REPUBLIC OF KENYA COUNTY GOVERNMENT OF TURKANA

KAKUMA MUNICIPALITY

PROCUREMENT OF:

PROPOSED UPGRADING TO BITUMEN STANDARD OF THE HASHI PETROL STATION – FOOD DISTRIBUTION CENTRE 1 ROAD (2.0 KM) IN KAKUMA MUNICIPALITY, TURKANA COUNTY

CONTRACT 1 — ROAD 1

Tender No.: TCG/ KKM / 06 / 2026-2027

Project: KENYA URBAN SUPPORT PROGRAMME II (KUSP II)
Negotiation Number: 2703782

Employer: COUNTY GOVERNMENT OF TURKANA

Country: KENYA

Issued on: November, 2026

BIDDING DOCUMENT

Volume 1

Tender Closing / Opening Date and Time
Monday, 07/12/2026 at 11:00:00 AM HOURS EAST AFRICAN TIME (EAT)

KAKUMA MUNICIPALITY
COUNTY GOVERNMENT OF TURKANA
Kakuma Municipality Board
Head of Supply Chain Management Services
For: Municipality Board
Physical Address: Kakuma Municipality, Kakuma.
Email address: supplychain@kakumamunicipality.go.ke or
Manager@kakumamunicipality.go.ke
Postal Address: 30 – 30501, Kakuma

Specific Procurement Notice

Request for Bids

Small Works

(One-Envelope Bidding Process)

Country	KENYA
Name of Project	KENYA URBAN SUPPORT PROGRAMME II (KUSP II)
Contract Title	PROPOSED UPGRADING TO BITUMEN STANDARD OF THE HASHI PETROL STATION – FOOD DISTRIBUTION CENTRE 1 ROAD (2.0 KM) IN KAKUMA MUNICIPALITY, TURKANA COUNTY
Negotiation No.	2703782
Tender No.	TCG/ KKM / 06 / 2026-2027
Issued On	November, 2026

1. The Government of Kenya has received financing from the World Bank toward the cost of the KENYA URBAN SUPPORT PROGRAMME II (KUSP II), and intends to apply part of the proceeds toward payments under the contract for the PROPOSED UPGRADING TO BITUMEN STANDARD OF THE HASHI PETROL STATION – FOOD DISTRIBUTION CENTRE 1 ROAD (2.0 KM) IN KAKUMA MUNICIPALITY, TURKANA COUNTY.

2. The COUNTY GOVERNMENT OF TURKANA, through KAKUMA MUNICIPALITY, now invites sealed Bids from eligible Bidders for the PROPOSED UPGRADING TO BITUMEN STANDARD OF THE HASHI PETROL STATION – FOOD DISTRIBUTION CENTRE 1 ROAD (2.0 KM) IN KAKUMA MUNICIPALITY, TURKANA COUNTY, with a 12 month construction period and a 12 month Defects Liability Period (DLP), comprising:

   - Road 1 — Hashi Petrol Station – Food Distribution Centre 1 Road: 2.0 km of road works comprising a 6.50 m bituminous carriageway, lined closed drains with slotted cover slabs and non-motorised transport facilities within a 12.00 m road reserve.
   - Length of the Works: 2.0 km.

3. Bidding will be conducted through international competitive procurement using a Request for Bids (RFB) as specified in the World Bank's "Procurement Regulations for IPF Borrowers" September 2023 ("Procurement Regulations"), and is open to all Bidders as defined in the Procurement Regulations.

4. Interested eligible Bidders may obtain further information during office hours [insert office hours] at the address given below.

5. The bidding document in English may be obtained electronically from the website(s) [insert Employer website] and www.tenders.go.ke. Bidding documents obtained electronically will be free of charge.

6. Bids must be delivered to the address below on or before [insert time] HOURS EAST AFRICAN TIME (EAT) ON [insert day and date]. Electronic bidding will not be permitted. Late Bids will be rejected. Bids will be publicly opened in the presence of the Bidders' designated representatives and anyone who chooses to attend at the address below at [insert time] HOURS EAST AFRICAN TIME (EAT) ON [insert day and date].

7. All Bids shall be accompanied by a Bid Security of [insert amount in figures and words] or a Bid-Securing Declaration in the form included in Section IV, Bidding Forms.

8. Attention is drawn to the Procurement Regulations requiring the Borrower to disclose information on the successful Bidder's beneficial ownership, as part of the Contract Award Notice, using the Beneficial Ownership Disclosure Form included in this bidding document.

9. The address(es) referred to above is (are):

A. Address for obtaining further information

Kakuma Municipality Board

Head of Supply Chain Management Services

For: Municipality Board

Physical Address: Kakuma Municipality, Kakuma.

Email address: supplychain@kakumamunicipality.go.ke or

Manager@kakumamunicipality.go.ke
Postal Address: 30 – 30501, Kakuma

B. Physical address for hand or courier delivery

NO MANUAL SUBMISSION OF BIDS

C.Address for submission of Bids

All bids are electronically submitted
via IFMIS Platform

Standard Procurement Document

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PART 1

Bidding Procedures

Section I - Instructions to Bidders

A. General

1. Scope of Bid	1.1	In connection with the Specific Procurement Notice - Request for Bids (RFB), specified in the Bid Data Sheet (BDS), the Employer, as specified in the BDS, issues this bidding document for the provision of Works as specified in Section VII, Works' Requirements. The name, identification and number of lots (contracts) of this RFB are specified in the BDS.
	1.2	Throughout this bidding document: (a) the term "in writing" means communicated in written form (e.g. by mail, e-mail, and fax, including if specified in the BDS, distributed or received through the electronic-procurement system used by the Employer) with proof of receipt; (b) if the context so requires, "singular" means "plural" and vice versa; (c) "Day" means calendar day, unless otherwise specified as "Business Day". A Business Day is any day that is an official working day of the Borrower. It excludes the Borrower's official public holidays; (d) "ES" means environmental and social (including Sexual Exploitation, and Abuse (SEA) and Sexual Harassment (SH)); (e) "Sexual Exploitation and Abuse" "(SEA)" means the following: "Sexual Exploitation" is defined as any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another; "Sexual Abuse" is defined as the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions; (f) "Sexual Harassment" "(SH)" is defined as unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature by the Contractor's Personnel with other Contractor's or Employer's Personnel; (g) "Contractor's Personnel" is as defined in SubClause 1 (ii) of the General Conditions of Contract; and (h) "Employer's personnel" is as defined in GCC SubClause 1 (nn) of the General Conditions of Contract. A non-exhaustive list of (i) behaviors which constitute SEA and (ii) behaviors which constitute SH is attached to the Code of Conduct form in Section IV.
2. Source of Funds	2.1	The Borrower or Recipient (hereinafter called "Borrower") specified in the BDS has received or has applied for financing (hereinafter called "funds") from the International Bank for Reconstruction and Development or the International Development Association (hereinafter called "the Bank") in an amount specified in the BDS, toward the project named in the BDS. The Borrower intends to apply a portion of the funds to eligible payments under the contract(s) for which this bidding document is issued.
	2.2	Payment by the Bank will be made only at the request of the Borrower and upon approval by the Bank, and will be subject, in all respects, to the terms and conditions of the Loan (or other financing) Agreement. The Loan (or other financing) Agreement prohibits a withdrawal from the loan account for the purpose of any payment to persons or entities, or for any import of goods, equipment, plant, or materials, if such payment or import is prohibited by a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations. No party other than the Borrower shall derive any rights from the Loan (or other financing) Agreement or have any claim to the proceeds of the Loan (or other financing).
3. Fraud and	3.1	The Bank requires compliance with the Bank's AntiCorruption Guidelines

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Corruption		and its prevailing sanctions policies and procedures as set forth in the WBG's Sanctions Framework, as set forth in Section VI.
	3.2	In further pursuance of this policy, bidders shall permit and shall cause their agents (where declared or not), subcontractors, subconsultants, service providers, suppliers, and personnel, to permit the Bank to inspect all accounts, records and other documents relating to any initial selection process, prequalification process, bid submission, proposal submission, and contract performance (in the case of award), and to have them audited by auditors appointed by the Bank.
4. Eligible Bidders	4.1	A Bidder may be a firm that is a private entity, or a state-owned enterprise or institution, subject to ITB 4.6, or any combination of them in the form of a joint venture (JV), under an existing agreement, or with the intent to enter into such an agreement supported by a letter of intent. In the case of a joint venture, all members shall be jointly and severally liable for the execution of the entire Contract in accordance with the Contract terms. The JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the Bidding process and, in the event the JV is awarded the Contract, during contract execution. Unless specified in the BDS, there is no limit on the number of members in a JV.
	4.2	A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest for the purpose of this Bidding process, if the

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	Bidder: (a) directly or indirectly controls, is controlled by or is under common control with another Bidder; or (b) receives or has received any direct or indirect subsidy from another Bidder; or (c) has the same legal representative as another Bidder; or (d) has a relationship with another Bidder, directly or through common third parties, that puts it in a position to influence the Bid of another Bidder, or influence the decisions of the Employer regarding this bidding process; or (e) or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the Bid; or (f) or any of its affiliates has been hired (or is proposed to be hired) by the Employer or Borrower as Project Manager for the Contract implementation; (g) would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the project specified in the BDS ITB 2.1 that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm;

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		(h) has a close business or family relationship with a professional staff of the Borrower (or of the project implementing agency, or of a recipient of a part of the loan) who: (i) are directly or indirectly involved in the preparation of the bidding document or specifications of the contract, and/or the Bid evaluation process of such contract; or (ii) would be involved in the implementation or supervision of such contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the Bank throughout the procurement process and execution of the contract.
	4.3	A firm that is a Bidder (either individually or as a JV member) shall not participate in more than one Bid, except for permitted alternative Bids. This includes participation as a Subcontractor in other Bids. Such participation shall result in the disqualification of all Bids in which the firm is involved. A firm that is not a Bidder or a JV member may participate as a subcontractor in more than one Bid.
	4.4	A Bidder may have the nationality of any country, subject to the restrictions pursuant to ITB 4.8. A Bidder shall be deemed to have the nationality of a country if the Bidder is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed subcontractors or subconsultants for any part of the Contract

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	including related Services. 4.5 A Bidder that has been sanctioned by the Bank, pursuant to the Bank's Anti-Corruption Guidelines, in accordance with its prevailing sanctions policies and procedures as set forth in the WBG's Sanctions Framework as described in Section VI paragraph 2.2 d., shall be ineligible to be prequalified for, initially selected for, bid for, propose for, or be awarded a Bank-financed contract or benefit from a Bank-financed contract, financially or otherwise, during such period of time as the Bank shall have determined. The list of debarred firms and individuals is available at the electronic address specified in the BDS. 4.6 Bidders that are state-owned enterprises or institutions in the Employer's Country may be eligible to compete and be awarded a Contract(s) only if they can establish, in a manner acceptable to the Bank, that they (i) are legally and financially autonomous (ii) operate under commercial law, and (iii) are not under supervision of the Employer. 4.7 A Bidder shall not be under suspension from Bidding by the Employer as the result of the operation of a Bid–Securing or Proposal-Securing Declaration. 4.8 Firms and individuals may be ineligible if so indicated in Section V and (a) as a matter of law or official regulations, the Borrower's country prohibits commercial relations with that country, provided that the Bank is satisfied that such exclusion does not preclude effective competition for the supply of goods or the contracting of works or services required; or (b) by an act of

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		compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's country prohibits any import of goods or contracting of works or services from that country, or any payments to any country, person, or entity in that country. When the Works are implemented across jurisdictional boundaries (and more than one country is a Borrower, and is involved in the procurement), then exclusion of a firm or individual on the basis of ITB 4.8 (a) above by any country may be applied to that procurement across other countries involved, if the Bank and the Borrowers involved in the procurement agree.
	4.9	A Bidder shall provide such documentary evidence of eligibility satisfactory to the Employer, as the Employer shall reasonably request.
	4.10	A firm that is under a sanction of debarment by the Borrower from being awarded a contract is eligible to participate in this procurement, unless the Bank, at the Borrower's request, is satisfied that the debarment; (a) relates to fraud or corruption, and (b) followed a judicial or administrative proceeding that afforded the firm adequate due process.
5. Eligible Materials, Equipment and Services	5.1	The materials, equipment and services to be supplied under the Contract and financed by the Bank may have their origin in any country subject to the restrictions specified in Section V, Eligible Countries, and all expenditures under the Contract will not contravene such restrictions. At the

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	Employer's request, Bidders may be required to provide evidence of the origin of materials, equipment and services. B. Contents of Bidding Document

B. Contents of Bidding Document

6. Sections of Bidding Document	6.1	The bidding document consists of Parts 1, 2, and 3, which include all the sections specified below, and which should be read in conjunction with any Addenda issued in accordance with ITB 8. PART 1 Bidding Procedures • Section I - Instructions to Bidders (ITB) • Section II - Bid Data Sheet (BDS) • Section III - Evaluation and Qualification Criteria • Section IV - Bidding Forms • Section V - Eligible Countries • Section VI - Fraud and Corruption PART 2 Works' Requirements • Section VII - Works' Requirements PART 3 Conditions of Contract and Contract Forms • Section VIII - General Conditions of Contract (GCC) • Section IX - Particular Conditions of Contract (PCC) • Section X - Contract Forms
	6.2	The Specific Procurement Notice - Request for Bids (RFB) issued by the Employer is not part of this bidding document.
	6.3	Unless obtained directly from the Employer, the Employer is not responsible for the completeness of the bidding document, responses to requests for clarification, the minutes of the preBid meeting (if any), or Addenda to the bidding document in accordance with ITB 8. In case of any contradiction, documents obtained directly from the Employer shall prevail.
	6.4	The Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding document and to furnish with its Bid all information and documentation as is required by the bidding document.
7. Clarification of Bidding Document, Site Visit, Pre-Bid Meeting	7.1	A Bidder requiring any clarification of the bidding document shall contact the Employer in writing at the Employer's address specified in the BDS or raise its inquiries during the pre-Bid meeting if provided for in accordance with ITB 7.4. The Employer will respond in writing to any request for clarification, provided that such request is received prior to the deadline for submission of Bids within a period specified in the BDS. The Employer shall forward copies of its response to all Bidders who have acquired the bidding document in accordance with ITB 6.3, including a description of the inquiry but without identifying its source. If so specified in the BDS, the Employer shall also promptly publish its response at the web page identified in the BDS. Should the clarification result in changes to the essential elements of the bidding document, the Employer shall amend the bidding document following the procedure under ITB 8 and ITB 22.2.
	7.2	The Bidder is advised to visit and examine the Site of Works and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the bid and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the Bidder's own expense.
	7.3	The Bidder and any of its personnel or agents will be granted permission by the Employer to enter upon its premises and lands for the purpose of such visit, but only upon the express condition that the Bidder, its personnel, and agents will release and indemnify the Employer and its personnel and agents from and against all liability in respect thereof, and will be responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection.
	7.4	If so specified in the BDS, the Bidder's designated representative is invited to attend a pre-Bid meeting and/or a Site of Works visit. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.
	7.5	The Bidder is requested, to submit any questions in writing, to reach the

6. Sections of Bidding Document	6.1 The bidding document consists of Parts 1, 2, and 3, which include all the sections specified below, and which should be read in conjunction with any Addenda issued in accordance with ITB 8. PART 1 Bidding Procedures • Section I - Instructions to Bidders (ITB) • Section II - Bid Data Sheet (BDS) • Section III - Evaluation and Qualification Criteria • Section IV - Bidding Forms • Section V - Eligible Countries • Section VI - Fraud and Corruption PART 2 Works' Requirements • Section VII - Works' Requirements PART 3 Conditions of Contract and Contract Forms • Section VIII - General Conditions of Contract (GCC) • Section IX - Particular Conditions of Contract (PCC) • Section X - Contract Forms 6.2 The Specific Procurement Notice - Request for Bids (RFB) issued by the Employer is not part of this bidding document. 6.3 Unless obtained directly from the Employer, the Employer is not responsible for the completeness of the bidding document, responses to requests for clarification, the minutes of the preBid meeting (if any), or Addenda to the bidding document in accordance with ITB 8. In case of any contradiction, documents obtained directly from the Employer shall prevail. 6.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding document and to furnish with its Bid all information and documentation as is required by the bidding document.
	Employer not later than one week before the meeting. 7.6 Minutes of the pre-Bid meeting, if applicable, including the text of the questions asked by Bidders, without identifying the source, and the responses given, together with any responses prepared after the meeting, will be transmitted promptly to all Bidders who have acquired the bidding document in accordance with ITB 6.3 Any modification to the bidding document that may become necessary as a result of the preBid meeting shall be made by the Employer exclusively through the issue of an addendum pursuant to ITB 8 and not through the minutes of the pre-Bid meeting. Nonattendance at the pre-Bid meeting will not be a cause for disqualification of a Bidder.
8. Amendment of Bidding Document	8.1 At any time prior to the deadline for submission of bids, the Employer may amend the bidding document by issuing addenda. 8.2 Any addendum issued shall be part of the bidding document and shall be communicated in writing to all who have obtained the bidding document from the Employer in accordance with ITB 6. The Employer shall also promptly publish the addendum on the Employer's web page in accordance with ITB 7.1. 8.3 To give prospective Bidders reasonable time in which to take an addendum into account in preparing their Bids, the Employer may, at its discretion, extend the deadline for the submission of Bids, pursuant to ITB 22.2. C. Preparation of Bids

C. Preparation of Bids

9. Cost of Bidding	9.1 The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Employer shall in no case be responsible or liable for those costs, regardless of the conduct or outcome of the Bidding process.
10. Language of Bid	10.1 The Bid, as well as all correspondence and documents relating to the Bid

9. Cost of Bidding	9.1 The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Employer shall in no case be responsible or liable for those costs, regardless of the conduct or outcome of the Bidding process.
	exchanged by the Bidder and the Employer, shall be written in the language specified in the BDS. Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages in the language specified in the BDS, in which case, for purposes of interpretation of the Bid, such translation shall govern.
11. Documents Comprising the Bid	11.1 The Bid shall comprise the following: (a) Letter of Bid prepared in accordance with ITB 12; (b) Bill of Quantities or Activity Schedule: completed in accordance with ITB 12 and ITB 14, as specified in the BDS; (c) Bid Security or Bid-Securing Declaration, in accordance with ITB 19.1; (d) Alternative Bid, if permissible, in accordance with ITB 13; (e) Authorization: written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 20.3; (f) Bidder's Eligibility: documentary evidence in accordance with ITB 17 establishing the Bidder's eligibility to Bid; (g) Qualifications: documentary evidence in accordance with ITB 17 establishing the Bidder's qualifications to perform the contract if its Bid is accepted; (h) Conformity: a technical proposal in accordance with ITB 16; (i) any other document required in the BDS. 11.2 In addition to the requirements under ITB 11.1, Bids submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful bid shall be signed by all members and submitted with the Bid, together with a copy of the proposed Agreement. 11.3 The Bidder shall furnish in the Letter of Bid information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Bid.
12. Letter of Bid and Schedules	12.1 The Letter of Bid and Schedules shall be prepared using the relevant forms furnished in Section IV, Bidding Forms. The forms must be completed without any alterations to the text, and no substitutes shall be accepted except as provided under ITB 20.3. All blank spaces shall be filled in with the information requested.
13. Alternative Bids	13.1 Unless otherwise specified in the BDS, alternative Bids shall not be considered. 13.2 When alternative times for completion are explicitly invited, a statement to that effect will be included in the BDS and the method of evaluating different alternative times for completion will be described in Section III, Evaluation and Qualification Criteria. 13.3 Except as provided under ITB 13.4 below, Bidders wishing to offer technical alternatives to the requirements of the bidding document must first price the Employer's design as described in the bidding document and shall further provide all information necessary for a complete evaluation of the alternative by the Employer, including drawings, design calculations, technical specifications, breakdown of prices, and proposed construction methodology and other relevant details. Only the technical alternatives, if any, of the Bidder with the Most Advantageous Bid conforming to the basic technical requirements shall be considered by the Employer.

9. Cost of Bidding	9.1 The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Employer shall in no case be responsible or liable for those costs, regardless of the conduct or outcome of the Bidding process.
	13.4 When specified in the BDS, Bidders are permitted to submit alternative technical solutions for specified parts of the Works. Such parts will be identified in the BDS and described in Section VII, Works' Requirements. The method for their evaluation will be stipulated in Section III, Evaluation and Qualification Criteria.
14. Bid Prices and Discounts	14.1 The prices and discounts quoted by the Bidder in the Letter of Bid and in the Activity Schedule or Bill of Quantities shall conform to the requirements specified below. 14.2 The Bidder shall submit a Bid for the whole of the Works described in ITB 1.1 by filling in prices for all items of the Works, as identified in Section IV. Bidding Forms. In case of admeasurement contracts, the Bidder shall fill in rates and prices for all items of the Works described in the Bill of Quantities. Items against which no rate or price is entered by the Bidder will not be paid for by the Employer when executed and shall be deemed covered by the rates for other items and prices in the Bill of Quantities. 14.3 The price to be quoted in the Letter of Bid, in accordance with ITB 12.1, shall be the total price of the Bid, excluding any discounts offered. 14.4 The Bidder shall quote any discounts and indicate the methodology for their application in the Letter of Bid in accordance with ITB 12.1. 14.5 Unless otherwise specified in the BDS and the Conditions of Contract, the prices quoted by the Bidder shall be fixed. If the prices quoted by the Bidder are subject to adjustment during the performance of the Contract in accordance with the provisions of the Conditions of Contract, the Bidder shall furnish the indices and weightings for the price adjustment formulae in the Schedule of Adjustment Data in Section IVBidding Forms and the Employer may require the Bidder to justify its proposed indices and weightings. 14.6 If so specified in ITB 1.1, Bids are invited for individual lots (contracts) or for any combination of lots (packages). Bidders wishing to offer discounts for the award of more than one Contract shall specify in their Bid the price reductions applicable to each package, or alternatively, to individual Contracts within the package. Discounts shall be submitted in accordance with ITB 14.4, provided the Bids for all lots (contracts) are opened at the same time. 14.7 All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause, as of the date 28 days prior to the deadline for submission of Bids, shall be included in the rates and prices 1 and the total Bid price submitted by the Bidder.
15. Currencies of Bid and Payment	15.1 The currency(ies) of the Bid and the currency(ies) of payments shall be the same and shall be as specified in the BDS. 15.2 Bidders may be required by the Employer to justify, to the Employer's satisfaction, their local and foreign currency requirements, and to substantiate that the amounts included in the unit rates and prices and shown in the Schedule of Adjustment Data are reasonable 2, in which case a detailed breakdown of the foreign currency requirements shall be provided by Bidders.
16. Documents Comprising the Technical Proposal	16.1 The Bidder shall furnish a technical proposal including a statement of work methods, equipment, personnel, schedule and any other information as stipulated in Section IV, Bidding Forms, in sufficient detail to demonstrate the adequacy of the Bidders' proposal to meet the work's requirements and the completion time.
17. Documents	17.1 To establish Bidder's eligibility in accordance with ITB 4, Bidders shall

9. Cost of Bidding	9.1 The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Employer shall in no case be responsible or liable for those costs, regardless of the conduct or outcome of the Bidding process.
Establishing the Eligibility and Qualifications of the Bidder	complete the Letter of Bid, included in Section IV, Bidding Forms. 17.2 In accordance with Section III, Evaluation and Qualification Criteria, to establish its qualifications to perform the Contract, the Bidder shall provide the information requested in the corresponding information sheets included in Section IV, Bidding Forms. 17.3 If a margin of preference applies as specified in accordance with ITB 33.1, domestic Bidders, individually or in joint ventures, applying for eligibility for domestic preference shall supply all information required to satisfy the criteria for eligibility specified in accordance with ITB 33.1.
18. Period of Validity of Bids	18.1 Bids shall remain valid until the date specified in the BDS or any extended date if amended by the Employer in accordance with ITB 8. A Bid that is not valid until the date specified in the BDS, or any extended date if amended by the Employer in accordance with ITB 8, shall be rejected by the Employer as nonresponsive. 18.2 In exceptional circumstances, prior to the date of expiry of the Bid validity, the Employer may request Bidders to extend the period of validity of their Bids. The request and the responses shall be made in writing. If a Bid Security is requested in accordance with ITB 19, it shall also be extended for twentyeight (28) days beyond the extended date for Bid validity. A Bidder may refuse the request without forfeiting its Bid Security. A Bidder granting the request shall not be required or permitted to modify its Bid, except as provided in ITB 18.3. 18.3 If the award is delayed by a period exceeding fifty-six (56) days beyond the date of expiry of the Bid validity specified in accordance with ITB 18.1, the Contract price shall be determined as follows: Sum." (a) in the case of fixed price contracts, the Contract price shall be the Bid price adjusted by the factor specified in the BDS; (b) in the case of adjustable price contracts, no adjustment shall be made; or (c) in any case, Bid evaluation shall be based on the Bid price without taking into consideration the applicable correction from those indicated above.
19. Bid Security	19.1 The Bidder shall furnish as part of its Bid, either a BidSecuring Declaration or a Bid Security as specified in the BDS, in original form and, in the case of a Bid Security, in the amount and currency specified in the BDS. 19.2 A Bid Securing Declaration shall use the form included in Section IV, Bidding Forms. 19.3 If a Bid Security is specified pursuant to ITB 19.1, the Bid Security shall be a demand guarantee in any of the following forms at the Bidder's option: (a) an unconditional guarantee issued by a bank or nonbank financial institution (such as an insurance, bonding or surety company); (b) an irrevocable letter of credit; (c) a cashier's or certified check; or (d) another security specified in the BDS, from a reputable source from an eligible country. If an unconditional guarantee is issued by a non-bank financial institution located outside the Employer's Country, the issuing non-bank financial institution shall have a correspondent financial institution located in the Employer's Country to make it enforceable, unless the Employer has agreed in writing, prior to Bid submission, that a correspondent financial institution is not required. In the case of a bank guarantee, the Bid Security shall be submitted either using the Bid Security Form included in Section IV, Bidding

9. Cost of Bidding	9.1 The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Employer shall in no case be responsible or liable for those costs, regardless of the conduct or outcome of the Bidding process.
	Forms, or in another substantially similar format approved by the Employer prior to Bid submission. The Bid Security shall be valid for twentyeight (28) days beyond the original date of expiry of the Bid validity, or beyond any extended date if requested under ITB 18.2. 19.4 If a Bid Security or Bid Securing Declaration is specified pursuant to ITB 19.1, any Bid not accompanied by a substantially responsive Bid Security or Bid-Securing Declaration shall be rejected by the Employer as nonresponsive. 19.5 If a Bid Security is specified pursuant to ITB 19.1, the Bid Security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's signing the Contract and furnishing the Performance Security and if required in the BDS, the Environmental and Social (ES) Performance Security pursuant to ITB 48. 19.6 The Bid Security of the successful Bidder shall be returned as promptly as possible once the successful Bidder has signed the Contract and furnished the required Performance Security. and if required in the BDS, the Environmental and Social (ES) Performance Security. 19.7 The Bid Security may be forfeited: (a) if a Bidder withdraws its Bid prior to the expiry date of the Bid validity specified by the Bidder on the Letter of Bid, or any extension thereto provided by the Bidder; or (b) if the successful Bidder fails to: (i) sign the Contract in accordance with ITB 47; or (ii) furnish a Performance Security and if required in the BDS, the Environmental and Social (ES) Performance Security in accordance with ITB 48. 19.8 The Bid Security or the Bid-Securing Declaration of a JV shall be in the name of the JV that submits the Bid. If the JV has not been constituted into a legally enforceable JV, at the time of Bidding, the Bid Security or the Bid- Securing Declaration shall be in the names of all future members as named in the letter of intent mentioned in ITB 4.1 and ITB 11.2. 19.9 If a Bid Security is not required in the BDS, pursuant to ITB 19.1, and; (a) if a Bidder withdraws its Bid prior to the expiry date of the Bid validity specified by the Bidder on the Letter of Bid or any extended date provided by the Bidder; or (b) if the successful Bidder fails to: (i) sign the Contract in accordance with ITB 47; or (ii) furnish a Performance Security and if required in the BDS, the Environmental and Social (ES) Performance Security in accordance with ITB 48; the Borrower may, if provided for in the BDS, declare the Bidder ineligible to be awarded a contract by the Employer for a period of time stated in the BDS.
20. Format and Signing of Bid	20.1 The Bidder shall prepare one original of the documents comprising the Bid as described in ITB 11 and clearly mark it "ORIGINAL". Alternative Bids, if permitted in accordance with ITB 13, shall be clearly marked "ALTERNATIVE". In addition, the Bidder shall submit copies of the Bid in the number specified in the BDS, and clearly mark each of them "COPY." In the event of any discrepancy between the original and the copies, the original shall prevail. 20.2 Bidders shall mark as "CONFIDENTIAL" information in their Bids which

9. Cost of Bidding	9.1 The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Employer shall in no case be responsible or liable for those costs, regardless of the conduct or outcome of the Bidding process.
	is confidential to their business. This may include proprietary information, trade secrets, or commercial or financially sensitive information. 20.3 The original and all copies of the Bid shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Bidder. This authorization shall consist of a written confirmation as specified in the BDS and shall be attached to the Bid. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the Bid where entries or amendments have been made shall be signed or initialed by the person signing the Bid. 20.4 In case the Bidder is a JV, the Bid shall be signed by an authorized representative of the JV on behalf of the JV, and so as to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized representatives. 20.5 Any interlineations, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the Bid. D. Submission and Opening of Bids

D. Submission and Opening of Bids

21. Sealing and Marking of Bids	21.1 The Bidder shall deliver the Bid in a single, sealed envelope (one-envelope Bidding process). Within the single envelope the Bidder shall place the following separate, sealed envelopes: (a) in an envelope marked "ORIGINAL", all documents comprising the Bid, as described in ITB 11; and (b) in an envelope marked "COPIES", all required copies of the Bid; and (c) if alternative Bids are permitted in accordance with ITB 13, and if relevant: (i) in an envelope marked " ORIGINAL - ALTERNATIVE BID", the alternative Bid; and (ii) in the enveloped marked "COPIES – ALTERNATIVE BID" all required copies of the alternative Bid. 21.2 The inner and outer envelopes shall: (a) bear the name and address of the Bidder; (b) be addressed to the Employer in accordance with ITB 22.1; (c) bear the specific identification of this Bidding process specified in accordance with BDS 1.1; and (d) bear a warning not to open before the time and date for Bid opening. 21.3 If all envelopes are not sealed and marked as required, the Employer will assume no responsibility for the misplacement or premature opening of the Bid.
22. Deadline for Submission of Bids	22.1 Bids must be received by the Employer at the address and no later than the date and time specified in the BDS. When so specified in the BDS, Bidders shall have the option of submitting their Bids electronically. Bidders submitting Bids electronically shall follow the electronic bid submission procedures specified in the BDS. 22.2 The Employer may, at its discretion, extend the deadline for the submission of Bids by amending the bidding document in accordance with ITB 8, in which case all rights and obligations of the Employer and Bidders previously subject to the deadline shall thereafter be subject to the deadline

21. Sealing and Marking of Bids	21.1 The Bidder shall deliver the Bid in a single, sealed envelope (one-envelope Bidding process). Within the single envelope the Bidder shall place the following separate, sealed envelopes: (a) in an envelope marked "ORIGINAL", all documents comprising the Bid, as described in ITB 11; and (b) in an envelope marked "COPIES", all required copies of the Bid; and (c) if alternative Bids are permitted in accordance with ITB 13, and if relevant: (i) in an envelope marked " ORIGINAL - ALTERNATIVE BID", the alternative Bid; and (ii) in the enveloped marked "COPIES – ALTERNATIVE BID" all required copies of the alternative Bid. 21.2 The inner and outer envelopes shall: (a) bear the name and address of the Bidder; (b) be addressed to the Employer in accordance with ITB 22.1; (c) bear the specific identification of this Bidding process specified in accordance with BDS 1.1; and (d) bear a warning not to open before the time and date for Bid opening. 21.3 If all envelopes are not sealed and marked as required, the Employer will assume no responsibility for the misplacement or premature opening of the Bid.
	as extended.
23. Late Bids	23.1 The Employer shall not consider any Bid that arrives after the deadline for submission of Bids, in accordance with ITB 22. Any Bid received by the Employer after the deadline for submission of Bids shall be declared late, rejected, and returned unopened to the Bidder.
24. Withdrawal, Substitution, and Modification of Bids	24.1 A Bidder may withdraw, substitute, or modify its Bid after it has been submitted by sending a written notice, duly signed by an authorized representative, and shall include a copy of the authorization in accordance with ITB 20.3, (except that withdrawal notices do not require copies). The corresponding substitution or modification of the Bid must accompany the respective written notice. All notices must be: (a) prepared and submitted in accordance with ITB 20 and ITB 21 (except that withdrawal notices do not require copies), and in addition, the respective envelopes shall be clearly marked "WITHDRAWAL," "SUBSTITUTION," "MODIFICATION"; and (b) received by the Employer prior to the deadline prescribed for submission of Bids, in accordance with ITB 22. 24.2 Bids requested to be withdrawn in accordance with ITB 24.1 shall be returned unopened to the Bidders. 24.3 No Bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of Bids and the date of expiry of the Bid validity specified by the Bidder on the Letter of Bid or any extended date thereof.
25. Bid Opening	25.1 Except in the cases specified in ITB 23 and ITB 24.2, the Employer shall publicly open and read out in accordance with this ITB, all Bids received by the deadline, at the date, time and place specified in the BDS, in the presence of Bidders' designated representatives and anyone who chooses to attend. All Bidders, or their representatives and any interested party may attend a public opening. Any specific electronic Bid opening procedures required if electronic bidding is permitted in accordance with ITB 22.1, shall be as specified in the BDS. 25.2 First, envelopes marked "WITHDRAWAL" shall be opened and read out

21. Sealing and Marking of Bids	21.1 The Bidder shall deliver the Bid in a single, sealed envelope (one-envelope Bidding process). Within the single envelope the Bidder shall place the following separate, sealed envelopes: (a) in an envelope marked "ORIGINAL", all documents comprising the Bid, as described in ITB 11; and (b) in an envelope marked "COPIES", all required copies of the Bid; and (c) if alternative Bids are permitted in accordance with ITB 13, and if relevant: (i) in an envelope marked " ORIGINAL - ALTERNATIVE BID", the alternative Bid; and (ii) in the enveloped marked "COPIES – ALTERNATIVE BID" all required copies of the alternative Bid. 21.2 The inner and outer envelopes shall: (a) bear the name and address of the Bidder; (b) be addressed to the Employer in accordance with ITB 22.1; (c) bear the specific identification of this Bidding process specified in accordance with BDS 1.1; and (d) bear a warning not to open before the time and date for Bid opening. 21.3 If all envelopes are not sealed and marked as required, the Employer will assume no responsibility for the misplacement or premature opening of the Bid.
	and the envelope with the corresponding Bid shall not be opened, but returned to the Bidder. No Bid withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at Bid opening. 25.3 Next, envelopes marked "SUBSTITUTION" shall be opened and read out and exchanged with the corresponding Bid being substituted, and the substituted Bid shall not be opened, but returned to the Bidder. No Bid substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at Bid opening. 25.4 Next, envelopes marked "MODIFICATION" shall be opened and read out with the corresponding Bid. No Bid modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at bid opening. 25.5 Next, all remaining envelopes shall be opened one at a time, reading out: the name of the Bidder and whether there is a modification; the total Bid Price, per lot (contract) if applicable, including any discounts and alternative Bids; the presence or absence of a Bid Security, or Bid Securing Declaration, if required; and any other details as the Employer may consider appropriate. 25.6 Only Bids, alternative Bids and discounts that are opened and read out at Bid opening shall be considered further for evaluation. The Letter of Bid and the priced Schedules are to be initialed by representatives of the Employer attending Bid opening in the manner specified in the BDS. 25.7 The Employer shall neither discuss the merits of any Bid nor reject any Bid (except for late Bids, in accordance with ITB 23.1). 25.8 The Employer shall prepare a record of the Bid opening that shall include, as a minimum: (a) the name of the Bidder and whether there is a withdrawal, substitution, or modification; (b) the Bid Price, per lot (contract) if applicable, including any discounts; (c) the presence or absence of a Bid Security or BidSecuring

21. Sealing and Marking of Bids	21.1 The Bidder shall deliver the Bid in a single, sealed envelope (one-envelope Bidding process). Within the single envelope the Bidder shall place the following separate, sealed envelopes: (a) in an envelope marked "ORIGINAL", all documents comprising the Bid, as described in ITB 11; and (b) in an envelope marked "COPIES", all required copies of the Bid; and (c) if alternative Bids are permitted in accordance with ITB 13, and if relevant: (i) in an envelope marked " ORIGINAL - ALTERNATIVE BID", the alternative Bid; and (ii) in the enveloped marked "COPIES – ALTERNATIVE BID" all required copies of the alternative Bid. 21.2 The inner and outer envelopes shall: (a) bear the name and address of the Bidder; (b) be addressed to the Employer in accordance with ITB 22.1; (c) bear the specific identification of this Bidding process specified in accordance with BDS 1.1; and (d) bear a warning not to open before the time and date for Bid opening. 21.3 If all envelopes are not sealed and marked as required, the Employer will assume no responsibility for the misplacement or premature opening of the Bid.
	Declaration, if one was required; and (d) any alternative Bids. 25.9 The Bidders' representatives who are present shall be requested to sign the record. The omission of a Bidder's signature on the record shall not invalidate the contents and effect of the record. A copy of the record shall be distributed to all Bidders. E. Evaluation and Comparison of Bids

E. Evaluation and Comparison of Bids

26. Confidentiality	26.1 Information relating to the evaluation of Bids and recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with the Bidding process until information on Intention to Award the Contract is transmitted to all Bidders in accordance with ITB 43. 26.2 Any effort by a Bidder to influence the Employer in the evaluation of the Bids or Contract award decisions may result in the rejection of its Bid. 26.3 Notwithstanding ITB 26.2, from the time of Bid opening to the time of Contract award, if a Bidder wishes to contact the Employer on any matter related to the Bidding process, it shall do so in writing.
27. Clarification of Bids	27.1 To assist in the examination, evaluation, and comparison of the Bids, and qualification of the Bidders, the Employer may, at its discretion, ask any Bidder for a clarification of its Bid given a reasonable time for a response. Any clarification submitted by a Bidder that is not in response to a request by the Employer shall not be considered. The Employer's request for clarification and the response shall be in writing. No change, including any voluntary increase or decrease in the prices or substance of the Bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the Bids, in accordance with ITB 31. 27.2 If a Bidder does not provide clarifications of its Bid by the date and time set in the Employer's request for clarification, its Bid may be rejected.
28. Deviations,	28.1 During the evaluation of Bids, the following definitions apply:

26. Confidentiality	26.1 Information relating to the evaluation of Bids and recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with the Bidding process until information on Intention to Award the Contract is transmitted to all Bidders in accordance with ITB 43. 26.2 Any effort by a Bidder to influence the Employer in the evaluation of the Bids or Contract award decisions may result in the rejection of its Bid. 26.3 Notwithstanding ITB 26.2, from the time of Bid opening to the time of Contract award, if a Bidder wishes to contact the Employer on any matter related to the Bidding process, it shall do so in writing.
Reservations, and Omissions	(a) "Deviation" is a departure from the requirements specified in the bidding document; (b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the bidding document; and (c) "Omission" is the failure to submit part or all of the information or documentation required in the bidding document.
29. Determination of Responsiveness	29.1 The Employer's determination of a Bid's responsiveness is to be based on the contents of the Bid itself, as defined in ITB 11. 29.2 A substantially responsive Bid is one that meets the requirements of the bidding document without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that: (a) if accepted, would: (i) affect in any substantial way the scope, quality, or performance of the Works specified in the Contract; or (ii) limit in any substantial way, inconsistent with the bidding document, the Employer's rights or the Bidder's obligations under the proposed Contract; or (b) if rectified, would unfairly affect the competitive position of other Bidders presenting substantially responsive Bids. 29.3 The Employer shall examine the technical aspects of the Bid submitted in accordance with ITB 16, in particular, to confirm that all requirements of Section VII, Works' Requirements have been met without any material deviation, reservation or omission. 29.4 If a Bid is not substantially responsive to the requirements of the bidding document, it shall be rejected by the Employer and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.
30. Nonmaterial Nonconformities	30.1 Provided that a Bid is substantially responsive, the Employer may waive any nonconformities in the Bid. 30.2 Provided that a Bid is substantially responsive, the Employer may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities in the Bid related to documentation requirements. Requesting information or documentation on such nonconformities shall not be related to any aspect of the price of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid. 30.3 Provided that a Bid is substantially responsive, the Employer shall rectify quantifiable nonmaterial nonconformities related to the Bid Price. To this effect, the Bid Price shall be adjusted, for comparison purposes only to reflect the price of a missing or non-conforming item or component, by adding the average price of the item or component quoted by substantially responsive Bidders. If the price of the item or component cannot be derived from the price of other substantially responsive Bids, the Employer shall use its best estimate.

