	Thermoplastic paint white	premixed with primer and glass beads	Kg	370	2022 June Market price
		22.79.012	Reflective 'cat' eyes		No	702	Conversion Factor of Nairobi Region Market Survey
		22.79.013	Reflective mark posts	White PVC post 1400	No.		Conversion Factor of Nairobi Region Market Survey
		22.79.101	Road marking paint black		litre	957	2022 June Market price
		22.79.104	Reflective paint		litre	1280	Conversion Factor of Nairobi Region Market Survey
		22.79.105	White paint		litre	757	2022 June Market price

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
3	Material	22.79.106	Black paint		litre	766	2022 June Market price
		22.79.107	Road Kerb	12.25*24.5	No.	372	2022 June Market price
		22.79.108	Road channel	9.8*12.25	No.	228	2022 June Market price
		22.79.109	Duct Pipe (PVC 150)		m	481	2022 June Market price
		22.79.110	Equipment for lead pipe jacking	196kN	Day	31,985	2022 RA rate
		22.79.111	Equipment for lead pipe jacking (fixing part)		Day	1,333	2017 RA rate
		22.79.112	Equipment for lead pipe jacking (moving part)		m	107	2017 RA rate
		22.79.113	Equipment for Under-ground pipe jacking	196kN	Day	18,658	2022 RA rate
		22.79.114	Equipment for Under-ground pipe jacking (fixing part)		Day	12,261	2022 RA rate
		22.79.115	Equipment for Under-ground pipe jacking (moving part)		m	8,796	2022 RA rate
		22.79.116	Water stopper		No.	2,000	2019 Feb. Market Price
		22.79.117	Concrete anchor		No.	269	2019 Feb. Market Price
		22.79.118	Water stop cement		Kg	200	Conversion Factor of Nairobi Region Market Survey
		22.79.119	Aggregation(jacking)		kg	10	2022 Market price
		22.79.120	Aggregation(washing)		kg	10	2022 Market price
		22.79.121	Shank-rod	90mm	No.	283,604	2022 Market price
		22.79.122	Driving-adapter		No.	1,514	2022 Market price
		22.79.123	drilling-pipe		No.	49,258	2022 Market price
		22.79.124	Ring-bit		No.	97,022	2022 Market price
		22.79.125	Water-swivel		No.	90,625	2022 Market price
		22.79.126	Cutter-set		No.	44,033	2022 Market price

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
3	Material	22.79.127	Core-tube		No.	44,460	2022 Market price
		22.79.128	Magnifying-bit		No.	481,914	2022 Market price
		22.79.129	Earth bar	10*1500mm	No.	600	2022 June Market price
		22.79.130	Lighting pole	7.6m	No.	42,000	2022 Market price
		22.79.131	Lighting pole	10.0m	No.	75,667	2022 Market price
		22.79.132	Cable	for light	m	577	2022 Market price
		22.79.133	Accessories	for light	Set	4,967	2022 Market price
		22.79.134	Lamp		No.	13,333	2022 Market price
		22.79.135	Control panel		No.	38,283	2022 Market price
		22.79.136	Cable	for control panel	m	1,180	2022 Market price
		22.79.137	Accessories	for control panel	Set	36,403	2022 Market price
		22.79.138	Meter		No.	4,176	2022 Market price
		22.79.139	Grass		m ²	60	2022 June Market price
		22.79.140	Red soil		m ³	1,800	2022 June Market price
		22.79.141	Manure		m ³	2,976	2022 June Market price
		22.79.142	Warning triangular sign	600mm	No.	17,250	2022 Market price
		22.79.143	Priority triangular sign	600mm	No.	17,250	2022 Market price
		22.79.144	Standard informatory sign		No.	17,250	2022 Market price
		22.79.145	Non-standard informatory sign	less than 1	No.	34,426	2022 Market price
		22.79.150	Guardrail Beam	4m	No.	9,000	2022 Market price
		22.79.151	Guardrail Post	140 mm dia, 6 gauge	m	5,250	Conversion Factor of Nairobi Region Market Survey
		22.79.152	Bolts with nuts and washers (short)		No.	130	Conversion Factor of Nairobi Region Market Survey
		22.79.153	Bolts with nuts and washers (long)		No.	160	Conversion Factor of Nairobi Region Market Survey

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
3	Material	22.79.154	Fuel	Petrol	litre	160	2022 July. ERC Pump Price
		22.79.155	Pick up truck		day	6,500	2022 June Market rate
		22.79.156	Truck	2 ton	day	7,000	2022 June Market rate
		22.79.157	Thinner		litre	386	2022 June Market price
		22.79.158	Cement (OPC)		kg		2022 June Market price
		22.79.159	Pulveriser		Hour		2022 June Market rate
		22.79.160	Hessian cloth		m ²	160	2022 June Market price
		22.79.161	K-160		litre	138	2022 June Market price
		22.79.162	Reflecting Glass Beads		kg	130	Conversion Factor of Nairobi Region Market Survey
		22.79.163	Electricity		Kw/h	24	2022 KPLC Price
		22.79.164	Beam Straightener		Hour	10,662	2019 Feb. Market Price

North Rift Region

Appendix 2-5 : Price List - Labour, Machinery, Material (North Rift Region)

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
1	Labour	22.50.001	Support Staff		Person Day	672	2022 June Market rate
		22.50.002	Unskilled labour		Person Day	672	2022 June Market rate
		22.50.005	Artisans G2		Person Day	1,384	2022 June Market rate
		22.50.007	Skilled Labour: Overseer		Person Day	1,700	2022 June Market rate
		22.50.101	Skilled Labour: Operator		Person Day	2,000	2022 June Market rate
2	Machinery	22.61.101	Truck Flat bed		Hour	2,178	2022 June Market rate
		22.61.102	Truck with crane	4t	Hour	3,500	2022 June Market rate
		22.62.015	Water Tanker		Hour	3,000	2022 June Market rate
		22.63.012	Motor Grader (e.g. CAT 112F): 100 - 130 HP		Hour	7,000	2022 June Market rate
		22.63.101	Bulldozer	BD65EX	Hour	7,250	2022 June Market rate
		22.63.102	Excavator	130-150hp	Hour	6,750	2022 June Market rate
		22.63.103	Backhoe loader	130-150hp	Hour	4,750	2022 June Market rate
		22.64.001	Pedestrian Roller		Hour	1,750	2022 June Market rate
		22.64.004	Single drum steel Vibrator roller: 9-10T, 130 HP		Hour	4,125	2022 June Market rate
		22.64.005	Pneumatic Roller: 10T, 130HP		Hour	3,125	2022 June Market rate
		22.65.008	Road Marking Machine		Hour	570	2022 June Market rate
		22.65.101	Melting pod (for paint)	200 - 350kg	Hour	2,000	2022 June Market rate
		22.67.001	Grass cutter	150cm, 35hp	Hour	138	2022 June Market rate
		22.67.004	Bitumen Sprayer H/ Operated	200L	Hour	500	2022 June Market rate
		22.67.005	Vibrator P/Tamper		Hour	630	2022 June Market rate
		22.67.101	Milling machine	197hp	Hour	2,000	2022 June Market rate
		22.67.102	Resurface machine	120hp	Hour	31,985	2022 June Market rate
		22.67.103	Road heater	63hp	Hour	25,000	2022 RA rate
3	Material	22.67.104	Asphalt finisher	37H	Hour		2022 June Market rate
		22.67.105	Power suction car	4t	Hour	7,000	2022 June Market rate
		22.67.106	Muddy water processing machine		Day	51,177	2019 Feb. Market Price
		22.67.107	Boring machine	81kw	Day	53,333	2019 Feb. Market rate
		22.67.108	Air compressor	150CFM, 4250LPM	Day	8,525	2022 June Market rate
		22.67.109	Asphalt/Bitumen cutter		Hour	2,500	2022 June Market rate
		22.67.110	Chip spreader		Hour	4,500	2022 June Market rate
		22.69.009	Fine aggregates		m ³	1,780	2022 June Market price
		22.70.001	Fine		m ³	1,875	2022 June Market price

