Eskom	ETSP-2023110 Scope of Works – Cathcart Road Repairs Rev 1	**Eastern Cape Plant**

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Content

1. Introduction

Scope of Works detailing repairs at Cathcart access Road

2. Supporting Clauses

2.1 Scope

2.1.1 Purpose

2.1.2 Applicability

East London Plant and contractors tendering on this specific Purchase Requisition only

2.1.3 Effective date

05 June 2023

2.2 Normative/Informative References

Parties using this document shall apply the most recent edition of the documents listed in the following paragraphs.

2.2.1 Normative

[1] ISO 9001 Quality Management Systems

2.2.2 Informative

OHSA - Construction Regulations

2.3 Definitions

Refer to Occupational Health and Safety Act, 1993. Construction Regulations, 2014..

2.4 Abbreviations

Abbreviation	Explanation
mpa	Megapascals – the metric unit of pressure
mm	millimetre
M	metre
HT	High tension

2.5 Roles and Responsibilities

Project Manager to implement scope of works

2.6 Process for Monitoring

N/A

2.7 Related/Supporting Documents

This scope is subject to modification at clarification meeting

3. Scope of Works – Cathcart Road Repair

C1	0km	**Gate** Replace stolen gate with a 3.5m farm gate (heavy duty 40mm) at existing drag-gate way. Install 10mm HT chain around non-opening side, welded closed as an anti theft mechanism
C2	0-0.5	**Trim Vegetation -** trim vegetation to a width of 5m
C3	0.5-1.1	**Gravel Works** *(after second gate)* Repair existing track to a finished layer of **200mm** G5 natural crushed gravel(Sabunga), compacted to 93 mod on the surface. 3.5m width Restore existing humps and mitre drains, building the hump apex up to a height of **800mm** Trim vegetation to a width of 5m
C4	1.1-1.4	**Gravel Works** Repair existing track to a finished layer of **200mm** G5 natural crushed gravel(Sabunga), compacted to 93 mod on the surface. 3.5m width Restore existing humps and mitre drains, building the hump apex up to a height of **800mm** Construct an additional hump and mitre drain, ensuring run off by removing rocks from right hand/lower side of track Construct additional hump and mitre drain on tight left hand turn, just before concrete tracks Trim vegetation to a width of 5m

C5	1.4	**Repair eroded track with a Concrete Approach ramp:** Concrete slab: 1500x2600x200mm Excavate to below gravel surface form angled slope to meet concrete tracks Concrete to be 25mpa with Reference193 mesh. Concrete to be flatted with a textured surface and bullnose rounding off
C6	1.4-1.5	**Repair eroded track with Concrete Twin track - 91m** *(steep uphill after tight LH turn)* Dimensions: **800mm wide by 150mm deep**. Spaced at 1000mm apart. Concrete to be 25mpa with Reference193 mesh, for the entire length. Concrete to be flatted with a textured surface and bullnose rounding off. Expansion joints to be placed in the track at 3m apart. **V-drain**s to be constructed at **25m** intervals 4600mm x 1000mm x 250mm concrete forming a V of 500mm + 500mm, depth of 130mm Concrete to be 25mpa with Reference193 mesh Stone pitching (no cement) with 100-150mm diameter stones in centre "middelmannetjie" of track. Stone pitching (no cement) with 100-150mm diameter stones on outer edges to create tapered shoulder of 500mm width.
C7	1.5	**Repair eroded track with a Departure ramp:** Concrete slab: 600x2600x200mm Excavate to below gravel surface form angled slope to meet concrete tracks Concrete to be 25mpa with Reference193 mesh. Concrete to be flatted with a textured surface and bullnose rounding off.
C8	1.5-1.6	**Gravel Works** Repair existing track to a finished layer of **200mm** G5 natural crushed gravel(Sabunga), compacted to 93 mod on the surface. 3.5m width Restore existing humps and mitre drains, building the apex up to a height of **800mm** Trim vegetation to a width of 5m

C9	1.6	**Repair eroded track with a Concrete Approach ramp:** Concrete slab: 1500x2600x200mm Excavate to below gravel surface form angled slope to meet concrete tracks Concrete to be 25mpa with Reference193 mesh. Concrete to be flatted with a textured surface and bullnose rounding off
C10	1.6-1.65	**Repair eroded track with Concrete Twin track - 54m** *(final steep ascent before stream)* Dimensions: **800mm wide by 150mm deep**. Spaced at 1000mm apart. Concrete to be 25mpa with Reference193 mesh, for the entire length. Concrete to be flatted with a textured surface and bullnose rounding off. Expansion joints to be placed in the track at 3m apart. **V-drains** to be constructed at **20m** intervals 4600mm x 1000mm x 250mm concrete forming a V of 500mm + 500mm, depth of 130mm Concrete to be 25mpa with Reference193 mesh Stone pitching (no cement) with 100-150mm diameter stones in centre "middelmannetjie" of track. Stone pitching (no cement) with 100-150mm diameter stones on outer edges to create tapered shoulder of 500mm width.
C11	1.6	**Repair eroded track with a Departure ramp:** Concrete slab: 600x2600x200mm Excavate to below gravel surface form angled slope to meet concrete tracks Concrete to be 25mpa with Reference193 mesh. Concrete to be flatted with a textured surface and bullnose rounding off.
C12	1.65-1.7	**Gravel Works** Repair existing track to a finished layer of **100mm** G5 natural crushed gravel(Sabunga), compacted to 93 mod on the surface. Restore existing mitre drains. Trim vegetation to a width of 5m