26. Confidentiality	26.1 Information relating to the evaluation of Bids and recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with the Bidding process until information on Intention to Award the Contract is transmitted to all Bidders in accordance with ITB 43. 26.2 Any effort by a Bidder to influence the Employer in the evaluation of the Bids or Contract award decisions may result in the rejection of its Bid. 26.3 Notwithstanding ITB 26.2, from the time of Bid opening to the time of Contract award, if a Bidder wishes to contact the Employer on any matter related to the Bidding process, it shall do so in writing.
31. Correction of Arithmetical Errors	31.1 Provided that the Bid is substantially responsive, the Employer shall correct arithmetical errors on the following basis: (a) only for admeasurement contracts, if there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected, unless in the opinion of the Employer there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price shall be corrected; (b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and (c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above. 31.2 Bidders shall be requested to accept correction of arithmetical errors. Failure to accept the correction in accordance with ITB 31.1, shall result in the rejection of the Bid.
32. Conversion to Single Currency	32.1 For evaluation and comparison purposes, the currency(ies) of the Bid shall be converted into a single currency as specified in the BDS.
33. Margin of Preference	33.1 Unless otherwise specified in the BDS, a margin of preference for domestic Bidders 3 shall not apply.
34. Subcontractors	34.1 Unless otherwise stated in the BDS, the Employer does not intend to execute any specific elements of the Works by subcontractors selected in advance by the Employer, Financial Parts 34.2 The subcontractor's qualifications shall not be used by the Bidder to qualify for the Works unless their specialized parts of the Works were previously designated by the Employer in the BDS as can be met by subcontractors referred to hereafter as 'Specialized Subcontractors', in which case, the qualifications of the Specialized Subcontractors proposed by the Bidder may be added to the qualifications. 34.3 Bidders may propose subcontracting up to the percentage of total value of contracts or the volume of works as specified in the BDS. Subcontractors proposed by the Bidder shall be fully qualified for their parts of the Works.
35. Evaluation of Bids	35.1 The Employer shall use the criteria and methodologies listed in this ITB and Section III, Evaluation and Qualification criteria. No other evaluation criteria or methodologies shall be permitted. By applying the criteria and methodologies the Employer shall determine the Most Advantageous Bid. This is r, has more than 50 percent ownership by nationals of the country of the Employer, and if it does han 10 percent of the contract price, excluding provisional sums, to foreign contractors. JVs are Bidders and eligible for domestic preference only if the individual member firms are registered Employer or have more than 50 percent ownership by nationals of the

26. Confidentiality	26.1 Information relating to the evaluation of Bids and recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with the Bidding process until information on Intention to Award the Contract is transmitted to all Bidders in accordance with ITB 43. 26.2 Any effort by a Bidder to influence the Employer in the evaluation of the Bids or Contract award decisions may result in the rejection of its Bid. 26.3 Notwithstanding ITB 26.2, from the time of Bid opening to the time of Contract award, if a Bidder wishes to contact the Employer on any matter related to the Bidding process, it shall do so in writing.
	country of the Employer, and ered in the country of the Borrower. The JV shall not subcontract more than 10 percent of the contract sional sums, to foreign firms. JVs between foreign and national firms will not be eligible for the Bid of the Bidder that meets the Qualification Criteria and whose Bid has been determined to be: (a) substantially responsive to the bidding document; and (b) the lowest evaluated cost. 35.2 To evaluate a Bid, the Employer shall consider the following: (a) the Bid price, excluding Provisional Sums and the provision, if any, for contingencies in the Summary Bill of Quantities 4 for admeasurement contracts, but including Daywork 5 items, where priced competitively; (b) price adjustment for correction of arithmetic errors in accordance with ITB 31.1; (c) price adjustment due to discounts offered in accordance with ITB 14.4; (d) converting the amount resulting from applying (a) to (c) above, if relevant, to a single currency in accordance with ITB 32; (e) price adjustment for nonconformities in accordance with ITB 30.3; and (f) the additional evaluation factors are specified in Section III, Evaluation and Qualification Criteria. 35.3 The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in Bid evaluation. 35.4 If this bidding document allows Bidders to quote separate prices for different lots (contracts), the methodology to determine the lowest evaluated cost of the contract combinations, including any discounts offered in the Letter of Bid, is specified in Section III, Evaluation and Qualification Criteria.
36. Comparison of Bids	36.1 The Employer shall compare the evaluated costs of all substantially responsive Bids established in accordance with ITB 35.2 to determine the Bid that has the lowest evaluated cost. f materials and the Contractor's equipment, at the rates quoted in the Bid. For Daywork to be or Bid evaluation purposes, the Employer must list tentative quantities for individual items to be (e.g., a specific number of tractor driver staff-days, or a specific tonnage of Portland cement), to idders' quoted rates and included in the total Bid price.
37. Abnormally Low Bids	37.1 An Abnormally Low Bid is one where the Bid price, in combination with other constituent elements of the Bid, appears unreasonably low to the extent that the Bid price raises material concerns as to the capability of the Bidder to perform the Contract for the offered Bid price. 37.2 In the event of identification of a potentially Abnormally Low Bid, the Employer shall seek written clarifications from the Bidder, including detailed price analyses of its Bid price in relation to the subject matter of the

26. Confidentiality	26.1 Information relating to the evaluation of Bids and recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with the Bidding process until information on Intention to Award the Contract is transmitted to all Bidders in accordance with ITB 43. 26.2 Any effort by a Bidder to influence the Employer in the evaluation of the Bids or Contract award decisions may result in the rejection of its Bid. 26.3 Notwithstanding ITB 26.2, from the time of Bid opening to the time of Contract award, if a Bidder wishes to contact the Employer on any matter related to the Bidding process, it shall do so in writing.
	contract, scope, proposed methodology, schedule, allocation of risks and responsibilities and any other requirements of the bidding document. 37.3 After evaluation of the price analyses, in the event that the Employer determines that the Bidder has failed to demonstrate its capability to perform the Contract for the offered Bid Price, the Employer shall reject the Bid.
38. Unbalanced or Front Loaded Bids	38.1 If the Bid for an admeasurement contract, which results in the lowest evaluated cost is, in the Employer's opinion, seriously unbalanced or, front loaded, the Employer may require the Bidder to provide written clarifications. Clarifications may include detailed price analyses to demonstrate the consistency of the Bid priceas with the scope of works, proposed methodology, schedule and any other requirements of the bidding document. 38.2 After the evaluation of the information and detailed price analyses presented by the Bidder, the Employer may as appropriate: (a) accept the Bid; or (b) require that the amount of the Performance Security be increased at the expense of the Bidder to a level not exceeding 20% of the Contract Price; or (c) reject the Bid.
39. Qualification of the Bidder	39.1 The Employer shall determine to its satisfaction whether the eligible Bidder that is selected as having submitted the lowest evaluated cost and substantially responsive Bid meets the qualifying criteria specified in Section III, Evaluation and Qualification Criteria. 39.2 The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB 17. The determination shall not take into consideration the qualifications of other firms such as the Bidder's subsidiaries, parent entities, affiliates, subcontractors (other than Specialized Subcontractors if permitted in the bidding document), or any other firm(s) different from the Bidder. 39.3 Prior to Contract award, the Employer will verify that the successful Bidder (including each member of a JV) is not disqualified by the Bank due to noncompliance with contractual SEA/SH prevention and response obligations. The Employer will conduct the same verification for each subcontractor proposed by the successful Bidder. If any proposed subcontractor does not meet the requirement, the Employer will require the Bidder to propose a replacement subcontractor. 39.4 An affirmative determination of qualification shall be a prerequisite for award of the Contract to the Bidder. A negative determination shall result in disqualification of the Bid, in which event the Employer shall proceed to the substantially responsive Bid which offers the next lowest evaluated cost to make a similar determination of that Bidder's qualifications to perform satisfactorily.
40. Most Advantageous Bid	40.1 Having compared the evaluated costs of Bids, the Employer shall determine the Most Advantageous Bid. The Most Advantageous Bid is the Bid of the

26. Confidentiality	26.1 Information relating to the evaluation of Bids and recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with the Bidding process until information on Intention to Award the Contract is transmitted to all Bidders in accordance with ITB 43. 26.2 Any effort by a Bidder to influence the Employer in the evaluation of the Bids or Contract award decisions may result in the rejection of its Bid. 26.3 Notwithstanding ITB 26.2, from the time of Bid opening to the time of Contract award, if a Bidder wishes to contact the Employer on any matter related to the Bidding process, it shall do so in writing.
	Bidder that meets the Qualification Criteria and whose Bid has been determined to be: (a) substantially responsive to the bidding document; and (b) the lowest evaluated cost.
41. Employer's Right to Accept Any Bid, and to Reject Any or All Bids	41.1 The Employer reserves the right to accept or reject any Bid, and to annul the Bidding process and reject all Bids at any time prior to Contract Award, without thereby incurring any liability to Bidders. In case of annulment, all Bids submitted and specifically, Bid securities, shall be promptly returned to the Bidders.
42. Standstill Period	42.1 The Contract shall not be awarded earlier than the expiry of the Standstill Period. The Standstill Period shall be ten (10) Business Days unless extended in accordance with ITB 46. The Standstill Period commences the day after the date the Employer has transmitted to each Bidder the Notification of Intention to Award the Contract. Where only one Bid is submitted, or if this contract is in response to an emergency situation recognized by the Bank, the Standstill Period shall not apply.
43. Notification of Intention to Award	43.1 The Employer shall send to each Bidder the Notification of Intention to Award the Contract to the successful Bidder. The Notification of Intention to Award shall contain, at a minimum, the following information: (a) the name and address of the Bidder submitting the successful Bid; (b) the Contract price of the successful Bid; (c) the names of all Bidders who submitted Bids, and their Bid prices as readout, and as evaluated; (d) a statement of the reason(s) the Bid (of the unsuccessful Bidder to whom the notification is addressed) was unsuccessful, unless the price information in c) above already reveals the reason; (e) the expiry date of the Standstill Period; (f) instructions on how to request a debriefing and/or submit a complaint during the standstill period. F. Award of Contract

F. Award of Contract

44. Award Criteria	44.1 Subject to ITB 41, the Employer shall award the Contract to the successful Bidder. This is the Bidder whose Bid has been determined to be the Most Advantageous Bid as specified in ITB 40.
45. Notification of Award	45.1 Prior to the expiration of the Bid validity and upon expiry of the Standstill Period, specified in ITB 42.1 or any extension thereof, and, upon satisfactorily addressing any complaint that has been filed within the Standstill Period, the Employer shall notify the successful Bidder, in writing, that its Bid has been accepted. The notification of award (hereinafter and in the Conditions of Contract and Contract Forms called the "Letter of Acceptance") shall specify the sum that the Employer will pay the Contractor in consideration of the execution of the contract (hereinafter and in the Conditions of Contract and Contract Forms called "the Contract

44. Award Criteria	44.1 Subject to ITB 41, the Employer shall award the Contract to the successful Bidder. This is the Bidder whose Bid has been determined to be the Most Advantageous Bid as specified in ITB 40.
	Price"). 45.2 Within ten (10) Business Days after the date of transmission of the Letter of Acceptance, the Employer shall publish the Contract Award Notice which shall contain, at a minimum, the following information: (a) name and address of the Employer; (b) name and reference number of the contract being awarded, and the selection method used; (c) names of all Bidders that submitted Bids, and their Bid prices as read out at Bid opening, and as evaluated; (d) names of all Bidders whose Bids were rejected either as nonresponsive or as not meeting qualification criteria, or were not evaluated, with the reasons therefor; (e) the name of the successful Bidder, the final total contract price, the contract duration and a summary of its scope; and (f) successful Bidder's Beneficial Ownership Disclosure Form, if specified in BDS ITB 47.1. 45.3 The Contract Award Notice shall be published on the Employer's website with free access if available, or in at least one newspaper of national circulation in the Employer's Country, or in the official gazette. The Employer shall also publish the contract award notice in UNDB online. 45.4 Until a formal contract is prepared and executed, the Letter of Acceptance shall constitute a binding Contract.
46. Debriefing by the Employer	46.1 On receipt of the Employer's Notification of Intention to Award referred to in ITB 43.1, an unsuccessful Bidder has three (3) Business Days to make a written request to the Employer for a debriefing. The Employer shall provide a debriefing to all unsuccessful Bidders whose request is received within this deadline. 46.2 Where a request for debriefing is received within the deadline, the Employer shall provide a debriefing within five (5) Business Days, unless the Employer decides, for justifiable reasons, to provide the debriefing outside this timeframe. In that case, the standstill period shall automatically be extended until five (5) Business Days after such debriefing is provided. If more than one debriefing is so delayed, the standstill period shall not end earlier than five (5) Business Days after the last debriefing takes place. The Employer shall promptly inform, by the quickest means available, all Bidders of the extended standstill period 46.3 Where a request for debriefing is received by the Employer later than the three (3)-Business Day deadline, the Employer should provide the debriefing as soon as practicable, and normally no later than fifteen (15) Business Days from the date of publication of Public Notice of Award of contract. Requests for debriefing received outside the three (3)-day deadline shall not lead to extension of the standstill period. 46.4 Debriefings of unsuccessful Bidders may be done in writing or verbally. The Bidder shall bear their own costs of attending such a debriefing meeting.
47. Signing of Contract	47.1 The Employer shall send to the successful Bidder the Letter of Acceptance including the Contract Agreement, and, if specified in the BDS, a request to submit the Beneficial Ownership Disclosure Form providing additional information on its beneficial ownership. The Beneficial Ownership Disclosure Form, if so requested, shall be submitted within eight (8) Business Days of receiving this request. 47.2 The successful Bidder shall sign, date and return to the Employer, the

44. Award Criteria	44.1 Subject to ITB 41, the Employer shall award the Contract to the successful Bidder. This is the Bidder whose Bid has been determined to be the Most Advantageous Bid as specified in ITB 40.
	Contract Agreement within twenty-eight (28) days of its receipt.
48. Performance Security	48.1 Within twenty-eight (28) days of the receipt of the Letter of Acceptance from the Employer, the successful Bidder shall furnish the Performance Security and, if required in the BDS, the Environmental and Social (ES) Performance Security in accordance with the General Conditions of Contract, subject to ITB 38.2 (b), using for that purpose the Performance Security and ES Performance Security Forms included in Section X, Contract Forms, or another form acceptable to the Employer. If the Performance Security furnished by the successful Bidder is in the form of a bond, it shall be issued by a bonding or insurance company that has been determined by the successful Bidder to be acceptable to the Employer. A foreign institution providing a bond shall have a correspondent financial institution located in the Employer's Country, unless the Employer has agreed in writing that a correspondent financial institution is not required. 48.2 Failure of the successful Bidder to submit the abovementioned Performance Security and, if required in the BDS, the Environmental and Social (ES) Performance Security, or to sign the Contract Agreement shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security. In that event the Employer may award the Contract to the Bidder offering the next Most Advantageous Bid.
49. Adjudicator	49.1 The Employer proposes the person named in the BDS to be appointed as Adjudicator under the Contract, at the hourly fee specified in the BDS, plus reimbursable expenses. If the Bidder disagrees with this proposal, the Bidder should so state in his Bid. If, in the Letter of Acceptance, the Employer does not agree on the appointment of the Adjudicator, the Employer will request the Appointing Authority designated in the Particular Conditions of Contract (PCC) pursuant to Clause 23.1 of the General Conditions of Contract (GCC), to appoint the Adjudicator.
50. Procurement-Related Complaint	50.1 The procedures for making a Procurement-related Complaint are as specified in the BDS.

Section II - Bid Data Sheet (BDS)

The following specific data for the Works to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in the ITB.

ITB Reference	Provision
A. General	
ITB 1.1	The reference number of the Request for Bids (RFB) is: [insert reference number from the Procurement Plan] The Employer is: [insert name and designation of the Employer], COUNTY GOVERNMENT OF TURKANA The name of the RFB is: PROPOSED UPGRADING TO BITUMEN STANDARD OF THE HASHI PETROL STATION – FOOD DISTRIBUTION CENTRE 1 ROAD (2.0 KM) IN KAKUMA MUNICIPALITY, TURKANA COUNTY The number of lots (contracts) comprising this RFB is: ONE (1). This RFB is for Contract 1 only: Road 1, the Hashi Petrol Station – Food Distribution Centre 1 Road (2.0 km). Contract 2, the upgrading of the DRS Junction – Kakuma Sub-County Hospital Road (2.1 km), is procured under a separate RFB.
ITB 2.1	The Borrower is: THE GOVERNMENT OF KENYA and the Employer is the COUNTY GOVERNMENT OF TURKANA. Loan or Financing Agreement amount: [insert amount] The name of the Project is: KENYA URBAN SUPPORT PROGRAMME II (KUSP II) Credit Number: [insert Credit Number]
ITB 4.1	The maximum number of members in a Joint Venture (JV) shall be: TWO (2) MEMBERS.
ITB 4.5	A list of debarred firms and individuals is available on the Bank's external website: http://www.worldbank.org/debarr.
B. Contents of Bidding Document	
ITB 7.1	For clarification of Bid purposes only, the Employer's address is: Attention: [insert name and designation] COUNTY GOVERNMENT OF TURKANA [insert postal address] Electronic mail address: [insert email] Web page: [insert web page] The Employer's officials are designated as follows: Employer's Representative: [insert designation] Project Manager / Engineer: [insert designation] Project Manager's Representative: [insert name and designation]
ITB 7.1	Requests for clarification should be received by the Employer no later than: FOURTEEN (14) DAYS before the Bid Submission Deadline.
ITB 7.4	A pre-Bid meeting shall take place at the following date, time and place: [insert date, time and place, to be confirmed in the tender notice]. A site visit conducted by the Employer shall be organised. Bidders are strongly advised to visit the site: the Works are in Kakuma, Turkana West Sub-County, approximately 120 km north of Lodwar, and material haulage distances materially affect pricing.
C. Preparation of Bids	
ITB 10.1	The language of the Bid is: ENGLISH. All correspondence shall be in English. The language for translation of supporting documents and printed literature is English.
ITB 11.1 (b)	The following schedules shall be submitted with the Bid: • Priced Bill of Quantities (Volume 3), fully priced and extended

ITB Reference	Provision
	• Schedule of Subcontractors, stating the work for which each Subcontractor is to be employed, the value and percentage of the Bid price subcontracted, and the Subcontractor's experience in that field • Schedule of Projected Cash Flow, based on the outline programme for execution of the whole of the Works • Schedule of Material and Equipment Suppliers, with quotations for key materials (bitumen, cement, reinforcement, precast concrete products and crushed aggregate) • Outline Construction Programme and Method Statement
ITB 11.1 (i)	The Bidder shall submit the following additional documents in its Bid: • Code of Conduct for Contractor's Personnel (ES), using the form provided in Section IV • Management Strategies and Implementation Plans (MSIPs) to manage the following key environmental and social risks: – Boundary marking and protection strategy for mobilisation and construction, to prevent off-site adverse impacts – Strategy for obtaining consents and permits prior to the start of the relevant works, including NEMA and borrow pit consents – Gender-based violence and sexual exploitation and abuse (GBV/SEA) prevention and response action plan – Traffic management plan to ensure the safety of local communities from construction traffic, with particular regard to the high pedestrian volumes recorded on the DRS Junction – Sub-County Hospital Road – Labour influx and workers' accommodation management plan, having regard to the refugee-hosting context of Kakuma – Grievance Redress Mechanism (GRM) – Child Protection Strategy (CPS) – Waste Management Plan (WMP) – Water abstraction and dust suppression plan for an arid environment • Certificates of statutory registration • Letter of registration with the National Construction Authority in the category of Roads and Other Civil Works, [insert class] and above • Valid tax compliance certificate • Duly completed forms of statement of integrity • Joint Venture Agreement, where applicable
ITB 13.1	Alternative Bids shall not be considered.
ITB 13.2	Alternative times for completion shall not be permitted.
ITB 13.4	Alternative technical solutions shall be permitted for the following parts of the Works: NONE.
ITB 14.5	The prices quoted by the Bidder shall not be subject to adjustment during the performance of the Contract.
ITB 15.1	The price shall be quoted by the Bidder in: KENYA SHILLINGS (KES). A Bidder expecting to incur expenditure in other currencies for inputs to the Works supplied from outside the Employer's Country, and wishing to be paid accordingly, shall indicate up to three foreign currencies of its choice expressed as a percentage of the Bid price, together with the exchange rates used, in the appropriate form in Section IV.
ITB 18.1	The Bid shall be valid until: [insert date], being 120 days from the Bid Submission Deadline.
ITB 18.3 (a)	The Bid price shall be adjusted by the following factor(s): NOT APPLICABLE.
ITB 19.1	A Bid Security shall be required. The amount and currency of the Bid Security shall be: [insert amount in figures and words, in Kenya Shillings]. Engineer's note: an amount of the order of 1 to 2 per cent of the Engineer's Estimate would be consistent with market practice for a contract of this size.
ITB 19.3 (d)	Other types of acceptable securities: NONE.
ITB 20.1	In addition to the original of the Bid, the number of copies is: TWO (2) hard copies of the original.

ITB Reference	Provision
	TWO (2) scanned/digital copies on flash disks, in PDF format with the Bill of Quantities additionally in Microsoft Excel format, with the disks clearly labelled, shall also be submitted. In the event of any discrepancy between the original and the digital copies, the original hard copy shall prevail.
ITB 20.3	The written confirmation of authorisation to sign on behalf of the Bidder shall consist of: a duly executed power of attorney stating the name and position of the person authorised to sign the Bid on behalf of the Bidder.
D. Submission and Opening of Bids	
ITB 22.1	For Bid submission purposes only, the Employer's address is: COUNTY GOVERNMENT OF TURKANA [insert postal address] [insert physical address, building, floor and entrance] The deadline for Bid submission is: Date: [insert day and date] Time: [insert time] HOURS EAST AFRICAN TIME (EAT) Bidders shall not have the option of submitting their Bids electronically.
ITB 25.1	The Bid opening shall take place at: COUNTY GOVERNMENT OF TURKANA [insert physical address, floor and room] Date: [insert day and date] Time: [insert time] HOURS EAST AFRICAN TIME (EAT)
ITB 25.6	The Letter of Bid and Schedules shall be initialled by ALL representatives of the Employer conducting the Bid opening. Each Bid shall be initialled and numbered. The representatives shall initial the key pages of the Bid's original copy, namely the Letter of Bid, the Bid Security and all pages of the Bill of Quantities.
E. Evaluation and Comparison of Bids	
ITB 32.1	The currency that shall be used for Bid evaluation and comparison purposes, to convert at the selling exchange rate all Bid prices expressed in various currencies into a single currency, is: KENYA SHILLINGS (KES). The source of the exchange rate shall be: THE CENTRAL BANK OF KENYA. The date for the exchange rate shall be: THE BID SUBMISSION DEADLINE.
ITB 33.1	A margin of domestic preference SHALL NOT apply.
ITB 34.1	At this time the Employer DOES NOT INTEND to execute certain specific parts of the Works by subcontractors selected in advance.
ITB 34.2	The parts of the Works for which the Employer permits Bidders to propose Specialised Subcontractors are designated as follows: (a) Manufacture and supply of precast concrete products, including drain cover slabs, kerbs and paving blocks (b) Production and laying of asphalt concrete (c) Supply, installation and commissioning of solar street lighting For the above-designated parts of the Works, the relevant qualifications of the proposed Specialised Subcontractors will be added to the qualifications of the Bidder for the purpose of evaluation.
ITB 34.3	Contractor's proposed subcontracting: the maximum percentage of subcontracting permitted is 25 PER CENT OF THE TOTAL CONTRACT AMOUNT OR 25 PER CENT OF THE VOLUME OF WORK. Bidders planning to subcontract more than 10 per cent of the total volume of work shall specify, in the Letter of Bid, the activity or activities to be subcontracted together with full details of the Subcontractors and their qualifications and experience.

ITB Reference	Provision
F. Award of Contract	
ITB 47.1	The successful Bidder SHALL submit the Beneficial Ownership Disclosure Form.
ITB 48.1 and 48.2	The successful Bidder shall be required to submit an Environmental and Social (ES) Performance Security: NOT APPLICABLE.
ITB 49	The Adjudicator proposed by the Employer is: [insert name and address of the proposed Adjudicator, or state that the Adjudicator is to be appointed by the Institution of Engineers of Kenya]. The hourly fee for the proposed Adjudicator shall be: [insert maximum hourly rate, inclusive of reimbursable expenses for transport and office expenses].
ITB 50.1	The procedures for making a Procurement-related Complaint are detailed in the "Procurement Regulations for IPF Borrowers (Annex III)". If a Bidder wishes to make a Procurement-related Complaint, the Bidder shall submit its complaint following these procedures, in writing (by the quickest means available, such as email), to: Attention: [insert name and designation] COUNTY GOVERNMENT OF TURKANA [insert postal address] Electronic mail address: [insert email] In summary, a Procurement-related Complaint may challenge any of the following: 1. the terms of the bidding document; and 2. the Employer's decision to award the contract.

Section III - Evaluation and Qualification Criteria

Wherever a Bidder is required to state a monetary amount, Bidders shall indicate the Kenya Shilling equivalent using the rate of exchange determined as follows:

- for construction turnover or financial data required for each year — the exchange rate prevailing on the last day of the respective calendar year in which the amounts for that year were originally established; or
- for the value of a single contract — the exchange rate prevailing on the date of the contract.

Exchange rates shall be taken from the publicly available source identified in ITB 32.1. Any error in determining the exchange rates in the Bid may be corrected by the Employer.

1. Margin of Preference

NOT APPLICABLE. A margin of domestic preference shall not be granted, in accordance with ITB 33.1.

2. Evaluation

In addition to the criteria listed in ITB 35.2 (a) to (e), the following criteria shall apply.

2.1 Adequacy of Technical Proposal

Evaluation of the Bidder's Technical Proposal will include an assessment of the Bidder's technical capacity to mobilise key equipment and personnel for the Contract, consistent with its proposals on work methods, scheduling and material sourcing, in sufficient detail and fully in accordance with the requirements stipulated in Section VII, Works' Requirements. Particular regard will be had to:

(a) the proposed source, haulage distance and processing arrangements for natural gravel for sub-base, base and improved sub-grade, and the proposed source of crushed aggregate and asphalt concrete, having regard to the Engineer's materials investigations reported in the Detailed Design Report;

(b) the proposed method and plant for mix-in-place or plant-mixed cement improvement of the gravel road base, and the proposed arrangements for curing in an arid environment;

(c) the proposed source of construction water and the abstraction arrangements, having regard to the scarcity of water in the project area;

(d) the proposed arrangements for casting, curing, handling and placing the precast slotted drain cover slabs, which form the walking surface of the footpaths;

(e) the proposed traffic and pedestrian management arrangements through the Works, having regard to the pedestrian volumes recorded in the design.

2.2 Multiple Contracts

NOT APPLICABLE. This RFB is for a single contract, Contract 1 (Road 1). Contract 2 (Road 2) is procured under a separate RFB and will be evaluated separately; a Bidder may bid for either or both.

2.3 Alternative Completion Times

NOT APPLICABLE.

2.4 Sustainable Procurement

NOT APPLICABLE.

2.5 Alternative Technical Solutions for Specified Parts of the Works

NOT APPLICABLE.

2.6 Specialised Subcontractors

Where permitted under ITB 34.2, only the specific experience of Subcontractors for the specialised works permitted by the Employer will be considered. The general experience and financial resources of Specialised Subcontractors shall not be added to those of the Bidder for the purposes of qualification of the Bidder. The qualification criteria are:

1. Manufacture and supply of precast concrete products — the Subcontractor shall demonstrate the manufacture and supply of precast concrete products to at least one contract of comparable scale within the last five years, and shall operate a works with a documented quality control system and current test certificates to the relevant Kenya Standard or BS 6717.
2. Production and laying of asphalt concrete — the Subcontractor shall own or have firm access to an asphalt mixing plant of not less than 40 tonnes per hour together with a self-propelled paver and the associated compaction plant, and shall demonstrate the production and laying of not less than 500 m^3 of asphalt concrete in a single year within the last five years.
3. Supply, installation and commissioning of solar street lighting — the Subcontractor shall demonstrate the supply, installation and commissioning of not less than 35 integrated solar street lights in a single contract within the last five years, and shall be an authorised distributor or installer of the luminaire proposed.

3. Qualification

The Employer shall apply the eligibility and qualification criteria set out in the tables below. Where a requirement is expressed as a monetary amount in square brackets, the Employer shall insert the amount before the bidding document is issued.

3.1 Eligibility

No.	Subject	Requirement	Single Entity	JV — All Members Combined	Documentation
1.1	Nationality	Nationality in accordance with ITB 4.4.	Must meet requirement	Each member must meet requirement	Forms ELI-1.1 and 1.2, with attachments
1.2	Conflict of Interest	No conflicts of interest in accordance with ITB 4.2.	Must meet requirement	Each member must meet requirement	Letter of Bid
1.3	Bank Eligibility	Not having been declared ineligible by the Bank, as described in ITB 4.5.	Must meet requirement	Each member must meet requirement	Letter of Bid
1.4	State-owned enterprise or institution of the Borrower country	Meets the conditions of ITB 4.6.	Must meet requirement	Each member must meet requirement	Forms ELI-1.1 and 1.2, with attachments
1.5	United Nations resolution or Borrower country law	Not having been excluded as a result of a prohibition in the Borrower's country laws or official regulations against commercial relations with the Bidder's country, or by an act of compliance with a UN Security Council resolution, both in accordance with ITB 4.8 and Section V.	Must meet requirement	Each member must meet requirement	Forms ELI-1.1 and 1.2, with attachments

3.2 Historical Contract Non-Performance

No.	Subject	Requirement	Single Entity	JV — All Members Combined	Documentation
2.1	History of non-performing contracts	Non-performance of a contract did not occur as a result of contractor default since [insert date, being five years before the Bid Submission Deadline].	Must meet requirement	Each member must meet requirement	Form CON-2
2.2	Suspension based on execution of a Bid-Securing Declaration	Not under suspension based on the execution of a Bid-Securing Declaration pursuant to ITB 4.7 and ITB 19.9.	Must meet requirement	Each member must meet requirement	Letter of Bid
2.3	Pending litigation	The Bidder's financial position and prospective long-term profitability are sound according to the criteria established in 3.3 below, assuming that all pending litigation will be resolved against the Bidder.	Must meet requirement	Each member must meet requirement	Form CON-2
2.4	Litigation history	No consistent history of court or arbitral award decisions against the Bidder since [insert date, being five years before the Bid Submission Deadline].	Must meet requirement	Each member must meet requirement	Form CON-2
2.5	Declaration: environmental and social (ES) past performance	Declare any civil works contracts that have been suspended or terminated, or performance security called by an employer, for breach of environmental or social (including sexual exploitation and abuse, and sexual harassment) obligations in the past five years.	Must make the declaration	Each member must make the declaration	Form CON-3
2.6	Bank's SEA and/or SH disqualification	At the time of Contract Award, not subject to disqualification by the Bank for non-compliance with SEA/SH obligations.	Must meet requirement (including each proposed subcontractor)	Each member must meet requirement	Letter of Bid, Form CON-4

3.3 Financial Situation and Performance

No.	Subject	Requirement	Single Entity	JV — All Members Combined	Documentation
3.1	Financial capabilities	(i) The Bidder shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow requirement estimated as [insert amount in figures and words, in Kenya Shillings] for the subject contract, net of the Bidder's other commitments. Engineer's note: a requirement of the order of four months' average expenditure under the Engineer's Estimate would be consistent with a 12 month construction period. (ii) The Bidder shall also demonstrate, to the satisfaction of the Employer, that it has adequate sources of finance to meet the cash flow requirements on works currently in progress and for future contract commitments. (iii) Audited balance sheets or, if not required by the laws of the Bidder's country, other financial statements acceptable to the Employer, for the last five (5) years shall be submitted and must demonstrate the current soundness of the Bidder's financial position and indicate its prospective long-term profitability.	Must meet requirement	Must meet requirement	Form FIN-3.1, with attachments; Form FIN-3.3
3.2	Average annual construction turnover	Minimum average annual construction turnover of [insert amount in figures and words, in Kenya Shillings], calculated as total certified payments received for contracts in progress and/or completed within the last five (5) years, divided by five (5) years. Engineer's note: a requirement of the order of the	Must meet requirement	Must meet requirement	Form FIN-3.2

No.	Subject	Requirement	Single Entity	JV — All Members Combined	Documentation
		Engineer's Estimate divided by the construction period in years, multiplied by a factor of between 1.0 and 1.5, is consistent with Bank practice. Each JV member must meet 50 per cent and at least one member must meet 80 per cent of the requirement.			

3.4 Experience

No.	Subject	Requirement	Single Entity	JV — All Members Combined	Documentation
4.1 (a)	General construction experience	Experience under construction contracts in the role of prime contractor, JV member, subcontractor or management contractor for at least the last ten (10) years, starting [insert date].	Must meet requirement	Each member must meet requirement	Form EXP-4.1
4.2 (a)	Specific construction and contract management experience	A minimum number of two (2) similar contracts, satisfactorily and substantially completed (80 per cent or more of the works completed) as prime contractor, JV member, management contractor or subcontractor, between [insert date] and the Bid Submission Deadline, namely: (i) two (2) contracts, each of a minimum value of [insert amount]; or (ii) one (1) contract of a minimum value of [insert amount]. Engineer's note: values of the order of 60 per cent and 120 per cent respectively of the Engineer's Estimate are consistent with Bank practice. The similarity of the contracts shall be based on: the construction of urban roads to bituminous standard with lined closed drainage and non-motorised transport facilities, of comparable physical size, complexity, construction method and technology.	Must meet requirement	Must meet requirement	Form EXP-4.2 (a)
4.2 (b)	Construction experience in key activities	For the above and any other contracts, whether substantially completed or under implementation, as prime contractor, JV member or subcontractor between [insert date] and the Bid Submission Deadline, a minimum construction experience in the following key activities, successfully completed: (1) earthworks, including improved sub-grade — 3,500 m³ per year; (2) processing and placing of cement-improved natural gravel — 2,000 m³ per year; (3) production and laying of asphalt concrete — 650 m³ per year; (4) concrete pipe culverts with headwalls — 200 m per year; (5) lined closed stormwater drains with precast cover slabs — 2.0 km per year; (6) concrete paving blocks — 6,000 m² per year; (7) supply and installation of solar street lighting — 35 units per year. Activities (6) and (7) may be met through a Specialised Subcontractor.	Must meet requirements	Must meet requirements	Form EXP-4.2 (b)
4.2 (c)	Experience in managing ES risks	For contracts, whether substantially completed or under implementation, as prime contractor, JV member or subcontractor between [insert date] and the Bid Submission Deadline, experience in managing environmental and social risks and impacts in the following aspects: (a) preparation and implementation of a project-specific environmental and social management plan, including monitoring and reporting; (b) developing and implementing ES management strategies and plans, including gender-based violence	Must meet requirements	Must meet requirements	Form EXP-4.2 (c)

No.	Subject	Requirement	Single Entity	JV — All Members Combined	Documentation
		management, sexual exploitation and abuse management and a grievance redress mechanism; (c) developing and managing a code of conduct for the Contractor's personnel.			

The key activity volumes stated in criterion 4.2 (b) are derived from the measured quantities in the Bill of Quantities over the 12 month construction period and are not to be altered without the Engineer's advice.

4. Key Personnel

The Bidder must demonstrate that it will have suitably qualified Key Personnel, in adequate numbers, as described below. The Bidder shall provide details of the Key Personnel and such other Key Personnel as the Bidder considers appropriate to perform the Contract, together with their academic qualifications and work experience, using the relevant forms in Section IV.

No.	Staff position	Academic and professional qualifications	Minimum relevant experience
1	Contracts Manager / Project Manager (headquarters)	BSc in Civil Engineering or equivalent; registered Professional Engineer with the Engineers Board of Kenya (EBK) or equivalent, with a valid practising licence	15 years general experience; 10 years specific experience in the construction of bituminous roads and civil works; at least 5 years as Project Manager on works of comparable scale
2	Site Agent / Resident Engineer's counterpart	BSc in Civil Engineering or equivalent; registered Professional Engineer with EBK or equivalent, with a valid practising licence	10 years general experience; 7 years specific experience in the construction of bituminous urban roads and drainage; at least 3 years as Site Agent
3	Materials / Pavement Engineer	BSc in Civil Engineering or equivalent; registered with EBK or equivalent	8 years general experience; 5 years specific experience in road materials, hydraulically improved bases and asphalt concrete, including responsibility for a site laboratory
4	Structures / Drainage Engineer	BSc in Civil or Structural Engineering or equivalent; registered with EBK or equivalent	8 years general experience; 5 years specific experience in reinforced concrete drainage structures and culverts
5	Quantity Surveyor / Contracts Administrator	BSc in Quantity Surveying, Construction Management or Civil Engineering; registered with the relevant professional body	8 years general experience; 5 years in the measurement and administration of admeasurement civil works contracts
6	Surveyor	Diploma or higher in Land or Engineering Survey	8 years general experience; 5 years setting out road and drainage works
7	Environmental and Social Specialist	BSc in Environmental Science, Environmental Engineering or related discipline; registered as a Lead or Associate Expert with NEMA	8 years general experience; 5 years implementing ESMPs on civil works contracts, including stakeholder engagement and grievance management
8	Occupational Health and Safety Officer	Diploma or higher in Occupational Safety and Health; registered with the Directorate of Occupational Safety and Health Services	6 years general experience; 4 years as a safety officer on civil works contracts
9	Social Development / Community Liaison Officer	Degree or diploma in Social Sciences, Community Development or related discipline	5 years experience in community liaison, GBV/SEA prevention and grievance redress, preferably in a refugee-hosting or arid and semi-arid land context
10	Plant and Workshop Manager	Diploma or higher in Mechanical or Plant Engineering	8 years general experience; 5 years responsible for the maintenance of road construction plant in a remote location

The Bidder shall satisfy the Employer that the proposed Key Personnel will be available for the whole of the period for which they are required, and shall submit signed curricula vitae and letters of commitment.

5. Equipment

The Bidder must demonstrate that it will have the key equipment listed below, whether owned, leased or otherwise acquired. The quantities stated are the minimum considered necessary to complete the Works within the 12 month construction period, having regard to the remoteness of the site and the haulage distances to the material sources identified in the Detailed Design Report.

No.	Equipment type and characteristics	Minimum number required
1	Bulldozer, minimum 150 hp	1
2	Motor grader, minimum 140 hp	1
3	Wheeled loader, minimum 2.0 m³ bucket	1
4	Excavator, minimum 0.9 m³ bucket	2
5	Backhoe loader	1
6	Vibratory smooth drum roller, minimum 10 tonnes	2
7	Pneumatic tyred roller, minimum 15 tonnes	1
8	Pedestrian and small plate compactors	4
9	Tipper trucks, minimum 15 tonnes	6
10	Water tanker, minimum 10,000 litres	3
11	Bitumen distributor with heating and spray bar	1
12	Asphalt mixing plant, minimum 40 tonnes per hour (owned or firm access, with evidence of availability)	1
13	Self-propelled asphalt paver with automatic level control	1
14	Stabiliser / rotavator suitable for mix-in-place cement improvement, or a stationary pugmill plant	1
15	Concrete batching plant or weigh-batched mixers, minimum 0.5 m³ capacity	2
16	Concrete poker and screed vibrators	4
17	Mobile crane or hiab-equipped truck for handling precast cover slabs, minimum 5 tonnes	1
18	Plate compactor for concrete paving blocks, with rubber sole plate	2
19	Site laboratory, or firm access to an approved commercial laboratory, for the Contractor's own testing under Clause 226 of the Specification	1
20	Survey equipment: total station and automatic levels	1 set

The Bidder shall state, for each item, whether it is owned, leased or to be acquired, together with its age, condition and current location, using the Equipment Form in Section IV.

TENDER EVALUATION CRITERIA FOR UPGRADE TO BITUMEN STANDARD ROAD

A. PRELIMINARY EVALUATION				
Item No.	**Qualification Subject**	**Qualification Requirement**	***Document To be Completed/Provided by Tenderer***	***For Procuring Entity's Use (Qualification met or Not Met).YES/NO***
1.	Company registration	The Tenderer to provide certificate of Incorporation duly stamped and certified by the commissioner of oaths. The company should not have been incorporated less than 5 years ago from the date of this tender closure	• ***Duly certified Certificate of incorporation by the commissioner of oaths***	
2	Company directors	The tenderer to provide a copy of CR12 clearly outlining the directors' names and shares. CR12 must be certified by the commissioner of oaths. CR12 Should be dated at most six months from the date of the closing of this tender. The tenderer to provide colored copies for IDs for the company directors	• ***Duly certified CR12 by the commissioner of oaths and issued at least six months before tender closure.*** • ***Colored ID copies for the company Directors***	
3	Tax Obligations for Tenderers	Has produced a current tax compliance certificate or tax exemption certificate issued by Kenya Revenue Authority.	• ***Provide Valid Tax Compliance Certificate***	
4	Business permit	The tenderer to provide a valid Single Business permit from any County in Kenya	• ***Valid Single Business permit from any county in Kenya***	

5	Form of tender	The tenderer should prepare, fill, sign and stamp the form of tender in the prescribed format	• ***Dully completed form of tender***	
6	Confidential Business Questionnaire	The tenderer should fill, sign and stamp the confidential Business Questionnaire in the prescribed format	• ***Dully completed confidential Business Questionnaire***	
7	Corruption Or Fraudulent pratices	Tenderer will not engage in any corrupt or fraudulent practices	• Dully filled, signed and stamped SD2	
8	PPRA Eligibility/Debarment	Not having been declared ineligible/debarred by the PPRA	• Dully filled, signed and stamped SD1	
9	Code of Ethics	Tenderer declaration and commitment to the code of Ethics	• Dully filled, signed and stamped SD3	
10	Litigation History	Litigation history of court/arbitral award decisions against the Tenderer since **1st January 2025**	• Form CON – 2	
11	Declaration of Knowledge of Site /Pre-Bid Conference	Attend Pre-Tender Site Visits as per TDS, ITB 7.4 The document will be issued onsite by Kakuma Municipality on the day of site visit.	Provide a copy for site visit certifi ate. Note: certificate issued only to a l E/G.E site agent with valid practicing o good standing and duly nominated by t e firm via a letter.	
12	Tender Security	Provide a tender security of Ksh. 00,000 from a reputable Bank	• Original Tender Security	
13	Priced Bill of Quantities	- Fill all rates, and amounts, - NO Alterations of the Quantities accepted, - All bidders own Corrections must be Countersigned - NO Errors noted in the Bills of Quantities	- Bills of Quantity in the Prescribed Format	
14	Certificate and Annual Practicing License with the National Construction	Proof of registration with the National Construction Authority in Class 3 and above as Roads Contractor	• Copy of Current NCA3 or above certificate for roads categ y • Annual Practicing License for NCA3 or above for roads category	

	Authority			
15	Serialization of the Bid	Bidders shall sequentially serialize all pages of each tender submitted. Any written Pages or document attached or inserted Documents MUST be sequentially serialized.	• The Serialization MUST be numerically sequential starting from Numeric 1.	
16	Completeness of tender document	The person or persons signing the bid shall initial all pages of the bid where entries have been made. Bidders shall own all alterations made to the tender document. All forms provided in tender document MUST be dully filled, signed and stamped.	• All pages with entries (Typed or hand written) must be initialed. Any alterations made in the tender document must be countersigned. • All forms Filled, signed and stamped.	
A bidder who meets all the above mandatory requirements is responsive and will automatically be subjected to Technical Evaluation. Any bidder who does not meet any of the mandatory requirements will be considered non-responsive and will not be subjected to further evaluation.				

B. TECHNICAL EVALUATION

ITEM	Qualification Subject	Qualification Requirement	*Document To be Completed/Provided by Tenderer*	MARKS
1.	**Financial Capabilities** a) Financial audit statements	(i) Bidders shall provide audited balance sheet or other financial statements acceptable to the Procuring Entity, for the last 3 years shall be submitted and must demonstrate the current soundness of the Tenderer's financial position and indicate its prospective long-term profitability (as demonstrated by Financial Evaluation ratios).	Form FIN – 3.1, with attachments ***Attachments include: i. Audited accounts All pages must be initialed and stamped by both a practicing Auditor registered with ICPAK and one of the Directors. Auditor's practicing membership number from ICPAK must be indicated and a valid practicing license shall be provided.***	**Total: 25 MARKS** 6mks (2mks for each annual audit statement)
			The Financial ratio Form to be signed by the Auditor registered with ICPAK and one of the Directors ***Financial Ratios*** Computation shall be made for the following Ratios and	

	b) Financial ratios	(ii) The Tenderer shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow of equivalent to **Kshs. 100,000,000.00** (In case of JV, Domestic partner to provide a line of credit or capacity of cash flow requirement of **Kshs.100,000,000**	marks awarded to each of the ratios: - Working Capital - Debt to Equity Ratio - Current ratio - Operating Cash Flow ratio	4mks (1mk for each ratio)
	c) Access/availability of Working capital	(iii) The audited balance sheets or, if not required by the laws of the Tenderer's country, other financial statements acceptable to the Procuring Entity, for the last *3* years shall be submitted and must demonstrate the current soundness of the Tenderer's financial position and indicate its prospective long-term profitability. In case of a JV, both partners are required to submit financial statements)	• ***Line of Credit from reputable bank to access atleast ksh. 100,000,000/= of credit.*** • ***Last two years Bank statements indicating stable cash flows and at least a current balance of Ksh. 50,000,000/=***	5mks 5mks
	d) Average Annual Construction Turnover	Minimum average annual construction turnover of **Kenya Shillings 600,000,000.00**, equivalent calculated as total certified payments received for contracts in progress and/or completed within the	Form FIN – 3.2 ***Attachments include Financial Statements***	**5mks**

		last 3 years, divided by 1 year.(In case of JV, the domestic partner is required to demonstrate the Average Annual Turnover of **Kshs.200,000,000** for the same period**)**		

2.	**Experience** a) General Construction Experience	General Experience under construction contracts in the role of prime contractor, JV member, sub-contractor, or management contractor for at least the last 10 years, starting 1st January *2016.* Grading shall be based on general projects handled. Five projects and above earns maximum points and prorated downwards (In case of JV, the above requirement shall be coowned)). The projects under consideration should not value less than Ksh. 50,000,000/=	Form EXP – 4.1 ***Attach at least 5No. Letters of Award/P.Os/contract Agreements and respective Completion Certificates for the awarded contracts***	**Total: 30Marks:** 10Mks (Award 2mks for each award/agreement/P.O with respective completion certificate/taking over certificate)

	b) Specific Experience	Up-graded to Bitumen roadworks A minimum number of 5 similar contracts specified below that have been satisfactorily and substantially completed as a prime contractor, joint venture member, management contractor or sub-contractor between 1st January 2016 and tender submission deadline i.e. …. (Number) contracts, each of minimum value **Kenya shillings 50 Million**. Equivalent. (In case of JV, combine parties will be required to attain the above requirement).	Form EXP 4.2(a) &(b) ***Provide 5No. Letters of Award/agreement/P.Os and Completion Certificates/taking over certificates*** ***For subcontracted works, the bidder should provide the following;*** • ***Award letter of the main contractor*** • ***Award letter of the subcontract.***	20Mks (Award 4mks for each award/agreement/P.O with respective completion certificate/taking over certifica te)

		[*In case the Works are to be tender as individual contracts under multiple contract procedure, the minimum number of contracts required for purposes of evaluating qualification shall be selected from the options mentioned in ITT 35.4]* The similarity of the contracts shall be based on the following: [*Based on Section VII, Scope of Works, specify the minimum key requirements in terms of physical size, complexity, construction method, technology and/or other characteristics including part of the requirements that may be met by specialized subcontractors, if permitted in accordance with ITT 34.3]*	• ***Completion letter of the subcontract.*** • ***Subcontract approval from the Engineer/supervision n Authority***	
3.	**Contractor's Representative and Key Personnel**	Curriculum Vitae (CVs) of the Proposed Key Staff must be presented in the provided format and duly signed by the proposed individual. Copies of certificates and Annual Practicing Licenses (for Engineers) and Academic Certificates for all staff is mandatory.	Schedule F (Form PER. 1 and PER. 2)	**Total Marks: 15 mks**

Item No.	Qualification Requirement	Qualification Subject	*Document To be Completed/Provided by Tenderer*	*Max scor*	*For Procuring Entity's Use (Qualification score)*
	Site Agent (Max 4marks)	Registration & Qualification	Registered Engineer & Degree (BSc. Civil) holder	2	
		Relevant experience	15 years and above	2	
			7-14years	1	
			3-6 years	0.5	
			0-3years	0	
	Material Engineer Personnel above earn Max. 2marks	Registration	Registered Engineer	0.5	
		Qualification	Degree (Bsc. Civil)	1	
		Relevant experience	10 years and above	0.5	
			6-9years	0.5	
			3-5 years	0.5	
			0-3years	0.5	
	Structural Engineer Personnel above earn Max 2Mks	Registration	Registered Engineer	0.5	
		Qualification	Degree (Bsc Civil/structural)	1	
		Relevant experience	10 years and above	0.5	
			6-9years	0.5	
			3-5 years	0.5	
			0-3years	0.5	

	Road Surveyor (Max 2marks)	Qualification	Degree (Surveying)	1	
			HND	0.5	
		Relevant experience	10 years and above	1	
			6-9years	0.5	
			3-5 years	0.5	
			0-3years	0.5	
	Foreman (Max 2marks)	Qualification	HND	1	
			Diploma (Civil)	0.5	
		Relevant experience	15 years and above	1.0	
			7-14years	1.0	
			3-6 years	0.5	

			0-3years	0.5	
	Environmental, Safety and Health Specialist/officer (Max. 3mark)	Qualification	Degree	1	
		Registration	NEMA	1	
		Relevant experience	10 years and above	1	
			7-9years	0.5	
			3-5 years	0.5	
			0-3years	0.5	

4. EQUIPMENT Total: 20 Marks

Item No.	Qualification Subject	Qualification Requirement		
8	Contractors key equipment	• Bidders shall declare they have possession/Ownership of various equipment as proposed to be used in the Project by providing Logbooks that demonstrate proof of ownership. • For Bidders planning to hire, they shall provide an Active Lease Agreement in Place that can be used during the Project Life. The copy of logbooks of the lessor(s) shall also be provided.	Schedule D of Technical Proposal	**20Marks**

Main Scope of Works of Tender	**Main Equipment**	**Quantity (No) (Minimum)**	**Marks (Score)**		**No. of Equipment to be made available for the Contract by the Bidder**
			Equipment Owned by the Bidder	**Equipment hired/leased by the Bidder**	
Earthworks Concrete works	**a) General Plant**				
	Primary/Secondary Crusher Unit/Power	1	2	1	
Bituminous works (AC & Surface Dressing)	Screen Min capacity – 90t/hr.	1	2	0.5	
	Concrete batching plant Min Cap 20 m3/hr	0			

				Asphalt Concrete batching plant.	1				
				b) Bituminous Plants					
				Bitumen spray/Pressure distributor with spray bar	1	2	0.5		
				Asphalt concrete paver	1				
				c) Compactors					
				Vibrating compaction plate 300 mm wide	0	1	0.5		
				Vibrating compaction plate 600 mm wide	1				
				d) Mobile Compactors					
				Single drum compactors min 10 tonnes	1	2	1		
				Double drum compactors	0				
				Pneumatic compactors min 15 tonnes	1				
				Medium rock drill (1.5 m3/min)	0				
				Heavy rock drill (2.4 m3/min	0				
				e) Concrete Equipment					
				Mobile concrete mixers	1	2	1		
				Truck mounted mixers	0				

			Concrete vibrators	1				
			f) Transport (Tippers, dumpers, water tankers)					
			4X2 tippers payload 7 – 12 tonnes	0	6	3		
			6X4 tippers payload 16 – 20 tonnes	0				
			8X4 tippers payload 16 – 20 tonnes	0				
			van, landcruiser, hillux	1				
			Dump trucks/tippers ,minimum 15 tonnes	3				
			Flatbed lorries	1				
			Water tankers (18,000 – 20,000 lts. capacity)	1				
			g) Motor Grader					
			Caterpillar or any other make motor grader minimum 140hp	1	2	1		
			h) Excavators/Backhoe					
			Hydraulic crawler mounted (7 – 10 tonnes) – 0.25 – 0.4 m3 SAE bucket.	1	1	0.5		
			Hydraulic crawler mounted (10 – 16 tonnes) – 0.40 – 0.60 m3 SAE bucket.	0				

5.	**PROPOSED METHODOLOGY**	Adequacy and quality of the proposed methodology		**Total: 10 Marks**
			a) **Technical approach and methodology** - Provide a detailed Work Methodology - Provide a Methodology on safety and Environmental safeguard during the construction period - Provide a specific Quality Management Plan	4.5mks
			b) Work plan/ Program of Works (PoW) • PoW Resourced with Equipment Min. allocation pursuant to the ***Schedule E of Technical Proposal*** – To be submitted in A3 Size Paper well legible Fonts • PoW captures Monthly outputs for each activity • PoW details BoQ Quantities, Units and Rates • PoW is superimposed with Cash flow Projections as detailed in **Schedule A** of the technical proposal.	4mks
			c) Site Organization and staffing (Schedule B of Technical proposal)	1.5mks
Tenderers who score less than the required pass (70%) will be automatically disqualified. Tenderers who pass the technical evaluation will be evaluated further.				
C. FINANCIAL EVALUATION: The lowest evaluated bidder may be subjected to Financial Evaluation which include but not limited to sensitivity analysis of the rates and meeting requirements of TDS –ITT 37.5				
D. POST QUALIFICATION: The procuring entity may verify the documents provided by the bidder with the issuing authority and perform workload analysis in regard to other ongoing/incomplete projects by the tenderer.				