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
3	Material	22.70.002	Graded aggregates (ballast)		m ³	1,386	2022 June Market price
		22.70.003	Water		m ³	150	2022 June Market price
		22.70.004	Cement (ordinary)		Kg	15.55	2022 June Market price
		22.70.006	Hydrated lime		Kg	25	2022 June Market price
		22.71.012	Square twisted bars 16mm		t	125,671	2022 June Market price
		22.72.001	Precast concrete culvert - 450mm		m	2,225	2022 June Market price
		22.72.002	Precast concrete culvert - 600mm		m	3,133	2022 June Market price
		22.72.003	Precast concrete culvert - 900mm		m	5,050	2022 June Market price
		22.72.004	Precast concrete culvert - 1200mm		m	12,682	2022 June Market price
		22.72.016	Coarse aggregates(chippings) - 3/6mm		m ³	9,483	2022 June Market price
		22.72.017	Coarse aggregates(chippings) - 6/10mm		m ³	9,483	2022 June Market price
		22.72.018	Coarse aggregates(chippings) - 10/14mm		m ³	9,914	2022 June Market price
		22.72.019	Coarse aggregates(chippings) - 14/20mm		m ³	9,914	2022 June Market price
		22.72.020	Stone dust		m ³	1,150	2022 June Market price
		22.72.021	Gravel material (murrum)		m ³	1,000	2022 June Market price
		22.72.022	Hardcore		m ³	1,250	2022 June Market price
		22.72.023	Crusher run material (Graded crushed stone)		m ³	1,746	2022 June Market price
		22.72.024	Quarry waste material		m ³	1,801	2022 June Market price
		22.72.101	Precast concrete culvert - 300mm		m	1,550	2022 June Market price
		22.72.102	Stone		m ³	1,185	2022 June Market price
		22.72.103	Gully pot with grating		Set	17,500	Conversion Factor of Nairobi Region Market Survey
		22.72.104	Invert block drain	600*330*355	No.	500	2022 June Market price
		22.72.105	Invert block drain	600*760*190	No.	1,579	Conversion Factor of Nairobi Region Market Survey
		22.72.106	Side Slab concrete block	3''*9''*24''	No.	288	2022 June Market price
		22.72.107	Manhole cover slab	1220*150	No.	5,298	2022 June Market price
		22.72.108	Soil (soft)		m ³	240	2022 June Market price
		22.72.109	Soil (hard)		m ³	500	2022 June Market price
		22.73.002	Premix - AC Type I (cold)		m ³	42,386	2022 June Market price
		22.73.003	Premix - AC Type I (hot)		m ³	22,718	2022 June Market price

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
3	Machinery	22.73.004	Dense Bitumen Macadam		m ³	20,000	2022 June Market price
		22.73.006	Bituminous sealant (K-160)		m ³	129,000.0	2022 June Market price
		22.73.012	MC 30 Bitumen		litre	155.2	2022 June Market price
		22.73.013	80/100 Pen grade bitumen		litre	163.8	2022 June Market price
		22.74.002	Fuel	Diesel	litre	141	2022 July. ERC Pump Price
		22.77.001	Mesh wire 8' x		m ²	700	2022 June Market price
		22.77.101	Gabion mesh	2m*1m = 2	No.	4,613	2022 June Market price
		22.77.102	Gabion Mattress	10mm	m ²	2,749	2022 June Market price
		22.77.103	Flat metal plate	1/16-1/18	m ²	817	2022 June Market price
		22.77.104	Steel pipe	2inch	m	728	2022 June Market price
		22.77.105	Bolts with nuts	8cm	Set	257	Conversion Factor of Nairobi Region Market Survey
		22.77.106	Brackets		No	283	Conversion Factor of Nairobi Region Market Survey
		22.77.107	Steel angle	125*5mm	kg	253	2022 June Market price
		22.77.108	Steel plate	450*3mm	kg	259	2022 June Market price
		22.77.109	Steel bollard	SGP. 5B. 125A	kg	186	2022 June Market price
		22.77.110	Mesh wire	A142	m ²	362	2022 June Market price
		22.77.111	Cast iron manhole cover	600*450 heavy duty with frame	No.	7,413	Conversion Factor of Nairobi Region Market Survey
		22.78.101	Cypress	for fixed deck	m ³	32,000	2022 June Market price
		22.78.102	Wooden formwork panel		m ²	1,200	2022 June Market price
		22.79.003	Road marking paint yellow		litre	943	2022 June Market price
		22.79.004	Road marking paint white		litre	908	2022 June Market price
		22.79.005	Thermoplastic paint yellow	premixed with primer and glass beads	Kg	386	2022 June Market price
		22.79.006	Thermoplastic paint white	premixed with primer and glass beads	Kg	370	2022 June Market price
		22.79.012	Reflective 'cat' eyes		No	677	2022 June Market price
		22.79.013	Reflective mark posts	White PVC post 1400	No.		Conversion Factor of Nairobi Region Market Survey
		22.79.101	Road marking paint black		litre	864	2022 June Market price
		22.79.104	Reflective paint		litre	1317	2022 June Market price
		22.79.105	White paint		litre	631	2022 June Market price
		22.79.106	Black paint		litre	641	2022 June Market price
		22.79.107	Road Kerb	12.25*24.5	No.	466	2022 June Market price
		22.79.108	Road channel	9.8*12.25	No.	258	2022 June Market price
		22.79.109	Duct Pipe (PVC 150)		m	464	2022 June Market price

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
3	Material	22.79.110	Equipment for lead pipe jacking	196kN	Day	30,000	2019 RA rate
		22.79.111	Equipment for lead pipe jacking (fixing part)		Day	3,000	2019 RA rate
		22.79.112	Equipment for lead pipe jacking (moving part)		m	100	2019 RA rate
		22.79.113	Equipment for Underground pipe jacking	196kN	Day	18,658	2019 Feb. Market Price
		22.79.114	Equipment for Underground pipe jacking (fixing part)		Day	12,000	2019 Feb. Market Price
		22.79.115	Equipment for Underground pipe jacking (moving part)		m	8,796	2019 Feb. Market Price
		22.79.116	Water stopper		No.	2,239	2019 Feb. Market Price
		22.79.117	Concrete anchor		No.	269	2019 Feb. Market Price
		22.79.118	Water stop cement		Kg	200	Conversion Factor of Nairobi Region Market Survey
		22.79.119	Aggregation(jacking)		kg	10	2019 Feb. Market Price
		22.79.120	Aggregation(washing)		kg	10	2019 Feb. Market Price
		22.79.121	Shank-rod	90mm	No.	283,604	2019 Feb. Market Price
		22.79.122	Driving-adapter		No.	1,514	2019 Feb. Market Price
		22.79.123	drilling-pipe		No.	49,258	2019 Feb. Market Price
		22.79.124	Ring-bit		No.	97,022	2019 Feb. Market Price
		22.79.125	Water-swivel		No.	90,625	2019 Feb. Market Price
		22.79.126	Cutter-set		No.	44,033	2019 Feb. Market Price
		22.79.127	Core-tube		No.	44,460	2019 Feb. Market Price
		22.79.128	Magnifying-bit		No.	481,914	2019 Feb. Market Price
		22.79.129	Earth bar	10*1500mm	No.	505	2022 June Market price
		22.79.130	Lighting pole	7.6m	No.	40,597	Conversion Factor of Nairobi Region Market Survey
		22.79.131	Lighting pole	10.0m	No.	76,365	Conversion Factor of Nairobi Region Market Survey
		22.79.132	Cable	for light	m	514	Conversion Factor of Nairobi Region Market Survey
		22.79.133	Accessories	for light	Set	4,115	Conversion Factor of Nairobi Region Market Survey
		22.79.134	Lamp		No.	14,780	Conversion Factor of Nairobi Region Market Survey
		22.79.135	Control panel		No.	37,003	Conversion Factor of Nairobi Region Market Survey
		22.79.136	Cable	for control panel	m	1,134	Conversion Factor of Nairobi Region Market Survey

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
3	Material	22.79.137	Accessories	for control panel	Set	40,357	Conversion Factor of Nairobi Region Market Survey
		22.79.138	Meter		No.	4,022	Conversion Factor of Nairobi Region Market Survey
		22.79.139	Grass		m ²	100	2022 June Market price
		22.79.140	Red soil		m ³	1,350	2022 June Market price
		22.79.141	Manure		m ³	3,500	2022 June Market price
		22.79.142	Warning triangular sign	600mm	No.	14,003	2022 June Market price
		22.79.143	Priority triangular sign	600mm	No.	14,003	2022 June Market price
		22.79.144	Standard		No.	13,769	2022 June Market price
		22.79.145	Non-standard	less than 1	No.	27,388	2022 June Market price
		22.79.150	Guardrail Beam	4m	No.	11,366	2022 June Market price
		22.79.151	Guardrail Post	140 mm	m	4,548	Conversion Factor of Nairobi Region Market Survey
		22.79.152	Bolts with nuts and washers (short)		No.	272	Conversion Factor of Nairobi Region Market Survey
		22.79.153	Bolts with nuts and washers (long)		No.	322	Conversion Factor of Nairobi Region Market Survey
		22.79.154	Fuel	Petrol	litre	159	2022 July. ERC Pump Price
		22.79.155	Pick up truck		day	6,500	2022 June Market rate
		22.79.156	Truck	2 ton	day	7,500	2022 June Market rate
		22.79.157	Thinner		litre	425	2022 June Market price
		22.79.158	Cement (OPC)		kg		2022 June Market price
		22.79.159	Pulveriser		Hour		2022 June Market rate
		22.79.160	Hessian cloth		m ²	191	2022 June Market price
		22.79.161	K-160		litre	129	2022 June Market price
		22.79.162	Reflecting Glass Beads		kg	165	Conversion Factor of Nairobi Region Market Survey
		22.79.163	Electricity		Kw/h	24	2022 KPLC Price
		22.79.164	Beam Straightener		Hour	10,662	2019 Feb. Market Price

Lower Eastern Region

Appendix 2-6 : Price List - Labour, Machinery, Material (Lower Eastern Region)