C13	1.7	**Repair low water crossing:** Repair concrete water crossing, by constructing Concrete slab: 3000mm wide by 150mm deep. 14m length Concrete to be 30mpa with Reference193 mesh, for the entire length. Concrete to be flatted with a textured surface and bullnose rounding off. Expansion joints to be placed in the track at 3m apart.
C14		**Continue concrete road slab repair with a turn slab:** *(slab makes a slight left hand turn after water crossing)* Excavate to a depth of 200mm where necessary Backfill and compact 200mm foundation of G5 natural crushed gravel Concrete slab: **3500mm wide by 150mm deep. 3m length on inside arc**, 6m on outside arc Concrete to be 30mpa with Reference193 mesh, for the entire length. Concrete to be flatted with a textured surface and bullnose rounding off. Expansion joints to be placed in the track at 3m apart.
C15	1.7-1.8	**Repair eroded track with Concrete Twin track - 57m** *(after water-crossing slab)* Excavate to a depth of 200mm where necessary **Backfill and compact 200mm** foundation of G5 natural crushed gravel Dimensions: **800mm wide by 150mm deep**. Spaced at 1000mm apart. Concrete to be 25mpa with Reference193 mesh, for the entire length. Concrete to be flatted with a textured surface and bullnose rounding off. Expansion joints to be placed in the track at 3m apart. **V-drains to be constructed at gate entrance and small existing culvert** 4600mm x 1000mm x 250mm concrete forming a V of 500mm + 500mm, depth of 130mm Concrete to be 25mpa with Reference193 mesh Stone pitching (no cement) with 100-150mm diameter stones in centre "middelmannetjie" of track. Stone pitching (no cement) with 100-150mm diameter stones on outer edges to create tapered shoulder of 500mm width.

C16	1.8	**Repair eroded track with a Departure ramp:** Concrete slab: 600x2600x200mm Excavate to below gravel surface form angled slope to meet concrete tracks Concrete to be 25mpa with Reference193 mesh. Concrete to be flatted with a textured surface and bullnose rounding off.
C17	1.8-1.9	**No Works**
C18	1.9	**Culvert** Repair both sides of culvert where gravel has eroded. Ensure all 3 concrete pipes are cleared and unobstructed on both sides of the culvert.
C19	1.9-2.9	**Repair eroded track with Gravel Works:** *(up long slope with eroded tracks. Follow the existing track)* Excavate to a depth of 100mm. Backfill and compact compact surface to a finished layer of 3**00mm** G5 natural crushed gravel(Sabunga), compacted to 93 mod on the surface. 3.5m width Rebuild humps with mitre drains at 50m intervals, building the hump crown up to a height of 800mm
C20	2.9	**Replace missing Gate:** Install a **3.5m farm gate** (heavy duty 40mm) with **tensioned H-frame creosote posts** (100/125mm) on either side of the gateway. Install 10mm HT chain around non-opening side, welded closed as an anti theft mechanism
C21	2.9-3.3	**Repair eroded track with Gravel Works:** *(new route from new gate down to gate and culvert)* Excavate to a depth of 100mm. Backfill and compact compact surface to a finished layer of **300mm** G5 natural crushed gravel(Sabunga), compacted to 93 mod on the surface. 3.5m width Construct humps with mitre drains at 50m intervals, building the hump crown up to a height of 800mm
C22	3.3	**Repair badly eroded Culvert** Install one additional reinforced interlocking concrete pipe. 5m x 450mm, class 2. Fill and compact G5 natural crushed gravel to a finished layer of 300mm
C23	3.3-3.4	**No Works** - on grassed track on slope
C24	3.4 - 3.9	**No Works -** on grassed farm track on level route

C25	3.9	**Replace broken Gate:** *(at existing drag gate)* Install a 3.5m farm gate (heavy duty 40mm) at existing drag-gate way. Install 10mm HT chain around non-opening side, welded closed as an anti theft mechanism
C26	3.9-4.2	**No Works -** on existing farm track up slope
C27	4.2	**Cut and treat** black wattle to a width of 7m. Cut to ground level.
C28	4.2-4.3	**Repair destroyed track with Gravel Works** **Repair existing track** to a finished layer of **200mm** G5 natural crushed gravel(Sabunga), compacted to 93 mod on the surface. 3.5m width Construct humps with mitre drains at 50m intervals, building the hump crown up to a height of 800mm
C29	4.2-4.4	**Cut and treat** black wattle to a width of 7m. Cut to ground level.
C30	4.2-4.4	**Repair destroyed track with Gravel Works** Repair existing track to a finished layer of **200mm** G5 natural crushed gravel(Sabunga), compacted to 93 mod on the surface. 3.5m width Construct 3 humps with mitre drains at 50m intervals, building the hump crown up to a height of 800mm
C31	4.4	**Repair eroded track with Concrete Approach ramp:** Concrete slab: 1500x2600x200mm Excavate to below gravel surface to form angled slope to meet concrete tracks Concrete to be 25mpa with Reference193 mesh. Concrete to be flatted with a textured surface and bullnose rounding off