Appendix to Qualification Criteria

ITEM	DESCRIPTION		POINT SCORE SCALE
1	**FINANCIAL CAPACITY**		**Max 25**
	Audited Statements		0-6
	Computation of Financial Ratios		0-4
	Working capital and access to credit		0-10
	Turnover		0-5
2	**EXPERIENCE**		**Max 30**
	General Experience		0-10
	Specific experience in related works		0-20
3	**KEY PERSONNEL**		**Max 15**
4	**PLANT AND EQUIPMENT**		**Max 20**
	Relevant Equipment (As Detailed in Schedule D)	Owned (Max 20marks)	0-20
		100% Leased (Max 9 marks)	0-9
5	**PROGRAM OF WORKS AND WORK METHODOLOGY**		**Max 10**
5a	Construction Work Methodology and	Provided a detailed Construction Work Methodology	0-1.5
	Management	Provided a Methodology on safety during the construction period	0-1.5
		Provided a specific Quality management plan	0-1.5

5b	Program of Works	PoW Resourced with Equipment-Min. allocation pursuant to the Schedule E of Technical Proposal - – To be submitted in A3 Size Paper well legible Fonts	0-1
		PoW captures Monthly outputs for each activity	0-1
		PoW details BoQ Quantities, Units and Rates	0-1
		PoW and Cash flow Projections as detailed in Schedule A of the technical proposal	0-1
	Organization and staffing (Schedule B of Technical proposal) Equivalent of Site Base facilities		0-1.5
	TOTAL		**MAX 100**

Tenderers who score less than the required pass (70%) will be automatically disqualified. Tenderers who pass the technical evaluation will be evaluated further.

responsive bidders who score more than 70%Marks will be subjected to financial Evaluation and lowest evaluated bidder would be awarded. However, as part of Post Qualification, the Employer has discretion to carryout due diligence for the responsive bidder (s) to ascertain any information provided prior before intent to award the contract as provided in PPAD Act of 2015 Part VII Section 83.

Section IV - Bidding Forms

Table of Forms

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- Form EXP-4.2 (b): Construction Experience in Key Activities
- Form EXP-4.2 (c): Specific Experience in Managing ES Aspects
- Form PER-1: Proposed Key Personnel
- Form PER-2: Resume and Declaration of Key Personnel
- Form EQU: Equipment
- Code of Conduct for Contractor's Personnel (ES)
- Beneficial Ownership Disclosure Form

Letter of Bid

The Bidder must prepare the Letter of Bid on stationery with its letterhead clearly showing the Bidder's complete name and business address. Note: all italicised text is for guidance in preparing this form and shall be deleted from the final document. No alterations to the format shall be permitted and no substitutions shall be accepted.

Date of this Bid submission: _____

Tender No.: TCG/KKM / 06 / 2026-2027

Alternative No.: _____

To: [insert complete name of the Employer], COUNTY GOVERNMENT OF TURKANA

We, the undersigned, declare that:

(a) We have examined and have no reservations to the bidding document, including addenda issued in accordance with ITB 8;

(b) We meet the eligibility requirements and have no conflict of interest in accordance with ITB 4;

(c) We have not been suspended nor declared ineligible by the Employer based on the execution of a Bid-Securing Declaration in the Employer's country in accordance with ITB 4.7;

(d) We offer to execute in conformity with the bidding document the following Works: PROPOSED UPGRADING TO BITUMEN STANDARD OF THE HASHI PETROL STATION – FOOD DISTRIBUTION CENTRE 1 ROAD (2.0 KM) IN KAKUMA MUNICIPALITY, TURKANA COUNTY;

(e) The total price of our Bid, excluding any discounts offered in item (f) below, is: [insert the total Bid price in words and figures, indicating the various amounts and the respective currencies];

(f) The discounts offered and the methodology for their application are: _____;

(g) Our Bid shall be valid for a period of 120 days from the date fixed for the Bid submission deadline in accordance with the bidding document, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

(h) If our Bid is accepted, we commit to obtain a Performance Security in accordance with the bidding document;

(i) We, including any subcontractors or suppliers for any part of the Contract, have nationalities from eligible countries;

(j) We are not participating, as a Bidder, in more than one Bid in this bidding process in accordance with ITB 4.3, other than alternative Bids submitted in accordance with ITB 13;

(k) We, our affiliates or subsidiaries — including any subcontractors or suppliers for any part of the Contract — have not been declared ineligible by the Bank, under the Employer's country laws or official regulations, or by an act of compliance with a decision of the United Nations Security Council;

(l) We are not a government-owned enterprise; / We are a government-owned enterprise but meet the requirements of ITB 4.6 [select the appropriate option];

(m) We have paid, or will pay, the following commissions, gratuities or fees with respect to the bidding process or execution of the Contract: [insert name of recipient, address, reason and amount, or state "none"];

(n) We understand that this Bid, together with your written acceptance thereof included in your Letter of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed;

(o) We understand that you are not bound to accept the lowest evaluated cost Bid or any other Bid that you may receive;

(p) We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf engages in any type of Fraud and Corruption;

(q) We confirm that we have read and understood the requirements for environmental, social, health and safety performance set out in Section VII, Works' Requirements, and that we will comply with them;

(r) The following are the litigation or arbitration proceedings resulting from contracts completed or ongoing under our execution over the last five years: [insert particulars, or state "none"].

Name of the Bidder: _____

Name of the person duly authorised to sign the Bid on behalf of the Bidder:

_____

Title of the person signing the Bid: _____

Signature of the person named above: _____

Date signed _____ day of _____,

_____

Form of Bid Security — Bank Guarantee

The Bank shall fill in this Bank Guarantee form in accordance with the instructions indicated.

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: COUNTY GOVERNMENT OF TURKANA, [insert address]

Tender No.: TCG/KKM / 06 / 2026-2027

Date: [insert date of issue]

BID GUARANTEE No.: [insert guarantee reference number]

Guarantor: [insert name and address of place of issue, unless indicated in the letterhead]

We have been informed that [insert name of the Bidder, which in the case of a joint venture shall be the name of the joint venture, whether legally constituted or prospective, or the names of all its members] (hereinafter called "the Applicant") has submitted or will submit to the Beneficiary its Bid (hereinafter called "the Bid") for the execution of PROPOSED UPGRADING TO BITUMEN STANDARD OF THE HASHI PETROL STATION – FOOD DISTRIBUTION CENTRE 1 ROAD (2.0 KM) IN KAKUMA MUNICIPALITY, TURKANA COUNTY under Request for Bids No. [insert reference number from the Procurement Plan] ("the RFB").

Furthermore, we understand that, according to the Beneficiary's conditions, Bids must be supported by a Bid Guarantee.

At the request of the Applicant, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of [insert amount in figures and words] upon receipt by us of the Beneficiary's complying demand, supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that either the Applicant:

(a) has withdrawn its Bid during the period of Bid validity set out in the Applicant's Letter of Bid, or any extension thereto provided by the Applicant; or

(b) having been notified of the acceptance of its Bid by the Beneficiary during the period of Bid validity, (i) fails to sign the Contract Agreement, or (ii) fails to furnish the Performance Security, in accordance with the Instructions to Bidders.

This guarantee will expire: (a) if the Applicant is the successful Bidder, upon our receipt of copies of the Contract Agreement signed by the Applicant and the Performance Security issued to the Beneficiary in relation to such Contract Agreement; or (b) if the Applicant is not the successful Bidder, upon the earlier of (i) our receipt of a copy of the Beneficiary's notification to the Applicant of the results of the bidding process, or (ii) twenty-eight (28) days after the end of the period of Bid validity.

Consequently, any demand for payment under this guarantee must be received by us at the office indicated above on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758.

[Signature(s)]

Bid-Securing Declaration

Date: [insert date] Tender No.: TCG/KKM / 06 / 2026-2027

To: COUNTY GOVERNMENT OF TURKANA

We, the undersigned, declare that we understand that, according to your conditions, Bids must be supported by a Bid-Securing Declaration.

We accept that we will automatically be suspended from being eligible for bidding in any contract with the Employer for the period of time stated in the Bid Data Sheet, if we are in breach of our obligations under the Bid conditions, because we: (a) have withdrawn our Bid during the period of Bid validity specified by us in the Letter of Bid; or (b) having been notified of the acceptance of our Bid by the Employer during the period of Bid validity, fail or refuse to execute the Contract Agreement, or fail or refuse to furnish the Performance Security in accordance with the Instructions to Bidders.

We understand that this Bid-Securing Declaration shall expire if we are not the successful Bidder, upon the earlier of (i) our receipt of your notification of the name of the successful Bidder, or (ii) twenty-eight (28) days after the expiration of our Bid.

Name of the Bidder: _____

Name of the person duly authorised to sign: _____

Title: _____ Signature: _____

Date signed _____ day of _____,

_____

Schedule of Projected Cash Flow

The Bidder shall complete the schedule below, consistent with its outline construction programme for the whole of the Works.

Month	Value of work to be executed (KES)	Cumulative value (KES)	Percentage of Contract Price
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
Total			

Schedule of Subcontractors

Part of the Works to be subcontracted	Name and address of Subcontractor	Value (KES)	Percentage of Bid price	Subcontractor's experience in that field of work

Schedule of Material and Equipment Suppliers

The Bidder shall state, for each key material, the proposed source, the haulage distance to the site and shall attach a supporting quotation.

Key material	Proposed source and location	Haulage distance to site (km)	Quotation attached (Yes/No)
Natural gravel for improved sub-grade and sub-base			
Natural gravel for cement-improved base			
Crushed stone and coarse aggregate			
River sand / quarry dust (0/6)			
Bitumen (MC 70 prime coat, K1-60 tack coat)			
Asphalt concrete or asphalt mix components			
Cement			
Steel reinforcement			
Precast concrete pipes, 900 mm and 1200 mm internal diameter			
Integrated solar street lights, 80 W, with 8 m			

Key material	Proposed source and location	Haulage distance to site (km)	Quotation attached (Yes/No)
galvanised poles			
Precast concrete kerbs and slotted drain cover slabs			
Concrete paving blocks, 60 mm, 35 N/mm²			
Construction water			

Form ELI-1.1: Bidder Information Form

Date: [insert date] Tender No.: TCG/KKM / 06 / 2026-2027

Bidder's legal name	
In the case of a JV, the legal name of each member	
Bidder's actual or intended country of registration	
Bidder's year of registration	
Bidder's legal address in country of registration	
Bidder's authorised representative: name, address, telephone and email	
National Construction Authority registration number and class	

Attached are copies of the following original documents:

- Articles of incorporation or constitution of the legal entity named above, in accordance with ITB 4.4;
- In the case of a JV, the letter of intent to form a JV or the JV agreement, in accordance with ITB 4.1;
- In the case of a government-owned enterprise, documents establishing legal and financial autonomy and compliance with commercial law, in accordance with ITB 4.6;
- Current National Construction Authority practising licence;
- Valid tax compliance certificate.

Form ELI-1.2: Information Form for JV Bidders

No.	JV member's legal name	Country of registration	Year of registration	Legal address	Authorised representative
1					
2					

Form CON-2: Historical Contract Non-Performance, Pending Litigation and Litigation History

Bidder's legal name: _____

Non-performed contracts in accordance with Section III, criterion 2.1

Year	Non-performed portion of contract	Contract identification	Total contract amount (KES equivalent)

Pending litigation, in accordance with Section III, criterion 2.3

Year of dispute	Amount in dispute (KES equivalent)	Contract identification	Total contract amount (KES equivalent)

Litigation history in accordance with Section III, criterion 2.4

Year of award	Outcome as percentage of net worth	Contract identification	Total contract amount (KES equivalent)

Form CON-3: Environmental and Social Performance Declaration

Bidder's legal name: _____

Declaration of environmental and social (ES) past performance in accordance with Section III, criterion 2.5.

Contract identification	Year	Employer and contact details	Reason for suspension, termination or call of performance security

We declare that, to the best of our knowledge and belief, the information given above is complete and correct. We understand that a false declaration may lead to rejection of our Bid or termination of the Contract.

Signed: _____ Name: _____ Date:

_____

Form CON-4: Sexual Exploitation and Abuse (SEA) and/or Sexual Harassment (SH) Performance Declaration

Bidder's legal name: _____

We declare that, at the time of submission of this Bid, we are not, and none of our proposed subcontractors is, subject to disqualification by the Bank for non-compliance with SEA/SH obligations. Where a disqualification has been applied, we attach the evidence required under Section III, criterion 2.6.

Signed: _____ Name: _____ Date:

_____

Form CCC: Current Contract Commitments / Works in Progress

No.	Name of contract	Employer, contact address, telephone and email	Value of outstanding work (KES equivalent)	Estimated completion date	Average monthly invoicing over the last six months (KES)
1					
2					
3					
4					
5					

Form FIN-3.1: Financial Situation and Performance

Bidder's legal name: _____

1. Financial data

Type of financial information (KES equivalent)	Year 1	Year 2	Year 3	Year 4	Year 5
Total assets					
Total liabilities					
Net worth					
Current assets					
Current liabilities					
Working capital					
Total revenue					
Profit before tax					

2. Sources of finance

No.	Source of finance	Amount (KES equivalent)
1		
2		
3		

3. Financial documents. The Bidder shall attach copies of financial statements for the last five years, audited or, where audit is not required by the laws of the Bidder's country, otherwise acceptable to the Employer.

Form FIN-3.2: Average Annual Construction Turnover

Year	Amount and currency	Exchange rate	KES equivalent
Average annual construction turnover			

Form FIN-3.3: Financial Resources

Specify proposed sources of financing, such as liquid assets, unencumbered real assets, lines of credit and other financial means, net of current commitments, available to meet the total construction cash flow demands of the subject contract.

No.	Source of financing	Amount (KES equivalent)
1		
2		
3		
4		

Form EXP-4.1: General Construction Experience

Bidder's legal name: _____

Starting year	Ending year	Contract identification and name of Employer	Role of Bidder

Form EXP-4.2 (a): Specific Construction and Contract Management Experience

Similar contract number	___ of ___ required
Contract identification	
Award date / completion date	
Role in contract	Prime contractor / JV member / management contractor / subcontractor
Total contract amount (KES equivalent)	
If a JV member or subcontractor, specify participation in total contract amount	
Employer's name, address, telephone and email	
Description of the similarity in accordance with Section III, criterion 4.2 (a): physical size, complexity, construction method, technology, and length of urban road constructed to bituminous standard with lined closed drainage and NMT facilities	

Form EXP-4.2 (b): Construction Experience in Key Activities

Bidder's legal name: _____

Key activity	Required rate	Contract identification	Quantity achieved and period	Role of Bidder
Earthworks, including improved sub-grade	3,500 m³/year			
Processing and placing cement-improved natural gravel	2,000 m³/year			
Production and laying of asphalt concrete	650 m³/year			
Concrete pipe culverts with headwalls	200 m/year			
Lined closed stormwater drains with precast cover slabs	2.0 km/year			
Concrete paving blocks	6,000 m²/year			
Supply and installation of solar street lighting	35 units/year			

Form EXP-4.2 (c): Specific Experience in Managing ES Aspects

ES aspect	Contract identification	Description of the experience and the outcome
Preparation and implementation of a project-specific environmental and social management plan, including monitoring and reporting		

ES aspect	Contract identification	Description of the experience and the outcome
Developing and implementing ES management strategies and plans, including GBV/SEA management and a grievance redress mechanism		
Developing and managing a code of conduct for the Contractor's personnel		

Form PER-1: Proposed Key Personnel

No.	Position	Name of candidate	Years of relevant experience	Professional registration number
1	Contracts Manager / Project Manager			
2	Site Agent			
3	Materials / Pavement Engineer			
4	Structures / Drainage Engineer			
5	Quantity Surveyor / Contracts Administrator			
6	Surveyor			
7	Environmental and Social Specialist			
8	Occupational Health and Safety Officer			
9	Social Development / Community Liaison Officer			
10	Plant and Workshop Manager			

Form PER-2: Resume and Declaration of Key Personnel

Position	
Name	
Date of birth	
Professional qualifications and registration	
Present employment: name of employer, address, position held and years with present employer	

Summary of professional experience over the last twenty years, in reverse chronological order

From	To	Company, project, position and relevant technical and management experience

Declaration: I, the undersigned Key Personnel, certify that to the best of my knowledge and belief the information contained in this Form PER-2 correctly describes myself, my qualifications and my experience. I confirm that I am available as certified in the following table and throughout the expected time schedule for this position.

Signature of Key Personnel: _____ Date: _____

Countersignature of the authorised representative of the Bidder: _____
Date: _____

Form EQU: Equipment

The Bidder shall provide adequate information to demonstrate clearly that it has the capability to meet the equipment requirements listed in Section III, item 5. A separate form shall be prepared for each item of equipment listed, or for alternative equipment proposed by the Bidder.

Item of equipment	
Make and model	
Capacity / rating	
Year of manufacture	
Current location	
Details of current commitments	
Source (owned / leased / to be purchased)	
If owned: name and address of owner, and evidence of ownership	
If leased or to be purchased: name and address of owner or supplier, and agreements or undertakings attached	

Code of Conduct for Contractor's Personnel (ES)

The Bidder shall submit the Code of Conduct that will apply to the Contractor's Personnel to ensure compliance with the Contractor's environmental and social obligations under the Contract. No substantial modifications shall be made to this form, except that the Bidder may introduce additional requirements to take into account specific contract issues or risks.

We are the Contractor, [insert name]. We have signed a contract with COUNTY GOVERNMENT OF TURKANA for PROPOSED UPGRADING TO BITUMEN STANDARD OF THE HASHI PETROL STATION – FOOD DISTRIBUTION CENTRE 1 ROAD (2.0 KM) IN KAKUMA MUNICIPALITY, TURKANA COUNTY. These Works will be carried out at the sites described in the Contract. Our contract requires us to implement measures to address environmental and social risks related to the Works, including the risks of sexual exploitation and abuse and sexual harassment.

This Code of Conduct is part of our measures to deal with environmental and social risks related to the Works. It applies to all our staff, labourers and other employees at the Works site or other places where the Works are being carried out. It also applies to the personnel of each subcontractor and any other personnel assisting us in the execution of the Works.

REQUIRED CONDUCT

- carry out his/her duties competently and diligently;
- comply with this Code of Conduct and all applicable laws, regulations and other requirements, including requirements to protect the health, safety and well-being of other Contractor's Personnel and any other person;
- maintain a safe working environment, including by wearing prescribed personal protective equipment, preventing avoidable accidents and reporting conditions or practices that pose a safety hazard or threaten the environment;
- report work situations that he/she believes are not safe or healthy, and remove himself/herself from a work situation which he/she reasonably believes presents an imminent and serious danger to his/her life or health;
- treat other people with respect, and not discriminate against specific groups such as women, people with disabilities, migrant workers, refugees, children or people of a particular ethnicity or religion;
- not engage in sexual harassment, which means unwelcome sexual advances, requests for sexual favours and other verbal or physical conduct of a sexual nature with other Contractor's or Employer's Personnel;
- not engage in sexual exploitation, which means any actual or attempted abuse of a position of vulnerability, differential power or trust for sexual purposes, including profiting monetarily, socially or politically from the sexual exploitation of another;
- not engage in sexual abuse, which means the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions;
- not engage in any form of sexual activity with individuals under the age of 18, except in the case of pre-existing marriage; mistaken belief regarding the age of a child is not a defence;
- complete relevant training courses provided in relation to the environmental and social aspects of the Contract, including on health and safety, sexual exploitation and abuse and sexual harassment;
- report violations of this Code of Conduct; and
- not retaliate against any person who reports violations of this Code of Conduct, whether to us or the Employer, or who makes use of the grievance mechanism.

RAISING CONCERNS

If any person observes behaviour that he/she believes may represent a violation of this Code of Conduct, or that otherwise concerns him/her, he/she should raise the issue promptly. This may be done in either of the following ways: contact [insert name of the Contractor's Social Expert with relevant experience in handling sexual exploitation and abuse and sexual harassment cases, or, if such

person is not required under the Contract, another individual designated by the Contractor to handle these matters]; or call [insert number] to reach the Contractor's hotline and leave a message.

CONSEQUENCES OF VIOLATING THE CODE OF CONDUCT

Any violation of this Code of Conduct by the Contractor's Personnel may result in serious consequences, up to and including termination and possible referral to legal authorities.

FOR CONTRACTOR'S PERSONNEL

I have received a copy of this Code of Conduct written in a language that I comprehend. I understand that if I have any questions about this Code of Conduct, I can contact [insert name of the Contractor's contact person] requesting an explanation.

Name of Contractor's Personnel: _____

Signature: _____ Date: _____

Countersignature of the authorised representative of the Contractor:
_____ Date: _____

Beneficial Ownership Disclosure Form

This form is to be submitted by the successful Bidder, in accordance with ITB 47.1, following notification of the Employer's intention to award the Contract.

Tender No.: TCG/KKM / 06 / 2026-2027

Contract: PROPOSED UPGRADING TO BITUMEN STANDARD OF THE HASHI PETROL STATION – FOOD DISTRIBUTION CENTRE 1 ROAD (2.0 KM) IN KAKUMA MUNICIPALITY, TURKANA COUNTY

To: COUNTY GOVERNMENT OF TURKANA

In response to your request in the Letter of Acceptance dated [insert date] to furnish additional information on beneficial ownership, we hereby provide the following information.

Details of beneficial ownership

Identity of Beneficial Owner	Directly or indirectly holding 25% or more of the shares (Yes/No)	Directly or indirectly holding 25% or more of the voting rights (Yes/No)	Directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body (Yes/No)

If no Beneficial Owner meeting any of the above conditions can be identified, indicate this below and explain why.

Name of the Bidder: _____

Name of the person duly authorised to sign on behalf of the Bidder:

_____

Title: _____ Signature: _____

Date: _____

Section V - Eligible Countries

Eligibility for the Provision of Goods, Works and Services in Bank- Financed Procurement

In reference to ITB 4.8, and 5.1, for the information of the Bidders, at the present time firms, goods and services from the following countries are excluded from this Bidding process:

Under ITB 4.8 (a) and 5.1 None Under ITB 4.8 (b) and 5.1 None

Section VI - Fraud and Corruption

(Text in this Section shall not be modified)

1. Purpose

1.1 The Bank's Anti-Corruption Guidelines and this annex apply with respect to procurement under Bank Investment Project Financing operations.

2. Requirements

2.1 The Bank requires that Borrowers (including beneficiaries of Bank financing); bidders (applicants/proposers), consultants, contractors and suppliers; any sub-contractors, sub- consultants, service providers or suppliers; any agents (whether declared or not); and any of their personnel, observe the highest standard of ethics during the procurement process, selection and contract execution of Bank-financed contracts, and refrain from Fraud and Corruption.

2.2 To this end, the Bank: a. Defines, for the purposes of this provision, the terms set forth below as follows: i. "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party; ii. "fraudulent practice" is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation; iii. "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party; iv. "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party; v. "obstructive practice" is:

(a) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or

(b) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 2.2 e. below. b. Rejects a proposal for award if the Bank determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/ or their employees, has, directly or

indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question; c. In addition to the legal remedies set out in the relevant Legal Agreement, may take other appropriate actions, including declaring misprocurement, if the Bank determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement process, selection and/or execution of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices; d. Pursuant to the Bank's Anti- Corruption Guidelines and in accordance with the Bank's prevailing sanctions policies and procedures, may sanction a firm or individual, either indefinitely or for a stated period of time, including by publicly declaring such firm or individual ineligible (i) to be awarded or otherwise benefit from a Bank-financed contract, financially or in any other manner;1 (ii) to be a nominated2 sub-contractor, consultant, manufacturer or supplier, or service provider of an otherwise eligible firm being awarded a Bank-financed contract; and (iii) to receive the proceeds of any loan made by the Bank or otherwise to participate further in the preparation or implementation of any Bank-financed project; e. Requires that a clause be included in bidding/request for proposals documents and in contracts financed by a Bank loan, requiring (i) bidders (applicants/proposers), consultants, contractors, and suppliers, and their sub-contractors, sub- consultants, service providers, suppliers, agents personnel, permit the Bank to inspect3 all accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have them audited by auditors appointed by the Bank.

expressing interest in a consultancy, and bidding, either directly or as a nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider, in respect of such contract, and (ii) entering into an addendum or amendment introducing a material modification to any existing contract. A nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider (different names are used depending on the particular bidding document) is one which has been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower. Inspections in this context usually are investigative (i.e., forensic) in nature. They involve fact-finding activities undertaken by the Bank or persons appointed by the Bank to address specific matters related to investigations/audits, such as evaluating the veracity of an allegation of possible Fraud and Corruption, through the appropriate mechanisms. Such activity includes but is not limited to: accessing and examining a firm's or individual's financial records and information, and making copies thereof as relevant; accessing and examining any other documents, data and information (whether in hard copy or electronic format) deemed relevant for the investigation/audit, and making copies thereof as relevant; interviewing staff and other relevant individuals; performing physical inspections and site visits; and obtaining third party verification of information.

PART 2 – Works' Requirements

C. SELF-DECLARATION FORMS

FORM SD 1: SELF DECLARATION THAT THE PERSON/TENDERER IS NOT DEBARRED IN THE MATTER OF THE PUBLIC PROCUREMENT AND ASSET DISPOSAL ACT 2015

I... of Post Office Box ..... being a resident of

.....in the Republic of. ..... do hereby make a statement as follows: -

1. THAT I am the Company Secretary/ Chief Executive/Managing Director/Principal Officer/Director of ……...…….. *(insert name of the Company)* who is a Bidder in respect of TenderNo.....for.....*(insert tender title/description)* for..... *(insert name of the Procuring entity)* and duly authorized and competent to make this statement.
2. THAT the aforesaid Bidder, its Directors and subcontractors have not been debarred from participating in procurement proceeding under Part IV of the Act.

3. THAT what is deponed to herein above is true to the best of my knowledge, information and belief.

……. …… ……

(Title) (Signature) (Date)

Bidder Official Stamp

FORM SD 2: SELF DECLARATION THAT THE TENDERER WILL NOT ENGAGE IN ANY CORRUPT OR FRAUDULENT PRACTICE

I, ...of P. O. Box ..... being a resident of .....in the Republic of. ..... do hereby make a statement as follows: -

1. THAT I am the Chief Executive/Managing Director/Principal Officer/Directo of.....(insert name of the Company) who is a Bidder in respect of Tender No.....for ……. *(insert tender title/description)* for.....*(insert name of the Procuring entity)* and duly authorized and competent to make this statement.

2. THAT the aforesaid Bidder, its servants and/or agents /subcontractors will not engage in any corrupt or fraudulent practice and has not been requested to pay any inducement to any member of the Board, Management, Staff and/or employees and/or agents of ..... *(insert name of the Procuring entity)* which is the procuring entity.

3. THAT the aforesaid Bidder, its servants and/or agents /subcontractors have not offered any inducement to any member of the Board, Management, Staff and/or employees and/or agents of……. *(name of the procuring entity).*

4. THAT the aforesaid Bidder will not engage/has not engaged in any corrosive practice with other bidders participating in the subject tender

5. THAT what is deponed to herein above is true to the best of my knowledge information and belief.

……. ……. …….....

(Title) (Signature) (Date)

Bidder's Official Stamp

FORM SD 3: DECLARATION AND COMMITMENT TO THE CODE OF ETHICS

I, ...(person) on behalf of (Name of the Business/Company/Firm).....declare that I have read and fully understood the contents of the Public Procurement & Asset Disposal Act, 2015, Regulations and the Code of Ethics for persons participating in Public Procurement and Asset Disposal and my responsibilities under the Code.

I do hereby commit to abide by the provisions of the Code of Ethics for persons participating in Public Procurement and Asset Disposal.

Name of Authorized signatory.....

Sign.....

Position.....

Office address.....Telephone.....

E-mail.....

Name of the Firm/Company.....

Date.....

(Company Seal/ Rubber Stamp where applicable)

Witness

Name.....

Sign.....

Date.....

PART 2

Works' Requirements

Section VII - Works' Requirements

Contents

- 1. Scope of the Works
- 2. Location and extent of the Works
- 3. Description of the Works
- 4. Specifications
- 5. Drawings
- 6. Time for completion and programme
- 7. Supplementary information, including works by others
- 8. Environmental and social requirements
- 9. Personnel and equipment requirements

1. Scope of the Works

The Works comprise the PROPOSED UPGRADING TO BITUMEN STANDARD OF THE HASHI PETROL STATION – FOOD DISTRIBUTION CENTRE 1 ROAD (2.0 KM) IN KAKUMA MUNICIPALITY, TURKANA COUNTY. The Works are to be executed under a single admeasurement contract measured and paid against the rates and prices entered by the Contractor in the Bill of Quantities (Volume 3).

The Works are financed by the World Bank through the Kenya Urban Support Programme II (KUSP II) and are implemented by the COUNTY GOVERNMENT OF TURKANA through KAKUMA MUNICIPALITY.

The Contract includes Bill 1, Preliminaries and General — the Contractor's camps, the Resident Engineer's office with its services and equipment, laboratory testing, project sign boards, progress records and adjudication — and solar street lighting along the road, measured in Bill 20. Vehicles for the Engineer are not provided under this Contract, and no service ducts are provided.

2. Location and Extent of the Works

The Works are located within Kakuma Town and its surrounding settlements in Turkana West Sub-County, Turkana County, in the north-west of Kenya, approximately 120 km north of Lodwar and approximately 95 km south of the Nadapal border crossing. The project area lies within Climate Zone II (semi-arid), characterised by low annual rainfall, prolonged dry periods and occasional short-duration, high-intensity storms conveyed by ephemeral watercourses (laggas).

The project area serves a population comprising the host community and a substantial refugee population resident in the Kakuma Refugee Camp and the Kalobeyei Settlement. Pedestrian volumes along the project roads are high and are to be maintained safely throughout the construction period.

The extent of the Works is as follows.

Road	Description	From	To	Length (km)
Road 1	Hashi Petrol Station – Food Distribution Centre 1 Road	Hashi Petrol Station (KM 0+000)	Food Distribution Centre 1 (KM 2+000)	2.00
Total				**2.00**

The chainages stated above are the extents adopted for the detailed design and measured in the Bill of Quantities. The Contractor shall verify all chainages on site before setting out. Where the road reserve as pegged on site differs from that shown on the Drawings, the Contractor shall notify the Engineer before commencing work on the affected length.

3. Description of the Works

3.1 General

The Works comprise the upgrading of the project road from its existing earth and gravel condition to bitumen standard, together with a lined closed stormwater drain on one side, footpaths and non-motorised transport facilities on both sides, cross drainage, road furniture and solar street lighting, all as shown on the Drawings and specified in the Technical Specifications (Volume 2).

3.2 Typical cross section

The adopted typical cross section has a crossfall of 2.5%. It comprises of a 6.50 m carriageway, a single lined footpath-cum-drain, and a non-motorised transport strip is provided on each side. The 12.00 m road reserve is occupied as set out below.

Element	Width (m)	Notes
Landscaping, high side	1.25	Residual reserve, topsoiled and grassed
Non-motorised transport strip, high side	1.50	Concrete paving blocks, falling at 2.0 per cent to the

Element	Width (m)	Notes
		carriageway
Carriageway	6.50	2 No. lanes of 3.25 m; one-way crossfall of 2.5 per cent across the whole width to the drain
Lined footpath-cum-drain	1.00	Reinforced concrete U-drain with slotted cover slabs forming the walking surface
Non-motorised transport strip, low side	1.50	Concrete paving blocks, falling at 2.0 per cent to the drain
Landscaping, low side	0.25	Residual reserve
Total	**12.00**	10.50 m occupied by the works

The Contractor's attention is drawn to the fact that the 6.50 m carriageway has no provision for kerbside waiting. Enforced waiting restrictions are a stated condition of the design. The Contractor shall not permit its own plant, materials or personnel to obstruct the carriageway other than under an approved traffic management arrangement. Property accesses and side-road tie-ins on the high side shall be graded to the raised carriageway edge.

3.3 Pavement

The adopted pavement is designed for traffic class TC3. The carriageway pavement shall be constructed in the following layers, from the top down.

Layer	Compacted thickness
Asphalt concrete Type II surfacing	50 mm
Cement-improved natural gravel road base	150 mm
Natural gravel sub-base, class G30	225 mm
Improved sub-grade, minimum CBR 22.5 per cent	200 mm
Total pavement thickness	**625 mm**

The footpath and non-motorised transport pavement shall be constructed in the following layers, from the top down.

Layer	Compacted thickness
Concrete paving blocks, 35 N/mm² to BS 6717	60 mm
River sand / quarry dust (0/6) laying course	40 mm
Natural gravel sub-base	150 mm
Improved sub-grade, class S3	150 mm
Total thickness	**400 mm**

Natural gravel of base quality meeting the G80 specification has not been identified in economic quantity within the project area. The road base is therefore specified as natural gravel hydraulically improved with cement, and the Contractor shall allow in its rates for the mixing, compaction, protection and curing of that layer in the ambient conditions prevailing at Kakuma.

3.4 Drainage

Longitudinal drainage is provided on one side of the road by a reinforced concrete lined closed drain of 1.0 m × 1.0 m internal dimensions, with 150 mm thick walls and base in concrete Class 20/20 cast on a 75 mm compacted gravel bed, covered with 100 mm slotted precast concrete cover slabs which form the walking surface of the footpath. A total of 2,400 m of lined drain is measured.

The cover slabs form a trafficked pedestrian surface and shall be designed, manufactured and placed to carry a pedestrian imposed load of not less than 5.0 kN/m² together with an accidental wheel load of 20 kN applied over a 200 mm × 200 mm contact area at any position, without cracking. The Contractor shall submit the design of the cover slabs, prepared and sealed by an engineer registered with the Engineers Board of Kenya, for the Engineer's acceptance before manufacture commences.

Cross drainage comprises 900 mm internal diameter concrete pipe culverts with headwalls, wingwalls and aprons, built to standard drawing C-G-STD-004 and measured in Bill 8. There are no twin pipe culverts and no box culverts in this Contract.

3.5 Street lighting

Solar street lighting forms part of this Contract: 80 W integrated solar LED luminaires with motion sensors on 8 m poles, spaced at 50 m staggered on both sides and opposite each other at junctions — 44 units — as specified in Clause 2014 and measured in Bill 20.

3.6 Principal quantities

The principal quantities of the Works, for information only, are set out below. The quantities in the Bill of Quantities govern.

Item	Unit	Quantity
Site clearance	m²	14,000
Improved sub-grade material	m³	4,240
Natural gravel sub-base and base	m³	6,480.00
Cement stabiliser	tonne	181.6
Cement-improved gravel mixed	m³	2,190.0
Asphalt concrete, 50 mm	m³	730.0
Lined U-drain, one side	m	2,400
Pipe culvert, 900 mm	m	264
Culvert headwalls, single 900 mm	No.	80
Concrete paving blocks	m²	6,600
Concrete kerb, 250 × 125 mm	m	2,200
Flush kerb, 100 × 125 mm	m	6,600
Steel bollards	No.	1,468
Solar street lights	No.	44

4. Specifications

The Works shall be executed in accordance with Volume 2, Technical Specifications, which comprises Special Specifications supplementary to the Standard Specification for Road and Bridge Construction, 1986 Edition, published by the Ministry responsible for roads. The two shall be read in conjunction. Where there appears to be a conflict between them, the Special Specifications shall take precedence.

The Special Specifications are numbered to correspond with the Bills of Quantities, as follows.

Specification section	Title	Corresponding Bill
Section 1	General	–
Section 2	Materials and Testing of Materials	–
Section 3	Setting Out and Tolerances	–
Section 4	Site Clearance and Topsoil Stripping	Yes
Section 5	Earthworks	Yes
Section 6	Quarries, Borrow Pits, Stockpiles and Spoil Areas	–
Section 7	Excavation and Filling for Structures	Yes
Section 8	Culverts and Drainage Works	Yes
Section 9	Passage of Traffic	Yes
Section 11	Shoulders to Pavement	–
Section 12	Natural Material Sub-base and Base	Yes
Section 13	Graded Crushed Stone for Sub-base and Base	Yes
Section 14	Cement Treated Materials	Yes
Section 15	Bituminous Surface Treatments	Yes
Section 16	Bituminous Mix Bases, Binder Courses and Wearing Courses	Yes
Section 17	Concrete Works	–
Section 20	Road Furniture and Street Lighting	Yes
Section 22	Dayworks	–

Specification section	Title	Corresponding Bill
Section 23	Concrete Paving Blocks	Yes
Section 28	Environmental, Social, Health and Safety	–

5. Drawings

The Drawings are issued as Volume 4, Book of Drawings. The drawing register is reproduced below. The Contractor shall satisfy itself that it holds the current revision of every drawing before commencing any part of the Works.

Drawing number	Title	Size
—	Cover sheet and section dividers	A1
C-G-PLN1-001	Road 1 — Hashi Petrol Station – Food Distribution Centre 1 Road: plan, KM 0+000 to KM 2+857 (surveyed extent); line drawing and on aerial imagery	A1
C-G-PLN1-RD1-001	Road 1: layout plan, KM 0+000 to KM 1+120; line drawing and on aerial imagery	A1
C-G-PLN1-RD1-002	Road 1: layout plan, KM 1+140 to KM 2+000; line drawing and on aerial imagery	A1
C-G-PP-RD1-001	Road 1: plan and profile, KM 0+000 to KM 0+560	A1
C-G-PP-RD1-002	Road 1: plan and profile, KM 0+560 to KM 1+120	A1
C-G-PP-RD1-003	Road 1: plan and profile, KM 1+140 to KM 1+700	A1
C-G-PP-RD1-004	Road 1: plan and profile, KM 1+720 to KM 2+000	A1
C-G-SEC-RD1-001	Road 1: cross sections, KM 0+000 to KM 0+320	A1
C-G-SEC-RD1-002	Road 1: cross sections, KM 0+340 to KM 0+640	A1
C-G-SEC-RD1-003	Road 1: cross sections, KM 0+660 to KM 0+960	A1
C-G-SEC-RD1-004	Road 1: cross sections, KM 0+980 to KM 1+280	A1
C-G-SEC-RD1-005	Road 1: cross sections, KM 1+300 to KM 1+600	A1
C-G-SEC-RD1-006	Road 1: cross sections, KM 1+620 to KM 1+920	A1
C-G-SEC-RD1-007	Road 1: cross sections, KM 1+940 to KM 2+000	A1
C-G-PLN-RD1 JXN-001	Road 1: junction improvement	A1
C-G-PDD-001	Typical cross section and pavement details — Road 1 and Road 2	A1
C-G-SET-001	Setting-out data	A1
C-G-STD-001	Standard drawing: concrete kerbs and channels	A1
C-G-STD-002	Standard drawing: sub-surface water drains, trenches and bedding details	A1
C-G-STD-003	Standard drawing: catch basins	A1
C-G-STD-004	Standard drawing: standard single pipe culvert with concrete surround	A1
C-G-STD-006	Standard drawing: standard bus bay layout	A1
C-G-STD-007	Standard drawing: project signboard	A1
C-G-STD-008	Standard drawing: movable concrete barrier	A1
C-G-STD-009	Standard drawing: environmental barrier	A1
C-G-STD-010 and 011	Standard drawings: road sign erection details	A1
C-G-STD-012	Standard drawing: standard road signs and marking details	A1
C-G-STD-013	Standard drawing: road signs — warning signs	A1
C-G-STD-014	Standard drawing: road signs — regulatory, mandatory and informatory signs	A1
C-G-STD-015	Standard drawing: standard speed hump	A1
C-G-STD-016	Standard drawing: rumble strips	A1
C-G-STD-017	Standard drawing: concrete bollard	A1
C-G-STD-018	Standard drawing: pedestrian guard rail	A1
C-G-STD-019	Standard drawing: flexi beam guardrail	A1

Drawing C-G-PDD-001 carries the adopted typical cross section, with the whole carriageway falling one way at 2.5 per cent to the single lined drain, and Pavement Option I with a 200 mm improved sub-grade. The road and layout plans are provided both as line drawings and on aerial imagery; each pair carries one drawing number and is one drawing. Standard drawing C-G-STD-005 (double pipe culvert) does not apply to this Contract and is not issued with it. Setting-out data are given on drawing C-G-SET-001 and shall be verified on site by the Contractor before construction.

6. Time for Completion and Programme

Time for Completion of the whole of the Works	12 months from the Start Date
Defects Liability Period	12 months (365 days) from the Completion Date
Sectional completion	Not applicable
Programme	To be submitted for approval within 14 days of the Letter of Acceptance, updated every 56 days

The Contractor shall plan the Works having regard to the following constraints, which are inherent in the project area and for which no claim for additional time or cost will be entertained on the grounds that they were not foreseeable.

- Short-duration, high-intensity storms may render the ephemeral watercourses impassable and may flood open excavations at short notice. The Contractor shall programme drainage works so that open lengths of excavated drain are kept to a minimum and shall maintain the means to dewater and make safe at all times.
- Asphalt concrete and some processed materials are to be supplied from the Lodwar area, approximately 150 km from the site. The Contractor shall allow for the haulage time, the temperature loss in transit and the consequent limits on the length of paving that may be laid in a single shift.
- Construction water is scarce. The Contractor shall secure its own supply, shall obtain all necessary abstraction authorisations, and shall not draw water from sources relied upon by the host or refugee communities without the written agreement of the relevant authority and the Engineer.
- Pedestrian volumes along the project roads are high throughout the working day. Safe, continuous, surfaced pedestrian routes shall be maintained past the Works at all times.

7. Supplementary Information

7.1 Site data made available to Bidders

The following information is made available to Bidders. It is furnished for information only and does not relieve the Bidder of its obligation under ITB 7.3 to inspect the site and satisfy itself as to all matters affecting the execution of the Works.

- Draft Final Detailed Design Report, including the topographical survey, materials investigations, hydrological analysis, traffic surveys, geometric design, pavement design and drainage design;
- Laboratory test results for the alignment soils and the identified borrow and aggregate sources;
- Traffic count, axle load and origin–destination survey data;
- Environmental and Social Impact Assessment and the Environmental and Social Management Plan;
- Book of Drawings (Volume 4).

7.2 Materials sources

The materials investigations for the design, reported in Chapter 4 and Appendix 3 of the Draft Final Detailed Design Report (October 2026), are summarised below for information. The identification and testing of these sources does not constitute a warranty of their availability, quality, quantity or accessibility. The Contractor shall satisfy itself in every respect before pricing, is responsible for proving and securing every source it proposes, and shall obtain the Engineer's approval of each source under Clause 603 of the Technical Specifications before using it.

Material	Source investigated	Principal findings

Material	Source investigated	Principal findings
Alignment soils (formation)	Four locations on Road 1	Non-plastic silty gravels and silty sands, soaked CBR 6 to 16 per cent, negligible swell (0.16 per cent at most).
Gravel for fill, improved sub-grade and sub-base	Kenya Power Gravel 1, Kenya Power Gravel 2 and KRA Gravel 2, within about 10 km	Kenya Power Gravel 2 (CBR 6 per cent) and KRA Gravel 2 (CBR 10 per cent) suitable as embankment fill. None of the three meets the improved sub-grade (CBR 22.5 per cent) or the G30 sub-base requirement in its natural state; Kenya Power Gravel 1 (PI 37.5 per cent, CBR 3 per cent) is unsuitable.
Base-quality natural gravel	None identified	The road base is specified as cement-improved natural gravel.
Crushed stone and coarse aggregate	Motogi Quarry, near Kakuma; Karachi plant, near Lodwar (about 150 km), not tested	Motogi stone strong and sound (LAA 19.6 to 23.2 per cent, ACV 14.5 to 20.2 per cent). The 14/20 product is too coarse for BS 882 (50.8 per cent passing 20 mm) and the 3/6/10 product is flaky (flakiness index 38.7 per cent).
Fine aggregate	Gold river sand; Motogi quarry dust	River sand grading M to BS 882, silt 1.3 per cent. Quarry dust coarser than BS 882 grading C; suitable blended with at least an equal part of river sand, and as 0/6 bedding.
Asphalt concrete	Karachi plant, near Lodwar	Not operational at the time of the investigations; not tested.
Construction water	Boreholes about 5 km from Kakuma, off the C576, beside the seasonal Tarach River	Results for the area within the BS EN 1008 limits; to be confirmed on the source boreholes.

Bidders should note in particular that gravel meeting the improved sub-grade and sub-base requirements has not been proven in the tested borrow sources without improvement, and shall allow in their rates for locating compliant gravel or for improving the local gravel with lime or cement to achieve the specified strength. The Contractor is responsible for securing all borrow pit and quarry consents, compensation agreements and rehabilitation obligations.

7.3 Existing services

Overhead electricity distribution lines are located predominantly along the road reserve. Prime Cost Sums are included in Bill 4 for the removal and reinstatement of 415 volt overhead poles and of HDPE water pipes. The Contractor shall liaise with the Kenya Power and Lighting Company, the water services provider and any other utility owner, and shall give the Engineer not less than 28 days notice of any required diversion.