No	Item	Code	Name	Type	Unit	Unit Price	Source 2022
1	Labour	22.50.001	Support Staff		Person Day	781	2022 June Market rate
		22.50.002	Unskilled labour		Person Day	781	2022 June Market rate
		22.50.005	Artisans G2		Person Day	1,461	2022 June Market rate
		22.50.007	Skilled Labour: Overseer		Person Day	2,000	2022 June Market rate
		22.50.101	Skilled Labour: Operator		Person Day	2,000	2022 June Market rate
2	Machinery	22.61.101	Truck Flat bed		Hour	2,500	2022 June Market rate
		22.61.102	Truck with crane	4t	Hour	3,729	2022 June Market rate
		22.62.015	Water Tanker		Hour	3,550	2022 June Market rate
		22.63.012	Motor Grader (e.g. CAT 112F): 100 - 130 HP		Hour	6,000	2022 June Market rate
		22.63.101	Bulldozer	BD65EX	Hour	6,750	2022 June Market rate
		22.63.102	Excavator	130-150hp	Hour	6,033	2022 June Market rate
		22.63.103	Backhoe loader	130-150hp	Hour	5,050	2022 June Market rate
		22.64.001	Pedestrian Roller		Hour	1,600	2022 June Market rate
		22.64.004	Single drum steel Vibrator roller: 9-10T, 130 HP		Hour	3,213	2022 June Market rate
		22.64.005	Pneumatic Roller: 10T, 130HP		Hour	4,850	2022 June Market rate
		22.65.008	Road Marking Machine		Hour	650	2022 June Market rate
		22.65.101	Melting pod (for paint)	200 - 350kg	Hour	2,800	2022 June Market rate
		22.67.001	Grass cutter	150cm, 35hp	Hour	190	2022 June Market rate
		22.67.004	Bitumen Sprayer H/ Operated	200L	Hour	525	2022 June Market rate
		22.67.005	Vibrator P/Tamper		Hour	550	2022 June Market rate
		22.67.101	Milling machine	197hp	Hour	2,000	2022 June Market rate
		22.67.102	Resurface machine	120hp	Hour	31,985	2022 June Market rate
		22.67.103	Road heater	63hp	Hour	26,655	2022 RA rate

No	Item	Code	Name	Type	Unit	Unit Price	Source 2022
3	Material	22.67.104	Asphalt finisher	37H	Hour	5,600	2022 June Market rate
		22.67.105	Power suction car	4t	Hour	6,664	2022 June Market rate
		22.67.106	Muddy water processing machine		Day	51,177	2019 Feb. Market rate
		22.67.107	Boring machine	81kw	Day	53,333	2019 Feb. Market rate
		22.67.108	Air compressor	150CFM, 4250LPM	Day	8,050	2022 June Market rate
		22.67.109	Asphalt/Bitumen cutter		Hour	1,750	2022 June Market rate
		22.67.110	Chip spreader		Hour	5,375	2022 June Market rate
		22.69.009	Fine aggregates		m ³	2,269	2022 June Market price
		22.70.001	Fine aggregates		m ³	1,650	2022 June Market price
		22.70.002	Graded aggregates (ballast)		m ³	1,112	2022 June Market price
		22.70.003	Water		m ³	250	2022 June Market price
		22.70.004	Cement (ordinary)		Kg	14	2022 June Market price
		22.70.006	Hydrated lime		Kg	24	2022 June Market price
		22.71.012	Square twisted bars 16mm		t	126,543	2022 June Market price
		22.72.001	Precast concrete culvert - 450mm		m	2,167	2022 June Market price
		22.72.002	Precast concrete culvert - 600mm		m	3,133	2022 June Market price
		22.72.003	Precast concrete culvert - 900mm		m	4,567	2022 June Market price
		22.72.004	Precast concrete culvert - 1200mm		m	8,000	2022 June Market price
		22.72.016	Coarse aggregates(chippings) - 3/6mm		m ³	9,094	2022 June Market price
		22.72.017	Coarse aggregates(chippings) - 6/10mm		m ³	9,344	2022 June Market price
		22.72.018	Coarse aggregates(chippings) - 10/14mm		m ³	9,475	2022 June Market price
		22.72.019	Coarse aggregates(chippings) - 14/20mm		m ³	9,725	2022 June Market price
		22.72.020	Stone dust		m ³	1,500	2022 June Market price
		22.72.021	Gravel material (murrum)		m ³	1,000	2022 June Market price
		22.72.022	Hardcore		m ³	1,300	2022 June Market price
		22.72.023	Crusher run material (Graded crushed stone)		m ³	1,720	2022 June Market price
		22.72.024	Quarry waste material		m ³	2,013	2022 June Market price

No	Item	Code	Name	Type	Unit	Unit Price	Source 2022
3	Material	22.72.101	Precast concrete culvert - 300mm		m	1,500	2022 June Market price
		22.72.102	Stone		m ³	1,100	2022 June Market price
		22.72.103	Gully pot with grating		Set	15,000	Conversion Factor of Nairobi Region Market Survey
		22.72.104	Invert block drain	600*330*355	No.	400	2022 June Market price
		22.72.105	Invert block drain	600*760*190	No.	1,263	Conversion Factor of Nairobi Region Market Survey
		22.72.106	Side Slab concrete block	3'*9'*24''	No.	207	2022 June Market price
		22.72.107	Manhole cover slab	1220*150	No.	5,062	2022 June Market price
		22.72.108	Soil (soft)		m ³	219	2022 June Market price
		22.72.109	Soil (hard)		m ³	382	2022 June Market price
		22.73.002	Premix - AC Type I (cold)		m ³	45,167	2022 June Market price
		22.73.003	Premix - AC Type I (hot)		m ³	24,569	2022 June Market price
		22.73.004	Dense Bitumen Macadam		m ³	24,138	2022 June Market price
		22.73.006	Bituminous sealant (K-160)		m ³	114,667	2022 June Market price
		22.73.012	MC 30 Bitumen		litre	13	2022 June Market price
		22.73.013	80/100 Pen grade bitumen		litre	129	2022 June Market price
		22.74.002	Fuel	Diesel	litre	141	2022 July. ERC Pump Price
		22.77.001	Mesh wire 8' x		m ²	700	2022 June Market price
		22.77.101	Gabion mesh	2m*1m = 2	No.	5,250	2022 June Market price
		22.77.102	Gabion Mattress	10mm	m ²	2,678	2022 June Market price
		22.77.103	Flat metal plate	1/16-1/18	m ²	945	2022 June Market price
		22.77.104	Steel pipe	2inch	m	692	2022 June Market price
		22.77.105	Bolts with nuts	8cm	Set	250	Conversion Factor of Nairobi Region Market Survey
		22.77.106	Brackets		No	120	Conversion Factor of Nairobi Region Market Survey
		22.77.107	Steel angle	125*5mm	kg	362	2022 June Market price
		22.77.108	Steel plate	450*3mm	kg	162	2022 June Market price

No	Item	Code	Name	Type	Unit	Unit Price	Source 2022
3	Material	22.77.109	Steel bollard	SGP. 5B. 125A	kg	181	2022 June Market price
		22.77.110	Mesh wire	A142	m ²	329	2022 June Market price
		22.77.111	Cast iron manhole cover	600*450 heavy duty with frame	No.	7221	Conversion Factor of Nairobi Region Market Survey
		22.78.101	Cypress	for fixed deck	m ³	38760	2022 June Market price
		22.78.102	Wooden formwork panel		m ²	1317	2022 June Market price
		22.79.003	Road marking paint yellow		litre	1275	2022 June Market price
		22.79.004	Road marking paint white		litre	1275	2022 June Market price
		22.79.005	Thermoplastic paint yellow	premixed with primer and glass beads	Kg	388	2022 June Market price
		22.79.006	Thermoplastic paint white	premixed with primer and glass beads	Kg	372	2022 June Market price
		22.79.012	Reflective 'cat' eyes		No	660	Conversion Factor of Nairobi Region Market Survey
		22.79.013	Reflective mark posts	White PVC post 1400	No.	3400	Conversion Factor of Nairobi Region Market Survey
		22.79.101	Road marking paint black		litre	864	2022 June Market price
		22.79.104	Reflective paint		litre	1425	Conversion Factor of Nairobi Region Market Survey
		22.79.105	White paint		litre	774	2022 June Market price
		22.79.106	Black paint		litre	813	2022 June Market price
		22.79.107	Road Kerb	12.25*24.5	No.	400	2022 June Market price
		22.79.108	Road channel	9.8*12.25	No.	250	2022 June Market price
		22.79.109	Duct Pipe (PVC150)		m	567	2022 June Market price
		22.79.110	Equipment for lead pipe jacking	196kN	Day	31985	2017 RA rate
		22.79.111	Equipment for lead pipe jacking (fixing part)		Day	1333	2017 RA rate
		22.79.112	Equipment for lead pipe jacking (moving part)		m	107	2017 RA rate
		22.79.113	Equipment for Underground pipe jacking	196kN	Day	18658	2019 Feb. Market rate
		22.79.114	Equipment for Underground pipe jacking (fixing part)		Day	12261	2019 Feb. Market rate
		22.79.115	Equipment for Underground pipe jacking (moving part)		m	8796	2019 Feb. Market rate