C32	4.4-4.5	**Repair eroded track with Concrete Twin track:** Dimensions: **800mm wide by 250mm deep**. Spaced at 1000mm apart. Concrete to be 25mpa with Reference193 mesh, for the entire length. Concrete to be flatted with a textured surface and bullnose rounding off. Expansion joints to be placed in the track at 3m apart. Stone pitching (no cement) with 150 TO 100mm diameter stone in centre of track. 100 - 150mm Stone pitching on outer edges to create tapered berm of 500mm width. **V-drains**: **3** to be placed evenly spaced **30m apart** on length of concrete track 4600mm x 1000mm x 250mm concrete forming a V of 500mm + 500mm, depth of 130mm Concrete to be 25mpa with Reference193 mesh
C33	4.5	**Repair eroded track with Concrete Road Slab for RH turn** **4500mm wide by 250mm deep**. **15m** length on inside arc of turn. 18.9m on outside arc. Concrete to be 25mpa with Reference193 mesh, for the entire length. Concrete to be flatted with a textured surface and bullnose rounding off. Expansion joints to be placed in the track at 3m apart.(measured on the inside arc)
C34	4.6	**Repair eroded track with Concrete Twin track:** Dimensions: **800mm wide by 250mm deep**. Spaced at 1000mm apart. Concrete to be 25mpa with Reference193 mesh, for the entire length. Concrete to be flatted with a textured surface and bullnose rounding off. Expansion joints to be placed in the track at 3m apart. Stone pitching (no cement) with 150 TO 100mm diameter stone in centre of track. 100 - 150mm Stone pitching on outer edges to create tapered berm of 500mm width.
C35	4.6	**Repair eroded track with Departure ramp:** Concrete slab: 600x2600x200mm Concrete to be 25mpa with Reference193 mesh. Concrete to be flatted with a textured surface and bullnose rounding off.

C36	4.6-4.7	**Gravel Works** Repair existing track to a finished layer of **200mm** G5 natural crushed gravel(Sabunga), compacted to 93 mod on the surface. 3.5m width Construct 3 humps with mitre drains at 50m intervals, building the hump crown up to a height of 800mm
C37	4.7	**Repair eroded track with Concrete Approach ramp:** Concrete slab: 1500x2600x200mm Excavate to below gravel surface form angled slope to meet concrete tracks Concrete to be 25mpa with Reference193 mesh. Concrete to be flatted with a textured surface and bullnose rounding off.
C38	4.7-4.8	**Repair eroded track with Concrete Twin track:** **800mm wide** by **250mm deep**. Spaced at 1000mm apart. Concrete to be 25mpa with Reference193 mesh, for the entire length. Concrete to be flatted with a textured surface and bullnose rounding off. Expansion joints to be placed in the track at 3m apart. Stone pitching (no cement) with 150 to 100mm diameter stone in centre of track. 100 - 150mm Stone pitching on outer edges to create tapered berm of 500mm width. **V-drains: 2 to be placed evenly spaced 30m apart** on length of concrete track 4600mm x 1000mm x 250mm concrete forming a V of 500mm + 500mm, depth of 130mm Concrete to be 25mpa with Reference193 mesh
C39	4.8	**Repair eroded track with Concrete Twin track slight curve:** **1000mm wide** by **250mm deep. Spaced** at **1000mm apart**. Concrete to be 25mpa with Reference193 mesh, for the entire length. Concrete to be flatted with a textured surface and bullnose rounding off. Expansion joints to be placed in the track at 3m apart. Stone pitching (no cement) with 150 TO 100mm diameter stone in centre of track. 100 - 150mm Stone pitching on outer edges to create tapered berm of 500mm width.

C40	4.8	**Repair eroded track with Departure ramp:** Concrete slab: **600x2600x200mm** Concrete to be 25mpa with Reference193 mesh. Concrete to be flatted with a textured surface and bullnose rounding off.
C41	4.8	**Gravel Works** Repair existing track to a finished layer of **200mm** G5 natural crushed gravel(Sabunga), compacted to 93 mod on the surface. 3.5m width Construct 1 humps with mitre drains at 50m intervals, building the hump crown up to a height of 800mm
C42	4.8-4.9	**No works** required on 72m grassy track before site
C43	4.9-5	**Final approach to site** **Build up** existing track to a finished layer of **100mm** G5 natural crushed gravel(Sabunga), compacted to 93 mod on the surface. 3.5m width

4. Acceptance

This document has been seen and accepted by:

Name	Designation
Paulinus Kortje	Manager – Field Services EC
Bheki Nala	Middle Manager - Telecommunications

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5. Revisions

Date	Rev.	Compiler	Remarks
June 2023	1	JB Smith	Scope for tender
N/A			

6. Development Team

The following people were involved in the development of this document:

- JB Smith

7. Acknowledgements

N/A