7.4 Facilities for the Engineer

The Resident Engineer's office, its utilities and its office, survey and kitchen equipment, and laboratory testing instructed by the Engineer, are provided by the Contractor under Bill 1 and Clauses 121, 122 and 125 of the Technical Specifications. Vehicles and drivers for the Engineer are not provided under this Contract (Clause 124).

The Contractor shall afford the Engineer and the Engineer's staff free access to every part of the Site at all times, shall provide reasonable attendance and assistance for inspection, measurement and testing, and shall afford the Engineer's vehicles free passage over the Site and safe parking within the Contractor's compound.

Bill 1 item 1.5 does not affect the Contractor's own testing obligations. All sampling and testing by the Contractor required by Section 2 and Clause 226 of the Technical Specifications, together with the apparatus, personnel, transport and consumables necessary for it, remain the Contractor's responsibility and are deemed to be included in the rates and prices.

7.5 Quality assurance

The Contractor shall operate a documented quality management system and shall submit, within 28 days of the Letter of Acceptance, a Quality Assurance Plan covering the inspection and test plan for each element of the Works, the frequency of testing required by Section 226 of the Specification, the format of test records and the arrangements for non-conformance reporting and close-out.

7.6 Works by others

No part of the permanent Works is excluded from this Contract: street lighting and the preliminaries and general items of Bill 1 are included. Utility owners, and any contractor employed by the Employer, may nevertheless need to work within the road reserve during the period of this Contract. The Contractor shall afford them every reasonable opportunity, shall co-ordinate its programme with theirs as the Engineer directs, and shall not obstruct their work.

Contract 2, the upgrading of the DRS Junction – Kakuma Sub-County Hospital Road including the Towokayeni Market spur (2.1 km), is procured as a separate contract and may be under construction at the same time. The two contractors may draw on the same borrow pits, quarries and water sources and use the same haul routes through Kakuma. The Contractor shall co-ordinate with the other contractor through the Engineer, and no claim shall arise from the reasonable use of shared sources and routes by the other contractor.

8. Environmental and Social Requirements

The Contractor shall comply with Section 28 of the Technical Specifications, with the Environmental and Social Management Plan for the project, and with all applicable Kenyan environmental, labour, occupational safety and health legislation, including the Environmental Management and Co-ordination Act, the Occupational Safety and Health Act, the Employment Act and the Work Injury Benefits Act.

Within 28 days of the Letter of Acceptance, the Contractor shall submit for the Engineer's approval a Contractor's Environmental and Social Management Plan (C-ESMP) developed from the Management Strategies and Implementation Plans submitted with its Bid. No work shall commence on any element of the Works until the relevant part of the C-ESMP has been approved.

The C-ESMP shall address, as a minimum:

- air quality and dust suppression, having regard to the arid environment and the proximity of dwellings, schools, health facilities and food distribution points;
- noise and vibration control;
- water abstraction, water quality and the protection of ephemeral watercourses;
- waste management, including the management of used oils, filters, tyres and bituminous wastes;
- borrow pit and quarry operation, progressive rehabilitation and reinstatement;
- occupational safety and health, including a site-specific risk assessment, method statements for all high-risk activities and the provision of personal protective equipment;
- traffic and pedestrian management, including safe crossings, signed and barriered pedestrian routes and the management of construction traffic;
- labour influx management, workers' accommodation and community relations in a refugee-hosting context;
- prevention of and response to gender-based violence, sexual exploitation and abuse and sexual harassment, including the Code of Conduct and the associated training;
- child protection and the prohibition of child labour;
- the grievance redress mechanism for workers and for the community, accessible in the languages spoken in the project area;
- HIV/AIDS awareness and prevention, and road safety awareness campaigns, as specified in Sections 2803 and 2804;
- chance-find procedures for archaeological and cultural heritage.

The Contractor shall submit monthly environmental and social performance reports in the format required by the Engineer, and shall report all incidents and accidents in accordance with the Specification. Failure to perform any ES obligation entitles the Engineer to withhold the value of that work in accordance with GCC Sub-Clause 42.7.

9. Personnel and Equipment Requirements

The Key Personnel and the minimum equipment required are set out in Section III, Evaluation and Qualification Criteria, items 4 and 5. The successful Bidder shall employ the Key Personnel named in its Bid. No substitution shall be made without the written consent of the Engineer, which shall not be given unless the proposed substitute is of equal or better qualification and experience.

The Contractor shall maintain on site, throughout the execution of the Works, the plant and equipment necessary to complete the Works within the Time for Completion, and shall provide the Engineer with a monthly return of the plant on site and its condition.

PART 3

Conditions of Contract and Contract Forms

Section VIII - General Conditions of Contract

A. General

1. Definitions	Boldfac (a) T L a (b) T c a w a (c) T a f (d) “ (e) “ f (f) “ h (g) T c 5 (h) T C o

2. Interpretation	2.1 In interpreting these GCC, words indicating one gender include all genders. Words indicating the singular also include the plural and words indicating the plural also include the singular. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Project Manager shall provide instructions clarifying queries about these GCC. 2.2 If sectional completion is specified in the PCC, references in the GCC to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion Date for the whole of the Works). 2.3 The documents forming the Contract shall be interpreted in the following order of priority: (a) Agreement, (b) Letter of Acceptance, (c) Contractor's Bid, (d) Particular Conditions of Contract, (e) General Conditions of Contract, including Appendices, (f) Specification, (g) Drawings, (h) Bill of Quantities, 1 and (i) any other document listed in the PCC as forming part of the Contract.
3. Language and Law	3.1 The language of the Contract and the law governing the Contract are stated in the PCC. 3.2 Throughout the execution of the Contract, the Contractor shall comply with the import of goods and services prohibitions in the Employer's country when (a) as a matter of law or official regulations, the Borrower's country prohibits commercial relations with that country; or (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's Country prohibits any import of goods from that country or any payments to any country, person, or entity in that country.
4. Project Manager's Decisions	4.1 Except where otherwise specifically stated, the Project Manager shall decide contractual matters between the Employer and the Contractor in the role representing the Employer.
5. Delegation	5.1 Otherwise specified in the PCC, the Project Manager may delegate any of his duties and responsibilities to other people, except to the Adjudicator, after notifying the Contractor, and may revoke any delegation after notifying the Contractor.
6. Communications	6.1 Communications between parties that are referred to in the Conditions shall be effective only when in writing. A notice shall be effective only when it is delivered.
7. Subcontracting	7.1 The Contractor may subcontract with the approval of the Project Manager, but may not assign the Contract without the approval of the Employer in writing. Subcontracting shall not alter the Contractor's obligations. The Contractor shall require that its Subcontractors execute the Works in accordance with the Contract, including complying with the relevant ES requirements and the obligations set out in Sub-Clause 26.1 of the General Conditions of Contract. 7.2 Submision by the Contractor for approval of the Project Manager, addition of any Subcontractor not named in the Contract, shall also include the Subcontractor's declaration in accordance with Appendix CSexual

	exploitation and Abuse (SEA) and/or Sexual Harassment (SH) Performance Declaration
8. Other Contractors	8.1 The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the Employer between the dates given in the Schedule of Other Contractors, as referred to in the PCC. The Contractor shall also provide facilities and services for them as described in the Schedule. The Employer may modify the Schedule of Other Contractors, and shall notify the Contractor of any such modification.
9. Personnel and Equipment	9.1 The Contractor shall employ the Key Personnel and use the Equipment identified in its Bid, to carry out the Works or other personnel and Equipment approved by the Project Manager. The Project Manager shall approve any proposed replacement of Key Personnel and Equipment only if their relevant qualifications or characteristics are substantially equal to or better than those proposed in the Bid. 9.2 The Project Manager may require the Contractor to remove (or cause to be removed) any person employed on the Site or Works, including the Key Personnel (if any), who: (a) persists in any misconduct or lack of care; (b) carries out duties incompetently or negligently; (c) fails to comply with any provision of the Contract; (d) persists in any conduct which is prejudicial to safety, health, or the protection of the environment; (e) based on reasonable evidence, is determined to have engaged in Fraud and Corruption during the execution of the Works; (f) has been recruited from the Employer's Personnel; (g) undertakes behavior which breaches the Code of Conduct for Contractor's Personnel (ES). If appropriate, the Contractor shall then promptly appoint (or cause to be appointed) a suitable replacement with equivalent skills and experience. Notwithstanding any requirement from the Project Manager to remove or cause to remove any person, the Contractor shall take immediate action as appropriate in response to any violation of (a) through (g) above. Such immediate action shall include removing (or causing to be removed) from the Site or other places where the Works are being carried out, any Contractor's Personnel who engages in (a), (b), (c), (d), (e) or (g) above or has been recruited as stated in (f) above. 9.3 Labor 9.3.1 Engagement of Staff and Labor. The Contractor shall provide and employ on the Site for the execution of the Works such skilled, semiskilled and unskilled labor as is necessary for the proper and timely execution of the Contract. The Contractor is encouraged, to the extent practicable and reasonable, to employ staff and labor with appropriate qualifications and experience from sources within the Country. Unless otherwise provided in the Contract, the Contractor shall be responsible for the recruitment, transportation, accommodation and welfare facilities in accordance with GCC Sub-Clause 9.3.6, of the Contractor's Personnel, and for all payments in connection therewith. 9.3.2 Conditions of Labor. The Contractor shall pay rates of wages, and observe conditions of labor, which comply with all applicable laws. The Contractor shall inform the Contractor's Personnel about their liability to pay personal income taxes in the Country in respect of such of their salaries, wages, allowances and any benefits as are subject to tax under the Laws of the Country for the time being in force, and the Contractor shall perform such duties in regard to such deductions thereof as may be imposed on him by such Laws. 9.3.3 The Contractor may bring into the Country any foreign personnel who are

	necessary for the execution of the Works to the extent allowed by the applicable Laws. The Contractor shall ensure that these personnel are provided with the required residence visas and work permits. The Employer will, if requested by the Contractor, use its best endeavors in a timely and expeditious manner to assist the Contractor in obtaining any local, state, national, or government permission required for bringing in the Contractor's personnel. 9.3.4 The Contractor shall at its own expense provide the means of repatriation to and the Contractor's Personnel employed on the Contract at the Site to their various home countries. It shall also provide suitable temporary maintenance of all such persons from the cessation of their employment on the Contract to the date programmed for their departure. In the event that the Contractor defaults in providing such means of transportation and temporary maintenance, the Employer may provide the same to such personnel and recover the cost of doing so from the Contractor. 9.3.5 Disorderly conduct. The Contractor shall at all times during the progress of the Contract use its best endeavors to prevent any unlawful, riotous or disorderly conduct or behavior by or amongst the Contractor's Personnel. 9.3.6 Facilities for Staff and Labor. Except as otherwise stated in the Specification, the Contractor shall provide and maintain all necessary accommodation and welfare facilities for the Contractor's Personnel. The Contractor shall also provide facilities for the Employer's Personnel as stated in the Specification. 9.3.7 The Contractor shall, in all dealings with the Contractor's Personnel, pay due regard to all recognized festivals, official holidays, religious or other customs and all local laws and regulations pertaining to the employment of labor. The Contractor shall provide the Contractor's Personnel annual holiday and sick, maternity and family leave, as required by applicable laws or as stated in the Specification. 9.3.8 Supply of Foodstuffs. The Contractor shall arrange for the provision of a sufficient supply of suitable food as may be stated in the Specification at reasonable prices for the Contractor's Personnel for the purposes of or in connection with the Contract. 9.3.9 Supply of Water. The Contractor shall, having regard to local conditions, provide on the Site an adequate supply of drinking and other water for the use of the Contractor's Personnel. 9.3.10 Measures against Insect and Pest Nuisance. The Contractor shall at all times take the necessary precautions to protect the Contractor's Personnel employed on the Site from insect and pest nuisance, and to reduce the danger to their health. The Contractor shall comply with all the regulations of the local health authorities, including use of appropriate insecticide. 9.3.11 Alcoholic Liquor or Drugs. The Contractor shall not, otherwise than in accordance with the laws of the Country, import, sell, give, barter or otherwise dispose of any alcoholic liquor or drugs, or permit or allow importation, sale, gift, barter or disposal thereto by Contractor's Personnel. 9.3.12 Arms and Ammunition. The Contractor shall not give, barter, or otherwise dispose of, to any person, any arms or ammunition of any kind, or allow Contractor's Personnel to do so. 9.3.13 Funeral Arrangements. The Contractor shall be responsible, to the extent required by local regulations, for making any funeral arrangements for any of its local employees who may die while engaged upon the Works. 9.3.14 Forced Labor. The Contractor, including its Subcontractors, shall not employ or engage forced labor. Forced labor consists of any work or service, not voluntarily performed, that is exacted from an individual under threat of force or penalty, and includes any kind of involuntary or compulsory labor, such as indentured labor, bonded labor or similar labor- contracting arrangements. No persons shall be employed or engaged who have been subject to trafficking. Trafficking in persons is defined as the

	recruitment, transportation, transfer, harboring or receipt of persons by means of the threat or use of force or other forms of coercion, abduction, fraud, deception, abuse of power, or of a position of vulnerability, or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purposes of exploitation. 9.3.15 Child Labor. The Contractor, including its Subcontractors, shall not employ or engage a child under the age of 14 unless the national law specifies a higher age (the minimum age). The Contractor, including its Subcontractors, shall not employ or engage a child between the minimum age and the age of 18 in a manner that is likely to be hazardous, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development. The Contractor including its Subcontractors, shall only employ or engage children between the minimum age and the age of 18 after an appropriate risk assessment has been conducted by the Contractor with the Project Manager's approval. The Contractor shall be subject to regular monitoring by the Project Manager that includes monitoring of health, working conditions and hours of work. Work considered hazardous for children is work that, by its nature or the circumstances in which it is carried out, is likely to jeopardize the health, safety, or morals of children. Such work activities prohibited for children include work: (a) with exposure to physical, psychological or sexual abuse; (b) underground, underwater, working at heights or in confined spaces; (c) with dangerous machinery, equipment or tools, or involving handling or (d) transport of heavy loads; (e) in unhealthy environments exposing children to hazardous substances, agents, or processes, or to temperatures, noise or vibration damaging to health; or (f) under difficult conditions such as work for long hours, during the night or in confinement on the premises of the employer. 9.3.16 Employment Records of Workers. The Contractor shall keep complete and accurate records of the employment of labor at the Site. The records shall include the names, ages, genders, hours worked, and wages paid to all workers. These records shall be summarized on a monthly basis and submitted to the project Manager. 9.3.17 Workers' Organizations. In countries where the relevant labor laws recognize workers' rights to form and to join workers' organizations of their choosing and to bargain collectively without interference, the Contractor shall comply with such laws. In such circumstances, the role of legally established workers' organizations and legitimate workers' representatives will be respected, and they will be provided with information needed for meaningful negotiation in a timely manner. Where the relevant labor laws substantially restrict workers' organizations, the Contractor shall enable alternative means for the Contractor's Personnel to express their grievances and protect their rights regarding working conditions and terms of employment. The Contractor shall not seek to influence or control these alternative means. The Contractor shall not discriminate or retaliate against the Contractor's Personnel who participate, or seek to participate, in such organizations and collective bargaining or alternative mechanisms. Workers' organizations are expected to fairly represent the workers in the workforce. 9.3.18 Non-Discrimination and Equal Opportunity. The Contractor shall not make decisions relating to the employment or treatment of Contractor's Personnel on the basis of personal characteristics unrelated to inherent job requirements. The Contractor shall base the employment of Contractor's Personnel on the principle of equal opportunity and fair treatment, and shall not discriminate with respect to any aspects of the employment relationship,

	including recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, job assignment, promotion, termination of employment or retirement, and disciplinary practices. Special measures of protection or assistance to remedy past discrimination or selection for a particular job based on the inherent requirements of the job shall not be deemed discrimination. The Contractor shall provide protection and assistance as necessary to ensure non-discrimination and equal opportunity, including for specific groups such as women, people with disabilities, migrant workers and children (of working age in accordance with GCC SubClause 9.3.15). 9.3.19 Contractor's Personnel Grievance Mechanism. The Contractor shall have a grievance mechanism for Contractor's Personnel, and where relevant the workers' organizations stated in GCC Sub-Clause 9.3.17, to raise workplace concerns. The grievance mechanism shall be proportionate to the nature, scale, risks and impacts of the Contract. The mechanism shall address concerns promptly, using an understandable and transparent process that provides timely feedback to those concerned in a language they understand, without any retribution, and shall operate in an independent and objective manner. The Contractor's Personnel shall be informed of the grievance mechanism at the time of engagement for the Contract, and the measures put in place to protect them against any reprisal for its use. Measures will be put in place to make the grievance mechanism easily accessible to all Contractor's Personnel. The grievance mechanism shall not impede access to other judicial or administrative remedies that might be available, or substitute for grievance mechanisms provided through collective agreements. The grievance mechanism may utilize existing grievance mechanisms, providing that they are properly designed and implemented, address concerns promptly, and are readily accessible to Contractor's Personnel. Existing grievance mechanisms may be supplemented as needed with Contract-specific arrangements. 9.3.20 Training of Contractor's Personnel. The Contractor shall provide appropriate training to relevant Contractor's Personnel on ES aspects of the Contract, including appropriate sensitization on prohibition of SEA and SH, and health and safety training. As stated in the Specification or as instructed by the Project Manager, the Contractor shall also allow appropriate opportunities for the relevant Contractor's Personnel to be trained on ES aspects of the Contract by the Employer's Personnel. The Contractor shall provide training on SEA, including its prevention, to any of its personnel who has a role to supervise other Contractor's Personnel.
10. Employer's and Contractor's Risks	10.1 The Employer carries the risks which this Contract states are Employer's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.
11. Employer's Risks	11.1 From the Start Date until the Defects Liability Certificate has been issued, the following are Employer's risks: (a) The risk of personal injury, death, or loss of or damage to property (excluding the Works, Plant, Materials, and Equipment), which are due to (i) use or occupation of the Site by the Works or for the purpose of the Works, which is the unavoidable result of the Works or (ii) negligence, breach of statutory duty, or interference with any legal right by the Employer or by any person employed by or contracted to him except the Contractor. (b) The risk of damage to the Works, Plant, Materials, and Equipment to the extent that it is due to a fault of the Employer or in the Employer's design, or due to war or radioactive contamination directly affecting the country where the Works are to be executed. 11.2 From the Completion Date until the Defects Liability Certificate has been issued, the risk of loss of or damage to the Works, Plant, and Materials is an

		Employer's risk except loss or damage due to (a) a Defect which existed on the Completion Date, (b) an event occurring before the Completion Date, which was not itself an Employer's risk, or (c) the activities of the Contractor on the Site after the Completion Date.
12. Contractor's Risks	12.1	From the Starting Date until the Defects Liability Certificate has been issued, the risks of personal injury, death, and loss of or damage to property (including, without limitation, the Works, Plant, Materials, and Equipment) which are not Employer's risks are Contractor's risks.
13. Insurance	13.1	The Contractor shall provide, in the joint names of the Employer and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles stated in the PCC for the following events which are due to the Contractor's risks: (a) loss of or damage to the Works, Plant, and Materials; (b) loss of or damage to Equipment; (c) loss of or damage to property (except the Works, Plant, Materials, and Equipment) in connection with the Contract; and (d) personal injury or death.
	13.2	Policies and certificates for insurance shall be delivered by the Contractor to the Project Manager for the Project Manager's approval before the Start Date. All such insurance shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred.
	13.3	If the Contractor does not provide any of the policies and certificates required, the Employer may effect the insurance which the Contractor should have provided and recover the premiums the Employer has paid from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due.
	13.4	Alterations to the terms of an insurance shall not be made without the approval of the Project Manager.
	13.5	Both parties shall comply with any conditions of the insurance policies.
14. Site Data	14.1	The Contractor shall be deemed to have examined any Site Data referred to in the PCC, supplemented by any information available to the Contractor.
15. Contractor to Construct the Works	15.1	The Contractor shall construct and install the Works in accordance with the Specification and Drawings.
16. The Works to Be Completed by the Intended Completion Date	16.1	The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the Program submitted by the Contractor, as updated with the approval of the Project Manager, and complete them by the Intended Completion Date.
	16.2	The Contractor shall not carry out mobilization to the Site unless the Project Manager gives approval, an approval that shall not be unreasonably delayed, to the measures the Contractor proposes to address environmental and social risks and impacts, which at a minimum shall include applying the Management Strategies and Implementation Plans (MSIPs) and Code of Conduct for Contractor's Personnel submitted as part of the Bid and agreed as part of the Contract. The Contractor shall submit, to the Project Manager for its approval any additional MSIPs as are necessary to manage the ES risks and impacts of ongoing Works. These MSIPs collectively comprise the Contractor's Environmental and Social Management Plan (C-ESMP). The Contractor shall review the C-ESMP, periodically (but not less than every six (6) months), and update it as required to ensure that it contains measures appropriate to the Works. The updated C-ESMP shall be submitted to the Project Manager for its approval.
17. Approval by the	17.1	The Contractor shall submit Specification and Drawings showing the

Project Manager	proposed Temporary Works to the Project Manager, for his approval. 17.2 The Contractor shall be responsible for design of Temporary Works. 17.3 The Project Manager's approval shall not alter the Contractor's responsibility for design of the Temporary Works. 17.4 The Contractor shall obtain approval of third parties to the design of the Temporary Works, where required. 17.5 All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Project Manager before this use.
18. Health, Safety and Protection of the Environment	18.1 The Contractor shall be responsible for the safety of all activities on the Site. 18.2 The Contractor shall: (a) comply with all applicable health and safety regulations and Laws; (b) comply with all applicable health and safety obligations specified in the Contract; (c) take care for the health and safety of all persons entitled to be on the Site and other places, if any, where the Works are being executed; (d) keep the Site and Works clear of unnecessary obstruction so as to avoid danger to these persons; (e) provide fencing, lighting, safe access, guarding and watching of: (i) the Works until the Works are taken over by the Employer; and (ii) any part of the Works where the Contractor is executing outstanding works or remedying any defects during the Defects Liability Period; and (f) provide any Temporary Works (including roadways, footways, guards and fences) which may be necessary, because of the execution of the Works, for the use and protection of the public and of owners and occupiers of adjacent land. 18.3 Protection of the environment The Contractor shall take all necessary measures to: (a) protect the environment (both on and off the Site); and (b) limit damage and nuisance to people and property resulting from pollution, noise and other results of the Contractor's operations and/or activities. The Contractor shall ensure that emissions, surface discharges, effluent and any other pollutants from the Contractor's activities shall exceed neither the values indicated in the Specification, nor those prescribed by applicable laws. In the event of damage to the environment, property and/or nuisance to people, on or off Site as a result of the Contractor's operations, the Contractor shall agree with the Project Manager the appropriate actions and time scale to remedy, as practicable, the damaged environment to its former condition. The Contractor shall implement such remedies at its cost to the satisfaction of the Project Manager
19. Archaeological and Geological Findings	19.1 All fossils, coins, articles of value or antiquity, structures, groups of structures, and other remains or items of geological, archaeological, paleontological, historical, architectural or religious interest found on the Site shall be placed under the care and custody of the Employer. The Contractor shall: (a) take all reasonable precautions, including fencing-off the area or site of the finding, to avoid further disturbance and prevent Contractor's Personnel or other persons from removing or damaging any of these findings; (b) train relevant Contractor's Personnel on appropriate actions to be taken in the event of such findings; and

		(c) implement any other action consistent with the requirements of the Specification and relevant laws. The Contractor shall, as soon as practicable after discovery of any such finding, notify the Project Manager of such discoveries and carry out the Project Manager's instructions for dealing with them..
20. Possession of the Site	20.1	The Employer shall give possession of all parts of the Site to the Contractor. If possession of a part is not given by the date stated in the PCC, the Employer shall be deemed to have delayed the start of the relevant activities, and this shall be a Compensation Event.
21. Access to the Site	21.1	The Contractor shall allow the Project Manager and any person authorized by the Project Manager access to the Site and to any place where work in connection with the Contract is being carried out or is intended to be carried out.
22. Instructions, Inspections and Audits	22.1	The Contractor shall carry out all instructions of the Project Manager which comply with the applicable laws where the Site is located.
	22.2	The Contractor shall keep, and shall make all reasonable efforts to cause its Subcontractors and subconsultants to keep, accurate and systematic accounts and records in respect of the Works in such form and details as will clearly identify relevant time changes and costs.
	22.3	Inspections &Audit by the Bank Pursuant to paragraph 2.2 e. of Appendix A to the GCCFraud and Corruption, the Contractor shall permit and shall cause its agents (where declared or not), subcontractors, subconsultants, service providers, suppliers, and personnel, to permit, the Bank and/or persons appointed by the Bank to inspect the site and/or the accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have such accounts, records and other documents audited by auditors appointed by the Bank. The Contractor's and its Subcontractors' and subconsultants' attention is drawn to GCC Sub - Clause 25.1 (Fraud and Corruption) which provides, inter alia, that acts intended to materially impede the exercise of the Bank's inspection and audit rights constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Bank's prevailing sanctions procedures).
23. Appointment of the Adjudicator	23.1	The Adjudicator shall be appointed jointly by the Employer and the Contractor, at the time of the Employer's issuance of the Letter of Acceptance. If, in the Letter of Acceptance, the Employer does not agree on the appointment of the Adjudicator, the Employer will request the Appointing Authority designated in the PCC, to appoint the Adjudicator within 14 days of receipt of such request.
	23.2	Should the Adjudicator resign or die, or should the Employer and the Contractor agree that the Adjudicator is not functioning in accordance with the provisions of the Contract, a new Adjudicator shall be jointly appointed by the Employer and the Contractor. In case of disagreement between the Employer and the Contractor, within 30 days, the Adjudicator shall be designated by the Appointing Authority designated in the PCC at the request of either party, within 14 days of receipt of such request.
24. Procedure for Disputes	24.1	If the Contractor believes that a decision taken by the Project Manager was either outside the authority given to the Project Manager by the Contract or that the decision was wrongly taken, the decision shall be referred to the Adjudicator within 14 days of the notification of the Project Manager's decision.
	24.2	The Adjudicator shall give a decision in writing within 28 days of receipt of a notification of a dispute.
	24.3	The Adjudicator shall be paid by the hour at the rate specified in the PCC, together with reimbursable expenses of the types specified in the PCC, and the cost shall be divided equally between the Employer and the Contractor, whatever decision is reached by the Adjudicator. Either party may refer a

	decision of the Adjudicator to an Arbitrator within 28 days of the Adjudicator's written decision. If neither party refers the dispute to arbitration within the above 28 days, the Adjudicator's decision shall be final and binding. 24.4 The arbitration shall be conducted in accordance with the arbitration procedures published by the institution named and in the place specified in the PCC.
25. Fraud and Corruption	25.1 The Bank requires compliance with the Bank's Anti-Corruption Guidelines and its prevailing sanctions policies and procedures as set forth in the WBG's Sanctions Framework, as set forth in Appendix A to the GCC. 25.2 The Employer requires the Contractor to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the bidding process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.
26. Code of Conduct	26.1 The Contractor shall have a Code of Conduct for the Contractor's Personnel. The Contractor shall take all necessary measures to ensure that each Contractor's Personnel is made aware of the Code of Conduct including specific behaviors that are prohibited, and understands the consequences of engaging in such prohibited behaviors. These measures include providing instructions and documentation that can be understood by the Contractor's Personnel and seeking to obtain that person's signature acknowledging receipt of such instructions and/or documentation, as appropriate. The Contractor shall also ensure that the Code of Conduct is visibly displayed in multiple locations on the Site and any other place where the Works will be carried out, as well as in areas outside the Site accessible to the local community and project affected people. The posted Code of Conduct shall be provided in languages comprehensible to Contractor's Personnel, Employer's Personnel and the local community. The Contractor's Management Strategy and Implementation Plans shall include appropriate processes for the Contractor to verify compliance with these obligations.
27. Security of the Site	27.1 The Contractor shall be responsible for the security of the Site, and: (a) for keeping unauthorized persons off the Site; (b) authorized persons shall be limited to the Contractor's Personnel, the Employer's personnel, and to any other personnel identified as authorized personnel (including the Employer's other contractors on the Site), by a notice from the Employer or the Project Manager to the Contractor. The Contractor shall (i) conduct appropriate background checks on any personnel retained to provide security; (ii) train the security personnel adequately (or determine that they are properly trained) in the use of force (and where applicable, firearms), and appropriate conduct towards Contractor's Personnel, Employer's Personnel and affected communities; and (iii) require the security personnel to act within the applicable Laws and any requirements set out in the Specification. The Contractor shall not permit any use of force by security personnel in providing security except when used for preventive and defensive purposes in proportion to the nature and extent of the threat. In making security arrangements, the Contractor shall also comply with any additional requirements stated in the Specification. B. Time Control

B. Time Control

28. Program	28.1	Within the time stated in the PCC, after the date of the Letter of Acceptance, the Contractor shall submit to the Project Manager for approval a Program showing the general methods, arrangements, order, and timing for all the activities in the Works. In the case of a lump-sum contract, the activities in the Program shall be consistent with those in the Activity Schedule. The Project Manager's approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Project Manager again at any time. A revised Program shall show the effect of Variations and Compensation Events.
	28.2	An update of the Program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work, including any changes to the sequence of the activities.
	28.3	The Contractor shall monitor progress of the Works and submit to the Project manager progress report and any updated Program showing the actual progress achieved and the effect of the progress achieved on the timing of the remaining Works, including any changes to the sequence of the activities, at intervals no longer than the period stated in the PCC. If the Contractor does not submit an updated Program within this period, the Project Manager may withhold the amount stated in the PCC from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted. In the case of lump-sum Contract, the Contractor shall provide an updated Activity Schedule within 14 days of being instructed to by the Project Manager.
	28.4	Unless otherwise stated in the Specification, each progress report shall include the Environmental and Social (ES) metrics set out in Appendix B
	28.5	In addition to the progress report, the Contractor shall inform the Project Manager immediately of any allegation, incident or accident in the Site, which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer's Personnel, or Contractor's Personnel. This includes, but is not limited to, any incident or accident causing fatality or serious injury; significant adverse effects or damage to private property; or any allegation of SEA and/or SH. In case of SEA and/or SH, while maintaining confidentiality as appropriate, the type of allegation (sexual exploitation, sexual abuse or sexual harassment), gender and age of the person who experienced the alleged incident should be included in the information. The Contractor, upon becoming aware of the allegation, incident or accident, shall also immediately inform the Project Manager of any such incident or accident on the Subcontractors' or suppliers' premises relating to the Works which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer's Personnel, or Contractor's, its Subcontractors' and suppliers' personnel. The notification shall provide sufficient detail regarding such incidents or accidents. The Contractor shall provide full details of such incidents or accidents to the Project Manager within the timeframe agreed with the Project Manager. The Contractor shall require its Subcontractors and suppliers (other than Subcontractors) to immediately notify the Contractor of any incidents or accidents referred to in this Subclause.
29. Extension of the Intended Completion Date	29.1	The Project Manager shall extend the Intended Completion Date if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work, which would cause the Contractor to incur additional cost.
	29.2	The Project Manager shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Project Manager for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. If the Contractor has

28. Program	28.1	Within the time stated in the PCC, after the date of the Letter of Acceptance, the Contractor shall submit to the Project Manager for approval a Program showing the general methods, arrangements, order, and timing for all the activities in the Works. In the case of a lump-sum contract, the activities in the Program shall be consistent with those in the Activity Schedule. The Project Manager's approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Project Manager again at any time. A revised Program shall show the effect of Variations and Compensation Events.
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	28.3	The Contractor shall monitor progress of the Works and submit to the Project manager progress report and any updated Program showing the actual progress achieved and the effect of the progress achieved on the timing of the remaining Works, including any changes to the sequence of the activities, at intervals no longer than the period stated in the PCC. If the Contractor does not submit an updated Program within this period, the Project Manager may withhold the amount stated in the PCC from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted. In the case of lump-sum Contract, the Contractor shall provide an updated Activity Schedule within 14 days of being instructed to by the Project Manager.
	28.4	Unless otherwise stated in the Specification, each progress report shall include the Environmental and Social (ES) metrics set out in Appendix B
	28.5	In addition to the progress report, the Contractor shall inform the Project Manager immediately of any allegation, incident or accident in the Site, which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer's Personnel, or Contractor's Personnel. This includes, but is not limited to, any incident or accident causing fatality or serious injury; significant adverse effects or damage to private property; or any allegation of SEA and/or SH. In case of SEA and/or SH, while maintaining confidentiality as appropriate, the type of allegation (sexual exploitation, sexual abuse or sexual harassment), gender and age of the person who experienced the alleged incident should be included in the information. The Contractor, upon becoming aware of the allegation, incident or accident, shall also immediately inform the Project Manager of any such incident or accident on the Subcontractors' or suppliers' premises relating to the Works which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer's Personnel, or Contractor's, its Subcontractors' and suppliers' personnel. The notification shall provide sufficient detail regarding such incidents or accidents. The Contractor shall provide full details of such incidents or accidents to the Project Manager within the timeframe agreed with the Project Manager. The Contractor shall require its Subcontractors and suppliers (other than Subcontractors) to immediately notify the Contractor of any incidents or accidents referred to in this Subclause.
		failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.
30. Acceleration	30.1	When the Employer wants the Contractor to finish before the Intended Completion Date, the Project Manager shall obtain priced proposals for achieving the necessary acceleration from the Contractor. If the Employer accepts these proposals, the Intended Completion Date shall be adjusted accordingly and confirmed by both the Employer and the Contractor.

28. Program	28.1 Within the time stated in the PCC, after the date of the Letter of Acceptance, the Contractor shall submit to the Project Manager for approval a Program showing the general methods, arrangements, order, and timing for all the activities in the Works. In the case of a lump-sum contract, the activities in the Program shall be consistent with those in the Activity Schedule. The Project Manager's approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Project Manager again at any time. A revised Program shall show the effect of Variations and Compensation Events. 28.2 An update of the Program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work, including any changes to the sequence of the activities. 28.3 The Contractor shall monitor progress of the Works and submit to the Project manager progress report and any updated Program showing the actual progress achieved and the effect of the progress achieved on the timing of the remaining Works, including any changes to the sequence of the activities, at intervals no longer than the period stated in the PCC. If the Contractor does not submit an updated Program within this period, the Project Manager may withhold the amount stated in the PCC from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted. In the case of lump-sum Contract, the Contractor shall provide an updated Activity Schedule within 14 days of being instructed to by the Project Manager. 28.4 Unless otherwise stated in the Specification, each progress report shall include the Environmental and Social (ES) metrics set out in Appendix B 28.5 In addition to the progress report, the Contractor shall inform the Project Manager immediately of any allegation, incident or accident in the Site, which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer's Personnel, or Contractor's Personnel. This includes, but is not limited to, any incident or accident causing fatality or serious injury; significant adverse effects or damage to private property; or any allegation of SEA and/or SH. In case of SEA and/or SH, while maintaining confidentiality as appropriate, the type of allegation (sexual exploitation, sexual abuse or sexual harassment), gender and age of the person who experienced the alleged incident should be included in the information. The Contractor, upon becoming aware of the allegation, incident or accident, shall also immediately inform the Project Manager of any such incident or accident on the Subcontractors' or suppliers' premises relating to the Works which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer's Personnel, or Contractor's, its Subcontractors' and suppliers' personnel. The notification shall provide sufficient detail regarding such incidents or accidents. The Contractor shall provide full details of such incidents or accidents to the Project Manager within the timeframe agreed with the Project Manager. The Contractor shall require its Subcontractors and suppliers (other than Subcontractors) to immediately notify the Contractor of any incidents or accidents referred to in this Subclause.
	30.2 If the Contractor's priced proposals for an acceleration are accepted by the Employer, they are incorporated in the Contract Price and treated as a Variation.
31. Delays Ordered by the Project Manager	31.1 The Project Manager may instruct the Contractor to delay the start or progress of any activity within the Works.
32. Management Meetings	32.1 Either the Project Manager or the Contractor may require the other to attend a management meeting. The business of a management meeting shall be to

28. Program	28.1 Within the time stated in the PCC, after the date of the Letter of Acceptance, the Contractor shall submit to the Project Manager for approval a Program showing the general methods, arrangements, order, and timing for all the activities in the Works. In the case of a lump-sum contract, the activities in the Program shall be consistent with those in the Activity Schedule. The Project Manager's approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Project Manager again at any time. A revised Program shall show the effect of Variations and Compensation Events. 28.2 An update of the Program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work, including any changes to the sequence of the activities. 28.3 The Contractor shall monitor progress of the Works and submit to the Project manager progress report and any updated Program showing the actual progress achieved and the effect of the progress achieved on the timing of the remaining Works, including any changes to the sequence of the activities, at intervals no longer than the period stated in the PCC. If the Contractor does not submit an updated Program within this period, the Project Manager may withhold the amount stated in the PCC from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted. In the case of lump-sum Contract, the Contractor shall provide an updated Activity Schedule within 14 days of being instructed to by the Project Manager. 28.4 Unless otherwise stated in the Specification, each progress report shall include the Environmental and Social (ES) metrics set out in Appendix B 28.5 In addition to the progress report, the Contractor shall inform the Project Manager immediately of any allegation, incident or accident in the Site, which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer's Personnel, or Contractor's Personnel. This includes, but is not limited to, any incident or accident causing fatality or serious injury; significant adverse effects or damage to private property; or any allegation of SEA and/or SH. In case of SEA and/or SH, while maintaining confidentiality as appropriate, the type of allegation (sexual exploitation, sexual abuse or sexual harassment), gender and age of the person who experienced the alleged incident should be included in the information. The Contractor, upon becoming aware of the allegation, incident or accident, shall also immediately inform the Project Manager of any such incident or accident on the Subcontractors' or suppliers' premises relating to the Works which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer's Personnel, or Contractor's, its Subcontractors' and suppliers' personnel. The notification shall provide sufficient detail regarding such incidents or accidents. The Contractor shall provide full details of such incidents or accidents to the Project Manager within the timeframe agreed with the Project Manager. The Contractor shall require its Subcontractors and suppliers (other than Subcontractors) to immediately notify the Contractor of any incidents or accidents referred to in this Subclause.
	review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure. 32.2 The Project Manager shall record the business of management meetings and provide copies of the record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken shall be decided by the Project Manager either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.

28. Program	28.1	Within the time stated in the PCC, after the date of the Letter of Acceptance, the Contractor shall submit to the Project Manager for approval a Program showing the general methods, arrangements, order, and timing for all the activities in the Works. In the case of a lump-sum contract, the activities in the Program shall be consistent with those in the Activity Schedule. The Project Manager's approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Project Manager again at any time. A revised Program shall show the effect of Variations and Compensation Events.
	28.2	An update of the Program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work, including any changes to the sequence of the activities.
	28.3	The Contractor shall monitor progress of the Works and submit to the Project manager progress report and any updated Program showing the actual progress achieved and the effect of the progress achieved on the timing of the remaining Works, including any changes to the sequence of the activities, at intervals no longer than the period stated in the PCC. If the Contractor does not submit an updated Program within this period, the Project Manager may withhold the amount stated in the PCC from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted. In the case of lump-sum Contract, the Contractor shall provide an updated Activity Schedule within 14 days of being instructed to by the Project Manager.
	28.4	Unless otherwise stated in the Specification, each progress report shall include the Environmental and Social (ES) metrics set out in Appendix B
	28.5	In addition to the progress report, the Contractor shall inform the Project Manager immediately of any allegation, incident or accident in the Site, which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer's Personnel, or Contractor's Personnel. This includes, but is not limited to, any incident or accident causing fatality or serious injury; significant adverse effects or damage to private property; or any allegation of SEA and/or SH. In case of SEA and/or SH, while maintaining confidentiality as appropriate, the type of allegation (sexual exploitation, sexual abuse or sexual harassment), gender and age of the person who experienced the alleged incident should be included in the information. The Contractor, upon becoming aware of the allegation, incident or accident, shall also immediately inform the Project Manager of any such incident or accident on the Subcontractors' or suppliers' premises relating to the Works which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer's Personnel, or Contractor's, its Subcontractors' and suppliers' personnel. The notification shall provide sufficient detail regarding such incidents or accidents. The Contractor shall provide full details of such incidents or accidents to the Project Manager within the timeframe agreed with the Project Manager. The Contractor shall require its Subcontractors and suppliers (other than Subcontractors) to immediately notify the Contractor of any incidents or accidents referred to in this Subclause.
33. Early Warning	33.1	The Contractor shall warn the Project Manager at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work, increase the Contract Price, or delay the execution of the Works. The Project Manager may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Contract Price and Completion Date. The estimate shall be provided by the Contractor as soon as reasonably possible.
	33.2	The Contractor shall cooperate with the Project Manager in making and considering proposals for how the effect of such an event or circumstance

28. Program	28.1	Within the time stated in the PCC, after the date of the Letter of Acceptance, the Contractor shall submit to the Project Manager for approval a Program showing the general methods, arrangements, order, and timing for all the activities in the Works. In the case of a lump-sum contract, the activities in the Program shall be consistent with those in the Activity Schedule. The Project Manager's approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Project Manager again at any time. A revised Program shall show the effect of Variations and Compensation Events.
	28.2	An update of the Program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work, including any changes to the sequence of the activities.
	28.3	The Contractor shall monitor progress of the Works and submit to the Project manager progress report and any updated Program showing the actual progress achieved and the effect of the progress achieved on the timing of the remaining Works, including any changes to the sequence of the activities, at intervals no longer than the period stated in the PCC. If the Contractor does not submit an updated Program within this period, the Project Manager may withhold the amount stated in the PCC from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted. In the case of lump-sum Contract, the Contractor shall provide an updated Activity Schedule within 14 days of being instructed to by the Project Manager.
	28.4	Unless otherwise stated in the Specification, each progress report shall include the Environmental and Social (ES) metrics set out in Appendix B
	28.5	In addition to the progress report, the Contractor shall inform the Project Manager immediately of any allegation, incident or accident in the Site, which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer's Personnel, or Contractor's Personnel. This includes, but is not limited to, any incident or accident causing fatality or serious injury; significant adverse effects or damage to private property; or any allegation of SEA and/or SH. In case of SEA and/or SH, while maintaining confidentiality as appropriate, the type of allegation (sexual exploitation, sexual abuse or sexual harassment), gender and age of the person who experienced the alleged incident should be included in the information. The Contractor, upon becoming aware of the allegation, incident or accident, shall also immediately inform the Project Manager of any such incident or accident on the Subcontractors' or suppliers' premises relating to the Works which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer's Personnel, or Contractor's, its Subcontractors' and suppliers' personnel. The notification shall provide sufficient detail regarding such incidents or accidents. The Contractor shall provide full details of such incidents or accidents to the Project Manager within the timeframe agreed with the Project Manager. The Contractor shall require its Subcontractors and suppliers (other than Subcontractors) to immediately notify the Contractor of any incidents or accidents referred to in this Subclause.
		can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Project Manager. C. Quality Control

C. Quality Control

34. Identifying Defects	34.1 The Project Manager shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Project Manager may instruct the Contractor to search for a Defect and to uncover and test any work that the Project Manager considers may have a Defect.
35. Tests	35.1 If the Project Manager instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples. If there is no Defect, the test shall be a Compensation Event.
36. Correction of Defects	36.1 The Project Manager shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion, and is defined in the PCC. The Defects Liability Period shall be extended for as long as Defects remain to be corrected. 36.2 Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Project Manager's notice.
37. Uncorrected Defects	37.1 If the Contractor has not corrected a Defect within the time specified in the Project Manager's notice, the Project Manager shall assess the cost of having the Defect corrected, and the Contractor shall pay this amount. D. Cost Control

D. Cost Control

38. Contract Price	38.1 The Bill of Quantities shall contain priced items for the Works to be performed by the Contractor. The Bill of Quantities is used to calculate the Contract Price. The Contractor will be paid for the quantity of the work accomplished at the rate in the Bill of Quantities for each item.
39. Changes in the Contract Price	39.1 If the final quantity of the work done differs from the quantity in the Bill of Quantities for the particular item by more than 25 percent, provided the change exceeds 1 percent of the Initial Contract Price, the Project Manager shall adjust the rate to allow for the change. The Project Manager shall not adjust rates from changes in quantities if thereby the Initial Contract Price is exceeded by more than 15 percent, except with the prior approval of the Employer. 39.2 If requested by the Project Manager, the Contractor shall provide the Project Manager with a detailed cost breakdown of any rate in the Bill of Quantities.
40. Variations	40.1 All Variations shall be included in updated Programs 4 produced by the Contractor. 40.2 The Contractor shall provide the Project Manager with a quotation for carrying out the Variation when requested to do so by the Project Manager. The Contractor shall also provide information of any ES risks and impacts of the Variation. The Project Manager shall assess the quotation, which shall be given within seven (7) days of the request or within any longer period stated by the Project Manager and before the Variation is ordered. 40.3 If the Contractor's quotation is unreasonable, the Project Manager may order the Variation and make a change to the Contract Price, which shall be based on the Project Manager's own forecast of the effects of the Variation on the Contractor's costs. 40.4 If the Project Manager decides that the urgency of varying the work would prevent a quotation being given and considered without delaying the work, no quotation shall be given and the Variation shall be treated as a Compensation Event. 40.5 The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning.

38. Contract Price	38.1 The Bill of Quantities shall contain priced items for the Works to be performed by the Contractor. The Bill of Quantities is used to calculate the Contract Price. The Contractor will be paid for the quantity of the work accomplished at the rate in the Bill of Quantities for each item.
	40.6 If the work in the Variation corresponds to an item description in the Bill of Quantities and if, in the opinion of the Project Manager, the quantity of work above the limit stated in GCC Sub-Clause 39.1 or the r shall provide updated Activity Schedules within 14 days of being instructed to by the Project Activity Schedule shall contain the priced activities for the Works to be performed by the The Activity Schedule is used to monitor and control the performance of activities on which basis the Contractor will be paid. If payment for materials on site shall be made separately, the Contractor shall show delivery of Materials to the Site separately on the Activity Schedule. Schedule shall be amended by the Contractor to accommodate changes of Program or method of at the Contractor's own discretion. Prices in the Activity Schedule shall not be altered when the Contractor makes such changes to the Activity Schedule. timing of its execution do not cause the cost per unit of quantity to change, the rate in the Bill of Quantities shall be used to calculate the value of the Variation. If the cost per unit of quantity changes, or if the nature or timing of the work in the Variation does not correspond with items in the Bill of Quantities, the quotation by the Contractor shall be in the form of new rates for the relevant items of work. 5 40.7 Value Engineering: The Contractor may prepare, at its own cost, a value engineering proposal at any time during the performance of the contract. The value engineering proposal shall, at a minimum, include the following; (a) the proposed change(s), and a description of the difference to the existing contract requirements; (b) a full cost/benefit analysis of the proposed change(s) including a description and estimate of costs (including life cycle cost) the Employer may incur in implementing the value engineering proposal; (c) a description of any effect(s) of the change on performance/functionality; and (d) a description of the proposed work to be performed, a program for its execution and sufficient ES information to enable an evaluation of ES risks and impacts. The Employer may accept the value engineering proposal if the proposal demonstrates benefits that: (a) accelerates the contract completion period; or (b) reduces the Contract Price or the life cycle costs to the Employer; or (c) improves the quality, efficiency, safety or sustainability of the Facilities; or (d) yields any other benefits to the Employer, without compromising the functionality of the Works. If the value engineering proposal is approved by the Employer and results in: (a) a reduction of the Contract Price; the amount to be paid to the Contractor shall be the percentage specified in the PCC of the reduction in the Contract Price; or (b) an increase in the Contract Price; but results in a reduction in life cycle costs due to any benefit described in (a) to (d) above, the amount to be paid to the Contractor shall be the full increase in the Contract Price.
41. Cash Flow Forecasts	41.1 When the Program, 6 is updated, the Contractor shall provide the Project Manager with an updated cash flow forecast. The cash flow forecast shall include different currencies, as defined in the Contract, converted as necessary using the Contract exchange rates.