No	Item	Code	Name	Type	Unit	Unit Price	Source 2022
3	Material	22.79.116	Water stopper		No.	2239	2019 Feb. Market Price
		22.79.117	Concrete anchor		No.	269	2019 Feb. Market Price
		22.79.118	Water stop cement		Kg	200	Conversion Factor of Nairobi Region Market Survey
		22.79.119	Aggregation(jacking)		kg	10	2019 Feb. Market Price
		22.79.120	Aggregation(washing)		kg	10	2019 Feb. Market Price
		22.79.121	Shank-rod	90mm	No.	283604	2019 Feb. Market Price
		22.79.122	Driving-adapter		No.	1514	2019 Feb. Market Price
		22.79.123	drilling-pipe		No.	49258	2019 Feb. Market Price
		22.79.124	Ring-bit		No.	97022	2019 Feb. Market Price
		22.79.125	Water-swivel		No.	90625	2019 Feb. Market Price
		22.79.126	Cutter-set		No.	44033	2019 Feb. Market Price
		22.79.127	Core-tube		No.	44460	2019 Feb. Market Price
		22.79.128	Magnifying-bit		No.	481914	2019 Feb. Market Price
		22.79.129	Earth bar	10*1500mm	No.	500	2022 June Market price
		22.79.130	Lighting pole	7.6m	No.	39543	Conversion Factor of Nairobi Region Market Survey
		22.79.131	Lighting pole	10.0m	No.	74384	Conversion Factor of Nairobi Region Market Survey
		22.79.132	Cable	for light	m	501	Conversion Factor of Nairobi Region Market Survey
		22.79.133	Accessories	for light	Set	4008	Conversion Factor of Nairobi Region Market Survey
		22.79.134	Lamp		No.	14397	Conversion Factor of Nairobi Region Market Survey
		22.79.135	Control panel		No.	36043	Conversion Factor of Nairobi Region Market Survey
		22.79.136	Cable	for control panel	m	1105	Conversion Factor of Nairobi Region Market Survey
		22.79.137	Accessories	for control panel	Set	39310	Conversion Factor of Nairobi Region Market Survey
		22.79.138	Meter		No.	4607	Conversion Factor of Nairobi Region Market Survey

No	Item	Code	Name	Type	Unit	Unit Price	Source 2022
3	Material	22.79.139	Grass		m ²	150	2022 June Market price
		22.79.140	Red soil		m ³	1500	2022 June Market price
		22.79.141	Manure		m ³	3333	2022 June Market price
		22.79.142	Warning triangular sign	600mm	No.	13991	Conversion Factor of Nairobi Region Market Survey
		22.79.143	Priority triangular sign	600mm	No.	13991	Conversion Factor of Nairobi Region Market Survey
		22.79.144	Standard		No.	13758	Conversion Factor of Nairobi Region Market Survey
		22.79.145	Non-standard	less than 1	No.	27366	Conversion Factor of Nairobi Region Market Survey
		22.79.150	Guardrail Beam	4m	No.	11357	Conversion Factor of Nairobi Region Market Survey
		22.79.151	Guardrail Post	140 mm	m	4544	Conversion Factor of Nairobi Region Market Survey
		22.79.152	Bolts with nuts and washers (short)		No.	272	Conversion Factor of Nairobi Region Market Survey
		22.79.153	Bolts with nuts and washers (long)		No.	322	Conversion Factor of Nairobi Region Market Survey
		22.79.154	Fuel	Petrol	litre	160	2022 July. ERC Pump Price
		22.79.155	Pick up truck		day	6100	2022 June Market rate
		22.79.156	Truck	2 ton	day	7800	2022 June Market rate
		22.79.157	Thinner		litre	367	2022 June Market price
		22.79.158	Cement (OPC)		kg	14	2022 June Market price
		22.79.159	Pulveriser		Hour	6500	2022 June Market rate
		22.79.160	Hessian cloth		m ²	160	2022 June Market price
		22.79.161	K-160		litre	113	2022 June Market price
		22.79.162	Reflecting Glass Beads		kg	165	Conversion Factor of Nairobi Region Market Survey
		22.79.163	Electricity		Kw/h	24	2022 KPLC Price
		22.79.164	Beam Straightener		Hour	10662	2019 Feb. Market Price

Upper Eastern Region

Appendix 2-7 : Price List - Labour, Machinery, Material (Upper Eastern Region)

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
1	Labour	22.50.001	Support Staff		Person Day	750	2022 June Market rate
		22.50.002	Unskilled labour		Person Day	672	2022 June Market rate
		22.50.005	Artisans G2		Person Day	1,384	2022 June Market rate
		22.50.007	Skilled Labour: Overseer		Person Day	1,800	2022 June Market rate
		22.50.101	Skilled Labour: Operator		Person Day	2,000	2022 June Market rate
2	Machinery	22.61.101	Truck Flat bed		Hour	2,500	2022 June Market rate
		22.61.102	Truck with crane	4t	Hour	4,375	2022 June Market rate
		22.62.015	Water Tanker		Hour	2,500	2022 June Market rate
		22.63.012	Motor Grader (e.g. CAT 112F): 100 - 130 HP		Hour	8,050	2022 June Market rate
		22.63.101	Bulldozer	BD65EX	Hour	6,750	2022 June Market rate
		22.63.102	Excavator	130-150hp	Hour	8,000	2022 June Market rate
		22.63.103	Backhoe loader	130-150hp	Hour	5,500	2022 June Market rate
		22.64.001	Pedestrian Roller		Hour	1,700	2022 June Market rate
		22.64.004	Single drum steel Vibrator roller: 9-10T, 130 HP		Hour	3,357	2022 June Market rate
		22.64.005	Pneumatic Roller: 10T, 130HP		Hour	4,750	2022 June Market rate
		22.65.008	Road Marking Machine		Hour	570	2022 June Market rate
		22.65.101	Melting pod (for paint)	200 - 350kg	Hour	3,000	2022 June Market rate
		22.67.001	Grass cutter	150cm, 35hp	Hour	130	2022 June Market rate
		22.67.004	Bitumen Sprayer H/ Operated	200L	Hour	500	2022 June Market rate
		22.67.005	Vibrator P/Tamper		Hour	600	2022 June Market rate
		22.67.101	Milling machine	197hp	Hour	2,000	2022 June Market rate
		22.67.102	Resurface machine	120hp	Hour	31,985	2022 June Market rate
		22.67.103	Road heater	63hp	Hour	26,655	2022 RA rate

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
3	Material	22.67.104	Asphalt finisher	37H	Hour		2022 June Market rate
		22.67.105	Power suction car	4t	Hour	6,664	2022 June Market rate
		22.67.106	Muddy water processing machine		Day	51,177	2019 Feb. Market Price
		22.67.107	Boring machine	81kw	Day	53,333	2019 Feb. Market rate
		22.67.108	Air compressor	150CFM, 4250LPM	Day	12,500	2022 June Market rate
		22.67.109	Asphalt/Bitumen cutter		Hour	1,750	2022 June Market rate
		22.67.110	Chip spreader		Hour	5,375	2022 June Market rate
		22.69.009	Fine aggregates		m ³	2,160	2022 June Market price
		22.70.001	Fine		m ³	1,750	2022 June Market price
		22.70.002	Graded aggregates (ballast)		m ³	1,600	2022 June Market price
		22.70.003	Water		m ³	204	2022 June Market price
		22.70.004	Cement (ordinary)		Kg	14.92	2022 June Market price
		22.70.006	Hydrated lime		Kg	28	2022 June Market price
		22.71.012	Square twisted bars 16mm		t	117,255	2022 June Market price
		22.72.001	Precast concrete culvert - 450mm		m	2,604	2022 June Market price
		22.72.002	Precast concrete culvert - 600mm		m	2,850	2022 June Market price
		22.72.003	Precast concrete culvert - 900mm		m	4,742	2022 June Market price
		22.72.004	Precast concrete culvert - 1200mm		m	11,500	2022 June Market price
		22.72.016	Coarse aggregates(chip-pings) - 3/6mm		m ³	9,250	2022 June Market price
		22.72.017	Coarse aggregates(chip-pings) - 6/10mm		m ³	9,250	2022 June Market price
		22.72.018	Coarse aggregates(chip-pings) - 10/14mm		m ³	9,750	2022 June Market price
		22.72.019	Coarse aggregates(chip-pings) - 14/20mm		m ³	9,750	2022 June Market price
		22.72.020	Stone dust		m ³	1,450	2022 June Market price
		22.72.021	Gravel material (mur-ram)		m ³	1,166	2022 June Market price
		22.72.022	Hardcore		m ³	1,800	2022 June Market price
		22.72.023	Crusher run material (Graded crushed stone)		m ³	1,800	2022 June Market price
		22.72.024	Quarry waste material		m ³	2,104	2022 June Market price

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
3	Material	22.72.101	Precast concrete culvert - 300mm		m	1,568	2022 June Market price
		22.72.102	Stone		m ³	1,075	2022 June Market price
		22.72.103	Gully pot with grating		Set	15,000	Conversion Factor of Nairobi Region Market Survey
		22.72.104	Invert block drain	600*330*355	No.	459	2022 June Market price
		22.72.105	Invert block drain	600*760*190	No.	1,448	2022 June Market price
		22.72.106	Side Slab concrete block	3''*9''*24''	No.	200	2022 June Market price
		22.72.107	Manhole cover slab	1220*150	No.	5,088	2022 June Market price
		22.72.108	Soil (soft)		m ³	220	2022 June Market price
		22.72.109	Soil (hard)		m ³	384	2022 June Market price
		22.73.002	Premix - AC Type I (cold)		m ³	40,703	2022 June Market price
		22.73.003	Premix - AC Type I (hot)		m ³	24,064	2022 June Market price
		22.73.004	Dense Bitumen Macadam		m ³	24,138	2022 June Market price
		22.73.006	Bituminous sealant (K-160)		m ³	90,119	2022 June Market price
		22.73.012	MC 30 Bitumen		litre	130	2022 June Market price
		22.73.013	80/100 Pen grade bitumen		litre	130	2022 June Market price
		22.74.002	Fuel	Diesel	litre	143	2022 July. ERC Pump Price
		22.77.001	Mesh wire 8' x		m ²	650	2022 June Market price
		22.77.101	Gabion mesh	2m*1m = 2	No.	5,000	2022 June Market price
		22.77.102	Gabion Mattress	10mm	m ²	2,680	2022 June Market price
		22.77.103	Flat metal plate	1/16-1/18	m ²	925	2022 June Market price
		22.77.104	Steel pipe	2inch	m	700	2022 June Market price
		22.77.105	Bolts with nuts	8cm	Set	251	Conversion Factor of Nairobi Region Market Survey
		22.77.106	Brackets		No	160	Conversion Factor of Nairobi Region Market Survey
		22.77.107	Steel angle	125*5mm	kg	341	2022 June Market price
		22.77.108	Steel plate	450*3mm	kg	255.32	2022 June Market price

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
4	Machinery	22.77.109	Steel bollard	SGP. 5B. 125A	kg	181	2022 June Market price
		22.77.110	Mesh wire	A142	m ²	373	2022 June Market price
		22.77.111	Cast iron manhole cover	600*450 heavy duty with frame	No.	7,227	Conversion Factor of Nairobi Region Market Survey
		22.78.101	Cypress	for fixed deck	m ³	38,000	2022 June Market price
		22.78.102	Wooden formwork panel		m ²	1,300	2022 June Market price
		22.79.003	Road marking paint yellow		litre	1,048	2022 June Market price
		22.79.004	Road marking paint white		litre	958	2022 June Market price
		22.79.005	Thermoplastic paint yellow	premixed with primer and glass beads	Kg	388	2022 June Market price
		22.79.006	Thermoplastic paint white	premixed with primer and glass beads	Kg	362	2022 June Market price
		22.79.012	Reflective 'cat' eyes		No	660	Conversion Factor of Nairobi Region Market Survey
		22.79.013	Reflective mark posts	White PVC post 1400	No.		Conversion Factor of Nairobi Region Market Survey
		22.79.101	Road marking paint black		litre	1,005	2022 June Market price
		22.79.104	Reflective paint		litre	1284	Conversion Factor of Nairobi Region Market Survey
		22.79.105	White paint		litre	774	2022 June Market price
		22.79.106	Black paint		litre	813	2022 June Market price
		22.79.107	Road Kerb	12.25*24.5	No.	394	2022 June Market price
		22.79.108	Road channel	9.8*12.25	No.	285	2022 June Market price
		22.79.109	Duct Pipe (PVC150)		m	452	2022 June Market price
		22.79.110	Equipment for lead pipe jacking	196kN	Day	31,985	2022 RA rate
		22.79.111	Equipment for lead pipe jacking (fixing part)		Day	1,333	2017 RA rate
		22.79.112	Equipment for lead pipe jacking (moving part)		m	107	2017 RA rate

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
4	Machinery	22.79.113	Equipment for Under-ground pipe jacking	196kN	Day	18,658	2022 RA rate
		22.79.114	Equipment for Under-ground pipe jacking (fixing part)		Day	12,261	2022 RA rate
		22.79.115	Equipment for Under-ground pipe jacking (moving part)		m	8,796	2022 RA rate
3	Material	22.79.116	Water stopper		No.	2,239	2022 RA rate
		22.79.117	Concrete anchor		No.	269	2019 Feb. Market Price
		22.79.118	Water stop cement		Kg	200	Conversion Factor of Nairobi Region Market Survey
		22.79.119	Aggregation(jacking)		kg	10	2022 RA price
		22.79.120	Aggregation(washing)		kg	10	2022 RA price
		22.79.121	Shank-rod	90mm	No.	283,604	2022 RA price
		22.79.122	Driving-adapter		No.	1,514	2022 RA price
		22.79.123	drilling-pipe		No.	49,258	2022 RA price
		22.79.124	Ring-bit		No.	97,022	2022 RA price
		22.79.125	Water-swivel		No.	90,625	2022 RA price
		22.79.126	Cutter-set		No.	44,033	2022 RA price
		22.79.127	Core-tube		No.	44,460	2022 RA price
		22.79.128	Magnifying-bit		No.	481,914	2022 RA price
		22.79.129	Earth bar	10*1500mm	No.	505	2022 June Market price
		22.79.130	Lighting pole	7.6m	No.	39,577	Conversion Factor of Nairobi Region Market Survey
		22.79.131	Lighting pole	10.0m	No.	74,447	Conversion Factor of Nairobi Region Market Survey
		22.79.132	Cable	for light	m	501	Conversion Factor of Nairobi Region Market Survey
		22.79.133	Accessories	for light	Set	4,012	Conversion Factor of Nairobi Region Market Survey
		22.79.134	Lamp		No.	14,409	Conversion Factor of Nairobi Region Market Survey
		22.79.135	Control panel		No.	36,074	Conversion Factor of Nairobi Region Market Survey
		22.79.136	Cable	for control panel	m	1,106	Conversion Factor of Nairobi Region Market Survey

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
3	Material	22.79.137	Accessories	for control panel	Set	39,343	Conversion Factor of Nairobi Region Market Survey
		22.79.138	Meter		No.	3,441	Conversion Factor of Nairobi Region Market Survey
		22.79.139	Grass		m ²	90	2022 June Market price
		22.79.140	Red soil		m ³	1,500	2022 June Market price
		22.79.141	Manure		m ³	3,150	2022 June Market price
		22.79.142	Warning triangular sign	600mm	No.	14,003	2022 June Market price
		22.79.143	Priority triangular sign	600mm	No.	14,003	2022 June Market price
		22.79.144	Standard		No.	13,769	2022 June Market price
		22.79.145	Non-standard	less than 1	No.	27,388	2022 June Market price
		22.79.150	Guardrail Beam	4m	No.	11,359	2022 June Market price
		22.79.151	Guardrail Post	140 mm	m	4,548	Conversion Factor of Nairobi Region Market Survey
		22.79.152	Bolts with nuts and washers (short)		No.	272	Conversion Factor of Nairobi Region Market Survey
		22.79.153	Bolts with nuts and washers (long)		No.	322	Conversion Factor of Nairobi Region Market Survey
		22.79.154	Fuel	Petrol	litre	162	2022 July. ERC Pump Price
		22.79.155	Pick up truck		day	6,000	2022 June Market rate
		22.79.156	Truck	2 ton	day	7,000	2022 June Market rate
		22.79.157	Thinner		litre	296	2022 June Market price
		22.79.158	Cement (OPC)		kg		2022 June Market price
		22.79.159	Pulveriser		Hour		2022 June Market rate
		22.79.160	Hessian cloth		m ²	128	2022 June Market price
		22.79.161	K-160		litre	136	2022 June Market price
		22.79.162	Reflecting Glass Beads		kg	165	Conversion Factor of Nairobi Region Market Survey

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
3	Material	22.79.163	Electricity		Kw/h	24	2022 KPLC Price
		22.79.164	Beam Straightener		Hour	10,662	2019 Feb. Market Price

North Eastern Region

Appendix 2-8 : Price List - Labour, Machinery, Material (North Eastern Region)

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
1	Labour	22.50.001	Support Staff		Person Day	1,000	2022 June Market rate
		22.50.002	Unskilled labour		Person Day	1,000	2022 June Market rate
		22.50.005	Artisans G2		Person Day	2,000	2022 June Market rate
		22.50.007	Skilled Labour: Overseer		Person Day	2,350	2022 June Market rate
		22.50.101	Skilled Labour: Operator		Person Day	2,000	2022 June Market rate
2	Machinery	22.61.101	Truck Flat		Hour	2,500	2022 June Market rate
		22.61.102	Truck with crane	4t	Hour	5,000	2022 June Market rate
		22.62.015	Water		Hour	3,500	2022 June Market rate
		22.63.012	Motor Grader (e.g. CAT 112F): 100 - 130 HP		Hour	8,700	2022 June Market rate
		22.63.101	Bulldozer	BD65EX	Hour	8,625	2022 June Market rate
		22.63.102	Excavator	130-150hp	Hour	8,150	2022 June Market rate
		22.63.103	Backhoe loader	130-150hp	Hour	6,000	2022 June Market rate
		22.64.001	Pedestrian		Hour	1,875	2022 June Market rate
		22.64.004	Single drum steel Vibrator roller: 9-10T, 130 HP		Hour	4,950	2022 June Market rate
		22.64.005	Pneumatic Roller: 10T, 130HP		Hour	3,988	2022 June Market rate
		22.65.008	Road Marking Machine		Hour	700	2022 June Market rate
		22.65.101	Melting pod (for paint)	200 - 350kg	Hour	3,000	2022 June Market rate
		22.67.001	Grass cutter	150cm, 35hp	Hour	230	2022 June Market rate
		22.67.004	Bitumen Sprayer H/ Operated	200L	Hour	570	2022 June Market rate
		22.67.005	Vibrator P/Tamper		Hour	700	2022 June Market rate
		22.67.101	Milling machine	197hp	Hour	2,000	2022 June Market rate
		22.67.102	Resurface machine	120hp	Hour	31,985	2022 June Market rate