38. Contract Price	38.1 The Bill of Quantities shall contain priced items for the Works to be performed by the Contractor. The Bill of Quantities is used to calculate the Contract Price. The Contractor will be paid for the quantity of the work accomplished at the rate in the Bill of Quantities for each item.
42. Payment Certificates	42.1 The Contractor shall submit to the Project Manager monthly statements of the estimated value of the work executed less the cumulative amount certified previously. 42.2 The Project Manager shall check the Contractor's monthly statement and certify the amount to be paid to the Contractor. 42.3 The value of work executed shall be determined by the Project Manager. 42.4 The value of work executed shall comprise the value of the quantities of work in the Bill of Quantities that have been completed. 7 42.5 The value of work executed shall include the valuation of Variations and Compensation Events. 42.6 The Project Manager may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information. 42.7 If the Contractor was, or is, failing to perform any ES obligations or work under the Contract, the value of this work or obligation, as determined by the Project Manager, may be withheld until the work or obligation has been performed, and/or the cost of rectification or replacement, as determined by the Project Manager, may be withheld until rectification or replacement has been completed. Failure to perform includes, but is not limited to the following: (a) failure to comply with any ES obligations or work described in the Works' Requirements which may include: working outside site boundaries, excessive dust, failure to keep public roads in a safe usable condition, damage to offsite vegetation, pollution of water courses from oils or sedimentation, contamination of land e.g. from oils, human waste, damage to archeology or cultural heritage features, air pollution as a result of unauthorized and/or inefficient combustion; (b) failure to regularly review C-ESMP and/or update it in a timely manner to address emerging ES issues, or anticipated risks or impacts; (c) failure to implement the C-ESMP e.g. failure to provide required training or sensitization; (d) failing to have appropriate consents/permits prior to undertaking Works or related activities; (e) failure to submit ES report/s (as described in Appendix B), or failure to submit such reports in a timely manner; failure to implement remediation as instructed by the Project Manager within the specified timeframe (e.g. remediation addressing noncompliance/s).
43. Payments	43.1 Payments shall be adjusted for deductions for advance payments and retention. The Employer shall pay the Contractor the amounts certified by the Project Manager within 28 days of the date of each certificate. If the Employer makes a late payment, the Contractor shall tivities in the Activity Schedule." be paid interest on the late payment in the next payment. Interest shall be calculated from the date by which the payment should have been made up to the date when the late payment is made at the prevailing rate of interest for commercial borrowing for each of the currencies in which payments are made. 43.2 If an amount certified is increased in a later certificate or as a result of an award by the Adjudicator or an Arbitrator, the Contractor shall be paid interest upon the delayed payment as set out in this clause. Interest shall be calculated from the date upon which the increased amount would have been

38. Contract Price	38.1 The Bill of Quantities shall contain priced items for the Works to be performed by the Contractor. The Bill of Quantities is used to calculate the Contract Price. The Contractor will be paid for the quantity of the work accomplished at the rate in the Bill of Quantities for each item.
	certified in the absence of dispute. 43.3 Unless otherwise stated, all payments and deductions shall be paid or charged in the proportions of currencies comprising the Contract Price. 43.4 Items of the Works for which no rate or price has been entered in shall not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.
44. Compensation Events	44.1 The following shall be Compensation Events: (a) The Employer does not give access to a part of the Site by the Site Possession Date pursuant to GCC Sub-Clause 20.1. (b) The Employer modifies the Schedule of Other Contractors in a way that affects the work of the Contractor under the Contract. (c) The Project Manager orders a delay or does not issue Drawings, Specification, or instructions required for execution of the Works on time. (d) The Project Manager instructs the Contractor to uncover or to carry out additional tests upon work, which is then found to have no Defects. (e) The Project Manager unreasonably does not approve a subcontract to be let. (f) Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of the Letter of Acceptance from the information issued to bidders (including the Site Investigation Reports), from information available publicly and from a visual inspection of the Site. (g) The Project Manager gives an instruction for dealing with an unforeseen condition, caused by the Employer, or additional work required for safety or other reasons. (h) Other contractors, public authorities, utilities, or the Employer does not work within the dates and other constraints stated in the Contract, and they cause delay or extra cost to the Contractor. (i) The advance payment is delayed. (j) The effects on the Contractor of any of the Employer's Risks. (k) The Project Manager unreasonably delays issuing a Certificate of Completion. 44.2 If a Compensation Event would cause additional cost or would prevent the work being completed before the Intended Completion Date, the Contract Price shall be increased and/or the Intended Completion Date shall be extended. The Project Manager shall decide whether and by how much the Contract Price shall be increased and whether and by how much the Intended Completion Date shall be extended. 44.3 As soon as information demonstrating the effect of each Compensation Event upon the Contractor's forecast cost has been provided by the Contractor, it shall be assessed by the Project Manager, and the Contract Price shall be adjusted accordingly. If the Contractor's forecast is deemed unreasonable, the Project Manager shall adjust the Contract Price based on the Project Manager's own forecast. The Project Manager shall assume that the Contractor shall react competently and promptly to the event. 44.4 The Contractor shall not be entitled to compensation to the extent that the Employer's interests are adversely affected by the Contractor's not having given early warning or not having cooperated with the Project Manager.
45. Tax	45.1 The Project Manager shall adjust the Contract Price if taxes, duties, and

38. Contract Price	38.1 The Bill of Quantities shall contain priced items for the Works to be performed by the Contractor. The Bill of Quantities is used to calculate the Contract Price. The Contractor will be paid for the quantity of the work accomplished at the rate in the Bill of Quantities for each item.
	other levies are changed between the date 28 days before the submission of bids for the Contract and the date of the last Completion certificate. The adjustment shall be the change in the amount of tax payable by the Contractor, provided such changes are not already reflected in the Contract Price or are a result of GCC Clause 47.
46. Currencies	46.1 Where payments are made in currencies other than the currency of the Employer's country specified in the PCC, the exchange rates used for calculating the amounts to be paid shall be the exchange rates stated in the Contractor's Bid.
47. Price Adjustment	47.1 Prices shall be adjusted for fluctuations in the cost of inputs only if provided for in the PCC. If so provided, the amounts certified in each payment certificate, before deducting for Advance Payment, shall be adjusted by applying the respective price adjustment factor to the payment amounts due in each currency. A separate formula of the type specified below applies to each Contract currency: Pc = Ac + Bc Imc/Ioc where: Pc is the adjustment factor for the portion of the Contract Price payable in a specific currency "c." Ac and Bc are coefficients 8 specified in the PCC, representing the nonadjustable and adjustable portions, respectively, of the Contract Price payable in that specific currency "c;" and Imc is the index prevailing at the end of the month being invoiced and Ioc is the index prevailing 28 days before Bid opening for inputs payable; both in the specific currency "c." the same in the formulae for all currencies, since coefficient A, for the nonadjustable portion of the pproximate figure (usually 0.15) to take account of fixed cost elements or other nonadjustable f the adjustments for each currency are added to the Contract Price. 47.2 If the value of the index is changed after it has been used in a calculation, the calculation shall be corrected and an adjustment made in the next payment certificate. The index value shall be deemed to take account of all changes in cost due to fluctuations in costs.
48. Retention	48.1 The Employer shall retain from each payment due to the Contractor the proportion stated in the PCC until Completion of the whole of the Works. 48.2 Upon the issue of a Certificate of Completion of the Works by the Project Manager, in accordance with GCC Sub-Clause 55.1, half the total amount retained shall be repaid to the Contractor and half when the Defects Liability Period has passed and the Project Manager has certified that all Defects notified by the Project Manager to the Contractor before the end of this period have been corrected. The Contractor may substitute retention money with an "on demand" Bank guarantee.
49. Liquidated Damages	49.1 The Contractor shall pay liquidated damages to the Employer at the rate per day stated in the PCC for each day that the Completion Date is later than the Intended Completion Date. The total amount of liquidated damages shall not exceed the amount defined in the PCC. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor's liabilities. 49.2 If the Intended Completion Date is extended after liquidated damages have been paid, the Project Manager shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in GCC Sub-Clause 43.1.
50. Procurement-Related Complaint	50.1 The Contractor shall be paid a Bonus calculated at the rate per calendar day stated in the PCC for each day (less any days for which the Contractor is paid for acceleration) that the Completion is earlier than the Intended

38. Contract Price	38.1 The Bill of Quantities shall contain priced items for the Works to be performed by the Contractor. The Bill of Quantities is used to calculate the Contract Price. The Contractor will be paid for the quantity of the work accomplished at the rate in the Bill of Quantities for each item.
	Completion Date. The Project Manager shall certify that the Works are complete, although they may not be due to be complete.
51. Advance Payment	51.1 The Employer shall make advance payment to the Contractor of the amounts stated in the PCC by the date stated in the PCC, against provision by the Contractor of an Unconditional Bank Guarantee in a form and by a bank acceptable to the Employer in amounts and currencies equal to the advance payment. The Guarantee shall remain effective until the advance payment has been repaid, but the amount of the Guarantee shall be progressively reduced by the amounts repaid by the Contractor. Interest shall not be charged on the advance payment. 51.2 The Contractor is to use the advance payment only to pay for Equipment, Plant, Materials, and mobilization expenses required specifically for execution of the Contract. The Contractor shall demonstrate that advance payment has been used in this way by supplying copies of invoices or other documents to the Project Manager. 51.3 The advance payment shall be repaid by deducting proportionate amounts from payments otherwise due to the Contractor, following the schedule of completed percentages of the Works on a payment basis. No account shall be taken of the advance payment or its repayment in assessing valuations of work done, Variations, price adjustments, Compensation Events, Bonuses, or Liquidated Damages.
52. Securities	52.1 The Performance Security, and if so specified in the PCC an environmental and social (ES) performance security, shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in an amount specified in the PCC, by a bank or surety acceptable to the Employer, and denominated in the types and proportions of the currencies in which the Contract Price is payable. The Performance Security shall be valid until a date 28 days from the date of issue of the Certificate of Completion in the case of a Bank Guarantee, and until one year from the date of issue of the Certificate of Completion in the case of a Performance Bond.
53. Dayworks	53.1 If applicable, the Dayworks rates in the Contractor's Bid shall be used only when the Project Manager has given written instructions in advance for additional work to be paid for in that way. 53.2 All work to be paid for as Dayworks shall be recorded by the Contractor on forms approved by the Project Manager. Each completed form shall be verified and signed by the Project Manager within two days of the work being done. 53.3 The Contractor shall be paid for Dayworks subject to obtaining signed Dayworks forms.
54. Cost of Repairs	54.1 Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions. E. Finishing the Contract

E. Finishing the Contract

55. Completion	55.1 The Contractor shall request the Project Manager to issue a Certificate of Completion of the Works, and the Project Manager shall do so upon deciding that the whole of the Works is completed.
56. Taking Over	56.1 The Employer shall take over the Site and the Works within seven days of

55. Completion	55.1 The Contractor shall request the Project Manager to issue a Certificate of Completion of the Works, and the Project Manager shall do so upon deciding that the whole of the Works is completed.
	the Project Manager's issuing a certificate of Completion.
57. Final Account	57.1 The Contractor shall supply the Project Manager with a detailed account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Project Manager shall issue a Defects Liability Certificate and certify any final payment that is due to the Contractor within 56 days of receiving the Contractor's account if it is correct and complete. If it is not, the Project Manager shall issue within 56 days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Project Manager shall decide on the amount payable to the Contractor and issue a payment certificate.
58. Operating and Maintenance Manuals	58.1 If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated in the PCC. 58.2 If the Contractor does not supply the Drawings and/or manuals by the dates stated in the PCC pursuant to GCC Sub-Clause 60.1, or they do not receive the Project Manager's approval, the Project Manager shall withhold the amount stated in the PCC from payments due to the Contractor.
59. Termination	59.1 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract. 59.2 Fundamental breaches of Contract shall include, but shall not be limited to, the following: (a) the Contractor stops work for 28 days when no stoppage of work is shown on the current Program and the stoppage has not been authorized by the Project Manager; (b) the Project Manager instructs the Contractor to delay the progress of the Works, and the instruction is not withdrawn within 28 days; (c) the Employer or the Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation; (d) a payment certified by the Project Manager is not paid by the Employer to the Contractor within 84 days of the date of the Project Manager's certificate; (e) the Project Manager gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Project Manager; (f) the Contractor does not maintain a Security, which is required; (g) the Contractor has delayed the completion of the Works by the number of days for which the maximum amount of liquidated damages can be paid, as defined in the PCC; or (h) if the Contractor, in the judgment of the Employer has engaged in Fraud and Corruption, as defined in paragraph 2.2 a of the Appendix A to the GCC, in competing for or in executing the Contract, then the Employer may, after giving fourteen (14) days written notice to the Contractor, terminate the Contract and expel him from the Site. 59.3 Notwithstanding the above, the Employer may terminate the Contract for convenience. 59.4 If the Contract is terminated, the Contractor shall stop work immediately, make the Site safe and secure, and leave the Site as soon as reasonably possible. 59.5 When either party to the Contract gives notice of a breach of Contract to the Project Manager for a cause other than those listed under GCC Sub-Clause 59.2 above, the Project Manager shall decide whether the breach is

55. Completion	55.1 The Contractor shall request the Project Manager to issue a Certificate of Completion of the Works, and the Project Manager shall do so upon deciding that the whole of the Works is completed.
	fundamental or not.
60. Payment upon Termination	60.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Project Manager shall issue a certificate for the value of the work done and Materials ordered less advance payments received up to the date of the issue of the certificate and less the percentage to apply to the value of the work not completed, as specified in the PCC. Additional Liquidated Damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor, the difference shall be a debt payable to the Employer. 60.2 If the Contract is terminated for the Employer's convenience or because of a fundamental breach of Contract by the Employer, the Project Manager shall issue a certificate for the value of the work done, Materials ordered, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works, and less advance payments received up to the date of the certificate.
61. Property	61.1 All Materials on the Site, Plant, Equipment, Temporary Works, and Works shall be deemed to be the property of the Employer if the Contract is terminated because of the Contractor's default.
62. Release from Performance	62.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Contractor, the Project Manager shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which a commitment was made.
63. Suspension of Bank Loan or Credit	63.1 In the event that the Bank suspends the Loan or Credit to the Employer, from which part of the payments to the Contractor are being made: (a) The Employer is obligated to notify the Contractor of such suspension within 7 days of having received the Bank's suspension notice. (b) If the Contractor has not received sums due to it within the 28 days for payment provided for in GCC Sub-Clause 43.1, the Contractor may immediately issue a 14-day termination notice.

Appendix A to the General Conditions — Fraud and Corruption

(Text in this Appendix shall not be modified)

APPENDIX A TO GENERAL CONDITIONS Fraud and Corruption (Text in this Appendix shall not be modified)

1. Purpose

1.1 The Bank's Anti-Corruption Guidelines and this annex apply with respect to procurement under Bank Investment Project Financing operations.

2. Requirements

2.1 The Bank requires that Borrowers (including beneficiaries of Bank financing); bidders (applicants/proposers),consultants, contractors and suppliers; any sub-contractors, sub- consultants, service providers or suppliers; any agents (whether declared or not); and any of their personnel, observe the highest standard of ethics during the procurement process, selection and contract execution of Bank-financed contracts, and refrain from Fraud and Corruption.

2.2 To this end, the Bank: a. Defines, for the purposes of this provision, the terms set forth below as follows: i. "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party; ii. "fraudulent practice" is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation; iii. "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party; iv. "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party; v. "obstructive practice" is:

(a) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or

(b) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 2.2 e. below. b. Rejects a proposal for award if the Bank determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/ or their employees, has, directly or

indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question; c. In addition to the legal remedies set out in the relevant Legal Agreement, may take other appropriate actions, including declaring misprocurement, if the Bank determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement process, selection and/or execution of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices; d. Pursuant to the Bank's Anti- Corruption Guidelines and in accordance with the Bank's prevailing sanctions policies and procedures, may sanction a firm or individual, either indefinitely or for a stated period of time, including by publicly declaring such firm or individual ineligible (i) to be awarded or otherwise benefit from a Bank-financed contract, financially or in any other manner;1 (ii) to be a nominated2 sub-contractor, consultant, manufacturer or supplier, or service provider of an otherwise eligible firm being awarded a Bank-financed contract; and (iii) to receive the proceeds of any loan made by the Bank or otherwise to participate further in the preparation or implementation of any Bank-financed project; e. Requires that a clause be included in bidding/request for proposals documents and in contracts financed by a Bank loan, requiring (i) bidders(applicants/proposers), consultants, contractors, and suppliers, and their sub-contractors, sub- consultants, service providers, suppliers, agents personnel, permit the Bank to inspect 3 all accounts,

records and other documents relating to the procurement process, selection and/or contract execution, and to have them audited by auditors appointed by the Bank.

expressing interest in a consultancy, and bidding, either directly or as a nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider, in respect of such contract, and (ii) entering into an addendum or amendment introducing a material modification to any existing contract. A nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider (different names are used depending on the particular bidding document) is one which has been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower. appointed by the Bank to address specific matters related to investigations/audits, such as evaluating the veracity of an allegation of possible Fraud and Corruption, through the appropriate mechanisms. Such activity includes but is not limited to: accessing and examining a firm's or individual's financial records and information, and making copies thereof as relevant; accessing and examining any other documents, data and information (whether in hard copy or electronic format) deemed relevant for the investigation/audit, and making copies thereof as relevant; interviewing staff and other relevant individuals; performing physical inspections and site visits; and obtaining third party verification of information.

APPENDIX B

Section IX - Particular Conditions of Contract

The following Particular Conditions of Contract (PCC) shall supplement and, where indicated, amend the General Conditions of Contract (GCC) in Section VIII. Whenever there is a conflict, the provisions of the PCC shall prevail over those of the GCC.

GCC Reference	Provision
A. General	
GCC 1.1 (d)	The financing institution is: the International Development Association (IDA).
GCC 1.1 (r)	The Employer is: [insert name and designation of the Employer], COUNTY GOVERNMENT OF TURKANA, of [insert address].
GCC 1.1 (v)	The Intended Completion Date for the whole of the Works is [insert date], being 12 months from the Start Date.
GCC 1.1 (y)	The Project Manager is: [insert name, designation and address of the Project Manager].
GCC 1.1 (aa)	The Site is located at the Hashi Petrol Station – Food Distribution Centre 1 Road (Road 1) in Kakuma Municipality, Turkana West Sub-County, Turkana County, and is defined by the road reserve shown on the Drawings.
GCC 1.1 (cc)	The Start Date is [insert date, or state that it shall be as stated in the Engineer's notice to commence].
GCC 1.1 (dd)	The Works consist of: PROPOSED UPGRADING TO BITUMEN STANDARD OF THE HASHI PETROL STATION – FOOD DISTRIBUTION CENTRE 1 ROAD (2.0 KM) IN KAKUMA MUNICIPALITY, TURKANA COUNTY.
GCC 2.2	Sectional completions are: NOT APPLICABLE.
GCC 2.3 (i)	The following documents also form part of the Contract, in the order of priority stated: (a) the Contract Agreement, if completed; (b) the Letter of Acceptance; (c) the Bid and the appendices thereto; (d) the Particular Conditions of Contract; (e) the General Conditions of Contract; (f) the Works' Requirements (Section VII); (g) the Special Specifications (Volume 2); (h) the Standard Specification for Road and Bridge Construction, 1986 Edition; (i) the Drawings (Volume 4); (j) the priced Bill of Quantities (Volume 3); (k) the Environmental and Social Management Plan and the Contractor's Environmental and Social Management Plan.
GCC 3.1	The language of the Contract is ENGLISH. The law that applies to the Contract is the law of the REPUBLIC OF KENYA.
GCC 5.1	The Project Manager may delegate any of his duties and responsibilities. Add: "The Project Manager's Representative shall be appointed by and be responsible to the Project Manager and shall carry out such duties and exercise such authority as may be delegated to him by the Project Manager. The Project Manager may from time to time delegate to the Project Manager's Representative any of the duties and authorities vested in the Project Manager and may at any time revoke such delegation. Any such delegation or revocation shall be in writing and shall not take effect until a copy has been delivered to the Employer and the Contractor. Any communication given by the Project Manager's Representative to the Contractor in accordance with such delegation shall have the same effect as though it had been given by the Project Manager."
GCC 7.1	Add at the end of the sub-clause: "The Contractor shall not subcontract the whole of the Works. The maximum proportion of the Works that may be subcontracted is 25 per cent of the Contract Price or 25 per cent of the volume of work."
GCC 8.1	Schedule of other contractors: the contractor for Contract 2, the upgrading of the DRS Junction – Kakuma Sub-County Hospital Road including the Towokayeni Market

GCC Reference	Provision
	spur (2.1 km), procured separately, may be working in Kakuma during the period of this Contract. Street lighting and the preliminaries and general items of Bill 1 form part of this Contract. [Insert the schedule of any utility owners or other contractors expected to work within the road reserve, with their scope and expected periods on Site, when known.] The Contractor shall co-operate with any such party as provided in GCC Clause 8 and in Section VII, item 7.6.
GCC 9.1	The Key Personnel are those named in the Contractor's Bid against the positions listed in Section III, item 4. Add: "The Contractor shall keep the Key Personnel on Site for the periods stated in the accepted Programme and shall not replace any of them without the written consent of the Project Manager."
GCC 11.1 (b)	Add at the end of the sub-clause: "other than any part of the design provided by the Contractor or for which the Contractor is responsible, including the design of the precast slotted drain cover slabs."
GCC 13.1	Delete the words "from the Start Date" and substitute "for the period prior to commencement of the Works". The minimum insurance amounts shall be: (a) and (b) for loss or damage to the Works, Plant, Materials and Equipment (Contractor's All Risks insurance): minimum amount — the Contract Amount; deductible — 10 per cent of the claimed amount; (c) for loss or damage to property (except the Works, Plant, Materials and Equipment) in connection with the Contract, and personal injury or death of other persons (public liability insurance): minimum amount — as required by the laws of Kenya; deductible — 10 per cent of the claimed amount; (d) for personal injury or death of the Contractor's employees (Work Injury Benefits Act insurance): minimum amount — as required by the laws of Kenya; deductible — 10 per cent of the claimed amount. The Contractor shall bear the cost of all deductibles. The following additional insurances are also required: motor vehicle insurance for all vehicles used in connection with the Works, as required by the laws of Kenya; and professional indemnity insurance in the amount of 5 per cent of the Contract Amount for a period of two years, in respect of the Contractor's design of the precast cover slabs.
GCC 14.1	Site Data are: the site data contained in the Book of Drawings (Volume 4), the Draft Final Detailed Design Report and the accompanying investigation reports listed in Section VII, item 7.1.
GCC 15.1	Add at the end of the sub-clause: "The Project Manager shall have authority to issue to the Contractor, from time to time, such supplementary Drawings and instructions as shall be necessary for the proper and adequate execution and completion of the Works and the remedying of any defects therein. The Contractor shall carry out and be bound by the same."
GCC 18.1	Add at the end of the sub-clause: "The Contractor shall maintain such records and make such reports concerning the safety, health and welfare of persons and damage to property as the Project Manager may from time to time prescribe, and shall implement the Contractor's Environmental and Social Management Plan approved under Section VII, item 8."
GCC 20.1	Delete sub-clause 20.1 and substitute: "Save insofar as the Contract may prescribe (a) the extent of the portions of the Site of which the Contractor is to be given possession from time to time and (b) the order in which such portions shall be made available to the Contractor, the Employer will, with the Project Manager's notice to commence the Works, give to the Contractor possession of so much of the Site, and such access as is to be provided by the Employer, as may be required to enable the Contractor to commence and proceed with the execution of the Works in accordance with the Programme. The Employer will, from time to time as the Works proceed, give to the Contractor possession of such further portions of the Site as may be required to enable the Contractor to proceed with the execution of the Works with due dispatch."
GCC 22.1	Add at the end of the sub-clause: "Instructions given by the Project Manager shall be in writing, provided that if for any reason the Project Manager considers it necessary to give any such instruction orally, the Contractor shall comply with it. Confirmation

GCC Reference	Provision
	in writing of such oral instruction, whether before or after the carrying out of the instruction, shall be deemed to be an instruction within the meaning of this Sub-Clause. If the Contractor within 7 days confirms in writing to the Project Manager any oral instruction and such confirmation is not contradicted in writing within 7 days by the Project Manager, it shall be deemed to be an instruction of the Project Manager. This Sub-Clause applies equally to instructions given by the Project Manager's Representative and any assistants appointed pursuant to Sub-Clause 5.1."
GCC 23.1 and 23.2	The Appointing Authority for the Adjudicator is: the Institution of Engineers of Kenya (IEK).
GCC 24.3	Hourly rate and types of reimbursable expenses to be paid to the Adjudicator: [insert maximum hourly rate, inclusive of reimbursable expenses for transport and office expenses].
GCC 24.4	The institution whose arbitration procedures shall be used is: the Chartered Institute of Arbitrators (Kenya Branch). The place of arbitration shall be: NAIROBI, KENYA.
B. Time Control	
GCC 28.1	The Contractor shall submit for approval a Programme for the Works within 14 days of the date of the Letter of Acceptance. The Programme shall be a critical path network showing the construction sequence along the road, the borrow pit and quarry development, the asphalt supply arrangements and the traffic and pedestrian management staging.
GCC 28.3	The period between Programme updates is 56 days. The amount to be withheld for late submission of an updated Programme is [insert amount]. The period for submission of progress reports is 30 days.
C. Quality Control	
GCC 36.1	The Defects Liability Period is: 365 days (12 months) from the Completion Date.
D. Cost Control	
GCC 40.7	If a value engineering proposal is approved by the Employer, the amount to be paid to the Contractor shall be: NOT APPLICABLE.
GCC 46.1	The currency of the Employer's Country is: KENYA SHILLINGS (KES).
GCC 47.1	The Contract is NOT subject to price adjustment in accordance with GCC Clause 47.
GCC 48.1	The proportion of payments retained is: • 10 per cent of each Interim Payment Certificate up to and including the final Interim Payment Certificate; and • a maximum of 5 per cent of the Contract Price.
GCC 49.1	The liquidated damages for the whole of the Works are 0.1 per cent of the final Contract Price per day. The maximum amount of liquidated damages for the whole of the Works is 10 per cent of the final Contract Price.
GCC 50.1	The Bonus for the whole of the Works is: NOT APPLICABLE.
GCC 51.1	The Advance Payment shall be 20 per cent of the Contract Price and shall be paid to the Contractor no later than 28 days after receipt by the Employer of the advance payment guarantee.
GCC 51.3	After certification of 20 per cent of the Contract Price, repayment of the advance payment will be spread on a pro rata basis between 30 per cent and 90 per cent of the value certified, at an amortisation rate of not less than 30 per cent of the amount certified in each Interim Payment Certificate.
GCC 52.1	The Performance Security shall be in the form of a demand guarantee in the amount of 10 per cent of the Accepted Contract Amount and in the same currency or currencies as the Accepted Contract Amount. The ES Performance Security is NOT APPLICABLE.
GCC 53.1	Dayworks shall be valued at the rates and prices entered by the Contractor in the Daywork Schedule in Volume 3. Dayworks shall be executed only on the written

GCC Reference	Provision
	instruction of the Project Manager.
E. Finishing the Contract	
GCC 58.1	The date by which operating and maintenance manuals are required is 28 days after the Completion Date. The date by which "as built" drawings are required is 28 days before the end of the Defects Liability Period.
GCC 58.2	The amount to be withheld for failing to produce "as built" drawings and/or operating and maintenance manuals by the date required in GCC Sub-Clause 58.1 is [insert amount].
GCC 59.2 (g)	The maximum number of days is: 98 days.
GCC 60.1	The percentage to apply to the value of the work not completed, representing the Employer's additional cost for completing the Works, is 20 per cent.

Section X - Contract Forms

Table of Forms

- Notification of Intention to Award
- Letter of Acceptance
- Contract Agreement
- Performance Security — Demand Guarantee
- Advance Payment Security

Notification of Intention to Award

[This Notification of Intention to Award shall be sent to each Bidder that submitted a Bid, and to the Bidder's authorised representative named in the Bidder Information Form.]

For the attention of the Bidder's authorised representative

Name: [insert name]

Address: [insert address]

Telephone: [insert number]

Email: [insert email]

Date of transmission: [insert date]

NOTIFICATION OF INTENTION TO AWARD

Employer: COUNTY GOVERNMENT OF TURKANA Project: Kenya Urban Support Programme II (KUSP II) Contract title: PROPOSED UPGRADING TO BITUMEN STANDARD OF THE HASHI PETROL STATION – FOOD DISTRIBUTION CENTRE 1 ROAD (2.0 KM) IN KAKUMA MUNICIPALITY, TURKANA COUNTY

This Notification of Intention to Award (Notification) notifies you of our decision to award the above contract. The transmission of this Notification begins the Standstill Period. During the Standstill Period you may request a debriefing in relation to the evaluation of your Bid, and/or submit a Procurement-related Complaint in relation to the decision to award the Contract.

1. The successful Bidder

Name	
Address	
Contract price (in words and figures)	
Beneficial ownership disclosure required	Yes

2. Other Bidders

Name of Bidder	Bid price as read out	Evaluated Bid price	Reason for non-award

3. How to request a debriefing

You may request a debriefing in relation to the results of the evaluation of your Bid. Your written request must be made within three (3) Business Days of receipt of this Notification, to [insert address and email].

4. Standstill Period

The Standstill Period is due to end at midnight on [insert date], being ten (10) Business Days after the date of transmission of this Notification.

Authorised signature: _____ Name and title:

_____

Letter of Acceptance

[on the letterhead of the Employer]

Date: [insert date] To: [insert name and address of the Contractor]

This is to notify you that your Bid dated [insert date] for the execution of the PROPOSED UPGRADING TO BITUMEN STANDARD OF THE HASHI PETROL STATION – FOOD DISTRIBUTION CENTRE 1 ROAD (2.0 KM) IN KAKUMA MUNICIPALITY, TURKANA COUNTY for the Accepted Contract Amount of [insert amount in figures and words], as corrected and modified in accordance with the Instructions to Bidders, is hereby accepted by our Agency.

You are hereby instructed to proceed with the execution of the said Works in accordance with the Contract documents.

You are required to furnish the Performance Security within twenty-eight (28) days of receipt of this Letter of Acceptance, in accordance with GCC Sub-Clause 52.1, using the form included in this Section X.

Authorised signature: _____

Name and title of signatory: _____

Name of Agency: COUNTY GOVERNMENT OF TURKANA

Attachment: Contract Agreement

Contract Agreement

THIS AGREEMENT made the [insert day] day of [insert month], [insert year], between COUNTY GOVERNMENT OF TURKANA (hereinafter called "the Employer") of the one part and [insert name and address of the Contractor] (hereinafter called "the Contractor") of the other part.

WHEREAS the Employer desires that the Works known as PROPOSED UPGRADING TO BITUMEN STANDARD OF THE HASHI PETROL STATION – FOOD DISTRIBUTION CENTRE 1 ROAD (2.0 KM) IN KAKUMA MUNICIPALITY, TURKANA COUNTY should be executed by the Contractor, and has accepted a Bid by the Contractor for the execution and completion of these Works and the remedying of any defects therein.

NOW THIS AGREEMENT WITNESSETH as follows:

1. In this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to below.

2. The following documents shall be deemed to form and be read and construed as part of this Agreement, in the order of priority set out in the Particular Conditions of Contract: the Letter of Acceptance; the Bid and the appendices thereto; the Particular Conditions of Contract; the General Conditions of Contract; the Works' Requirements; the Special Specifications; the Standard Specification for Road and Bridge Construction, 1986 Edition; the Drawings; the priced Bill of Quantities; and the Environmental and Social Management Plans.

3. In consideration of the payments to be made by the Employer to the Contractor as indicated in this Agreement, the Contractor hereby covenants with the Employer to execute the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract.

4. The Employer hereby covenants to pay the Contractor, in consideration of the execution and completion of the Works and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of Kenya on the day, month and year first written above.

Signed by, for and on behalf of the Employer	_____
In the capacity of	_____
In the presence of (witness): name, signature and address	_____
Signed by, for and on behalf of the Contractor	_____
In the capacity of	_____
In the presence of (witness): name, signature and address	_____

Performance Security — Demand Guarantee

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: COUNTY GOVERNMENT OF TURKANA, [insert address]

Date: [insert date of issue]

PERFORMANCE GUARANTEE No.: [insert reference number]

Guarantor: [insert name and address of place of issue, unless indicated in the letterhead]

We have been informed that [insert name of the Contractor] (hereinafter called "the Applicant") has entered into Contract No. [insert reference number] dated [insert date] with the Beneficiary, for the execution of the PROPOSED UPGRADING TO BITUMEN STANDARD OF THE HASHI PETROL STATION – FOOD DISTRIBUTION CENTRE 1 ROAD (2.0 KM) IN KAKUMA MUNICIPALITY, TURKANA COUNTY (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

At the request of the Applicant, we as Guarantor hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of [insert amount in figures and words], such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligations under the Contract, without the Beneficiary needing to prove or to show grounds for its demand or the sum specified therein.

This guarantee shall expire no later than twenty-eight (28) days from the date of issue of the Defects Liability Certificate, and any demand for payment under it must be received by us at the office indicated above on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758.

[Signature(s)]

Advance Payment Security — Demand Guarantee

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: COUNTY GOVERNMENT OF TURKANA, [insert address]

Date: [insert date of issue]

ADVANCE PAYMENT GUARANTEE No.: [insert reference number]

We have been informed that [insert name of the Contractor] (hereinafter called "the Applicant") has entered into Contract No. [insert reference number] dated [insert date] with the Beneficiary for the execution of the PROPOSED UPGRADING TO BITUMEN STANDARD OF THE HASHI PETROL STATION – FOOD DISTRIBUTION CENTRE 1 ROAD (2.0 KM) IN KAKUMA MUNICIPALITY, TURKANA COUNTY.

Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum of [insert amount in figures and words] is to be made against an advance payment guarantee.

At the request of the Applicant, we as Guarantor hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of [insert amount in figures and words] upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement stating that the Applicant has used the advance payment for purposes other than the costs of mobilisation in respect of the Works, or has failed to repay the advance payment in accordance with the conditions of the Contract, specifying the amount which the Applicant has failed to repay.

It is a condition for any claim and payment under this guarantee to be made that the advance payment referred to above must have been received by the Applicant on its account.

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Applicant as certified in interim payment certificates. This guarantee shall expire, at the latest, upon our receipt of the interim payment certificate indicating that ninety (90) per cent of the Accepted Contract Amount has been certified for payment, or on [insert date], whichever is earlier.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758.

[Signature(s)]

REPUBLIC OF KENYA
COUNTY GOVERNMENT OF TURKANA
KAKUMA MUNICIPALITY

PROCUREMENT OF:

PROPOSED UPGRADING TO BITUMEN STANDARD OF THE HASHI PETROL STATION – FOOD DISTRIBUTION CENTRE 1 ROAD (2.0 KM) IN KAKUMA MUNICIPALITY, TURKANA COUNTY

CONTRACT 1 — ROAD 1

Tender No.: TCG/KKM / 06 / 2026-2027

Project: KENYA URBAN SUPPORT PROGRAMME II (KUSP II)
Negotiation Number: 2703782

Employer: COUNTY GOVERNMENT OF TURKANA
Country: KENYA
Issued on: November, 2026

TECHNICAL SPECIFICATIONS

Volume 2

COUNTY GOVERNMENT OF TURKANA
Kakuma Municipality Board
Head of Supply Chain Management Services
For: Municipality Board
Physical Address: Kakuma Municipality, Kakuma.
Email address: supplychain@kakumamunicipality.go.ke or
Manager@kakumamunicipality.go.ke
Postal Address: 30 – 30501, Kakuma

SPECIAL SPECIFICATIONS

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Preamble

These Special Specifications are supplementary to the Standard Specification for Road and Bridge Construction, 1986 Edition, and the two shall be read in conjunction. In any case of conflict, these Special Specifications take precedence.

The Sections of these Special Specifications are numbered to correspond with the Bills of the Bill of Quantities (Volume 3). Each Section concludes with a Measurement and Payment clause which sets out, for every item of the corresponding Bill, the unit of measurement, the method of measurement and the matters deemed to be covered by the rate. Where a Section carries no separately measured item, the Measurement and Payment clause states that the cost is deemed to be included in the rates and prices entered elsewhere in the Bill of Quantities.

Quantities stated in these Special Specifications are given for information. The quantities in the Bill of Quantities govern, and the Contract is an admeasurement contract in which the quantities actually executed and measured are paid at the tendered rates.

Section 1. General

101 Special Specifications

These Special Specifications are supplementary to the Standard Specification for Road and Bridge Construction, 1986 Edition, and the two shall be read in conjunction. In any case where there appears to be a conflict between the two, these Special Specifications shall take precedence.

Where a clause of the Standard Specification is not amended by these Special Specifications, that clause applies unaltered. Where a clause number appears in these Special Specifications without a corresponding clause in the Standard Specification, it is a new clause.

The word "Engineer" in these Special Specifications has the meaning given to "Project Manager" in the Conditions of Contract, and the expression "Resident Engineer" means the Project Manager's Representative.

102 Location and Extent of the Works

The Works are located in Kakuma Municipality, Turkana West Sub-County, Turkana County, in the north-west of Kenya, approximately 120 km north of Lodwar. The project area lies within Climate Zone II (semi-arid), characterised by low annual rainfall, prolonged dry periods and occasional short-duration, high-intensity storms conveyed by ephemeral watercourses known locally as laggas.

The Works comprise the upgrading of one urban road from its existing earth and gravel condition to bitumen standard, together with lined closed stormwater drainage, footpaths, non-motorised transport facilities, cross drainage, road furniture and solar street lighting, as follows:

(a) Road 1 — Hashi Petrol Station – Food Distribution Centre 1 Road, from the Hashi Petrol Station at KM 0+000 to Food Distribution Centre 1 at KM 2+000: 2.00 km.

The length of the Works is 2.0 km. The road is constructed to typical cross section comprising a 12.00 m road reserve containing a 6.50 m bituminous carriageway of two 3.25 m lanes with a crossfall of 2.5 per cent to a single 1.00 m wide lined footpath-cum-drain on the low side, a 1.50 m wide non-motorised transport strip on each side, and 1.50 m of landscaping.

The carriageway pavement is constructed to pavement design comprising 50 mm of asphalt concrete Type II on 150 mm of cement-improved natural gravel road base on 225 mm of natural gravel sub- base class G30 on 200 mm of improved sub-grade of minimum soaked CBR 22.5 per cent.

The project area serves a population comprising the host community and a substantial refugee population resident in the Kakuma Refugee Camp and the Kalobeyei Settlement. Pedestrian volumes along the project roads are high throughout the working day and shall be accommodated safely at all times.

103 Extent of the Contract

The Contract covers the execution and completion of the Works described in Clause 102 and the remedying of any defects therein, including but not limited to:

(a) site clearance and topsoil stripping;

(b) earthworks, including improved sub-grade and fill to embankment;

(c) excavation and filling for structures;

(d) culverts and drainage works, including the lined closed U-drain with precast slotted cover slabs on one side of the road, single 900 mm pipe culverts, headwalls, wingwalls and aprons;

(e) the passage of traffic and pedestrians through the Works;

(f) natural material sub-base and base, including cement improvement of the road base;

(g) bituminous surface treatments and asphalt concrete surfacing;

(h) solar street lighting;

(i) road furniture, including signs, markings, kerbs, bollards, speed bumps, rumble strips and guardrail;

(m) the preliminaries and general items of Bill 1, including the Contractor's camps, the Resident Engineer's office and its services and equipment, laboratory testing, project sign boards, progress records and adjudication.

(j) concrete paving blocks to the footpaths and non-motorised transport facilities;

(k) environmental, social, health and safety measures;

(l) all sampling, testing, quality control and as-built records.

Vehicles and drivers for the Engineer are not provided under this Contract (Clause 124). No service ducts are provided.

The Time for Completion of the whole of the Works is 12 months from the Start Date. The Defects Liability Period is 12 months from the Completion Date.

104 Programme Of Execution Of The Works

The contractor shall provide the works programme, required under clause 14 of the Conditions of Contract, within 21 days of receipt of the Resident Engineer's Order to commence work.

The programme shall be co-ordinated with climatic and other conditions to provide for the completion of the works in the order and by the time specified.

The programme shall be drawn using the Critical Path Method (CPM) or Programme Evaluation and Review Technique (PERT). No other form of programme shall be allowed or approved.

In addition, and as a compliment to the Programme, the Contractor shall submit at the same time, schedules of Contractor's Equipment and labour indicating the projected numbers and types of Contractor's Equipment and labour to be utilized on the works to enable compliance with the Programme. The Schedules shall be itemized under the same heads of items of work as are used in the programme.

The Programme shall include as a minimum the following activities:

- Mobilization including provision of services to the Resident Engineer

- Confirmation of quantities and placing of orders

- Erection of materials storage sites and facilities

- Procurement of major materials for the works

- Execution of various sections of works

The information to be supplied to the Resident Engineer shall include but not be limited to drawings showing the general arrangements of the temporary offices and any other temporary building or structures which he proposes to use together with details of the constructional plant and temporary works and all other devices which he proposes to adopt for the construction and completion of the labour strength, skilled and unskilled labour and supervision arrangements.

The whole of the temporary works, plant, equipment and appliances used on the works will be the liability of the Contractor in regard to construction sufficiency, safety and maintenance. The Resident Engineer's approval shall in no way relieve the Contractor of this liability.

The order in which it is proposed to execute the permanent works is subject to adjustment and approval by the Resident Engineer and the Contractor's price shall be held to include for any reasonable and necessary adjustments required by the Resident Engineer during the course of the work.

The main Contractor will be responsible for arranging the above programme with all sub-contractors including the nominated suppliers. When preparing this programme the Contractor shall take due account of the time required for the delivery of any imported material.

The Contractor shall carry out the contract in accordance with the programme agreed with the Resident Engineer, but he shall in no manner be relieved by the Resident Engineer's approval of the programme, of his obligation to complete the works in the prescribed order and by the prescribed completion date and he shall from time to time review his progress and make such amendments to his rate of execution of the works as may be necessary to fulfil his obligations.

105 Order Of Execution Of Works

In addition to Clause 105 of the Standard Specification the Contractor shall carry out the Works such that a continuous and consecutive output of fully completed work is achieved.

106 Submissions To The Resident Engineer

Drawings

It shall be the Contractor's responsibility to prepare and submit to the Resident Engineer for his approval the following drawings.

• Drawings, which in the opinion of the Resident Engineer are needed to explain methods and details of work to be carried out by the Contractor, which are altered, compared to or not sufficiently illustrated by the Contract Drawings or any further drawings supplied by the Resident Engineer.

• As-built drawings showing the actual construction of the permanent works under the Contract based on survey carried out by the Contractor.

• The cost for the above drawings including two copies shall be borne by the Contractor and be included in his price.

Contractor's Site Diary

The Contractor shall provide and keep permanently on the site a diary in which he shall record full details of all work carried out each day. Such details shall include the following. a. Location of various works undertaken b. Type and quality of work achieved with specific record of construction of formwork, Pouring concrete, striking of formwork, pipes lay, back filling etc. c. Inspections carried out by the Resident Engineer. d. Tests carried out with results. e. Numbers of employees and plant working, noting any absence of persons at foreman Level and above. f. Weather conditions. Contractor shall record details of formwork, construction, placing of reinforcement, concreting and curing operations, striking of formwork, making good and daily temperature and weather conditions. This diary shall always be available for inspection by the Resident Engineer.

SITE BOOKS AND STANDARDS

Instructions to be recorded

The Contractor shall provide and keep permanently on the Site a numbered triplicate book wherein the Contractor shall record all instructions relating to concrete work issued by the Resident Engineer. One copy of every entry therein shall be sent to the Resident Engineer on the same day as the entry is made.

107 Taking Over Certificate

Taking over certificate will be issued for the whole length of continuous road substantially completed.

108 Notice Of Operations

Add the following sub- Clause.

Notification Terms It shall be the Contractor's responsibility to notify the Resident Engineer when any item of works scheduled are completed and ready for approval, and the contractor shall give sufficient notice to allow control test to be performed. Explosive and Blasting (a) The requirements of the Laws of Kenya governing explosives and other requirements and regulations of Government of Kenya and other authorities shall be complied with.

(b) No explosives of any kind shall be used without prior written consent of the Resident Engineer.

(c) The Contractor shall be solely responsible for the provision, handling, storage and transporting of all explosives, ancillary materials and all other items of related kind whatsoever required for blasting.

110 National Specifications

Each and every part of the Works shall be designed, constructed, manufactured, tested and installed in accordance with an internationally recognized Standard, Code of Practice, or Regulation applicable to that part of the Works.

Such standards, etc. shall include: a. Kenya Standards (KS) b. International Organisation for Standardisation (ISO). c. European Standards (EN) d. British Standard (BS). e. Deutches Institute for Normung (DIN) f. South African Bureau of Standards (SABS) g. International Electro-technical Commission, where available (IEC). h. Other national or international or other authoritative standards equivalent or superior to those designated in the Specifications.

The Contractor shall demonstrate to the Resident Engineer's satisfaction the equivalence or superiority of any item of Plant supplied to such alternative standards.