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
3	Material	22.67.103	Road heater	63hp	Hour	22,500	2022 RA rate
		22.67.104	Asphalt finisher	37H	Hour		2022 June Market rate
		22.67.105	Power suction car	4t	Hour	6,664	2022 June Market rate
		22.67.106	Muddy water processing machine		Day	51,177	2019 Feb. Market Price
		22.67.107	Boring machine	81kw	Day	53,333	2019 Feb. Market rate
		22.67.108	Air compressor	150CFM, 4250LPM	Day	8,000	2022 June Market rate
		22.67.109	Asphalt/Bitumen cutter		Hour	1,500	2022 June Market rate
		22.67.110	Chip spreader		Hour	4,375	2022 June Market rate
		22.69.009	Fine aggregates		m ³	3,200	2022 June Market price
		22.70.001	Fine aggregates		m ³	2,150	2022 June Market price
		22.70.002	Graded aggregates (ballast)		m ³	1,807	2022 June Market price
		22.70.003	Water		m ³	300	2022 June Market price
		22.70.004	Cement (ordinary		Kg	15	2022 June Market price
		22.70.006	Hydrated lime		Kg	24	2022 June Market price
		22.71.012	Square twisted bars 16mm		t	127,377	2022 June Market price
		22.72.001	Precast concrete culvert - 450mm		m	2,850	2022 June Market price
		22.72.002	Precast concrete culvert - 600mm		m	3,475	2022 June Market price
		22.72.003	Precast concrete culvert - 900mm		m	6,110	2022 June Market price
		22.72.004	Precast concrete culvert - 1200mm		m	12,980	2022 June Market price
		22.72.016	Coarse aggregates		m ³	9,375	2022 June Market price
		22.72.017	Coarse aggregates		m ³	9,375	2022 June Market price
		22.72.018	Coarse aggregates		m ³	10,417	2022 June Market price
		22.72.019	Coarse aggregates		m ³	10,417	2022 June Market price
		22.72.020	Stone dust		m ³	1,750	2022 June Market price
		22.72.021	Gravel material (murrum)		m ³	1,250	2022 June Market price
		22.72.022	Hardcore		m ³	2,500	2022 June Market price

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
3	Material	22.72.023	Crusher run material (Graded crushed stone)		m ³	2,500	2022 June Market price
		22.72.024	Quarry waste material		m ³	2,192	2022 June Market price
		22.72.101	Precast concrete culvert - 300mm		m	2,000	2022 June Market price
		22.72.102	Stone		m ³	1,213	2022 June Market price
		22.72.103	Gully pot with grating		Set	18,000	Conversion Factor of Nairobi Region Market Survey
		22.72.104	Invert block drain	600*330*355	No.	500	2022 June Market price
		22.72.105	Invert block drain	600*760*190	No.	1,579	Conversion Factor of Nairobi Region Market Survey
		22.72.106	Side Slab concrete block	3''*9''*24''	No.	260	2022 June Market price
		22.72.107	Manhole cover slab	1220*150	No.	5,082	2022 June Market price
		22.72.108	Soil (soft)		m ³	250	2022 June Market price
		22.72.109	Soil (hard)		m ³	384	2022 June Market price
		22.73.002	Premix - AC Type I (cold)		m ³	47,000	2022 June Market price
		22.73.003	Premix - AC Type I (hot)		m ³	23,276	2022 June Market price
		22.73.004	Dense Bitumen Macadam		m ³	22,414	2022 June Market price
		22.73.006	Bituminous sealant (K-160)		m ³	112,000	2022 June Market price
		22.73.012	MC 30 Bitumen		litre	155	2022 June Market price
		22.73.013	80/100 Pen grade bitumen		litre	147	2022 June Market price
		22.74.002	Fuel	Diesel	litre	144	2022 July. ERC Pump Price
		22.77.001	Mesh wire 8' x		m ²	700	2022 June Market price
		22.77.101	Gabion mesh	2m*1m = 2	No.	5,500	2022 June Market price
		22.77.102	Gabion Mattress	10mm	m ²	3,000	2022 June Market price
		22.77.103	Flat metal plate	1/16-1/18	m ²	1,029	2022 June Market price
		22.77.104	Steel pipe	2inch	m	792	2022 June Market price
		22.77.105	Bolts with nuts	8cm	Set	257	Conversion Factor of Nairobi Region Market Survey

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
3	Material	22.77.106	Brackets		No	183	Conversion Factor of Nairobi Region Market Survey
		22.77.107	Steel angle	125*5mm	kg	360	2022 June Market price
		22.77.108	Steel plate	450*3mm	kg	182.98	2022 June Market price
		22.77.109	Steel bollard	SGP. 5B. 125A	kg	184	2022 June Market price
		22.77.110	Mesh wire	A142	m ²	393	2022 June Market price
		22.77.111	Cast iron manhole cover	600*450 heavy duty with frame	No.	7,323	Conversion Factor of Nairobi Region Market Survey
		22.78.101	Cypress	for fixed deck	m ³	42,000	2022 June Market price
		22.78.102	Wooden formwork panel		m ²	1,400	2022 June Market price
		22.79.003	Road marking paint yellow		litre	1,050	2022 June Market price
		22.79.004	Road marking paint white		litre	995	2022 June Market price
		22.79.005	Thermoplastic paint yellow	premixed with primer and glass beads	Kg	400	2022 June Market price
		22.79.006	Thermoplastic paint white	premixed with primer and glass beads	Kg	385	2022 June Market price
		22.79.012	Reflective 'cat' eyes		No	669	Conversion Factor of Nairobi Region Market Survey
		22.79.013	Reflective mark posts	White PVC post 1400	No.	3176	Conversion Factor of Nairobi Region Market Survey
		22.79.101	Road marking paint black		litre	1050	2022 June Market price
		22.79.104	Reflective paint		litre	1450	Conversion Factor of Nairobi Region Market Survey
		22.79.105	White paint		litre	785	2022 June Market price
		22.79.106	Black paint		litre	824	2022 June Market price
		22.79.107	Road Kerb	12.25*24.5	No.	475	2022 June Market price
		22.79.108	Road channel	9.8*12.25	No.	370	2022 June Market price
		22.79.109	Duct Pipe (PVC 150)		m	458	2022 June Market price

No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
3	Material	22.79.110	Equipment for lead pipe jacking	196kN	Day	41000	2022 RA rate
		22.79.111	Equipment for lead pipe jacking (fixing part)		Day	1300	2019 RA rate
		22.79.112	Equipment for lead pipe jacking (moving part)		m	100	2019 RA rate
		22.79.113	Equipment for Underground pipe jacking	196kN	Day	24000	2022 RA rate
		22.79.114	Equipment for Underground pipe jacking (fixing part)		Day	8300	2022 RA rate
		22.79.115	Equipment for Underground pipe jacking (moving part)		m	8300	2022 RA rate
		22.79.116	Water stopper		No.	2239	2019 Feb. Market Price
		22.79.117	Concrete anchor		No.	269	2019 Feb. Market Price
		22.79.118	Water stop cement		Kg	200	Conversion Factor of Nairobi Region Market Survey
		22.79.119	Aggregation(jacking)		kg	28	2022 RA price
		22.79.120	Aggregation(washing)		kg	27	2022 RA price
		22.79.121	Shank-rod	90mm	No.	269000	2022 RA price
		22.79.122	Driving-adapter		No.	2000	2022 RA price
		22.79.123	drilling-pipe		No.	43000	2022 RA price
		22.79.124	Ring-bit		No.	87000	2022 RA price
		22.79.125	Water-swivel		No.	91600	2022 RA price
		22.79.126	Cutter-set		No.	41440	2022 RA price
		22.79.127	Core-tube		No.	49750	2022 RA price
		22.79.128	Magnifying-bit		No.	500000	2022 RA price
		22.79.129	Earth bar	10*1500mm	No.	505	2022 June Market price
		22.79.130	Lighting pole	7.6m	No.	40105	Conversion Factor of Nairobi Region Market Survey

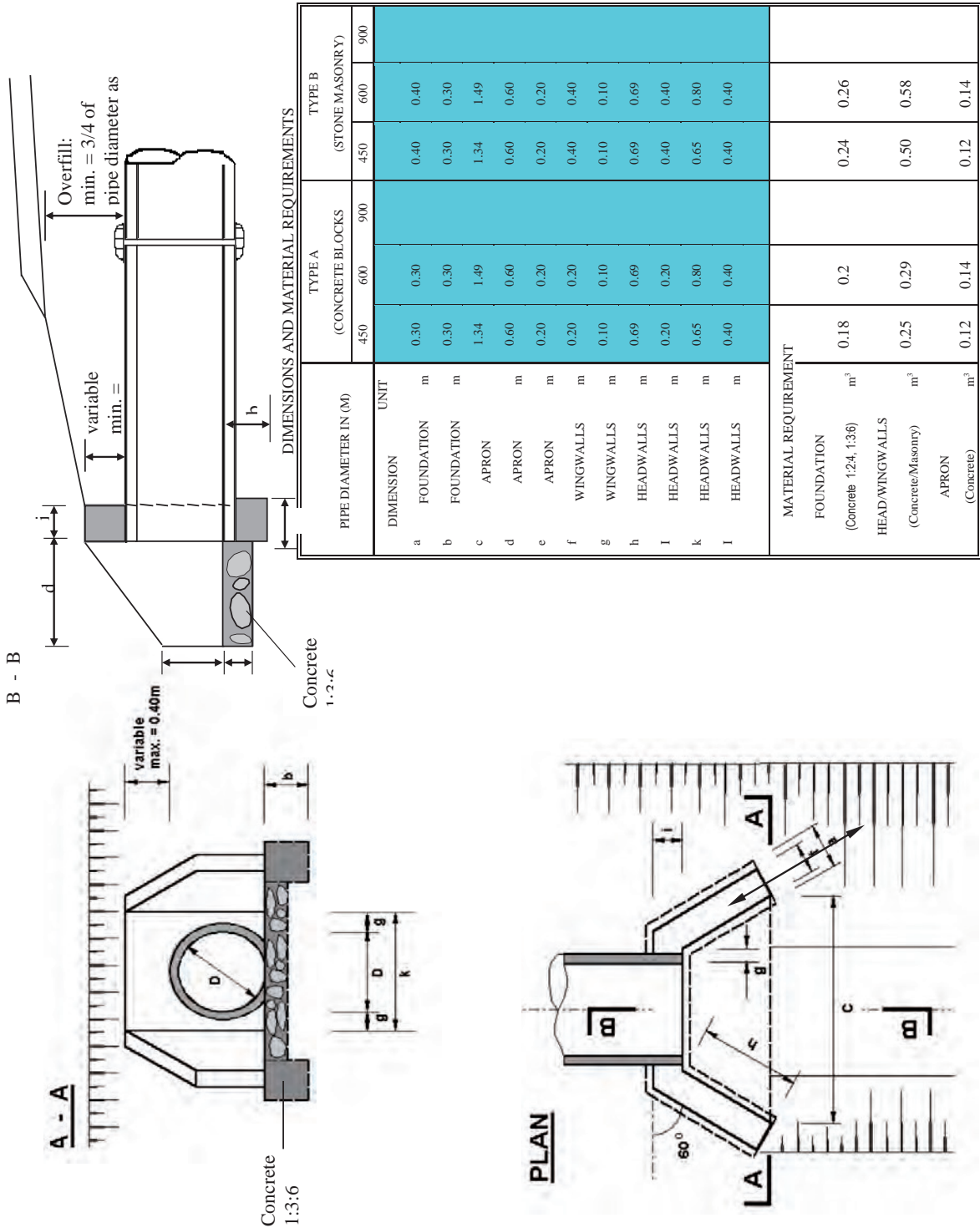
No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
3	Material	22.79.131	Lighting pole	10.0m	No.	75439	Conversion Factor of Nairobi Region Market Survey
		22.79.132	Cable	for light	m	508	Conversion Factor of Nairobi Region Market Survey
		22.79.133	Accessories	for light	Set	4065	Conversion Factor of Nairobi Region Market Survey
		22.79.134	Lamp		No.	14601	Conversion Factor of Nairobi Region Market Survey
		22.79.135	Control panel		No.	36554	Conversion Factor of Nairobi Region Market Survey
		22.79.136	Cable	for control panel	m	1120	Conversion Factor of Nairobi Region Market Survey
		22.79.137	Accessories	for control panel	Set	39867	Conversion Factor of Nairobi Region Market Survey
		22.79.138	Meter		No.	4451	Conversion Factor of Nairobi Region Market Survey
		22.79.139	Grass		m ²	250	2022 June Market price
		22.79.140	Red soil		m ³	1900	2022 June Market price
		22.79.141	Manure		m ³	3810	2022 June Market price
		22.79.142	Warning triangular sign	600mm	No.	14046	Conversion Factor of Nairobi Region Market Survey
		22.79.143	Priority triangular sign	600mm	No.	14046	Conversion Factor of Nairobi Region Market Survey
		22.79.144	Standard		No.	13812	Conversion Factor of Nairobi Region Market Survey
		22.79.145	Non-standard	less than 1	No.	27473	Conversion Factor of Nairobi Region Market Survey
		22.79.150	Guardrail Beam	4m	No.	11401	Conversion Factor of Nairobi Region Market Survey

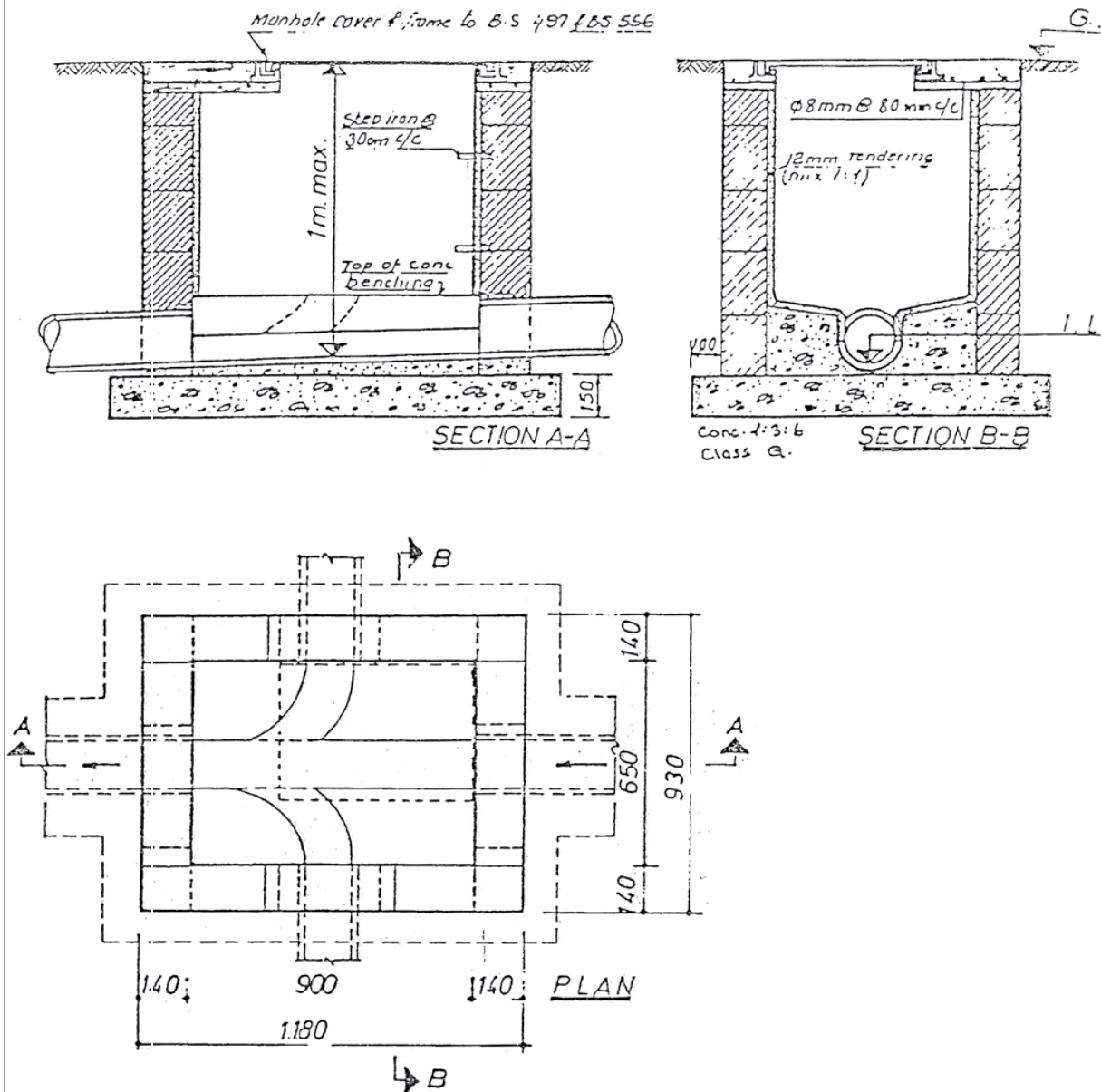
No	Item	Code	Name	Type	Unit	Unit Price 2022	Source 2022
3	Material	22.79.151	Guardrail Post	140 mm	m	4562	Conversion Factor of Nairobi Region Market Survey
		22.79.152	Bolts with nuts and washers (short)		No.	100	Conversion Factor of Nairobi Region Market Survey
		22.79.153	Bolts with nuts and washers (long)		No.	323	Conversion Factor of Nairobi Region Market Survey
		22.79.154	Fuel	Petrol	litre	163	2022 July. ERC Pump Price
		22.79.155	Pick up truck		day	7200	2022 June Market rate
		22.79.156	Truck	2 ton	day	8000	2022 June Market rate
		22.79.157	Thinner		litre	475	2022 June Market price
		22.79.158	Cement (OPC)		kg	15	2022 June Market price
		22.79.159	Pulveriser		Hour	5500	2022 June Market rate
		22.79.160	Hessian cloth		m ²	230	2022 June Market price
		22.79.161	K-160		litre	112	2022 June Market price
		22.79.162	Reflecting Glass Beads		kg	165	Conversion Factor of Nairobi Region Market Survey
		22.79.163	Electricity		Kw/h	24	2022 KPLC Price
		22.79.164	Beam Straightener		Hour	10662	2019 Feb. Market Price