All standards shall be the latest published and shall include amendments, which are current at the date of manufacture or construction (as applicable). In the case of category (e) approval must be given in writing by the Resident Engineer, and the Contractor shall familiarize himself with the requirements of these standards. The Contractor shall supply to the Resident Engineer four copies in the English language of all such standards prior to approval by the Resident Engineer.

Electrical diagrams and symbols on drawings shall comply with IEC 617.

Electrical systems shall comply with requirements and regulations of the public electricity supply authority. Electrical installations in buildings shall comply with the local regulations pertaining to such installations. The Contractor shall be deemed to have acquainted himself with such requirements and ensured that all electrical systems comply therewith.

Plant for the electrical installation shall additionally comply with the Regulations of the Institution of Electrical Resident Engineers (Great Britain) for the Electrical Equipment of Buildings (Fifteenth Edition) with amendments. In the case of conflict between the various regulations, the regulations recommended by the Kenya Bureau of Standards (KBS) shall take

Copies of Standards

Within 60 days of acceptance of the Tender, the Contractor shall provide to the Resident Engineer copies of all National and International Standards which are to apply to the Plant, Materials and Workmanship under the Contract, together with an index cross-referencing these standards with the applicable aspects of the works.

The Contractor shall provide and keep permanently on the Site copies of the following British Standard Codes of Practice:

- BS 812 - BS 882 - BS 1881 - BS 4466 - BS 5328 - BS 8007 - BS 8110

The Contractor shall in addition provide and keep permanently on the Site copies of such other Standards, Codes, Notes and Specifications as may be required by the Resident Engineer.

111 Construction Generally

General

The Contractor shall make his own arrangements for the supply of adequate safe drinking water, electricity and other services to the Permanent Works, Temporary Works and plant and shall provide and maintain all pipes, cables and fittings, which may be necessary to carry such services to his operations.

Water

The Contractor shall make all necessary arrangements for and shall provide at each Site an adequate supply of water both for the execution of the Works and for the health and safety of his workmen and other persons legitimately on the Works.

The water for the execution of the Works shall be of a chemical and purity standard such that it will not pollute injure or cause any deterioration of the Works, and it shall generally comply with the requirements specified in that section of the Specification dealing with concrete.

Electricity

The Contractor shall make all necessary arrangements for and shall provide any electricity supply required for the execution of the Works. Should the Contractor use a generator, he shall minimize nuisance from noise or exhaust fumes and shall effectively guard against contamination or danger due to spillage of fuel or exposure to vapor.

Contractor's Monthly Returns

The Contractor shall report monthly progress in the English language to the Resident Engineer on charts submitted in triplicate showing actual work done superimposed on his agreed programme of works. The reports shall be delivered to the Resident Engineer within one week after the end of each month.

The Contractor shall include in his monthly report details of all plant (including their values) and labor force employed on site together with description of their deployment. The names and trade of hired laborers being residents in the project area are to be shown separately. The Contractor shall also provide a list of all materials intended for use in the permanent work delivered to site during the month.

Weather Records

The Contractor shall erect a rain gauge ("Nylex 600" or similar approved) and a double bulb, minimum/maximum thermometer (0.1°C accuracy) at a site agreed with the Resident Engineer.

The Contractor shall be responsible for the daily measurement of rainfall and minimum and maximum temperature to be taken at 8:00am each day.

Sign Boards and Advertisements

The Contractor shall provide, sign, write, erect and maintain sign boards of sound construction to the satisfaction of the Resident Engineer and at a location indicated by him in each settlement. As directed by the Resident Engineer the signboard shall give a brief description of the Works and bear the names of the Employer, the Financier, the Project, the Consultant and the Contractor. The expenses for the signboard shall be priced separately in the Bill of Quantities.

On completion of the works the Contractor shall remove the signboard when instructed to doso by the Resident Engineer's Representative. No advertisements shall be placed on any boarding, fencing or scaffolding erected for any purpose connected with the contract without the written permission of the Resident Engineer.

Record Drawings

Within 4 weeks of the commencement of the Defects Correction Period, the Contractor shall deliver to the Resident Engineer one complete set of record drawings of all works constructed under the Contract. The minimum scales for road alignment plans and longitudinal sections shall be 1:2,000 horizontally and 1:200 vertically. All other works shall be at scales used in the Tender Drawings for comparable works or as agreed with the Resident Engineer. The Resident Engineer shall comment on the draft Record Drawings and within a further 8 weeks the Contractor shall then produce a definitive set in transparency of CALC material of good quality (min 100g/m2) that shall be delivered to the Resident Engineer complete with two sets of prints.

In addition the Contractor shall provide one copy of all as-built drawings in digital format agreed with the Resident Engineer and certified virus free compact disc (CD).

Operation and Maintenance Manuals

Within 4 weeks of the commencement of the defects correction period, the Contractor shall deliver to the Resident Engineer a complete set of Operation and Maintenance (O&M) manuals of works constructed under the contract. The Resident Engineer shall comment, where applicable, on the draft O&M manuals and within 8 weeks the Contractor shall deliver the final O&M manuals to the Resident Engineer.

In addition the Contractor shall provide, where applicable, one soft copy in a format agreed with the Resident Engineer and certified virus free compact disc (CD)/USB.

112 Health, Safety And Accidents

Safety and Health

The Contractor shall be responsible for the safety and health of all workmen and other persons in or around the works, to the satisfaction of the Resident Engineer and in accordance with safety and health regulations.

The attention of the Contractor is drawn to regulations and laws in force. The Contractor is fully and in all respects responsible for the safety on the Works.

First Aid Outfits/Ambulances/Emergency Services

The Contractor shall provide and maintain for the duration of the Contract adequate and easily accessible first aid outfits on every site at which work is in progress or his personnel are posted.

The Contractor shall have available at all times a vehicle or vehicles for the conveyance of sick or injured people to hospital.

The Contractor shall notify the Public Emergency Service (Fire, Police, Ambulance) of the location and intended duration of all works at each site prior to commencing work at each site.

Protective Clothing

The Contractor shall provide for the Resident Engineer and his assistants the protective clothing necessary for the proper discharge of their duties on Site. This shall also include equipment, protection and instruments as described below for use in hazardous situations and confined spaces.

Noise Control

All work must be carried out without unreasonable noise. Compressors used on the site shall be silenced either by use of silencer and property lined and sealed acoustic covers or by effective acoustic screens to enclose the noise source.

Ancillary pneumatic tools used on the Site shall be fitted with effective silencers as recommended by the manufacturer.

Hazards

There are hazards associated with the Sites and the Employer's occupation or use of them. Some will be present at all times: others may be intermittent or may not exist until work has-been carried out by the Contractor or others, or operational Plant has been commissioned. Hazards comprise of confined spaces, explosive and flammable gases, toxic fumes, Asphyxiating gases, Dangerous fumes and gases, Dangerous chemicals, Electricity cables, Sewage, Reptiles, rodents and insects etc. The Contractor shall take every precaution when working in areas with or susceptible to hazards.

Confined Spaces

Where any part of the Works is to be carried out in a confined space the Contractor shall:

1. Establish a system of written permits for each person to enter a confined space.

2. Display at the entrance to each confined space a sign warning of the need for oxygen and gas levels to be monitored before access and while work is proceeding.

3. Monitor the atmosphere in the confined space for oxygen depletion and dangerous gases before any person enters it.

4. Provide suitable and sufficient Working or Escape breathing apparatus appropriate to the risks identified or expected.

5. If sufficient means of natural ventilation cannot be guaranteed to provide at all times an adequate circulation of uncontaminated air, provide forced air ventilation even if oxygen or other gas levels are shown to be safe.

6. Provide suitable and sufficient gas monitoring equipment in appropriate locations, and ensure that it is used at all times when the confined space is occupied.

7. Ensure that all persons within the confined space vacate it as soon as any alarm sounds, without waiting to record the gas level.

8. Maintain a register of all alarms sounded every day, including Nil returns when appropriate, and provide a copy of the register to the Resident Engineer each week.

9. Unless he can demonstrate to the Resident Engineer his own ability to do so, employ a specialist firm to inspect and recalibrate gas detection equipment at proper regular intervals; and clearly label all such equipment with the date by which the next recalibration is to be conducted.

10. Provide appropriate harness, safety ropes and rescue facilities, and if practicable two means of access from top to bottom.

11. Provide when work is in progress radio or telephone communication, or safe visual and oral communication where this is appropriate and background noise levels permit.

12. Ensure that all electrical tools and equipment are of the appropriate type.

13. Provide appropriate protective clothing.

14. Provide hygiene facilities if appropriate.

15. Where a confined space is such that the number of persons within the space cannot be established by external observations, the Contractor shall maintain a written record of everyone entering and leaving the confined space and shall be accessible at all times to the Resident Engineer's staff and the emergency services.

The contractor shall not, even in an emergency, enter or allow his workmen to enter any confined space until the requirements of this clause have been implemented.

Add to subclause 19.1 the following: In addition to providing, equipping and maintaining adequate first aid stations throughout the works in accordance with the laws of Kenya, the contractor shall provide and maintain on site during the duration of the Contract, a fully equipped dispensary. This shall be with a qualified Clinical Officer / Nurse who shall offer the necessary medical advice on HIV and related diseases to the Resident Engineer's and Contractor's Site staff. The Contractor shall allow for this in the rates and be responsible for all site welfare arrangements at his own cost.

113 Use Of Explosives

Explosives and Blasting

The removal of hard materials by use of explosives will not be permitted unless specifically allowed for in the contract and then only subject to compliance by the Contractor in all respects with the Explosive Laws of Kenya. Blasting shall only be carried out at such parts of the works for which permission in writing has been given by the Resident Engineer's Representative and shall be restricted to such hours and conditions as he may prescribe.

The purchase, transport and use of explosives shall be carried out in accordance with the most recent explosive ordinance and rules issued by the Government.

The Contractor shall provide a special proper store for explosives in accordance with local regulations and he shall be responsible for the prevention of any unauthorized issue or improper use of any explosives brought on the works. Storage arrangement and quantities of explosives stored shall be approved by the Resident Engineer and other Authorities concerned.

The Contractor shall employ men experienced in blasting and these men must be in possession of a current blasting certificate.

The charges shall be properly placed, sized and tamped and where necessary the Contractor shall use heavy mesh blasting nets.

Blasting shall in no way weaken existing structures or foundations or ground adjacent to existing and proposed works. Blasting operations shall be carried out with as little interference as possible to traffic or persons and the Contractor shall take all necessary precautions to prevent loss, injury or accident to persons and property. The Contractor shall be entirely liable for any accident or damage that may result from the use of explosives.

If in the opinion of the Resident Engineer, blasting would be dangerous to persons or property or to any finished work or is being carried out in a reckless manner, the Resident Engineer may prohibit any further use of explosives.

Contamination of the Works and the Environment

The Contractor shall at all times take every possible precaution against contamination of the Works. The Contractor shall give strict instructions to all persons employed by him to use the sanitary facilities provided. Throughout the Contract the Site and all permanent and Temporary Works shall be kept in a clean, tidy and sanitary condition.

The Contractor shall at all times take measures to avoid contamination of water courses, drains and the environment by petrol, oil or other harmful materials. The Contractor shall be responsible for making all arrangements for the disposal of water from the testing and sterilizing of pipelines, water retaining structures and treatment works.

Compliance with the National Environmental and Management Act, 1999 (NEMA)

The Contractor shall at all times comply with the requirements of the NEMA Act 1999.

114 Diversion Of Services

(a) The Contractor shall acquaint himself with the location of all existing services such as telephone lines, electricity cables, water pipes, sewers etc., before execution of any works that may affect the services. The cost of determining the location of the existing services together with making good to the standard set by the operator/agency ,or repairing of any damage caused all to the satisfaction of the Resident Engineer shall be included in the tender rates.

(b) Subject to the agreement with the Resident Engineer, the Contractor shall be responsible for removal of alteration and relocation of existing services.

(c) The Contractor shall indemnify the Employer against claims originating from damage to existing services or works of any kind.

In addition the Contractor shall take the full and entire responsibility for the sufficiency of plant, scaffolding, timbering, machinery, tools or implements and generally for all means used for the fulfilment of the Contract. In the event of any of these means proving insufficient, the Contractor is still fully and entirely responsible for the sufficiency of these means notwithstanding any previous approval or recommendation that may have been given by the Resident Engineer.

Safety of Adjacent Structures or Works

The Contractor shall at his own expense provide and erect to the approval of the Resident Engineer such supports as may be required to protect efficiently all structures or works which may be endangered by the execution of the Works and he shall remove such supports on completion of the Works or otherwise take such permanent measures as may be required by the Resident Engineer to protect the structures or works.

Existing Services and Installations

The Contractor shall take every precaution to ensure that all existing services, pipes, culverts, cables, boundary walls and fences, retaining walls, drainage ditches and the like, within and near the line of

excavation, are located, supported and safeguarded from damage. Any damage caused to any such services, pipes, culverts, cables, boundary walls and fences, retaining walls, drainage ditches and the like attributable to the Contractor's operations, his constructional traffic or his negligence shall be made good by or for the Contractor at his own expense to the satisfaction of the Resident Engineer, owner or responsible authority.

In the event of the owner or responsible authority electing to repair such damage the

Contractor shall pay the cost of so doing the work. Should the Contractor fail to pay the cost of the said work within one month of the account being presented, the Employer reserves the right to settle the account and deduct the sum paid by him from monies due or which may become due to the Contractor.

Temporary Removal of Existing Services

If it should become necessary for the proper execution of the work temporarily to remove or divert any existing pipe, sewer, field drain, cable, drainage ditch or other service, the

Contractor shall obtain permission from the responsible authority or owner and shall carry out the work at his own expense in a manner and at times to be approved by such authority or owner and shall subsequently reinstate the work to the satisfaction of such authority or owner.

In the event of the owner or responsible authority electing to arrange for the temporary removal of an existing service, the Contractor shall pay the cost of his or their doing the work. Should the Contractor fail to pay the cost of the said work within one month of the account being presented, the Employer reserves the right to settle the account and deduct the sum paid by him from monies due or which may become due to the Contractor.

The Contractor's attention is particularly drawn to the requirement to maintain drainage ditches in order to avoid any interruption of flow of water therein to the satisfaction of the Resident Engineer, owner or responsible authority and the Contractor shall be deemed to have included in his rates and prices for all temporary works so required.

Permanent Diversion of Existing Services

If in the opinion of the Resident Engineer and/or of the responsible authority or owner it should become necessary permanently to remove or realign any existing pipe, sewer, field-drain, cable, ditch, or other service, other than allowed for in the Bills of Quantities, the Contractor shall obtain permission, where necessary, from the authority or owner and shall carry out and complete the work to the satisfaction of the Resident Engineer and such authority or owner. Payment for such additional work will be made in accordance with the Contract, provided always that the necessity for such permanent diversion has not arisen due to the fault of the Contractor. In the event of the owner or responsible authority electing to arrange for the permanent diversion of an existing service, the permanent diversion of which has become necessary due to the fault of the Contractor, the Contractor shall pay the cost of his or their doing the work.

Should the Contractor fail to pay the cost of the said work within one month of the account being presented, the Employer reserves the right to settle the account and deduct the sum paid by him from monies due or which may become due to the Contractor.

Permanent Support for Existing Services

If in the opinion of the Resident Engineer and/or the responsible authority or owner it should become necessary to provide permanent support for any existing pipe, sewer, cable, structure or other thing disturbed, exposed or injured during or after the execution of the Works, the Contractor shall carry out promptly such additional works as the Resident Engineer may require to provide such permanent support. Payment for such additional work will be made in accordance with the Conditions of Contract, provided always that the necessity for such permanent support has not arisen due to the fault of the Contractor.

Authority or Owners May Carry Out Work

Any of the work involving repair, replacement or re-alignment of existing pipes, sewers or other services may be carried out by the responsible authority or owners if they so desire. In such case, the Contractor shall allow them the facilities and assistance they may require and shall bear the full expense of the work except in the case of permanent removal or re alignment which will be paid for by the Employer, provided that the necessity for such removal or re-alignment has not arisen due to the fault of the Contractor.

Care of Boundary Walls and Fences

The Contractor shall not cut through or remove any section of any boundary wall or fence without the prior approval of the Resident Engineer who will determine the limits of such cutting or removal.

Approval for the cutting through or removal of boundary walls and fences will normally be limited to those crossing the route of drains and pipelines and the Contractor shall so conduct his operations as to minimize the extent of such cutting through or removal.

The Contractor shall repair and reinstate in a manner similar to the original or by other approved means any wall or fence which he may have cut through or removed with or without the approval of the Resident Engineer or damaged during his operations and all such repairs and reinstatement shall be the Contractor's sole liability and shall be carried out to the satisfaction of the Resident Engineer and the responsible authority. The Contractor shall at his own expense provide temporary fencing and security measures at

Work through Private and Public Property

Where Works are to be executed in private or public property, the Employer will be responsible for negotiating and obtaining rights of way and the serving of all notices as may be required upon the owners and/or occupiers of the land and it shall be the obligation of the Contractor to keep the Employer and the Resident Engineer fully informed concerning the rate of progress and of his intention to enter and begin work. The Contractor shall give the Employer 28 days' notice of his intention to execute Works in each section of private or public property.

Access to Works

All necessary facilities will be given for the access of the Contractor's employees to the Works and the Contractor shall be responsible for seeing that such employees obey all regulations in regard to the conditions of access to the Works.

115 Closure Of Roads

The Contractor shall be responsible for providing; maintaining and removing, at his own cost, adequate diversions to existing roads, and access tracks interfered with during the execution of the Works, together with any additional policing and signposting, and the erection of barriers as Resident Engineer's approved Traffic Management Plan. The Contractor shall be responsible for advising the appropriate authorities and where necessary obtaining approval prior to interfering with any road. The production of Traffic Management Plan shall be a participatory activity involving the affected community, County Government, Traffic Police Department and RE's office. Such plans shall have full content of all relevant traffic safety warnings and controls and the Contractor indemnifies the Employer from any claim arising from any road traffic related accident on the affected roads within works.

Traffic Restrictions

The Contractor shall not run tracked vehicles or tracked Equipment on any public or private road without the written approval of the Resident Engineer and of the responsible authority or owner, and subject to such conditions as each may reasonably require.

The Contractor shall observe all weight and dimensions restrictions that apply to roads and tracks in Kenya and he shall comply with all reasonable restrictions, which may from time to time be imposed by the Resident Engineer, Employer, Police, responsible authority or owner. Where damage to roads and tracks is caused by the Contractor this shall be repaired at the Contractor's expense. In particular the Contractor shall fill potholes in roads with road stone when these are deepened by his Equipment.

The Resident Engineer shall have the power to restrict the Contractor's use of any roads, or tracks in terms of direction of traffic, speed of traffic, numbers of vehicles or their axle loading in order to preserve such roads or to make them safe for use by the general public.

Where other contractors require the use of these roads or tracks, the Resident Engineer may prescribe times of usage, or impose some other form of control, which shall be established and operated by the Contractor, including the supply of traffic lights, flagmen, traffic cones or drums, and other controls.

Flagging, Lighting, Watching and Traffic Control

The Contractor shall be responsible for watching and lighting the Works and for the flagging and control of traffic and he shall comply with the requirements of the Employer and Police and the relevant authority in these matters.

Access Roads

All surface roads and tracks and other surfaced areas used by the Contractor for access shall be continually maintained by him in good condition. Immediately after ceasing to use any road, track or other surfaced area the Contractor shall restore it to the satisfaction of the Resident Engineer and the responsible authority or owner. The provision of this Clause shall apply also to the shoulders and verges of any existing sealed road used by the Contractor and affected by his operations.

116 Liaison With Government And Police Officials

The Contractor shall keep in close touch with the Police and the other National and County Government officials of the area regarding their requirements in the control of traffic or other matters, and shall provide all assistance or facilities, which may be required by such officials in the execution of their duties whose budget shall be included in the tender rates.

117 Land for the Contractor's Camps

The Employer has no land to offer for the Contractor's camp, the storage of materials or the preparation of concrete. The Contractor shall identify, secure and establish suitable sites in Kakuma at its own arrangement, shall obtain the NEMA certificate for each, and shall submit with its Bid the details of the land on which it intends to establish its camp(s). The camps are paid under Bill 1 item 1.1.

Camps shall be sited, fenced, drained and operated so as not to cause nuisance to the host or refugee communities, and shall be removed and the land reinstated on completion.

118 Storage Of Materials

All materials shall be stored on Site in a manner approved by the Resident Engineer and the Contractor shall carefully protect from the weather all work and materials which may be affected thereby.

119 Test Certificates

When instructed by the Resident Engineer the Contractor shall submit certificates of test from the suppliers of materials and goods required in connection with the works as the Resident Engineer may require.

Such certificates shall certify that the materials or goods concerned have been tested in accordance with the requirements of the specifications and shall give the results of all the tests carried out. The Contractor shall provide adequate means of identifying the materials and goods delivered to the site with the corresponding certificates.

120 Materials And Manufactured Articles

All workmanship shall be of the best quality appropriate to each category of work. Except where otherwise stated or approved by the Resident Engineer, all materials used in the Works shall be of the best quality of their respective kinds as specified or described in the Specification, Drawings and Bills of Quantities and shall comply wherever possible with the current issue of the appropriate standard

published by the British Standards Institution, or other equivalent national standard proposed by the Contractor and approved by the Resident Engineer.

The Contractor shall use locally produced materials in preference to imported materials provided that they comply with the Specification and are available in sufficient and timely quantities.

Level Datum and Dimensions

All levels shall be referred to the National Datum and the Contractor shall obtain in writing from the Resident Engineer the location and value of the permanent benchmarks to be used to control the works. Before the commencement of construction work the Contractor shall establish at each site in a position to the approval of the Resident Engineer, a steel datum peg that shall be securely concreted in. The level of this peg shall be established and agreed with the Resident Engineer and all levels used in the construction of the Works shall be referred to this established datum. The correctness of this established datum shall be checked at regular intervals during the construction period and agreed with the Resident Engineer.

The levels of the ground and the levels and dimensions of existing features shown on the Drawings are believed, but are not guaranteed, to be correct. Wherever dimensions or levels are marked on the Drawings such dimensions or levels shall take precedence over dimensions scaled from the Drawings. Where no dimensions or levels are shown on the Drawings, instructions shall be obtained from the Resident Engineer.

In the event of discrepancies between the Drawings and the Specification, the Drawings shall take precedence over the Specification.

Bench Marks

The Contractor shall locate and where necessary re-establish the permanent Bench Marks shown on the Drawings and install additional permanent Bench Marks where directed by the Resident Engineer to facilitate the setting out and checking of the Works. Prior to commencing the Works, the Contractor shall undertake a survey, based on the same local datum as used in the original topographic survey, to confirm the elevation and horizontal position of all permanent Bench Marks and shall submit a schedule of the said co-ordinates to the Resident Engineer.

The Contractor shall be responsible for maintaining and regularly checking the elevation and position of all permanent Bench Marks for the duration of the Contract. Where it is found that an existing benchmark is interfering with the progress of the works, the Contractor may seek the Resident Engineer's approval to re-locate the Bench Mark. The Contractor shall submit to the Resident Engineer in writing the co-ordinates of the new benchmark.

Levels

The Contractor shall establish, construct and protect benchmarks as necessary during the period of construction and such benchmarks shall be checked periodically and whenever required. Benchmarks will be marked on the wall of a permanent structure by chiselling a line into the wall or by concrete iron pin. Painting around it as detailed by the Resident Engineer will then identify this mark or the pin. The Resident Engineer will approve the position of any such benchmark before it is established.

The levels of the benchmarks will be determined on site and approved as necessary by the Resident Engineer. The above levels will all be based on the Datum. The Contractor shall seek approval from the owners prior to the establishment of any benchmarks on private properties.

Materials on and Under the Site

All soil, gravel, stone, timber, or other materials obtained in the excavations, clearing of the Site of the Works and soil stripping, must not be removed from the Site without the consent of the Resident Engineer. The Contractor however, may use for the construction of the Works any of the materials excavated under the Contract, which the Resident Engineer may determine to be fit for such use and shall use such materials if directed by the Resident Engineer.

Restoration of Drains, Streams, Canals, etc.

Subject to any requirement of the Works whereby a permanent change is to be effected, all drains, canals, pipes, channels, water-courses or streams temporarily cut through or disturbed by the excavation of the Works are to be restored so that the water flowing in them may continue to flow in as full and free manner as it did before the disturbance.

121 Resident Engineer's Office

The Contractor shall provide, for the sole use of the Resident Engineer and staff throughout the Time for Completion, rented office accommodation at a suitable location in Kakuma approved by the Resident Engineer, of not less than 150 m² and not more than 200 m², including a conference room, sanitary facilities, a kitchenette and secure parking, with day and night security. The rent is paid under Bill 1 item 1.2 up to the monthly amount stated there, against receipted accounts.

The Contractor shall pay, and recover under the Provisional Sum in Bill 1 item 1.4.1, the cost of electricity, internet, water and office waste collection for the office, and shall keep the office clean, maintained and secure.

The Contractor shall supply, under the Prime Cost Sum in Bill 1 item 1.4.3, the office, survey and kitchen equipment in the schedule below. The Contractor shall obtain at least three quotations for each item and submit them with the manufacturers' literature for the Resident Engineer's approval before purchase. The equipment shall be delivered within four weeks of the Start Date, maintained in working order and insured by the Contractor, and shall revert to the Employer at the end of the Contract.

SCHEDULE OF OFFICE, SURVEY AND KITCHEN EQUIPMENT

(1) Laptop computers, current-generation processor, 16 GB RAM, 512 GB SSD, with licensed office, project management and AutoCAD-compatible software: 4 No.

(2) A3 colour multifunction printer, copier and scanner: 1 No.; A4 monochrome laser printer: 1 No.

(3) Uninterruptible power supply units, 1.5 kVA: 4 No.; internet router with backup: 1 No.

(4) Digital camera with GPS tagging: 1 No.; multimedia projector and screen: 1 No.

(5) Executive desk and chair: 1 set; standard desks with lockable drawers and chairs: 4 sets; conference table for 10 with chairs: 1 set; lockable steel filing cabinets: 4 No.; plan chest: 1 No.; whiteboard: 2 No.

(6) Total station with data collector, tripod and two prism poles: 1 set; automatic level with tripod and two staves: 1 set; handheld GNSS receiver: 1 No.; 3 m aluminium straight edge: 2 No.; 50 m and 5 m tapes: 2 No. each.

(7) Refrigerator: 1 No.; two-burner gas cooker: 1 No.; microwave oven: 1 No.; water dispenser: 1 No.; electric kettle: 1 No.; crockery and cutlery for 12 persons: 1 set.

(8) Fire extinguishers: 2 No.; first aid kit: 1 No.

The Resident Engineer may vary the schedule within the Prime Cost Sum.

122 Laboratory Testing for the Resident Engineer

The Contractor shall arrange, when instructed by the Resident Engineer, for the testing of materials and of completed work at an independent laboratory approved by the Resident Engineer, and shall pay the laboratory against receipted accounts from the Prime Cost Sum in Bill 1 item 1.5. The Contractor's attendance, the taking and transport of samples, overheads and profit are paid under item 1.6.

This does not relieve the Contractor of its own testing obligations. The Contractor shall provide, at its own cost and as part of the rates and prices entered in the Bill of Quantities, all sampling, all testing by the Contractor required by Section 2 and by Clause 226, and all apparatus, personnel, transport and consumables necessary for that testing.

The Contractor shall give the Engineer not less than 24 hours notice of every test, shall permit the Engineer or the Engineer's representative to witness any test, and shall submit the results in the format and within the time required by the Engineer.

124 Vehicles and Drivers for the Engineer and the Engineer's Staff

Vehicles and drivers for the Engineer and the Engineer's staff are not provided under this Contract and no item is provided for them in the Bill of Quantities.

The Contractor shall afford the Engineer's vehicles free passage over the Site, over the Contractor's haul roads and through the Works at all times, and shall provide safe parking within the Contractor's compound.

125 Receipted Accounts

Where payment is to be made against a Prime Cost Sum, a Provisional Sum or an Employer-fixed rate in Bill 1, the Contractor shall produce to the Engineer the receipted accounts and vouchers of the supplier, landlord or authority concerned, and payment shall be limited to the sums so evidenced.

126 Project Sign Boards

The Contractor shall provide, erect and maintain two project sign boards to drawing C-G-STD-007, with the wording and logos approved by the Employer, at locations directed by the Engineer within 28 days of the Start Date, and shall remove them at the end of the Contract unless instructed otherwise. They are paid under Bill 1 item 2.1.

127 Environmental Protection

The Contractor shall ensure so far as is reasonably practicable and to the satisfaction of the Resident Engineer; that the impact of the construction on the environment shall be kept to a minimum and that appropriate measures are taken to mitigate any adverse effects during the construction. (a) After extraction of materials, all borrows pits shall be backfilled to the satisfaction of the Resident Engineer. In particular borrow pits near the project road shall be backfilled in such a way that no water collects in them. (b) Spilling of bitumen fuels oils and other pollutants shall be cleared up.

128 Progress Photographs, Reports and Programme

The Contractor shall submit each month four sets of A3 photographs mounted on foam board, showing the progress of every part of the Works from fixed viewpoints agreed with the Engineer, together with three colour copies of an A4 monthly progress report setting out progress against the programme, resources, quality, health and safety, environmental and social performance, and issues requiring decision. Two sets of the A1 master programme of works shall be provided at the start of the Works and on each revision. These are paid under Bill 1 item 2.2.

129 Adjudication

The Provisional Sum in Bill 1 item 2.3 is provided for the Employer's share of the fees and expenses of the Adjudicator under the Conditions of Contract. The Contractor shall pay the Adjudicator against the Adjudicator's receipted account and recover the payment from the Provisional Sum, with overheads and profit under item 2.4.

190 Measurement and Payment

The items of Bill 1 shall be measured and paid as follows.

(a) Item 1.1: Contractor's camp(s)

Unit: Item

The item shall be paid as a lump sum, 50 per cent when the camp is established and its NEMA certificate is produced, and the balance pro rata to the value of the permanent Works certified.

The rate shall include the identification, lease or purchase, licensing, establishment, operation, security and final removal of the Contractor's camps, stores and concrete preparation areas, the NEMA certificate, and the reinstatement of the land on completion.

(b) Item 1.2: Rent of the Resident Engineer's office

Unit: Month

The item shall be measured by the month for which the office is provided and accepted by the Engineer, and paid at the rate printed in the Bill, which is the maximum monthly rent admissible.

Payment shall be made against the receipted rent account under Clause 125. The Contractor's attendance, overheads and profit are paid under item 1.3.

(c) Item 1.3: Contractor's overheads and profit on item 1.2

Unit: Percentage

Payment shall be made as the percentage tendered, applied to the sums actually paid under item 1.2.

The percentage shall cover the Contractor's attendance, management of the lease, security, cleaning, overheads and profit.

(d) Item 1.4.1: Utility bills for the Resident Engineer's office

Unit: Month

The Provisional Sum shall be expended month by month as directed by the Engineer, against receipted accounts rendered under Clause 125.

The Contractor's attendance, overheads and profit are paid under item 1.4.2.

(e) Item 1.4.2: Contractor's overheads and profit on item 1.4.1

Unit: Percentage

Payment shall be made as the percentage tendered, applied to the sums actually paid under item 1.4.1.

The percentage shall cover attendance, overheads and profit.

(f) Item 1.4.3: Office, survey and kitchen equipment

Unit: Prime Cost Sum

The Prime Cost Sum shall be expended on the equipment scheduled in Clause 121 as directed by the Engineer, against receipted accounts rendered under Clause 125 following the three quotations required by that Clause.

The Contractor's attendance, overheads and profit are paid under item 1.4.4. All equipment shall revert to the Employer.

(g) Item 1.4.4: Contractor's overheads and profit on item 1.4.3

Unit: Percentage

Payment shall be made as the percentage tendered, applied to the sums actually expended under item 1.4.3.

The percentage shall cover procurement, delivery, installation, maintenance, insurance, overheads and profit.

(h) Item 1.5: Materials laboratory tests

Unit: Prime Cost Sum

The Prime Cost Sum shall be expended on laboratory testing instructed by the Engineer under Clause 122, against receipted accounts of the approved laboratory rendered under Clause 125.

The Contractor's own testing obligations are not paid from this sum. Attendance, overheads and profit are paid under item 1.6.

(i) Item 1.6: Contractor's overheads and profit on item 1.5

Unit: Percentage

Payment shall be made as the percentage tendered, applied to the sums actually expended under item 1.5.

The percentage shall cover the sampling, transport of samples, attendance, overheads and profit.

(j) Item 2.1: Project sign boards

Unit: No.

Sign boards shall be measured by number erected and accepted.

The rate shall include the design, provision, erection, maintenance, relocation as instructed and final removal of each sign board to drawing C-G-STD-007.

(k) Item 2.2: Progress photographs, reports and programme of works

Unit: Item

The item shall be paid in equal monthly instalments over the Time for Completion.

The rate shall include the photographs, prints, programmes and reports specified in Clause 128, in the numbers stated in the Bill.

(l) Item 2.3: Adjudication

Unit: Provisional Sum

The Provisional Sum shall be expended in whole or in part, or not at all, in payment of the Employer's share of the Adjudicator's fees and expenses, as directed by the Engineer.

Attendance, overheads and profit are paid under item 2.4.

(m) Item 2.4: Contractor's overheads and profit on item 2.3

Unit: Percentage

Payment shall be made as the percentage tendered, applied to the sums actually expended under item 2.3.

The percentage shall cover attendance, overheads and profit.

Section 2. Materials and Testing of Materials

201 Scope Of Section

The Contractor shall provide on the Site equipment, staff and labor for carrying out the sampling and testing, and he shall carry out any or all of these tests at such times and with such frequency as may be requested by the Resident Engineer.

All equipment shall be calibrated and checked from time to time as the Resident Engineer may require.

The Contractor shall provide all samples required by the Resident Engineer. Those samples to be tested in an offsite laboratory shall be carefully forwarded by the Contractor to an approved laboratory. Results of laboratory and site tests shall be kept on site and copies of all test reports shall be forwarded in duplicate to the Resident Engineer.

202 Testing By The Contractor

Before incorporating in the Works any material, the Contractor shall submit to the Resident Engineer for approval a sample of each respective material and such samples shall be delivered to and kept at his office for reference. All the respective kinds of materials used in and upon the Works shall be at least equal in quality to the approved samples. Each and every sample shall be a fair average of the material it represents. The Resident Engineer shall approve the method by which each sample shall be obtained.

Tests of Materials before Use

Any or all of the material supplied by the Contractor for use in any of the Works shall be subject in advance to such tests as may be specified in the relevant Standard or the Specification or as may from time to time be required by the Resident Engineer.

In particular, materials on contact with potable water, or with raw water which is to be treated to render it potable, shall have satisfactorily passed the appropriate tests as laid down by BS 6920 or an equivalent approved standard or code of practice in operation in the country of manufacture.

Facilities for Resident Engineer to Take Samples and Tests

The Contractor shall provide facilities for the Resident Engineer to take samples for testing of any of the concrete or other materials to be incorporated in the Works. Such samples may be taken before or after incorporation into the Works or at any stage during construction at the discretion of the Resident Engineer.

The Contractor shall provide three sets of equipment for carrying out site testing and inspection of materials, plant and equipment. In particular the Contractor shall provide equipment for carrying out pipe site inspection and measurements of electric voltage, current etc.

Rejected Materials

Should any materials or manufactured articles be brought on to the Site which, in the judgment of the Resident Engineer, are unsound or of inferior quality or in any way are unsuited for the purpose in which it is proposed to employ them, such materials or manufactured articles shall not be used upon the Works but shall be branded, if in the opinion of the Resident Engineer, this is necessary, and shall forthwith be removed from the Site.

203 Acceptance Standards Of Materials

The materials and workmanship shall be the best of their respective kinds and to the approval of the Resident Engineer. The words "to the approval of the Resident Engineer" shall be deemed to be included in the description of all materials and workmanship for the due execution of the Works.

224 Trials To Confirm Compliance

The Resident Engineer may direct that a loading test be made on the works or any part thereof if he deems such test to be necessary for one or more of the following reasons:

- Failure of "Site Cubes" to attain the strength requirements;
- Premature removal of formwork;
- Overloading of structure during construction;
- Improper compaction and/or curing of concrete;
- any other circumstances attributable to alleged negligence on the part of the Contractor, which, in the opinion of the Resident Engineer, may result in a structure being of less than the required strength;

If the loading test be ordered to be made solely or in part for reasons (a) to (d) the test shall be made at the Contractor's own cost. If the loading test be ordered to be made for reason (e), the Contractor shall be reimbursed for the cost of the test if the result is satisfactory.

Loading test shall be carried out in accordance with the requirements of BS 8110.

If the results of the test are not satisfactory, the Resident Engineer will direct that the part of the work concerned be taken down or removed and reconstructed to comply with the Specification, or that such other remedial measures as he may think fit be taken to make the work acceptable and the Contractor shall carry out such work at his own cost.

The Resident Engineer may also instruct the Contractor before a loading test takes place to take out cylindrical core specimens from the structures concerned and have them tested. The cutting equipment and the method of doing the work shall be to the Resident Engineer's approval. The specimens shall be dealt with in accordance with BS 1881. Prior to testing, the specimens shall be available for examination by the Resident Engineer. If the cores are ordered to be taken solely or in part for reasons (a) and (d) above, the work involved and the testing shall be made at the Contractor’s own cost. If the cores are to be taken for reasons (b), (c) and (e) above, the Contractor will be reimbursed the cost if the loading test described in the previous paragraphs proves satisfactory.

226 Frequency Of Testing

Frequency of tests and the number of samples required will be governed by the results of the previous tests, the quality of the materials revealed during the tests, and the uniformity of that quality. Should it become evident that the quality of concrete is deteriorating the Resident Engineer may require additional samples to be taken and test cubes to be made and tested to determine the cause.

290 Measurement and Payment

The cost of complying with the requirements of this Section, including all testing by the Contractor, the trials to confirm compliance and the frequency of testing required by Clause 226, shall be deemed to be included in the rates and prices entered in the Bill of Quantities.

Section 3. Setting Out and Tolerances

301 Setting Out

a) In addition to the provisions of clause 3.01(a) if the traverse points to be used for the setting out are close to the existing carriageway and interfere with construction works then the Contractor will have to relocate them to a location where they will not be disturbed. The co-ordinates and heights of all traverse points so located shall be listed and provided to the Resident Engineer for checking and/or approval. Contractor shall also monument the new centreline every 100m along straight and all salient points along curves by a pin in the concrete beacon before commencement of any works. Commencement of the works shall not be permitted until this basic survey data has been provided and approved by the Resident Engineer for at least 100m of the road. b) Detailed Setting Out

Reference pegs shall be 50mm by 50mm in section 600mm long driven 400mm firmly into ground and painted white above the ground. The offset from centreline shall be indicated by small nail 20mm to 25mm long with its head driven flush with the top of the peg. Chainages, offset and reference elevation shall be clearly indicated to the sides of the peg to the satisfaction of the Resident Engineer.

Prior to commencement of earthworks or subgrade works, the Contractor shall take a topographical survey which shall identify all the break lines i.e. centre line, edges, drains (top and bottom) etc using a total station to enable establishment a digital terrain and submit the same to Resident Engineer for agreement. This digital terrain model shall then be used as basis of generating cross sections and measurement for all subsequent layers, unless otherwise stated.

302 Tolerances

j) Pavement Widths The edges of the wearing course, base and sub-base shall nowhere lie closer to the carriageway centreline than the dimensions shown on or calculated from the design data given on the drawings or as amended by the Engineer in writing to the Contractor, and the half widths of wearing course, base and sub-base measured at any point along the road shall not exceed the nominal width by more than 50mm for wearing course, base and sub-base. k) Drainage The maximum deviation from the specified line of a pipe or pipe culvert shall be 20mm in 3m for horizontal line, and 30mm in 10m for vertical line. The Contractor shall correct any excess deviation before proceeding with the work. The invert level of drainage ditches both lined and unlined shall be within +0mm to -50mm of that specified by the Engineer and trimmed such that water does not pond. In the event of the Contractor over- excavating any lined or unlined drainage ditches or channels outside the specified tolerances, the Contractor will be held responsible for any additional work ordered by the Engineer as being, in his opinion, necessary to maintain acceptable invert grades. Such remedial work shall be carried out entirely at the Contractor's expense. Replacement of the over-excavated material within the ditches and channels will not be permitted, unless such material is compacted and that part of the channel is lined, all to the satisfaction of the Engineer. The Contractor should be aware that the most likely form of remedial work to be ordered by the Engineer for unlined ditches would be the deepening of the remainder of the ditch or channel downstream of the over-excavated section for such length as the Engineer deems necessary to avoid ponding, and, in his opinion, sufficient to adequately cope with the design flows.

390 Measurement and Payment

The cost of setting out the Works, of establishing and maintaining the survey control, of the provision of all survey instruments and personnel, and of working within the tolerances specified, shall be deemed to be included in the rates and prices entered in the Bill of Quantities.

Section 4. Site Clearance and Topsoil Stripping

401 Site Clearance

Site Clearance shall be carried out as directed by the Resident Engineer following a joint condition survey.

402 Removal Of Topsoil

Topsoil shall include up to 200mm depth of any unsuitable material encountered in existing or newly constructed drains, drainage channels, and accesses.

403 Removal Of Structures, Fences And Obstructions

Notwithstanding the provisions of clause 405(c) of the standard specifications, the payment for demolition shall be made under Bill No. 4. However, when instructed by the Resident Engineer, the Contractor shall demolish or remove any structure not covered above and payment for this shall be made on day works basis.

490 Measurement and Payment

The items of Bill 4 shall be measured and paid as follows.

(a) Item 4.01: Clear site

Unit: m^2

Site clearance shall be measured by the square metre, calculated as the plan area instructed by the Engineer to be cleared.

The rate shall include the cost of complying with the requirements of Clauses 401 and 404, the removal of trees, hedges, bushes and other vegetation and objectionable organic material, the disposal of the arisings and all haulage.

(b) Item 4.02: Remove topsoil

Unit: m^3

Removal of topsoil shall be measured by the cubic metre, calculated as the product of the plan area measured from cross sections taken prior to site clearance and the vertical depth of topsoil instructed to be removed.

The rate shall include the cost of all haulage as necessary, stockpiling for later topsoiling of side slopes, the uniform spreading of the remainder within the road reserve, and compliance with Clauses 402 and 404.

(c) Item 4.03: Excavate and remove existing pipes and culverts

Unit: m

Removal of existing pipes and culverts shall be measured by the linear metre of pipe removed, measured along the pipe invert between the inside faces of the inlet and outlet structures.

The rate shall include the excavation, the breaking out and removal of the inlet and outlet structures, the disposal of the arisings and the backfilling and compaction of the void in material of a quality not inferior to the surrounding material.

(d) Item 4.04a: Removal and reinstatement of 415 volt overhead electricity poles

Unit: Prime Cost Sum

The Prime Cost Sum shall be expended in whole or in part at the direction of the Engineer, or not at all, and payment shall be made against receipted accounts rendered under Clause 125.

No addition to the Prime Cost Sum shall be made for the Contractor's attendance, overheads or profit, which are paid under item 4.05.

(e) Item 4.04b: Removal and reinstatement of HDPE water pipes along the road reserve

Unit: Prime Cost Sum

The Prime Cost Sum shall be expended in whole or in part at the direction of the Engineer, or not at all, and payment shall be made against receipted accounts rendered under Clause 125.

No addition to the Prime Cost Sum shall be made for the Contractor's attendance, overheads or profit, which are paid under item 4.05.

(f) Item 4.05: Contractor's overheads and profit on items 4.04a and 4.04b

Unit: Percentage

Payment shall be made as the percentage tendered, applied to the sums actually expended under items 4.04a and 4.04b.

The percentage shall be deemed to cover all attendance on the service authority, co-ordination, programme allowance, overheads and profit.

Section 5. Earthworks

504 Preparations Prior To Forming Embankments

Where benching is required, the rate for compaction of existing ground shall be deemed to cover this activity.

Excavation in the pavement of the existing road shall be kept dry. In the event of water penetrating the underlying layer, construction of the subsequent layers shall be postponed until the underlying layers are dry enough to accommodate the construction plant without deforming or otherwise showing distress.

Step construction shall be carried out per layer at the joint where excavating both vertically and perpendicular to the direction of the travel. The step shall be 500mm perpendicular to the direction of the travel and 150mm vertical unless otherwise instructed by the Resident Engineer.

Special care shall be taken when compacting the new material at the joint ensuring that specified density is achieved.

505 Construction Of Embankments

Only material approved by the Resident Engineer shall be used for fill in embankments. Material with high swelling characteristics or high organic matter content and any other undesirable material shall not be used, unless specifically directed by the Resident Engineer. Unsuitable material shall include:

(i) All material containing more than 5% by weight or organic matter (such as topsoil, material from swamps, mud, logs, stumps and other perishable material)

(ii) All material with a swell of more than 3% (such as black cotton soil)

(iii) All clay of plasticity index exceeding 50.

(iv) All material having moisture content greater than 105% of optimum moisture content (Standard Compaction)

Subgrade: Shall mean upper 300mm of earthworks either insitu or in fill and subgrade shall be provided for as part of earthworks operation and payment shall be made as “improved subgrade”. The material for subgrade shall have a CBR of not less than 8% measured after a 4 day soak in a laboratory mix compacted to a dry density of 100% MDD (AASHTO T99), a swell of less than 1% and dry density less than 1400Kg/m3.

508 Compaction Of Earthworks

At pipe culverts, all fill above ground level around the culverts shall be compacted to density of 100% MDD (AASHTO T.99) up to the level of the top of the pipes or top of the surround(s), if any and for a width equal to the internal diameter of the pipe on either side of the pipe(s) or surround(s) as applicable.

At locations adjacent to structures, all fill above ground level upto the underside of the subgrade shall be compacted to density of 105% MDD (AASHTO T.99). In case of fill around box culverts this should be carried out for the full width of the fill and for a length bounded by the vertical plane passing through the ends of the wingwalls.

Notwithstanding the provision of clause 503 of the standard Specification, Compaction of subgrade material (i.e. material immediately below formation) in cut areas shall not be carried out by the contractor in areas where the formation is formed in hard material, unless specific instructions to the contrary are issued by the Resident Engineer.

Where improved sub-grade material shall be required, this shall be compacted and finished to the same standards and tolerances as those required for normal subgrade and clauses in the specifications applying to normal subgrade shall also apply.