Standard Drawings

Appendix 3 : Standard Drawings

Figure C.12: Headwall Type 4 (for Access Culverts)



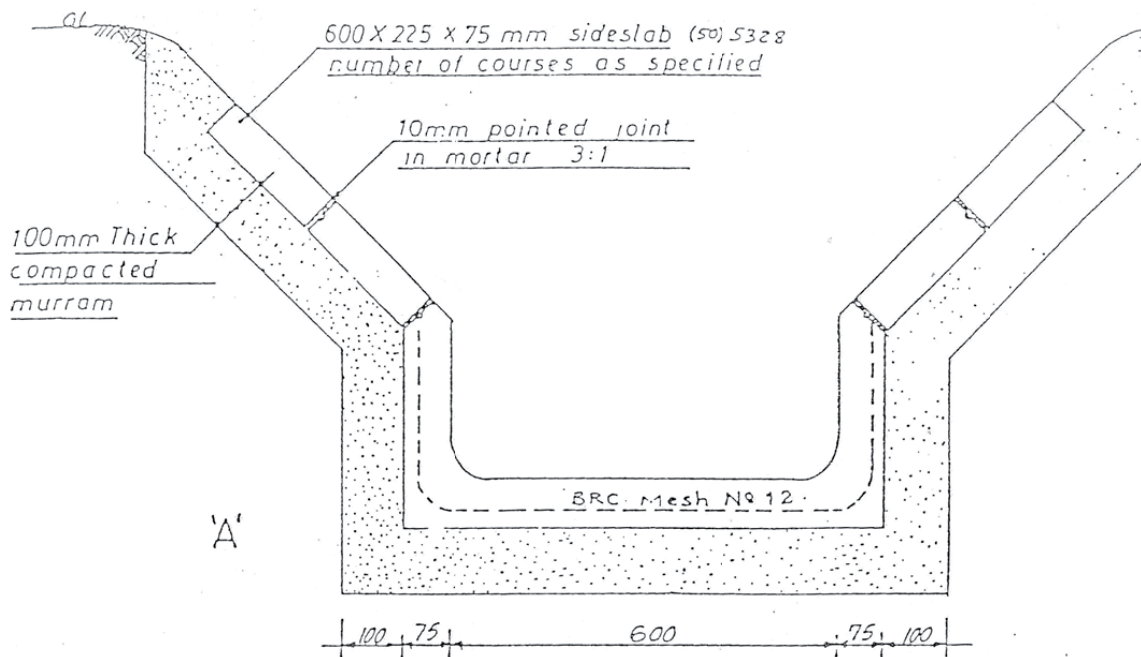


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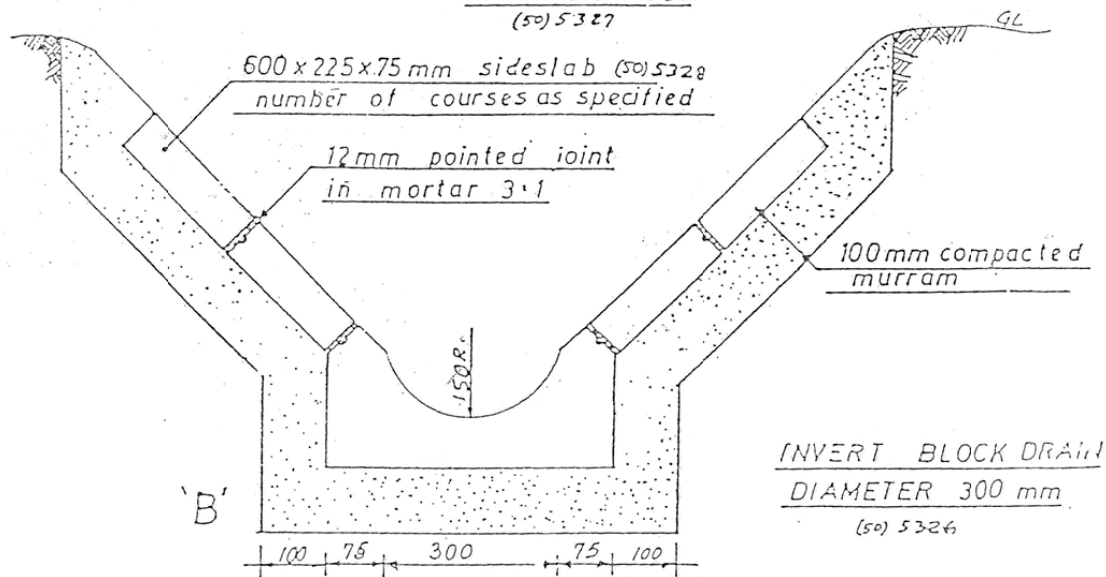
1. Side walls may be masonry or concrete blocks.
2. This manhole to be used where additional connections are required.

STANDARD DETAIL

RECTANGULAR
MANHOLE TYPE 'B'
(DEPTH 1m. max)

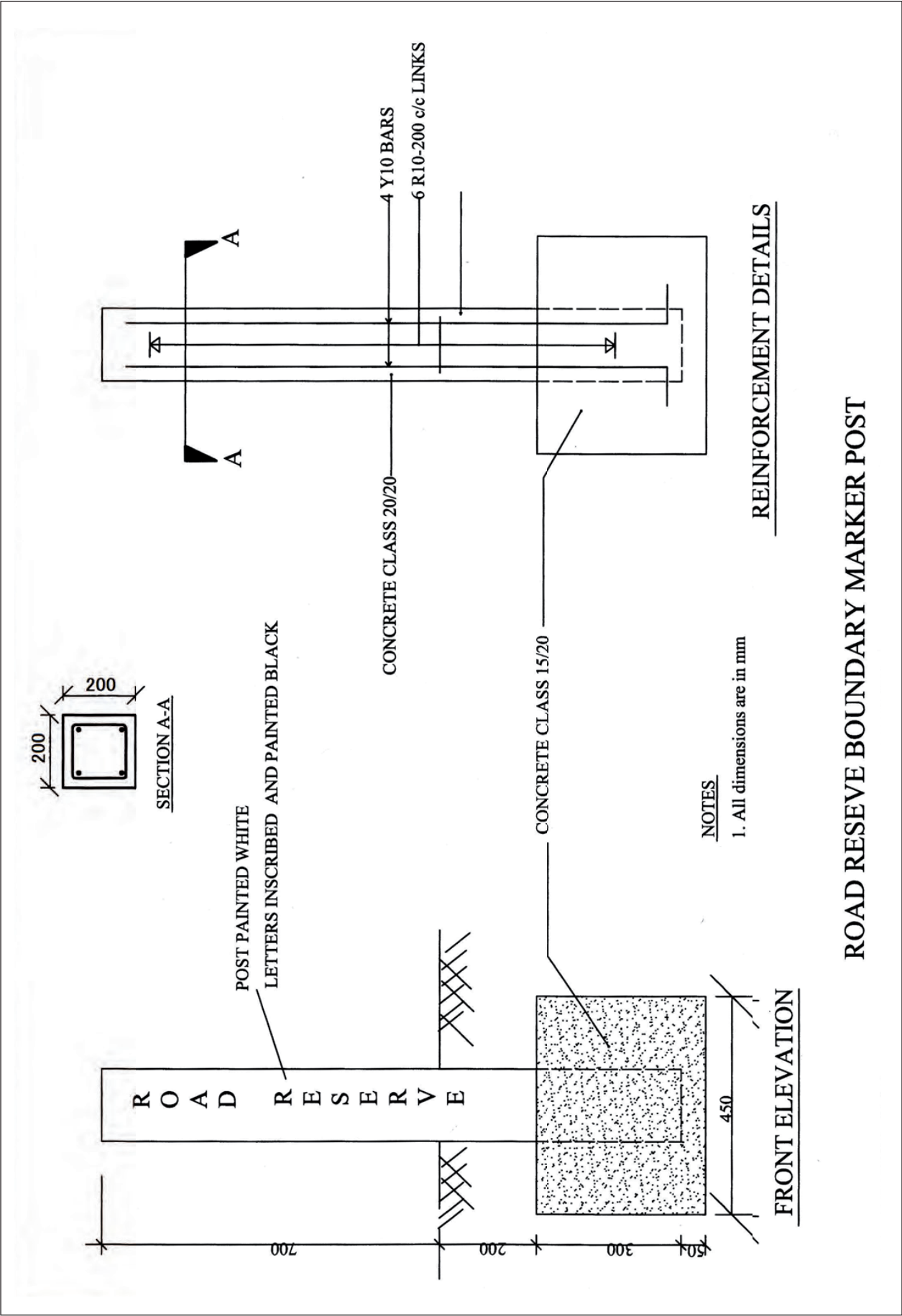


INVERT BLOCK DRAIN
SIZE 600 X 360
(50) 5327



INVERT BLOCK DRAIN
DIAMETER 300 mm
(50) 5326

M.O.W. H.O. BUILDINGS DEPARTMENT	STANDARD DETAIL	DESIGNED / DRAWN Linturi / Nandini
DATE: Sept. 1974	INVERT BLOCK DRAINS Assembly detail	APPROVED 16. [Signature] Chief structural engineer
SCALE: 1:10		



ROAD RESEVE BOUNDARY MARKER POST



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