511 Borrow Pits

The first part of the Standard Specification is amended as follows:-

Fill material which is required in addition to that provided by excavation shall be obtained provided by the Contractor but to the approval of the Resident Engineer and the Contractor

It shall be the Contractor's responsibility to obtain all rights of access to these borrow pits. Payment for any item in connection with prospecting, access roads, royalties etc., shall be included in the Contractor's unit rates for supply of borrow pit materials. These shall incorporate the cost of the following: i) Opening up the borrow area, site clearance, removal of topsoil and overburden, fencing, drainage, landscaping and top soiling upon completion and leaving neat, safe and tidy; ii) Constructing and maintaining access roads, complying with conditions of access, traffic control, safety and public health requirements, fencing, drainage and making good on completion and leaving neat and tidy; iii) Excavation and selection of material, removing and spoiling of oversize material, screening, stockpiling, providing and mixing water or drying out the material, mixing, processing, spreading and compacting; iv) Spreading, providing and admixing of fines if necessary, rolling, making good defective areas and maintenance of the surface; v) Loading, hauling a free haul distance of 1.0 km measured from the centre of volume of the source of material and dumping the material, and vi) Complying with the requirements of NEMA in respect of treatment of borrow pits.

514 Topsoiling And Grassing

Where directed by the Engineer, the Contractor shall provide topsoil and grassing for erosion protection to embankment slopes, cut faces, side drains and verges. Topsoil material shall be obtained from stockpiles formed during top soil stripping operation or from other suitable location. Topsoil shall be spread and lightly compacted in locations instructed to 75mm thickness. Grassing shall entail planting sprigs of an approved runner type grass at 150mm centres. The contractor shall care for and water and regularly weed the grass until it is firmly established.

590 Measurement and Payment

The items of Bill 5 shall be measured and paid as follows.

(a) Item 5.01: Compact original ground below fills

Unit: m^3

Compaction of original ground shall be measured by the cubic metre, calculated as the product of the plan area of the formation instructed to be compacted and the specified depth of 300 mm below ground level.

The rate shall include all necessary scarifying, watering, mixing, compaction to at least 97 per cent MDD (AASHTO T.180) and the testing required by Clause 226.

(b) Item 5.02: Improved sub-grade quality material

Unit: m^3

Improved sub-grade material shall be measured by the cubic metre of material compacted in place, calculated from cross sections taken before and after placing, to the lines, levels and thicknesses shown on the Drawings or instructed by the Engineer.

The rate shall include the winning, provision, haulage, spreading, watering, mixing and compaction of material achieving a minimum soaked CBR of 22.5 per cent at the specified density, and all testing.

Section 6. Quarries, Borrow Pits, Stockpiles and Spoil Areas

601 General

Notwithstanding any indications to the contrary in the Standard specification the Resident Engineer will not make available to the Contractor any land for quarries, borrow pits, stockpiles and spoil areas, except for those areas in road reserves specifically approved by him.

The contractor will be entirely responsible for locating suitable sources of materials complying with the Standard and Special Specifications, and for the procurement, Wining, haulage to site of these materials and all costs involved therein. Similarly, the contractor will be responsible for the provision and costs involved in providing suitable areas for stockpiling materials and spoil dumps. Should there be suitable sites for spoil dumps or stockpiles within the road reserve forming the site of the works the Contractor may utilise these subjects to the approval of the Resident Engineer.

No additional payment will be made to the Contractor to cover costs arising from the requirements for this Clause and the Contractor must include these costs in the rates inserted into the Bills of Quantities.

602 The Materials Report

The materials investigations carried out for the design are reported in Chapter 4 and Appendix 3 of the Draft Final Detailed Design Report, October 2026, which is made available to Bidders for information. The information is for general guidance only, is neither guaranteed nor warranted, and does not relieve the Contractor of its responsibility for locating, proving, winning and processing materials that comply with the Specification. Bidders are advised to carry out their own investigations.

The principal findings are as follows.

(a) Alignment soils. On Road 1 the formation is non-plastic silty gravel and silty sand with soaked CBRs of 6 to 16 per cent at 100 per cent MDD (AASHTO T.180) and negligible swell. The non-plastic fine sands are erodible and sensitive to compaction moisture.

(b) Borrow gravel. Of the three sources tested, Kenya Power Gravel 2 (GC, PI 31.3 per cent, soaked CBR 6 per cent) and KRA Gravel 2 (SC, PI 19.6 per cent, plasticity modulus 209, MDD 2,432 kg/m³, soaked CBR 10 per cent) are suitable as embankment fill. None meets the improved sub-grade requirement (minimum soaked CBR 22.5 per cent) or the G30 sub-base requirement in its natural state. Kenya Power Gravel 1 (SC, PI 37.5 per cent, soaked CBR 3 per cent, swell 2.3 per cent) is unsuitable and shall not be used.

(c) Crushed stone. Motogi Quarry aggregate is strong and sound (LAA 19.6 to 23.2 per cent, ACV 14.5 to 20.2 per cent, sodium sulphate soundness loss 8.4 to 9.2 per cent). The 14/20 product as sampled is too coarse for BS 882 20 mm single-sized aggregate (50.8 per cent passing 20 mm) and has a water absorption of 3.2 per cent; the 3/6/10 product has a flakiness index of 38.7 per cent. The Karachi plant near Lodwar was not operating and was not tested.

(d) Fine aggregate. Gold river sand is a BS 882 grading M sand with 1.3 per cent silt and 3.3 per cent retained on 10 mm; its reported water absorption of 7.9 per cent is to be re-tested. Motogi quarry dust (2.1 per cent silt) is coarser than BS 882 grading C; blended with at least an equal part of river sand it falls within grading M.

603 Approval of Material Sources

No material shall be incorporated in the Works until its source has been approved by the Engineer. Not less than 28 days before it intends to use a source, the Contractor shall submit the location and estimated quantity of the source, the method of working, and the results of the tests listed below carried out on representative samples by a laboratory accepted by the Engineer. The cost of all such sampling and testing is deemed to be included in the rates.

(a) Natural gravel for embankment, improved sub-grade and sub-base: grading, Atterberg limits, linear shrinkage, compaction (AASHTO T.180) and three-point soaked CBR (10, 30 and 62 blows), reporting the CBR at 95, 97 and 100 per cent of MDD. Single-point CBR values shall not be accepted for source approval.

(b) Where the Contractor proposes to improve gravel with lime or cement to achieve the improved sub-grade (minimum soaked CBR 22.5 per cent at 97 per cent MDD) or the G30 sub-base requirement, laboratory improvement trials at not fewer than three stabiliser contents, reporting the soaked CBR at the specified density, the stabiliser content proposed and its effect on plasticity. Any such improvement is at the Contractor's cost unless it is measured in the Bill of Quantities.

(c) Cement-improved road base: a mix design on the approved gravel establishing the cement content within the range of 40 to 80 kg/m³ measured in Bill 14, with the seven-day unconfined compressive strength required by Section 14.

(d) Coarse aggregate: grading against BS 882, LAA, ACV, flakiness index, sodium sulphate soundness, specific gravity and water absorption. The Motogi 14/20 product shall be re- screened at 20 mm and re-tested before approval, and the cause of its 3.2 per cent water absorption shall be established. Aggregate with a flakiness index above 25 per cent shall not be used in bituminous work.

(e) Fine aggregate: grading against BS 882, silt and clay content, organic impurities, specific gravity and water absorption, and, for any blend of river sand and quarry dust, the grading of the blend in the proportions proposed. Trial mixes shall then be made for each concrete class in accordance with Section 17.

(f) Asphalt concrete: the aggregate tests in (d) and the mix design required by Section 16 on the materials of the plant proposed.

(g) Construction water: tests to BS EN 1008 on each source borehole.

The Contractor shall also test the formation along the road at intervals not exceeding 100 m, by dynamic cone penetrometer with confirmatory CBR tests, and shall submit the results to the Engineer before the improved sub-grade is placed, so that the lengths on which the formation does not meet class S3 can be confirmed. Approval of a source does not relieve the Contractor of its obligation to supply material that complies with the Specification throughout the Works; control testing shall continue at the frequencies required by Section 2.

690 Measurement and Payment

The cost of locating, sampling, testing, acquiring, opening, operating, draining, progressively rehabilitating and finally reinstating all quarries, borrow pits, stockpile sites and spoil areas, including all compensation, royalties, consents and licences, shall be deemed to be included in the rates and prices for the materials obtained from them.

Section 7. Excavation and Filling for Structures

703 Excavations Of Foundations For Structures

Unless otherwise instructed by the Resident Engineer, all excavated surfaces in material other than hard material, on which foundations for structures shall be placed, shall be compacted to 100% MDD (AASHTO T.99) immediately before structures are constructed.

Paragraph 4, last line: - Replace "95%" with "100%".

707 Backfilling For Structures

Unless otherwise instructed by the Resident Engineer, all backfilling material shall be compacted to a minimum of 100% MDD (AASHTO T.99).

Bakfillling below structrues, where instructed shall be carried out in compliance with the requirements of Clause 507 and 804 of the Standard Specification.

709 Excavations For River Training And New Water Courses

Payments for river training and establishment of new watercourses shall only be made where such work constitute permanent works. Works done for road deviation or other temporary works shall not qualify for payment.

710 Stone Pitching

Stone pitching to drains, inlets and outlets of culverts to embankments and around structure shall consist of sound un-weathered rock approved by the Resident Engineer.

The stone as dressed shall be roughly cubical in shape with minimum dimensions of 150 x 150mm for normal thickness of stone pitching.

The surface to receive the pitching shall be compacted and trimmed to slope and the stone laid, interlocked and rammed into the material to give an even finished surface.

In areas where stone pitching has been damaged, the Contractor shall identify such areas and notify the Resident Engineer for his agreement of the extent of the Works required and his approval and instructions to proceed with the Works. Stone Pitching Repair and Reconstruction shall be carried out in accordance with Clause 710 of the Standard Specifications.

The Works shall involve removal of the damaged stone pitching and reconstruction of the said areas in accordance with Clause 710 of the Standard Specifications by use of the sound salvaged material together with any necessary additional material where all such materials shall comply with Section 7 of the Standard Specifications.

Contrary to clause 713 of the standard specifications, the rates inserted for stone pitching shall allow for grouting.

711 Gabions

Where instructed by the Resident Engineer the Contractor will install gabions as protection works to washout areas or bridge Piers and or Abutments. Gabions shall be constructed in accordance with Clause 711 of the Standard Specification.

In cases where existing gabions have been damaged, the Contractor shall identify them and notify the Resident Engineer for his agreement of the extent of the Work required and his approval and instructions to proceed with the Works.

The Works shall involve removal of the damaged gabions / rocks, excavation to the correct levels and grades as directed by the Resident Engineer, and in accordance with Clause 711 of the Standard Specifications and reconstruction with new gabions and other necessary materials as necessary. The damaged gabions shall be recovered and transported to the nearest County Government Road works yard.

712 Rip-Rap Protection Work

Quarry waste or similar approved material shall be used to backfill scoured and eroded side, outfall and cut-off drains. The material shall be compacted to form a flat or curved surface preparatory to stone [pitching of drainage channels, existing and new scour checks as directed by the Resident Engineer.

The surface to receive the pitching shall be compacted and trimmed to slope and the stone hand laid, interlocked and rammed into the material to give an even finished surface. The interstices of the pitching shall be rammed with insitu material. The insitu material immediately behind the pitching shall be compacted to minimum density of 100% MDD compaction (AASHTO T.99)

790 Measurement and Payment

The items of Bill 7 shall be measured and paid as follows.

(a) Item 7.01: Excavation in soft material for culvert structures

Unit: m^3

Excavation for structures shall be measured by the cubic metre, calculated as the net volume between the underside of the structure as shown on the Drawings, a working space of 500 mm beyond the outer faces of the structure, and the original ground level. No payment shall be made for excavation outside those limits or for any battering or benching required for the Contractor's convenience or safety.

The rate shall include the excavation, the support of the sides of the excavation, dewatering, the backfilling and compaction of the working space in approved material, and the haulage to spoil of surplus material.

Section 8. Culverts and Drainage Works

801 Scope Of Section

The operations specified in this section apply to the installation of drainage works and reinstatement and improvement of the same.

804 Excavation For Culverts And Drainage Works

In the Standard Specifications, make the following amendments: -

(a) In paragraph 6, line 3, and in paragraph 7, line 5 and in paragraph 11, line 6, delete "95%" and insert "100%".

(b) Removal of Existing Pipe Culverts

Where instructed by the Resident Engineer, the Contractor shall excavate and remove all existing blocked or collapsed culvert pipes of any diameter including concrete surround, bedding, inlet and outlet structure.

The void left after removal of culvert pipes shall be widened as necessary to accommodate new concrete bedding, pipe and haunch.

The payment of this work shall be per linear metre of pipes removed, and the number of inlet/outlet structure removed

(c) Removal of other Existing Drainage Structures

When instructed by the Resident Engineer, the Contractor shall demolish or remove any other structure and payment for this shall be made on day work basis.

(d) Excavation for Culverts and Drainage Works

The Contractor shall carry out all excavations for new culverts and drainage works to the lines, levels, inclinations, and dimensions shown on the drawings or as instructed by the Resident Engineer.

805 Excavation In Hard Material

In the Standard Specifications, Sub-clauses 805(a) and 805 (b) delete "95%" and insert "100%".

In sub-clause 809(a), paragraph 1, line 1, substitute "95%" with "100%".

In sub-clause 809(c), paragraph 2, line 4, between the words "compacted" and "and shaped" insert the words "to 100% MDD (AASHTO T.99)".

Hard material is material that can be excavated only after blasting with explosives or barring and wedging or the use of a mechanical breaker fitted with a rock point in good condition and operated correctly. Boulders of more than 0.2m3 occurring in soft material shall be classified as hard material.

809 Bedding And Laying Of Pipe Culverts

Concrete pipes shall be laid on a 150mm thick concrete bed of class 15/20 and the pipes shall be bedded on a 1:3 cement: sand mortar at least 50mm thick, 150mm wide and extending the full length of the barrel.

The rates inserted shall allow for compaction of the bottom of excavation to 100% MDD (AASHTO T.99).

810 Jointing Concrete Pipes

The concrete pipes for the culverts shall have ogee joints and will be jointed by 1:2 (cement: sand mortar) and provided with fillets on the outside as described in clause 810 of the Standard Specification.

812 Backfilling Over Pipe Culverts

In the Standard Specifications, clause 812 a) Wherever the expression "dry density of 95% MDD (AASHTO T. 99)" occurs delete and replace with "dry density of 100% MDD (AASHTO T.99)".

The rates entered for laying of pipe culverts shall allow for backfilling to pipe culverts and compacting to 100% MDD (AASHTO T.99) and these works shall not be measured and paid for separately.

814 Subsoil Drains

In the event of excavation for repairs exposing local seepage, springs or unacceptably high water table, the Resident Engineer may instruct the provision of counter fort or French drains.

These drains shall consist of a trench excavated to the alignment, width, depth and gradient instructed by the Resident Engineer, and backfilled with approved compacted clean hard crushed rock material as specified in clause 815 of the standard specification. Where these drains lie within the carriageway the carriageway shall be reinstated with compacted stabilised gravel and surfaced with hot asphalt or a surface dressing as instructed by the Resident Engineer.

815 Invert Block Drains And Half Round Channels

Invert Block Drains and Half Round Channels are to be constructed as shown in the drawings provided in accordance with the Standard Specifications where directed by the Resident Engineer.

819 Lined Closed Drains and Precast Slotted Cover Slabs

This Clause covers the lined closed drain of 1.00 m × 1.00 m internal dimensions with precast slotted cover slabs shown on drawing C-G-PDD-001, which forms both the longitudinal drainage and the footpath surface of the adopted cross section. The drain is constructed on one side of the road only, on the low side of the carriageway, which falls one way across its whole width at 2.5 per cent to the drain.

(a) Excavation and bed

The excavation shall be taken out to the lines shown on the Drawings and the invert of the excavation shall be compacted to at least 95 per cent MDD (AASHTO T.180). Where the Engineer considers the founding material unsuitable, it shall be excavated and replaced with approved material compacted in layers. A bed of compacted gravel 75 mm thick shall be placed over the full width of the base plus 100 mm on each side, compacted to at least 95 per cent MDD (AASHTO T.180) and blinded with a damp-proof membrane or sand before the base reinforcement is placed.

(b) Walls and base

The base and walls shall be 150 mm thick reinforced concrete Class 20/20, reinforced as shown on the Drawings. The base and the wall kicker shall be cast in one operation. Construction joints shall be formed only at the positions shown on the Drawings or as approved by the Engineer, shall be prepared by exposing the aggregate and shall incorporate the waterstop shown. Movement joints shall be provided at intervals not exceeding 12 m and at every change of section, and shall be filled and sealed as shown.

The invert shall be benched and floated to a smooth finish falling continuously to the outfall at the gradient shown on the Drawings. No ponding shall be permitted on the completed invert.

(c) Precast slotted cover slabs

The cover slabs shall be 100 mm thick precast reinforced concrete of Class 25/20, slotted as shown on the Drawings to admit surface water, and shall form the walking surface of the footpath.

The Contractor shall submit, for the Engineer's acceptance before manufacture commences, the design of the cover slabs prepared, signed and sealed by an engineer registered with the Engineers Board of Kenya, together with the reinforcement drawings, the bending schedules and the proposed

lifting arrangements. The design shall demonstrate that the slab carries, without cracking and within the deflection limits of the design code adopted:

(i) a pedestrian imposed load of not less than 5.0 kN/m² uniformly distributed; and

(ii) an accidental wheel load of 20 kN applied over a contact area of 200 mm × 200 mm at the most onerous position on the slab, including at a slot edge and at a corner.

Slabs shall be cast in rigid moulds on a level casting bed under cover, shall be cured under continuously moist conditions for not less than seven days, and shall not be lifted from the casting bed before the concrete has attained 70 per cent of its characteristic strength, nor transported before 28 days. Lifting shall be by the inserts shown on the Drawings or by an approved method that does not induce cracking. Slabs shall be stacked on level bearers clear of the ground with bearers vertically aligned.

Slabs shall be laid on a continuous bed of cement mortar 1:3 not less than 10 mm thick, to a crossfall of 2.0 per cent towards the carriageway, with joints not exceeding 10 mm pointed in the same mortar. The finished surface shall lie within ± 6 mm of the design level and adjacent slabs shall not differ in level at a joint by more than 3 mm. Any slab that rocks, cracks or is chipped at a slot edge shall be removed and replaced at the Contractor's expense.

One slab in every twenty, and not fewer than five slabs in any consignment, shall be load tested to twice the design pedestrian imposed load, sustained for 24 hours, without visible cracking. The Engineer may require a proof test of a slab in place at any time.

(d) Gully inlets, access openings and connections

Gully inlets shall be formed at the positions shown on the Drawings or as instructed by the Engineer, at intervals not exceeding 30 m and at every low point. Removable access slabs, clearly marked, shall be provided at intervals not exceeding 50 m and at every change of direction to permit the drain to be desilted. Connections to cross culverts and to outfalls shall be formed with a smooth transition and without any reduction of the hydraulic section.

(e) Cleanliness at hand-over

The drain shall be completely free of silt, debris, formwork and construction waste at the Taking Over inspection and again at the end of the Defects Liability Period. The Contractor shall demonstrate free flow along the whole length of each drain by a water test before the Taking Over Certificate is issued.

821 Twin Pipe Culverts

There are no twin pipe culverts in this Contract. Items 8.06 to 8.09 are included with nil quantities so that rates are available should the Engineer order such work as a Variation, in which case it shall be constructed to the details of standard drawing C-G-STD-005.

Pipes shall be precast concrete, ogee-jointed, of the strength class required for the cover and loading at each crossing, and shall be laid on a 75 mm compacted concrete bed of Class 20/20 with the surround shown, to a continuous fall from inlet to outlet with no back-fall or ponding. The clear spacing between the two barrels shall be as shown on the drawing and shall be filled with concrete Class 20/20 cast monolithically with the surround.

Headwalls, wingwalls and aprons shall be of compacted concrete Class 20/20 on 75 mm Class 20/20 blinding, with a cut-off wall at the downstream edge of each apron not less than 600 mm deep. Stone pitching shall be provided to the watercourse banks where shown or instructed.

Each culvert shall be constructed in the dry season where possible, and the Contractor shall maintain the flow of the watercourse at all times by temporary diversion approved by the Engineer.

890 Measurement and Payment

The items of Bill 8 shall be measured and paid as follows.

(a) Item 8.01: Excavate for drains and culverts

Unit: m³

Excavation shall be measured by the cubic metre, calculated as the net volume between the outside faces of the completed structure or pipe surround as shown on the Drawings, plus 300 mm on each side, and the existing ground or formation level, whichever is the lower. No payment shall be made for excavation outside those limits.

The rate shall include the excavation in soft material to any depth, the compaction of the invert of the excavation, the support and dewatering of the excavation, the backfilling and compaction with excavated material where suitable, and the removal of surplus or unsuitable material to spoil at any distance.

(b) Item 8.02: Provide, lay and joint 900 mm internal diameter concrete pipes

Unit: m

Pipe culverts shall be measured by the linear metre laid, measured along the centre line of the pipe between the inside faces of the headwalls.

The rate shall include the provision, haulage, handling, laying, ogee jointing and testing of the pipes, the Class 15/20 compacted concrete bed and surround shown on the Drawings, the formwork to the surround, and the approved gravel backfill to sub-grade quality above the surround.

(c) Item 8.03: Construct headwalls, wingwalls and aprons to single 900 mm culverts

Unit: No.

Headwalls, wingwalls and aprons shall be measured by number, one unit being the complete inlet or the complete outlet structure to a single culvert line as shown on the Drawings.

The rate shall include all excavation not measured under item 8.01, the Class 20/20 compacted concrete, the formwork, the approved gravel backfill to sub-grade quality, the apron, the cut-off wall and the reinstatement of the surrounding ground.

(d) Item 8.04: Stone pitching, 150 mm thick

Unit: m²

Stone pitching shall be measured by the square metre of finished surface, measured on the slope.

The rate shall include the excavation and trimming of the slope, the bedding layer, the provision and placing of the stone, the hand-packing and the grouting or keying specified.

(e) Item 8.05: Lined closed drain, U-type, 1.00 m × 1.00 m internal, with slotted cover slabs

Unit: m

Lined closed drains shall be measured by the linear metre, measured along the centre line of the drain, and shall be measured through, and not deducted for, gully inlets and access openings.

The rate shall include the excavation in soft material not measured under item 8.01; the 75 mm compacted gravel bed; the 150 mm thick reinforced Class 20/20 concrete base and walls including all reinforcement, formwork, construction and movement joints and waterstops; the manufacture, curing, handling and placing of the 100 mm thick slotted precast concrete cover slabs including the design required by Clause 819 and all reinforcement, bedding and jointing; the benching and shaping of the invert; the gully inlets; the connections to cross culverts and outfalls; the backfilling and compaction behind the walls; and all testing.

(f) Item 8.06: Twin 900 mm internal diameter pipe culvert

Unit: m

Twin pipe culverts shall be measured by the linear metre of twin culvert, measured along the centre line of the culvert between the inside faces of the headwalls; the two barrels are not measured separately.

The rate shall include the excavation in soft material, the provision, haulage, handling, laying, ogee jointing and testing of both lines of pipes, the 75 mm Class 20/20 compacted concrete bed and the surround shown on drawing C-G-STD-005, the formwork, and the approved gravel backfill to sub-grade quality.

(g) Item 8.07: Headwalls, wingwalls and aprons to the twin 900 mm culverts

Unit: No.

Headwalls, wingwalls and aprons shall be measured by number, one unit being the complete inlet or the complete outlet structure to one twin culvert.

The rate shall include the excavation, the 75 mm Class 20/20 blinding, the Class 20/20 compacted concrete, the formwork, the apron and cut-off wall, the approved gravel backfill and the reinstatement of the surrounding ground.

(h) Item 8.08: Twin 1200 mm internal diameter pipe culvert

Unit: m

As item 8.06.

The rate shall include the matters listed against item 8.06, for 1200 mm pipes.

(i) Item 8.09: Headwalls, wingwalls and aprons to the twin 1200 mm culvert

Unit: No.

As item 8.07.

The rate shall include the matters listed against item 8.07.

Section 9. Passage of Traffic

901 Scope Of The Section

The Contractor shall so arrange his work to ensure the safe passage of the Traffic at all times and if necessary, construct and maintain an adequate diversion for traffic complete with all the necessary road traffic signs.

The contractor shall provide to the satisfaction of the Resident Engineer adequate warning signs, temporary restriction signs, advance warning signs, barriers, temporary bumps and any other device and personnel equipped with two-way radios to ensure the safe passage of traffic through the works.

When carrying out the Works the Contractor shall have full regard for the safety of all road users.

The Contractor shall also provide sign posts and maintain to the satisfaction of the Resident Engineer all deviations necessary to complete the works. The contractor should allow for the costs of complying with the requirements of this clause in his rates.

The contractor will be deemed to have inspected the site and satisfied himself as to the adequacy of his bid for these works and no additional payments will be made to the contractor for any expenditure on traffic control or the provision of deviations. The employer shall not be liable for inadequate prior investigations of this nature by the contractor.

903 Maintenance Of Existing Roads

The Contractor shall maintain the existing roads covered in the project using compacted natural gravel of sub-base quality in accordance with the provisions in Clause 903 of the Standard Specifications.

904 Constructions Of Deviations

(a) General

In addition to requirement of this clause, the maximum length of deviation road shall be restricted to 1 Kms at any given time unless otherwise instructed. The Contractor shall construct and complete deviations to the satisfaction of the Resident Engineer before commencing any permanent work on the existing road. Also during these works the contractor is supposed to provide a detour of adequate pipe culverts for pedestrian and traffic crossing where there is bridge works.

Contractor will be allowed to open further 1 Km of the deviation road only when 80% of the permanent work has been completed on first one. The sequencing of deviation road has been shown on the drawing.

Where the old road exists near the main road, Contractor shall use this road as deviation road.

(b) Geometry

The carriageway width of the deviations shall not be less than 6m wide and suitable for 2-way lorry traffic unless otherwise specified.

(c) Construction

Unless otherwise instructed gravel wearing course for the deviation shall be 150 mm compacted thicknesses complying with section 10 of the Standard Specification. The class of material shall be class 2 with a maximum plasticity index of 15%. The Contractor shall allow in his rate for removal of any unsuitable material before placing of gravel wearing course, as this will not be paid for separately.

In addition to provision of this clause, Contractor is required to sprinkle water at least 4 times a day at the rate of 1 to 1.4 litres/day in regular interval to minimise the effects of dust. Latest sprinkling time shall be one hour before the sunset.

906 Passage Of Traffic Through The Works

The Contractor shall arrange for passage of traffic through the works during construction whenever it is not practicable to make deviations. The cost of doing so shall be deemed to have been included elsewhere in his rates and no separate payment shall be made for this. To this end, the contractor shall be deemed to have inspected the site for himself and noted any locations where this may apply.

Any damage caused by passing traffic through the works shall be made good at the contractor's own cost.

907 Signs, Barriers And Lights

Contractor shall provide signs, barriers and lights as shown in the drawing in Book of Drawings at the locations where the traffic is being carried off the existing road to the deviation and back again to existing road. The Contractor shall provide ramps and carry out any other measures as instructed by the Resident Engineer to safely carry traffic from the road to deviation.

Contrary to what has been specified in this clause the road signs provided shall be fully reflectorised and in conformity with clause 9.1 of the "Manual for Traffic Signs in Kenya Part II".

909 Assistance To Public

In addition to provision of clause 909, the Contractor shall maintain close liaison with the relevant authorities to clear any broken down or accident vehicles from the deviations and the main road, in order to maintain smooth and safe flow of the traffic.

990 Measurement and Payment

The items of Bill 9 shall be measured and paid as follows.

(a) Item 9.01: Construction of diversions in maximum 0.3 km sections

Unit: km

Diversions shall be measured by the kilometre of diversion constructed, measured along the centre line, and shall be paid once only irrespective of the number of times the diversion is used.

The rate shall include all operations connected with the initial construction of the temporary deviation of the width instructed, the drainage of the deviation, and its removal and the reinstatement of the ground on completion.

(b) Item 9.02: Maintenance of gravel wearing surfacing on diversions

Unit: km

Maintenance shall be measured by the kilometre of diversion maintained, and shall be paid once only.

The rate shall include the weekly grading of the diversion, the making good of potholes, corrugations and edge damage, and the maintenance of the drainage, for the whole period during which the diversion is in use.

(c) Item 9.03: Watering of gravel wearing surfacing

Unit: m^2

Watering shall be measured by the square metre of diversion surface instructed to be watered, and shall be paid once only.

The rate shall include the provision and haulage of water and its application at a minimum rate of 5 mm per day for the whole period during which the diversion is in use.

(d) Item 9.04: Temporary signs, barriers and lights

Unit: Item

The item shall be paid as a lump sum, 50 per cent on the Engineer's certification that the temporary traffic management is fully installed and the balance pro rata to the value of the permanent Works certified.

The rate shall include the provision, erection, maintenance, relocation, cleaning and final removal of all temporary signs, barriers, cones, delineators, lights and temporary traffic signals required by the approved traffic management plan, and the provision of flagmen.

(e) Item 9.05: Access roads

Unit: m^2

Access roads shall be measured by the square metre of surface constructed, measured on plan.

The rate shall include the site clearance, topsoil stripping, earthworks, drainage, gravel wearing course, maintenance for the duration of use and the reinstatement of the ground on completion.

Section 11. Shoulders to Pavement

1101 General

The shoulders shall be constructed to a width of 1.5m, or as directed by the Resident Engineer.

1102 Material For Construction Of Shoulders

The shoulders shall be constructed as directed by the Resident Engineer, in accordance with sections 1105, 12, 13 and 14 of the Standard Specification. The material for shoulders shall be the same as that of subbase and base layers in the carriageway.

1105 Surface Treatment Of Shoulders

The shoulders shall consist of 35mm Asphalt concrete type II and 10/14mm nominal sized pre-coated chippings in accordance with Section 15 of the Standard Specifications on the first and second seal respectively.

1190 Measurement and Payment

Shoulders are not separately provided in the adopted cross section, the carriageway being flanked by kerbs and the lined footpath-cum-drain. Where the Engineer instructs shoulder construction at accesses or transitions, the work shall be measured and paid under the relevant items of Bills 5, 12 and 15.

Section 12. Natural Material Sub-base and Base

1201 General

This section includes provision of sub-base layer for the following: - a. Sub-base layer for carriageway, shoulder, junctions and bus bays using gravel material or other suitable material of sub- base quality; b. Thickness of the layer and cement content will be as shown on the Drawings and as specified in these Specifications

1203 Material Requirement

The grading and material requirements after placing and compaction shall conform to the following requirements: -

Gravels:

- Maximum size max 63mm - Plasticity Index max 15%

Sands, Silty and clayey sands:

- % passing 2mm sieve max 95% - % passing 0.075mm sieve min 10 - max 30% - Plasticity Index min 5 - max 12%

All materials

- -Uniformity Coefficient min 5% - Plasticity Modulus max 250% - CBR at 95% MDD (AASHTO T180) and 4 day soak min 30%

BASE

Gravel for base, where specified, shall confirm with the following requirements:

(i) California Bearing Ratio (CBR). Minimum CBR after 4 days soak shall be18% (ii) Grading; the gravel shall have a grading as per grading envelope shown in the attached curve. (iii) Plasticity; P.I: 30 maximum, PM. 200 min and 1200 max. (iv) Nodule Hardness: Nodule hardness shall be good

(v) Compaction of base- course gravel shall be carried out to 98% BS compaction

Natural material for cement or lime improved subbase

The material to be treated shall conform to the following requirement: -

Gravels:

- maximum size 10 - 50mm - % passing 0.075mm sieve max 40%

Sands, silty and clayey sands:

- maximum size 0.5- 10mm - % passing 0.075mm sieve max 50%

All materials:

- -Plasticity Index max 30% - Plasticity Modulus max 2500 - Organic matter max 2% - Additional requirements for lime treated materials: - % passing 0.425mm sieve min 15% - Plasticity Index min 10%

After treatment the material shall have a CBR of at least 60% measured after 7 day cure and 7 day soak on the site mix compacted to at least 95% MDD (AASHTO T180) and the treated material shall have a Plasticity Index between 5 and 12% and a Plasticity Modulus less than 250.

Natural material for cement or lime improved base

The materials to be treated shall conform to the following requirements:

Gravels:

- maximum size 10 - 50mm - % passing 0.075mm sieve 5 - 35%

Sands, silty and clayey sands:

- maximum size 1 - 10mm - % passing 0.075mm sieve max 40%

- Uniformity Coefficient min 5

All materials:

- Plasticity Index max 25% - Plasticity Modulus max 2000 - Organic matter max 1% - CBR at 95% MDD (AASHTO T180) and 4 day soak min 20%

Additional requirements for lime treated materials:

- % passing 0.425mm sieve min 15% - Plasticity Index min 10%

After treatment the material shall have a CBR of at least 160% measured after 7 day cure and 7 day soak on the site mix compacted to at least 95% MDD (AASHTO T180) and the treated material shall have a Plasticity Index less than 6% and a Plasticity Modulus less than 250.

Natural materials for cement stabilized base

The material to be treated shall conform to the following requirements.

Gravels and coarse clayey sands:

- maximum size 2 - 40mm - % passing 0.075mm sieve max 35% - -Uniformity Coefficient min 10 - -Plasticity Index max 25% - Plasticity Modulus

Mix-in-place method max 1500

Stationary plant method max 700

- CBR at 95% MDD (AASHTO T180) and 4 day soak min 30%

After treatment the material shall have a UCS of at least 1800 kN/m measured after 7 day cure and 7 day soak on the site mix compacted at 95% MDD (AASHTO T180) and the treated material shall have a Plasticity Index of less than 6% and a Plasticity Modulus of less than 250

1204 Natural Gravel for Sub-Base and Improved Sub-Grade at Kakuma

The road base is formed of natural gravel hydraulically improved with cement under Section 14, and this Section applies to the sub-base and the improved sub-grade only.

The natural gravel sub-base shall meet the G30 specification: a soaked CBR of not less than 30 per cent at 95 per cent MDD (AASHTO T.180) after four days soaking, a maximum plasticity index of 20 and a maximum swell of 1.0 per cent.

The improved sub-grade capping shall meet the G10 specification: a soaked CBR of not less than 10 per cent at the specified density, with a maximum plasticity index of 25.

The material to be improved with cement under Section 14 shall, before treatment, have a maximum particle size not exceeding two thirds of the compacted layer thickness, a grading within the envelope specified for sub-base, and a plasticity index not exceeding 25.

Each source shall be proved by the Contractor before it is used. The Contractor shall submit the results of grading, Atterberg limit, compaction and CBR tests on not fewer than three representative samples from each source, and shall repeat the tests whenever the character of the material changes or at intervals not exceeding 5,000 m³, whichever is the more frequent.

1290 Measurement and Payment

The items of Bill 12 shall be measured and paid as follows.

(a) Item 12.01: Natural material of sub-base and base quality

Unit: m³

Natural material sub-base and base shall be measured by the cubic metre compacted in place, calculated as the product of the area laid to the width shown on the Drawings and

the specified compacted thickness. No payment shall be made for material laid outside those lines.

The rate shall include the winning, provision, haulage, spreading, watering, processing, mixing and compaction to at least 95 per cent MDD (AASHTO T.180), the trimming to the specified tolerances, the protection of the completed layer and all testing. No haulage shall be paid separately.

Section 13. Graded Crushed Stone for Sub-base and Base

1303 Material Requirements

(a) Properties

Graded Crushed Stone shall comply in all respects with Section 13 of the Standard Specifications and shall be base, stone Class c in accordance with clause 1303 (b) of the standard specification.

(b) Grading

The nominal size of the base material shall be 0/40mm for base course in accordance with clause 1303(c) of the standard specification.

1306 Laying And Comacting Graded Crushed Base-Course

Add:

The average dry density shall not be less than 89% of the specific gravity of the stone with no result less than 86% of the specific gravity (Oven-dry value).

Graded crushed stone shall be placed by using a self-propelled spreader finisher fitted with an electronic level control device, and level control shall be from a tensioned wire supported at every 5m intervals. The graded crushed stone shall be finished to the tolerances given for base in Section 3 of these Specifications.

1309 Treated Materials

The Graded Crushed Stone shall be treated with 2% cement content and the mixing, transportation and laying shall be carried out as per section 1406 of the standard specification.

If it is found necessary to use retarders, the contractor shall inform the Resident Engineer appropriately and the cost of such retarders shall be incorporated in the cost of the GCS.

The contractor shall submit to the Resident Engineer, proposals for curing the base-course before the construction works commences and payment shall be asper section 1412(c) of the standard specification.

1390 Measurement and Payment

The items of Bill 13 shall be measured and paid as follows.

(a) Item 13.01: Graded crushed stone for sub-base and base

Unit: m^3

Graded crushed stone shall be measured by the cubic metre compacted in place, calculated as the product of the area laid to the width shown on the Drawings and the specified compacted thickness.

The rate shall include the provision, haulage, spreading, watering, processing and compaction of the material, the trimming to the specified tolerances and all testing.

Section 14. Cement Treated Materials

1403 Material Requirements

(a) Cement and lime

(i) Cement

Cement for stabilisation will be Ordinary Portland cement complying with Kenya Standard "KS 1725 2001 CEM 1 42.5" Specifications.

(ii) Lime

Replace "Lime shall be hydrated calcium lime or quicklime..." with "Lime shall be hydrated calcium lime and ..... "

1404 Amount Of Stabilizer To Be Added

The cement content of the stabilised material shall be as instructed by the Engineer folowing site trials but will norminally be about 3% for cement improved subgrade layers and 4% for cement stabilised gravel base layers. The Engineer shall exercise his discretion to any variation in the rate of application of the cement, which he may see fit to order from time to time.

1405 Mix-In-Place Method Of Construction

The mix in place method shall be used for the addition and mixing in of the stabiliser to sub-base gravel layer.

(a) Mixing equipment The equipment to be used for pulverising the material and mixing in stabilizer shall be an approved self-proelled pulvimixer equipment equipped with a device for controlling the depth of processing and the mixing blades shall be maintained or reset periodically so that the correct depth of mixing is obtained at all times. (b) Mixing and watering The moisture content of the layer after spreading and mixing in the stabilizer shall be adjusted as directed by the Engineer to within the range of 95% to 100% of the Optimum Moisture Content (AASHTO T180) before commmencxement of compaction. Compaction and finishing to be completed within 2 hours of spreading the stabilizer.

1409 Protection And Curing

This shall be in accordance with the provisions of Clause 1409(i) of the Standard Specification but provision shall be made to wet the surface from time to time as directed by the Resident Engineer.

1413 Cement Improvement of the Road Base at Kakuma

The road base shall be natural gravel improved with ordinary Portland cement to CEM I 42.5N or an equivalent approved by the Engineer, mixed and compacted to a finished thickness of 150 mm.

The quantity of cement to be added shall be determined from laboratory trials on the approved gravel and shall be within the range 40 to 80 kg/m^3 of loose material. The target unconfined compressive strength at 7 days on specimens compacted to the specified field density shall be between 1.5 and 3.0 N/mm^2. A strength above 3.0 N/mm^2 shall be rejected, because of the risk of reflective shrinkage cracking through the 50 mm asphalt concrete surfacing.

The elapsed time between the first contact of cement with water and the completion of compaction and final trimming shall not exceed two hours. In view of the high ambient temperatures and low humidity prevailing at Kakuma, the Contractor shall plan each day's work so that this limit is met, shall not spread cement on any length that cannot be completed within the limit, and shall suspend work when the shade temperature exceeds 35 °C unless the Engineer approves specific measures.

The layer shall be cured immediately on completion of trimming, by the application of an approved bituminous or resin curing membrane at the rate recommended by the manufacturer, or by maintaining a continuously moist surface under impermeable sheeting, for not less than seven days. A surface that is allowed to dry out shall be rejected.

No construction traffic shall run on the completed layer during the curing period. Thereafter only the traffic necessary for the construction of the overlying layers shall be permitted, and the Contractor shall protect the layer from damage and from point loading.

Transverse induced cracks shall be formed at 3 m intervals by an approved method where directed by the Engineer, to control the position of shrinkage cracking.

1490 Measurement and Payment

The items of Bill 14 shall be measured and paid as follows.

(a) Item 14.01: Provide and spread cement stabiliser

Unit: tonne

Cement stabiliser shall be measured by the tonne of cement actually incorporated in the Works, determined from the delivery notes and the spread rate checked by tray tests, at the application rate instructed by the Engineer within the range 40 to 80 kg/m³.

The rate shall include the provision, haulage, storage in dry conditions, handling and uniform spreading of the cement, and the tray testing of the spread rate.

(b) Item 14.02: Mix in cement stabiliser

Unit: m³

Mixing shall be measured by the cubic metre of compacted treated material, calculated as the product of the area treated to the width shown on the Drawings and the specified compacted thickness of 150 mm.

The rate shall include the pulverisation of the material, the mixing in of the stabiliser to the specified uniformity by stationary plant or approved mix-in-place equipment, the addition of water, the compaction within the time specified in Clause 1405, the trimming and all testing, including the unconfined compressive strength testing required by Clause 226.

(c) Item 14.03: Curing of treated layers

Unit: m²

Curing shall be measured by the square metre of treated layer surface cured, measured on plan.

The rate shall include the provision and application of the approved curing membrane or the maintenance of a continuously moist surface for the period specified in Clause 1409, and the protection of the layer from traffic and from desiccation for that period.

Section 15. Bituminous Surface Treatments

1501A General

The surfacing is an asphaltic concrete as a wearing course. Details of the mix and application will be as directed by the Resident Engineer.

Part B - Prime Coat

1502B Materials For Prime Coat And Tack Coat

The surface of the base layer shall be primed with a prime coat binder. The primer used shall be MC70 applied between the temperatures 45oC – 85oC at the rate of 0.8 - 1.2 litre/m2 unless otherwise directed by the Engineer. Prior to application of the primer, the base course surface shall be brushed off at all loose material to the satisfaction of the Resident Engineer. The Resident Engineer may direct a light wetting of the surface with water if he may so desire to enhance the penetration.

The primer shall be spread in one even layer to the widths as shown on the drawings or as directed by the Resident Engineer by a pressure distributor. Hand spraying shall not be permitted except in small areas, when approved by the Resident Engineer.

The primed surface of the road shall be closed to all traffic. However, where it is necessary to cross the primed area, a layer of sand or crusher fines shall be spread at the rate of 2.5 kg/m3 along the width required.

The primed area shall be allowed to cure for 24 to 48 hours or as directed by the Resident Engineer.

The tack coat to be applied prior to laying bituminous mixes shall consist of bitumen emulsion KI-70 unless otherwise directed by the Engineer. For tack coat, the binder shall be a penetration grade bitumen applied hot immediately prior to laying the bituminous mixture layer or alternatively a rapid curing cut-back or medium curing cut-back applied at sufficient time before laying the bituminous mixture to allow the evaporation of the cutter (solvent); or a quick breaking Emulsion or slow-setting emulsion diluted with water, applied sufficient time before laying the bituminous mixture to allow the emulsion to break and the water to evaporate and run off.

Blinding material if required shall consist of fine aggregate, or sand, or crusher dust and shall contain not more than 15 per cent retained on a 6.3 mm sieve. The blinding material if required by the Resident Engineer will be specified in the Special Specification.

1502C Materials For Surface Dressing

a) Binder The bituminous binder shall be 80/100 penetration grade bitumen and conforming to clause 211 of the Standard Specification. b) Chippings Chippings shall be of Class 3 material and shall comply in all respects with clause 1502C of the Standard Specification. The Contractor's attention is drawn to the requirements of Clause 1501C of the Standard Specification with regard to cleanliness and the dust content of chippings for surface dressing. Should it prove necessary in the Resident Engineer' opinion to wash chippings, no extra payment will be made to the contractor for this operation.

1503B Preparation Of Surface

The surface to be sprayed shall be thoroughly cleaned by sweeping with mechanical brooms and/or washing or other approved means. All laitance of soil or binder material, loose and foreign material shall be removed.

All loose material shall be swept clear of the layer to expose the full width of the layer.

The surface to be sprayed shall be checked for line, camber and level, and the surface corrected, made good as necessary and approved by the Resident Engineer before any bituminous spray is applied. The Resident Engineer’s approval, or otherwise, of the surface will be given immediately prior to the Contractor’s intention to start spraying.

Unless otherwise directed by the Resident Engineer, immediately prior to the application of prime coat, the surface of the layer shall be lightly sprayed with water to give complete coverage of the layer, but in no case saturated.

1503C Spray And Spread Rates Of Bitumen And Chippings

Spray and Spread Rates for bitumen and chippings cannot be calculated until samples of the chippings to be used are available for test.

After submission of samples and completion of laboratory tests on chippings and binder, the contractor shall in the presence of the Resident Engineer or his representatives, lay trial sections of seal at various rates of spray and spread as directed by the Resident Engineer and in accordance with clause 1503C of the Standard Specification.

Should any change occur in nature of source of chippings or bitumen, the contractor shall advice the Resident Engineer accordingly who will then decide if any revisions are required to the spray and spread rates.

If any changes are required, the Contractor shall carry out further trials as instructed by the Resident Engineer.

Payment for binder and chippings will be based on the instructed spray and spread rates used which may not necessarily be those specified. The Resident Engineer will specify the spray rates of bitumen as residual bitumen per square meter. Actual spray rates used by the Contractor must be adjusted to compensate for any cut-back added.

1504B Spraying Of Prime Coat And Tack Coat

The rate of spray of bituminous prime coat refers to the gross volume of the cut- back bitumen, that is to say the volume of the bitumen sprayed per m2. It will generally be between 0.8-1.2 litres/square metre.

The rate of spray of the tack coat binder shall be as instructed by the Engineer and shall generally be within the range 0.3-0.8 litres/square metre.

1505B Curing And Blinding Of Prime Coat

If, after the application of the prime coat, the bituminous material fails to penetrate within the time specified or if the road must be used by traffic, blinding material shall be spread in the amount required to absorb any excess bituminous material and to protect the primed surface.

Blinding material shall be spread from trucks in such a manner that no wheel will travel on uncovered bituminous material.

Unless the Resident Engineer permits otherwise, all loose material on the sprayed surface, including any blinding material shall be removed before any further layer of the is laid.

1505C Pre-Coated Chippings

Chippings utilized for surface dressing works under this contract shall be pre- coated in accordance with clause 1505C of the Standard Specification. The binder used for pre-coating chippings shall be MC70 or as otherwise directed by the Engineer.

The amount of bituminous binder used to pre-coat chippings will be as instructed by the Resident Engineer and will normally be between 0.4% and 1.0% residual bitumen as percentage of the total dry weight.

Prior to laying any pre-coated chippings the Contractor shall prepare trial mixes of bitumen and chippings in the presence of the Resident Engineer. After completion of trial mixes the Resident Engineer shall issue written instructions to the Contractor indicating the amount of binder to be added in pre-coated chippings. The Contractor shall maintain this proportion unless the surface or nature of the chippings changes when the Contractor shall repeat the trials and the Resident Engineer will issue revised instruction.

1506B Tolerances

The rate of application of bituminous binder across the width of each spray run shall not vary by more than ±10% of the rate ordered and the average rate of binder for each single run of the spray truck shall be at least equal to the rate ordered. Tray tests should be taken at least once a day during priming operation to check calculations based on dipping of spray trucks.

1590 Measurement and Payment

The items of Bill 15 shall be measured and paid as follows.

(a) Item 15.01: Bituminous prime coat, type MC 70

Unit: litre

Prime coat shall be measured by the litre of bitumen actually sprayed, determined from the calibrated distributor dip readings and checked against the specified spray rate of 1.0 litre/m² applied to the area primed.

The rate shall include the provision, haulage, storage, heating and spraying of the bitumen, the preparation and cleaning of the surface, the blinding where instructed, the curing period and the protection of the primed surface. No haulage shall be paid separately.

(b) Item 15.02: Bituminous tack coat, type K1-60

Unit: litre

Tack coat shall be measured by the litre of emulsion actually sprayed, determined as for item 15.01 and checked against the specified spray rate of 0.8 litre/m².

The rate shall include the provision, haulage, storage and spraying of the emulsion, the preparation and cleaning of the surface and the protection of the tacked surface until overlaid.

Section 16. Bituminous Mix Bases, Binder Courses and Wearing Courses

1601A Scope Of Part A

This comprises all the general requirements for bituminous mixes.

1601B Definition

The Asphalt Concrete shall be 0/14mm binder course Type I. However, modifications to the Standard Specification have been made below to correspond with SHRP SUPERPAVE system recommendations on the design of bituminous materials. The design of hot mixes shall be in accordance with the procedure detailed in Overseas Road Note 19 -"A guide to the design of hot mix asphalt in tropical and subtropical countries". The Contractor shall provide copies of ORN 19 and Asphalt Institute Superpave Manual Series No. 2 to the Resident Engineer at the start of the Project. The salient features with reference to Standard Specification are summarized below.

1602A Requirements From Other Sections

The following sections of this Specification apply to Part B of this section and shall be read in conjunction therewith: -

Section 2 Materials and Testing of Materials

Section 3 Setting Out and Tolerances

Section 6 Quarries, Borrow Pits, Stockpile and Spoil Areas

Section 15 Bituminous Surface Treatments and Surface Dressing

1602B Materials For Asphalt Concrete

a) Penetration Grade Bitumen

Delete Sub-Section (a) and replace with: -

The bitumen shall be 80/100 penetration grade, and shall meet the requirements of Table 4.3 in ORN 19 as summarized below.

For tack coat, the binder shall be K1-70 cationic emulsion, applied prior to laying the bituminous mixture to allow the emulsion to break and the water to evaporate.

Test Pen Pen Pen TEST Min Method 40/50 60/70 80/100 (ASTM) Based on original bitumen penetration Penetration at 250C D5 40-50 60-70 80-100 Softening point (oC) D36 49-59 46-56 42-51 Flash point (oC) Min D92 232 232 219 Solubility in trichloroethylene (%) Min D 2042 99 99 99 TFOT heating for 5 hr at 163 C D 1754 a) Loss by mass (%) Max 0.5 0.5 0.5 b) Penetration (% of original) Min D5 58 54 50 c) Ductility at 250C Min D 113 - 50 75 b) Aggregate

(i) In the Standard Specifications rename Table 16B-1 as 16B-1(a)

(ii) The coarse aggregate shall be entirely crushed rock from a source which is known to give high values of stability (>9kN) in the Marshall test. Crushed river gravel shall not be used. Aggregates shall meet the requirements given in Table 16B-1(b) below.

Table 16 B-1(b) Requirements of Aggregate

Property Test Property Sand equivalent for 4.75mm fraction 1 > 40 Plasticity index for materials passing 0.425mm sieve 2 <4 Cleanliness Linear shrinkage for materials passing 0.425mm sieve, <2 % Particle shape Flakiness Index (FI) 3 <25 Aggregate Crushing Value, (ACV) 4 < 25 Aggregate Impact Value, (AIV) 4 <25 Strength 10% FACT (dry) kN 4 > 160 Los Angeles Abrasion, (LAA) 5 <30 Abrasion Aggregate Abrasion Value 4 < 14 Soundness 7 Sodium Sulphate Soundness (SSS) Coarse aggregate <10 5cycles Sodium Sulphate Soundness (SSS) Fine aggregate <16 % loss Magnesium Sulphate Soundness (MSS) Coarse <15 aggregate <20 Magnesium Sulphate Soundness (MSS) Fine aggregate Polishing Polished Stone Value >57 Water absorption Water absorption , % 6 <2

Immersion Mechanical Test: Index of retained >75 Marshall stability ,% 8 Bitumen affinity Static Immersion Test, % coating retained 9 >95 Retained Indirect Tensile Strength % at 7% VIM 10 >79

1) AASHTO T176 2) British Standard 1377: Part 2 3) British Standard 812: Part 105 4) British Standard 812: Part 110 to 114 5) ASTM C131 and C 535 6) British Standard 812: Part 2

7) AASHTO T104 8) D Whiteoak (1990) 9) AASHTO T 182 10) AASHTO T 283

Fine aggregate (passing a 6.3mm sieve) shall consist of entirely crushed rock produced from stone having a Los Angeles Abrasion of not more than forty (40).

Aggregates for bituminous mixes shall be stored in single size in separate bins or on areas covered with tightly laid wood planks, sheet metal, hard compacted gravel, concrete or other hard and clean surfaces. The surface shall be self draining, and in such a manner that will preclude the inclusion of foreign material. Aggregates of different grades and sizes and from different sources shall be stored in separate piles, and if these piles are close together they shall be separated by bulk heads.

1603A Construction Plant

(a) General

The Contractor shall submit to the Resident Engineer in accordance with Section 1 of its Specification, full details of the construction plant he proposes to use and the procedures he proposes to adopt for carrying out the permanent Works.

The Resident Engineer shall have access at all times to construction plant for the purposes of inspection. The Contractor shall carry out regular calibration checks in the presence of the Resident Engineer and shall correct forthwith any faults which are found.

All construction plant used in the mixing, laying and compacting of bituminous mixes shall be of adequate rated capacity, in good working condition, and shall be acceptable to the Resident Engineer. Obsolete or worn-out plant will not be allowed on the work.

(b) Mixing Plant

Bituminous materials shall be mixed in a plant complying with ASTM Designation D995 and shall be located on the Site unless otherwise agreed by the Resident Engineer. It shall be equipped with at least three bins for the storage of heated aggregates and a separate bin for filler. All bins shall be covered to prevent the ingress of moisture.

The plant may be either the batch-mix type or the continuous-mix type and shall be capable of regulating the composition of the mixture to within the tolerances specified in Clause 1614A of this Specification.

The bitumen tank shall be capable of maintaining its contents at the specified temperature within a tolerance of 50C and a fixed thermometer easily read from outside the tank. Any bitumen which has been heated above 1800C or has suffered carbonisation from prolonged heating shall be removed from the plant and disposed of.

(c) Laying Plant

Bituminous materials shall be laid by a self-propelled spreader finisher equipped with a hopper, delivery augers and a heated adjustable vibrating screed. It shall be capable of laying bituminous materials with no segregation, dragging, burning or other defects and within the specified level and surface regularity tolerance. Delivery augers shall terminate not more than 200mm from the edge plates.

(d) Compaction Plant

The Contractor shall provide sufficient rollers of adequate size and weight to achieve the specified compaction. Prior to commencing the laying of bituminous mixes in the permanent Works the Contractor shall carry out site trials in accordance with Section 2 of this Specification to demonstrate

the adequacy of his plant and to determine the optimum method of use and sequence of operation of the rollers.

It is important to achieve as high a density as possible at the time of construction and it is expected that vibrating rollers will be required to produce the best results. However, it is essential that thorough pre-construction trials are carried out to ensure that: -

(i) The roller is set up to have the optimum amplitude and frequency of vibration for the particular material being laid (ii) That the roller does not cause breakdown of the aggregate particles. (iii) That the optimum compaction temperatures are established which allow compaction without causing ripple effects or other distortions of the surfacing.

1603B Grading Requirements

The grading of the mixture of coarse and fine aggregate shall be within and approximately parallel to the grading envelopes given in Table 16B-1(a) of the standard specification for 0/14mm binder course type I. For better workability of asphalt concrete designed to refusal density and for laying thickness of 35mm, the maximum size shall be limited to 14mm. In addition, the material shall comply with the requirements below.

The Contractor shall investigate a number of grading so that a workable mix, which also retains a minimum of 3% voids at refusal density, is identified. The recommendations given in the SHRP SUPERPAVE system are provided in Tables 16B-1(c) and 16B-1(d) as guidance towards identifying a suitable grading.

Table 16B-1(c) - Superpave Aggregate Grading Control Point

Nominal Control Point Sieve Size Maximum Size (% Passing) (mm) (mm) Minimum Maximum 19 100 - 12.5 90 100 12.5 9.5 - 90 4.75 - - 2.36 28 58

Note: The SUPERPAVE definition of Nominal Maximum Size of Aggregate is one sieve size larger than the first sieve to retain more than 10% of the aggregate.

Table 16B-1(d) - Superpave Boundaries of Aggregate Restricted Zone

Nominal Restricted Zone Sieve Size Maximum Size (% Passing) (mm) (mm) Minimum Maximum 2.36 39.1 39.1 1.18 25.6 31.6 12.5 0.6 19.1 23.1 0.3 15.5 15.5

1604A Preparation Of Surface

Immediately before placing the bituminous mix in the pavement, the existing surface shall be cleaned of all material and foreign matter with mechanical brooms or by other approved methods. The debris shall be deposited well clear of the surface to be covered.

Any defect of the surface shall be made good and no bituminous mix shall be laid until the surface has been approved by the Resident Engineer.

If instructed by the Resident Engineer a tack coat shall be applied in accordance with Section 15 of this Specification. If the Resident Engineer considers a tack coat is required prior to laying the bituminous mix or between layers of the bituminous mix, due solely to the Contractor's method of working, then such tack coat shall be at the Contractor's expense.

1604B Requirements For Asphalt Concrete

Minimum Marshall Stability for 2x75 blows shall be 9kN and 18kN as the maximum and compaction to refusal density shall have minimum 3%VIM.

The nominal binder content shall be 5.5%. The binder content of the working mix will be approved by the Resident Engineer following laboratory and site trials.

In order to determine the suitability of a coarse aggregate source, a Marshall test programme shall be carried out. It will be advantageous to use a crushed rock, which is known from past experience to give good results in this test procedure meeting the best properties in Table 16B-1(b). A grading

conforming to the Type I, 0/14mm binder course detailed in Table 16B-1(a) of the standard specification should be checked.

Having established the suitability of the aggregate source several grading shall be tested in the laboratory, including that used for the Marshall test. The blended grading shall include coarse, intermediate and fine grading that pass below the restricted zone, which shall increase the degree of interlock. For each mix, samples shall be made up to a range of bitumen contents at reducing interval of 0.25% from the nominal binder content and compacted to refusal using a gyratory compactor and a vibratory hammer in accordance with the procedure described in BS 598 (Part 104: 1989), to establish a relationship between bitumen content and VIM at refusal density for all the gradings.

It should first be confirmed that compaction on one face of the sample gives the same refusal density as when the same compaction cycle is applied to both faces of the same sample. The procedure, which gives the highest density, must be used and shall be submitted to the Resident Engineer for approval.

From the above bitumen content-VIM @ refusal density relationship, it shall be possible to identify a bitumen content which corresponds to VIM of 3% for each grading.

To determine the workability of the mix, compaction trials should be undertaken in these grading with designed binder content @ 3% VIM. It is advisable to establish two or more grading for compaction trials.

The compaction trials will identify a workable mix which can be made to a bitumen content which gives 3% VIM at refusal density meeting the superpave design requirements minimum of VMA 14% at 4% VIM, VFB 65-75% and FLOW 2 - 3.5mm

The mixes identified in compaction trials should be manufactured to the laboratory design bitumen content and to two other bitumen contents. Cores will be cut to determine the density of the compacted material; having completed this core will then be reheated to 145+/-50C in the appropriate mould and compacted to refusal in the vibrating hammer test. To be acceptable the cores cut from the compaction trial must have a density equivalent to at least 95% of refusal density.

1605A Design And Working Mixes

At least two months prior to commencing work using a bituminous mix, the Contractor shall, having demonstrated that he can produce aggregates meeting the grading requirements of the Specification, submit samples of each constituent of the mix to the Resident Engineer. The Resident Engineer will then carry out laboratory tests in order to decide upon the proportion of each constituent of the initial design mix or mixes to be used for site trials to be carried out in accordance with Clause 1606A of this Specification.

Should the Resident Engineer conclude from the site trials that the mix proportion or aggregate grading are to be changed, the Contractor shall submit further samples of the constituents and carry out further site trials all as directed by the Resident Engineer.

The Resident Engineer may instruct the alteration of the composition of the -75- micron fraction of the aggregates by the addition or substitution of mineral filler. The Resident Engineer may also instruct the alteration of all or part of the - 6.3mm fraction of the aggregates by the addition or substitution of natural sand.

The Contractor shall make the necessary adjustments to his plant to enable the revised mix to be produced.

Following laboratory and site trials the Resident Engineer will determine the proportions of the working mix and the Contractor shall maintain this composition within the tolerances given in Clause 1614A.

Should any changes occur in the nature or source of the constituent materials, the Contractor shall advise the Resident Engineer accordingly? The procedure set out above shall be followed in establishing the new mix design.

1606A Site Trials

Full scale laying and compaction site trials shall be carried out by the Contractor on all asphalt pavement materials proposed for the Works using the construction plant and methods proposed by the Contractor for constructing the Works. The trials shall be carried out with the agreement, and in the presence of the Resident Engineer, at a location approved by the Resident Engineer.

The trials shall be carried out to: - a) Test materials, designed in the laboratory, so that a workable mix that satisfies the specification requirements can be selected. b) To enable the Contractor to demonstrate the suitability of his mixing and compaction equipment to provide and compact the material to the specified density and to confirm that the other specified requirements of the completed asphalt pavement layer can be achieved.

Each trial area shall be at least 100 metres long and to the full construction width and depth for the material. It may form part of the Works provided it complies with this Specification. Any areas that do not comply with this Specification shall be removed.

The Contractor shall allow in his programme for conducting site trials and for carrying out the appropriate tests on them. The trial on any pavement layer shall be undertaken at least 21 days ahead of the Contractor proposing to commence full-scale work on that layer.

The Contractor shall compact each section of trial over the range of compactive effort the Contractor is proposing and the following data shall be recorded for each level of compactive effort at each site trial: - i) The composition and grading of the material including the bitumen content and type and grade of bitumen used. ii) The moisture content of aggregate in the asphalt plant hot bins. iii) The temperature of the bitumen and aggregate immediately prior to entering the mixer, the temperature of the mix on discharge from the mixer and the temperature of the mix on commencement of laying, on commencement of compaction and on completion of compaction. The temperature of the mixture is to be measured in accordance with BS 598, Part 3, Appendix A. iv) The type, size, mass, width of roll, number of wheels, wheel load, tyre pressures, frequency of vibration and the number of passes of the compaction equipment, as appropriate for the type of roller. v) The target voids and other target properties of the mix together with the results of the laboratory tests on the mix. vi) The density and voids achieved vii) The compacted thickness of the layer. viii) Any other relevant information as directed by the Resident Engineer.

At least eight sets of tests shall be made by the Contractor and the Resident Engineer on each 100 metres of trial for each level of compactive effort and provided all eight sets of results over the range of compactive effort proposed by the Contractor meet the specified requirements for the material then the site trial shall be deemed successful. The above data recorded in the trial shall become the agreed basis on which the particular material shall be provided and processed to achieve the specified requirements.

1606B Compaction

Rolling shall be continued until compaction of the completed layer attains a minimum mean value of 95% of refusal density (no value less than 93%) and until the voids measured in the compacted layer are within the specified range as appropriate.

1607A Mixing Of Aggregates And Bitumen

The bitumen shall be heated so that it can be distributed uniformly and care shall be taken not to overheat it. The temperature shall never exceed 1700 C for 80/100 or 60/70 bitumen.

The aggregates shall be dried and heated so that they are mixed at the following temperatures:

125-1650C when 80/100 bitumen is used

130-1700C when 60/70 bitumen is used

The dried aggregates shall be combined in the mixer in the amount of each fraction instructed by the Resident Engineer and the bitumen shall then be introduced into the mixer in the amount specified. The materials shall then be mixed until a complete and uniform coating of the aggregate is obtained.

The mixing time shall be the shortest required to obtain a uniform mix and thorough coating. The wet mixing time shall be determined by the Contractor and agreed by the Resident Engineer for each plant and for each type of aggregate used. It shall normally not exceed 60 seconds.

1608A Transporting The Mixture

The bituminous mix shall be kept free of contamination and segregation during transportation. Each load shall be covered with canvas or similar covering to protect it from the weather and dust.

1608B Asphalt Concrete Type II for this Contract

The wearing course shall be asphalt concrete Type II (0/14), laid and compacted to a finished thickness of 50 mm, with a nominal bitumen content of 5.7 per cent by weight of total mix, subject to confirmation by the mix design.

The bitumen grade shall be selected having regard to the high pavement temperatures prevailing at Kakuma. The Contractor shall propose the grade in its mix design submission, and a grade softer than 60/70 penetration shall not be accepted without the written approval of the Engineer.

Asphalt concrete supplied from a plant remote from the site shall be transported in insulated, sheeted vehicles. The temperature of the mixture at the point of delivery to the paver shall not be less than 135 °C, and any load delivered below that temperature, or which has crusted or segregated in transit, shall be rejected. The Contractor shall record the plant discharge temperature, the departure time, the arrival time and the delivery temperature of every load, and shall make the records available to the Engineer daily.

Laying shall be by self-propelled paver with automatic level control working from a taut wire or a ski beam not shorter than 9 m. Hand laying shall be permitted only at locations where the paver cannot operate, and only with the Engineer's prior approval.

The compacted density shall be not less than 98 per cent of the density of the laboratory reference specimen, and the air voids in the compacted mixture shall lie between 3 and 5 per cent. Compliance shall be determined on cores cut at the rate specified in Clause 1613A.

Longitudinal joints shall be located at lane lines and shall not coincide with the wheel path. All joints shall be cut back to a vertical face, painted with bitumen emulsion and rolled while hot.

1609A Laying The Mixture

Immediately after the surface has been prepared and approved, the mixture shall be spread to line and level by the laying plant without segregation and dragging.

The mixture shall be placed in widths of one traffic lane at a time, unless otherwise agreed by the Resident Engineer. The compacted thickness of any layer shall be at least 2.5 times the maximum size of the aggregate for wearing course and at least 2 times for binder course. The minimum thickness shall be 35mm.

Only on areas where irregularities or unavoidable obstacles make the use of mechanical laying impracticable, may the mixture be spread and compacted by hand.

1610A Compaction

Immediately after the bituminous mixture has been spread, it shall be thoroughly and uniformly compacted by rolling.

The layer shall be rolled when the mixture is in such a condition that rolling does not cause undue displacement or shoving.

The number, weight and type of rollers furnished shall be sufficient to obtain the required compaction while the mixture is in a workable condition. The sequence of rolling operations shall be as agreed with the Resident Engineer and proved during site trials. Initial rolling with steel tandem or three-wheeled roller shall follow the laying plant as closely as possible. The rollers shall be operated with the drive roll nearest the laying plant, at a slow and uniform speed (not exceeding 5 Km/Hr).

Rolling shall normally commence from the outer edge and proceed longitudinally parallel to the centreline, each trip overlapping one half of the roller width. On super elevated curves, rolling shall begin at the low side and progress to the high side. Where laying is carried out in lanes care must be taken to prevent water entrapment.

Intermediate rolling with a pneumatic tyred or vibratory roller shall follow immediately. Final rolling with a steel-wheeled roller shall be used to eliminate marks from previous rolling.

To prevent adhesion of the mixture to the rollers, the wheels shall be kept lightly moistened with water.

In areas too small for the roller, a vibrating plate compactor or a hand tamper shall be used to achieve the specified compaction.

1611A Finishing, Joints And Edges

Any mixture that becomes loose and broken, mixed with dirt or foreign matter or is in any way defective, shall be removed and replaced with fresh hot mixture, which shall be compacted to conform to the surrounding area.

Spreading of the mixture shall be as continuous as possible. Transverse joints shall be formed by cutting neatly in a straight line across the previous run to expose the full depth of the course. The vertical face so formed shall be painted lightly with hot 80/100 penetration grade bitumen just before the additional mixture is placed against it.

Longitudinal joints shall be rolled directly behind the paving operation. The first lane shall be placed true to line and level and have an approximately vertical face. The mixture placed in the abutting lane shall then be tightly crowded against the face of the previously placed lane. The paver shall be positioned to spread material overlapping the joint face by 20-30mm. Before rolling, the excess mixture shall be raked off and discarded.

When the abutting lane is not placed in the same day, or the joint is destroyed by traffic, the edge of the lane shall be cut back as necessary, trimmed to line and painted lightly with hot 80/100 penetration grade bitumen just before the abutting lane is placed.

Any fresh mixture spread accidentally on the existing work at a joint shall be carefully removed by brooming it back on to uncompacted work, so as to avoid formation of irregularities at the joint. The finish at joints shall comply with the surface requirements and shall present the same uniformity of finish, texture and density as other sections of the work.

The edges of the course shall be rolled concurrently with or immediately after the longitudinal joint. In rolling the edges, roller wheels shall extend 50 to 100mm beyond the edge.

1612A Sampling And Testing Of Bituminous Mixtures

The sampling of bituminous mixtures shall be carried out in accordance with AASHTO T168 (ASTM Designation D979).

1613A Quality Control Testing

During mixing and laying of bituminous mixtures, control tests on the constituents and on the mixed material shall be carried out in accordance with Clause 1612A and Section 2 of this Specification.

If the results of any tests show that any of the constituent materials fail to comply with this Specification, the Contractor shall carry out whatever changes may be necessary to the materials or the source of supply to ensure compliance.

If the results of more than one test in ten on the mixed material show that the material fails to comply with this Specification, laying shall forthwith cease until the reason for the failure has been found and corrected. The Contractor shall remove any faulty material laid and replace it with material complying with this Specification all at his own expense.

1614A Tolerances

Surfacing courses and base shall be constructed within the geometric tolerances specified in Section 3 of this Specification.

The Contractor shall maintain the composition of the mixture as determined from the laboratory and site trials within the following tolerances, per single test: -

Bitumen Content 0.3% (by total weight of total mix)

Passing 10mm sieve 6% (by total weight of dry aggregate and larger sieves including mineral filler)

Passing sieves between 4% (by total weight of dry aggregate

10mm and 1.0mm sieves including mineral filler)

Passing sieves between 3% (by total weight of dry aggregate

1.0mm and 0.075mm sieve including mineral filler)

Passing 0.075mm sieve 2% (by total weight of dry aggregate including mineral filler)

The average amount of bitumen in any length of any layer, calculated as the product of the bitumen contents obtained from single tests and the weight of mixture represented by each test, shall not be less than the amount ordered.

The average amount of bitumen for each day's production calculated from the checked weights of mixes shall not be less than the amount ordered.

The average amount of bitumen in any length of any layer, calculated as the product of the bitumen contents obtained from single tests and the weight of mixture represented by each test, shall not be less than the amount ordered.

The average amount of bitumen for each day's production calculated from the checked weights of mixes shall not be less than the amount ordered.

The final average overall width of the upper surface of a bituminous mix layer measured at six equidistant points over a length of 100m shall be at least equal to the width specified. At no point shall the distance between the centreline of the road and the edge of the upper surface of a bituminous mix layer be narrower than that specified by more than 13mm.

1690 Measurement and Payment

The items of Bill 16 shall be measured and paid as follows.

(a) Item 16.01: Asphalt concrete Type II, 50 mm, as wearing course

Unit: m^3

Asphalt concrete shall be measured by the cubic metre compacted in place, calculated as the product of the area laid to the width shown on the Drawings and the specified compacted thickness of 50 mm. No payment shall be made for material laid outside those lines or for thickness in excess of the specified thickness plus the permitted tolerance.

The rate shall include the design of the mix and the site trials required by Clause 1606A; the provision, haulage and storage of aggregates, filler and bitumen; the mixing at the specified temperature; the transport of the mixture in insulated and sheeted vehicles; the preparation of the surface; the laying by self-propelled paver with automatic level control; the compaction to the specified density; the formation of joints and edges; and all sampling and testing required by Clauses 1612A and 1613A.

(b) Item 16.02: Dense bitumen macadam (0/30 mm) as base layer

Unit: m^3

Dense bitumen macadam shall be measured by the cubic metre compacted in place, calculated as for item 16.01 at the compacted thickness specified.

The rate shall include all the matters listed against item 16.01 as they apply to dense bitumen macadam.

Section 17. Concrete Works

1703(C) Formwork For Culvert Walls And Slabs

This work shall consist of all temporary moulds for forming the concrete for culvert walls and slabs together with all temporary construction required for their support. Unless otherwise directed by the Resident Engineer all formworks shall be removed on completion of the walls and slabs.

(a) Materials

Forms shall be made of wood or metal and shall conform to the shape, lines and dimensions shown on the Drawings.

All timber shall be free from holes, loose material, knots, cracks, splits and warps or other defects affecting the strength or appearance of the finished structure.

Release Agents – Release agents shall be either neat oils containing a surface activating agent, cream emulsions, or chemical agents to be approved by the Resident Engineer.

(b) Construction Method (i) Formworks

Formworks shall be designed to carry the maximum loads that may be imposed, and so be rigidly constructed as to prevent deformation due to load, drying and wetting, vibration and other causes. After forms have been set in correct location, they shall be inspected and approved by the Resident Engineer before the concrete is placed.

If requested, the contractor shall submit to the Resident Engineer working drawings of the forms and also, if requested, calculations to certify the rigidity of the forms.

Unless otherwise described in the Contract, all form joints for exposed surfaces of concrete shall form a regular pattern with horizontal and vertical lines continuous throughout each structure and all construction joints shall coincide with these horizontal and vertical lines. PVC pipes of 50mm diameter for weep holes shall be arranged as shown on the Drawings.

Unless otherwise specified, formwork shall be designed to form chamfers at all external corners whether or not such chamfers are shown on the Drawings to prevent cracks and other damage from arising.

The inside surface of forms shall be cleaned and coated with a releasing agent to prevent adhesion of the concrete. Release agents shall be applied strictly in accordance with the manufacturer's detailed instructions. The release agent shall be applied to the formwork prior to erection. Release agent must not come into contact with reinforcement. Immediately before concrete is placed, the forms shall thoroughly be thoroughly cleaned and freed from sawdust, shavings, dust, mud or other debris by hosing with water. Temporary openings shall be provided in the forms to drain away the water and rubbish.

(ii) Scaffolding

All scaffolding required to support the forms shall be designed and constructed to provide necessary rigidity and support the loads without appreciable deflection or deformation.

Details, plans and structural and flexural calculations for scaffolding shall be submitted to the Resident Engineer for approval, but in no case shall the contractor be relieved of his responsibility for the results obtained by use of these plans, etc.

(iii) Removal of formwork

The time at which the formwork is truck shall be the Contractor's responsibility and the forms shall not be removed until the concrete strength has reached 20 N/mm2.

(c) Measurement and Payment

Payment shall be made according to Section 8 of the Standard Specification of Roads and Bridges Construction.

1705 Concrete to Culverts, Headwalls and the Lined Drain

There are no box culverts in this Contract. This Clause applies to the concrete in the pipe culvert beds and surrounds, the headwalls, wingwalls and aprons, and the lined drain, which are measured in Bill 8.

Blinding and bed concrete shall be Class 20/20 or Class 15/20 as shown. Concrete to the culverts, headwalls and lined drain shall be Class 20/20 and to the precast cover slabs Class 25/20, with a maximum aggregate size of 20 mm, designed to achieve the specified characteristic strength at 28 days and to be durable in a semi-arid environment with occasional saturation. The maximum free water/cement ratio shall be 0.55 and the minimum cement content 350 kg/m³.

Concrete shall not be placed when the shade temperature exceeds 35 °C or when the temperature of the fresh concrete at the point of placing exceeds 32 °C. The Contractor shall shade the aggregate stockpiles and the mixing water, and shall place concrete in the cooler parts of the day where necessary.

Curing shall commence as soon as the surface is able to bear it and shall continue for not less than seven days by continuously moist methods. Curing by membrane alone shall not be permitted on any surface to receive further concrete or waterproofing.

Reinforcement shall be high yield deformed bar to BS 4449 grade 500, cut and bent to BS 8666 or an approved equivalent, fixed with the cover shown on the Drawings and in no case less than 50 mm to any face in contact with earth or water. Cover blocks shall be of cementitious material of a strength not less than that of the surrounding concrete. Bars shall be free of loose rust, oil and other contamination at the time of placing.

Formwork shall produce a Class F2 finish to all exposed faces. Striking times shall be as specified in the Standard Specification, extended where the Engineer considers the strength gain to have been retarded.

1790 Measurement and Payment

The concrete in the headwalls, wingwalls, aprons, culvert beds and surrounds, and in the lined drain, is measured and paid under the items of Bill 8, and the excavation for structures under Bill 7. The cost of complying with the requirements of this Section shall be deemed to be included in the rates for those items; there is no separate Bill 17.

Section 20. Road Furniture and Street Lighting

2004 Permanent Road Signs

Permanent Road Signs shall be provided as directed by the Resident Engineer and in compliance with the requirements of the "Manual for Traffic Signs in Kenya" Part II and standard Specification clause 2004.

2004b Existing Road Signs

Where directed by the Resident Engineer, the Contractor shall take down road signs including all posts, nuts, bolts and fittings, and remove and dispose of the concrete foundation and backfill the post holes. The signs shall be stored as directed by the Resident Engineer.

Measurement and payment for taking down road signs shall be made by the number of signs of any type and size taken down, cleaned and stored as directed.

2005 Road Marking

Paint for road marking shall be internally reflectorised hot applied thermoplastic material in accordance with Clause 219 of the Standard Specification.

The rates inserted in the Bills of Quantities for road marking shall include for prior application of approved tack coat.

2006 Guardrails

Contrary to the Standard Specification, guardrail posts shall be concrete 200 mm diameter set vertically at least 1.2m into the shoulder as directed by the Resident Engineer. Spacer blocks shall also be made of concrete.

Beams for guardrails shall be "Armco Flexbeam" or similar obtained from a manufacturer approved by the Resident Engineer.

2007 Kerbs

a) Vertical Joints

Vertical joints between adjacent Kerbs shall not be greater than 5 mm in width and shall be filled with a mortar consisting of 1:3 cement: sand by volume. b) Transition between flush and raised kerbs

The transition between flush and raised kerbs (e.g., at bus bays) shall be termed as ramped kerbs. The transition between flush and raised kerbs shall occur within a length of 2.0 m.

2009 Rumble Strips

Where directed by the Resident Engineer, the Contractor shall provide, place, trim, shape and compact to line and level asphaltic concrete rumble strips on the finished shoulders. This shall be done to the satisfaction of the Resident Engineer

2010 Trees

Where shown on the drawings or directed by the Resident Engineer, the Contractor shall plant trees in accordance with clause 2010 of the Standard Specifications

2012 Steel Bollards

Bollards shall be formed of gauge 16 steel pipe of 150 mm outside diameter, cut to stand 1.05 m above finished ground level and embedded not less than 0.45 m in a concrete Class 15/20 foundation not smaller than 0.30 m × 0.30 m × 0.45 m deep.

The top of each bollard shall be closed with a welded, domed cap finished flush and free of sharp edges. Each bollard shall be wire brushed, primed with two coats of zinc phosphate primer and

finished with two coats of approved gloss paint, and shall carry a 150 mm band of Class 1 retroreflective sheeting at 0.85 m above ground level.

Bollards shall be set at the spacing shown on the Drawings along the edge of the non-motorised transport strip, vertical to within 5 mm in the height, and in a true line. Bollards shall be positioned so as not to obstruct the clear walking width.

2013 Speed Reduction Bumps and Rumble Strips

Speed reduction bumps shall be of the profile shown on the Drawings, formed of asphalt concrete laid on a tack-coated surface and compacted by plate compactor and roller to a dense, smooth finish free of loose material.

Each bump shall be located as shown on the Drawings, at the approaches to the Food Distribution Centre and the school frontages, shall be marked with the chevron marking specified and shall be preceded by the warning sign specified in Clause 2004.

A rumble strip set shall comprise the number of individual strips shown on the Drawings laid across the full carriageway width at one location, each strip of the profile shown, laid in asphalt concrete on a tack-coated surface.

No bump or rumble strip shall be constructed across a gully inlet or within 5 m of one, and the surface drainage past each bump shall be maintained.

2014 Solar Street Lighting

Solar street lighting forms part of this Contract and is measured in Bill 20 item 20.12: 44 units. Each unit comprises an 80 W integrated solar LED luminaire with motion sensor on an 8 m high single or double arm pole. Poles shall be spaced at 50 m, staggered on both sides of the road, and placed opposite each other at junctions, at positions set out on site and approved by the Engineer so as not to obstruct the walkway, accesses or sight lines.

(a) Luminaire: integrated unit with monocrystalline solar panel, LED light source of not less than 130 lm/W, lithium iron phosphate battery, MPPT charge controller and passive infrared motion sensor providing dimmed operation when no movement is detected; autonomy of not less than three nights; ingress protection IP65 and impact resistance IK08.

(b) Pole and arm: Class A heavy duty rigid steel of not less than 100 mm diameter, hot-dip galvanised, corrosion free, designed to withstand peak wind speeds of 100 km/h with the luminaire fitted, with base plate and holding-down bolts.

(c) Foundations: the Contractor shall design each foundation for the ground conditions encountered, the design being signed by an engineer registered with the Engineers Board of Kenya and submitted for the Engineer's acceptance; the cost is included in the rate.

(d) Submissions: before ordering, the Contractor shall submit the manufacturers' data, test certificates and a photometric calculation demonstrating the illuminance and uniformity achieved on the carriageway and walkways at the spacing adopted, for the Engineer's approval.

(e) Testing and warranty: every unit shall be tested and commissioned in the presence of the Engineer. The Contractor shall maintain and replace any defective unit until the end of the Defects Liability Period and shall hand over the manufacturers' warranties, which shall be not less than five years for the luminaire and battery.

2090 Measurement and Payment

The items of Bill 20 shall be measured and paid as follows.

(a) Item 20.01: Warning signs, 750 mm

Unit: No.

Road signs shall be measured by number erected and accepted.

The rate shall include the excavation, the Class 15/20 concrete to the base, the backfilling, the provision and erection of the post and the sign plate with the specified retroreflective sheeting, and the maintenance of the sign until the issue of the Taking Over Certificate.

(b) Item 20.02a: Priority signs, 750 mm

Unit: No.

As item 20.01.

As item 20.01.

(c) Item 20.02b: Priority signs, 1000 mm

Unit: No.

As item 20.01.

As item 20.01.

(d) Item 20.03: Mandatory and prohibitory signs, 1000 mm

Unit: No.

As item 20.01.

As item 20.01.

(e) Item 20.04a: Informatory signs, less than 1 m²

Unit: No.

As item 20.01.

As item 20.01.

(f) Item 20.04b: Informatory signs, 1 m² to less than 2 m²

Unit: No.

As item 20.01.

As item 20.01.

(g) Item 20.04c: Informatory signs, 2 m² to less than 5 m²

Unit: No.

As item 20.01.

As item 20.01.

(h) Item 20.05a: White thermoplastic road marking

Unit: m²

Road marking shall be measured by the square metre of marking actually applied, measured as the net painted area. Broken lines shall be measured as the sum of the marked segments only.

The rate shall include the preparation and cleaning of the road surface, the pre-marking and setting out, the provision and application of approved thermoplastic material at the specified thickness, and the application of drop-on glass beads.

(i) Item 20.05b: Yellow thermoplastic road marking, 100 mm wide

Unit: m

Yellow marking shall be measured by the linear metre of 100 mm wide marking applied.

The rate shall include the matters listed against item 20.05a.

(j) Item 20.06: Guardrail

Unit: m

Guardrail shall be measured by the linear metre, measured along the face of the beam between the outer ends of the terminal sections.

The rate shall include the provision and transport of all materials, the excavation, the driving or setting of the posts, the backfilling, the provision and fixing of the beams, blocks, bolts, terminals and reflectors, and the galvanising.

(k) Item 20.07: Speed reduction bituminous bumps

Unit: No.

Speed bumps shall be measured by number constructed and accepted.

The rate shall include the preparation of the surface, the tack coat, the provision, laying and compaction of the bituminous material to the profile shown on the Drawings, and the associated markings and warning signs where not measured elsewhere.

(l) Item 20.08: Rumble strips on pavement

Unit: No.

Rumble strips shall be measured by number, one unit being a complete set of strips across the full carriageway width at one location as shown on the Drawings.

The rate shall include the preparation of the surface, the tack coat and the provision, laying and compaction of the material to the profile shown.

(m) Item 20.09: Concrete kerbs, 250 × 125 mm

Unit: m

Kerbs shall be measured by the linear metre laid, measured along the face of the kerb, including through radii and dropped crossings.

The rate shall include the excavation, the 100 mm thick Class 15/20 bedding and haunching, the provision, haulage and laying of the precast Class 25/20 kerbs straight and to any radius, the jointing, and the backfilling behind the kerb.

(n) Item 20.10: Flush kerbs, 100 × 125 mm

Unit: m

As item 20.09.

The rate shall include the matters listed against item 20.09.

(o) Item 20.11: Steel bollards, 150 mm diameter

Unit: No.

Bollards shall be measured by number provided and erected.

The rate shall include the provision of the gauge 16 steel pipe cut to length, the capping, the excavation, the Class 15/20 concrete foundation, the setting to stand 1.05 m above finished ground level, the priming and the application of the specified paint or retroreflective banding.

(p) Item 20.12: Solar street lights, 80 W, on 8 m poles

Unit: No.

Street lights shall be measured by number installed, tested, commissioned and accepted by the Engineer.

The rate shall include the design of the foundation, the excavation, the concrete foundation and holding-down assembly, the backfilling, the provision and erection of the galvanised pole and arm, the integrated solar luminaire with panel, battery, controller and motion sensor, the testing and commissioning, the as-built record, and the maintenance and replacement of defective units until the end of the Defects Liability Period.

Section 22. Dayworks

2290 Measurement and Payment

Dayworks shall be executed only on the written instruction of the Engineer and shall be measured and paid at the rates and prices entered by the Contractor in the Daywork Schedule in Volume 3, against the hours, quantities and amounts recorded on daywork sheets signed by the Engineer's Representative on the day the work is executed. No daywork shall be paid where the work can properly be valued under an item of the Bill of Quantities or as a Variation.

Section 23. Concrete Paving Blocks

2390 Measurement and Payment

The items of Bill 23 shall be measured and paid as follows.

(a) Item 23.01: Quarry dust or river sand (0/6) laying course, 40 mm

Unit: m^3

The laying course shall be measured by the cubic metre, calculated as the product of the area of paving blocks laid and the specified compacted thickness of 40 mm.

The rate shall include the preparation and trimming of the sub-base surface, and the provision, haulage, screeding and compaction of the laying course material at a uniform moisture content.

(b) Item 23.02: Interlocking concrete paving blocks, 60 mm, 35 N/mm^2

Unit: m^2

Paving blocks shall be measured by the square metre of finished surface, measured on plan, with no deduction for openings of less than 0.5 m^2.

The rate shall include the provision, haulage and laying of the blocks to the pattern shown on the Drawings, the cutting of closure blocks against kerbs, edgings, drain covers and other obstructions, the compaction by plate compactor fitted with a rubber sole plate, the joint filling with dry sand and the final compaction, and all testing.

REPUBLIC OF KENYA
COUNTY GOVERNMENT OF TURKANA
KAKUMA MUNICIPALITY

PROCUREMENT OF:

PROPOSED UPGRADING TO BITUMEN STANDARD OF THE HASHI PETROL STATION – FOOD DISTRIBUTION CENTRE 1 ROAD (2.0 KM) IN KAKUMA MUNICIPALITY, TURKANA COUNTY

CONTRACT 1 — ROAD 1

Tender No.: TCG/KKM / 06 / 2026-2027

Project: KENYA URBAN SUPPORT PROGRAMME II (KUSP II)
Credit Number: 2703782

Employer: COUNTY GOVERNMENT OF TURKANA
Issued on: November,2026

BILL OF QUANTITIES

Volume 3

(To be priced by the Bidder)

Preamble to the Bill of Quantities

1. The Bill of Quantities shall be read in conjunction with the Instructions to Bidders, the Conditions of Contract, the Works' Requirements, the Technical Specifications (Volume 2) and the Drawings (Volume 4).

2. The quantities given in the Bill of Quantities are estimated and provisional, and are given to provide a common basis for bidding. The basis of payment is the actual quantities of work executed and measured, valued at the rates and prices tendered in the priced Bill of Quantities, where applicable, and otherwise at such rates and prices as the Engineer may fix within the terms of the Contract.

3. The rates and prices tendered in the priced Bill of Quantities shall, except as otherwise provided under the Contract, cover all the Contractor's obligations under the Contract, and all matters and things necessary for the proper execution and completion of the Works and the remedying of any defects therein.

4. The method of measurement of completed work for payment shall be in accordance with the Measurement and Payment clause of the corresponding Section of the Technical Specifications (Volume 2).

5. The whole cost of complying with the provisions of the Contract shall be included in the items provided in the priced Bill of Quantities and, where no items are provided, the cost shall be deemed to be distributed among the rates and prices entered for the related items of the Works.

6. General directions and descriptions of work and materials are not necessarily repeated nor summarised in the Bill of Quantities. References to the relevant Sections of the Technical Specifications shall be made before entering prices against each item in the Bill of Quantities.

7. Provisional Sums and Prime Cost Sums included in the Bill of Quantities shall be expended in whole or in part at the direction and discretion of the Engineer, or not at all.

8. The Bidder shall price every item. An item left unpriced shall be deemed to be covered by the other rates and prices in the Bill of Quantities, and no payment shall be made for it.

9. Where a quantity is shown as "Nil" the item is nevertheless to be rated, so that a rate is available should the Engineer subsequently order the work as a Variation.

10. Errors in extension, addition or carry-forward will be corrected by the Employer in accordance with ITB 31.

11. All rates and prices shall be entered in Kenya Shillings and shall exclude Value Added Tax, which shall be added once at the level of the Grand Summary.

12. The Works are procured as a single contract, Contract 1, for Road 1, the Hashi Petrol Station – Food Distribution Centre 1 Road. Bill 1, Preliminaries and General, applies to the whole of the Works, and Part A contains the Bills for Road 1. The Bidder shall price Bill 1 and Part A. Contract 2 (Road 2) is procured separately under its own Bill of Quantities, which carries its own Bill 1.

13. Prime Cost Sums, Provisional Sums and Employer-fixed rates are printed in the Bill of Quantities and shall not be altered. Where an item calls for a percentage, the Bidder shall enter the percentage for overheads and profit and extend it on the sum to which it refers.

14. No contingency sum is included in the Bill of Quantities, and the Bidder shall not add one.

15. Solar street lighting (item 20.12) forms part of this Contract. No service ducts are provided.

Bill 1 — Preliminaries and General

Bill 1 applies to the whole of the Works under this Contract. Its total is carried directly to the Grand Summary.

Note: Items marked P.C. Sum or Provisional Sum shall be expended in whole or in part at the direction of the Engineer, or not at all. The amounts and the Employer-fixed rates printed in this Bill shall not be altered by the Bidder. Where an item calls for a percentage, the Bidder shall enter the percentage required for overheads and profit on the sum to which it refers.

Item No.	Description	Unit	Quantity	Rate (KES)	Amount (KES)
1.1	Contractor's camp(s): the Employer has no land to offer for the Contractor's camp, storage of materials or preparation of concrete. Allow for the identification and establishment of suitable sites for the Contractor's camps in Kakuma, including obtaining their NEMA certificate. Details of the land on which the Contractor will establish its camp(s) shall be submitted with the Bid.	Item	1		
1.2	Resident Engineer's office: allow for monthly rent not exceeding KES 100,000 for rented office space at a suitable location in Kakuma for the Resident Engineer and staff, of not less than 150 m² and not more than 200 m², including a conference room and day and night security, all to the satisfaction of the Resident Engineer and in accordance with Clause 121.	Month	12	100,000.00	1,200,000.00
1.3	Allow for the Contractor's overheads and profit on item 1.2.	%	____ %		
1.4.1	Services to the Resident Engineer and staff (items to revert to the Employer): utility bills — electricity, internet, water, office waste collection and the like. Provisional Sum per month.	Month	12	15,000.00	180,000.00
1.4.2	Allow for the Contractor's overheads and profit on item 1.4.1.	%	____ %		
1.4.3	Office, survey and kitchen equipment to the schedule in Clause 121 of the Technical Specifications, and other office maintenance overheads. Prime Cost Sum.	P.C. Sum	—		3,500,000.00
1.4.4	Allow for the Contractor's overheads and profit on item 1.4.3.	%	____ %		
1.5	Materials laboratory tests: allow the Prime Cost Sum for laboratory tests of materials and any other item as instructed by the Resident Engineer, in accordance with Clause 122.	P.C. Sum	—		1,500,000.00
1.6	Allow for the Contractor's overheads and profit on item 1.5.	%	____ %		
2.1	Sign boards: provide, erect and maintain project sign boards at the sites indicated by the Engineer, in accordance with the Conditions of Contract and drawing C-G-STD-007.	No.	2		
2.2	Progress photographs, reports and programme of works: provide 4 sets of A3 foam board photograph prints showing the progress of the Works each month in accordance with the Specification, 2 sets of the A1 master programme of works, and 3 colour copies of each A4 progress report.	Item	1		
2.3	Adjudication: allow the Provisional Sum for the adjudication process, to be used as directed by the Resident Engineer.	Prov. Sum	—		500,000.00
2.4	Allow for the Contractor's overheads and profit on item 2.3.	%	____ %		

Total of Bill 1 carried to the Grand Summary: _____

Part A — Road 1 — Hashi Petrol Station – Food Distribution Centre 1 Road

Bidders shall enter a rate against every item and extend the amount. Each Bill is to be totalled and carried to the Collection for Part A.

Bill 4 — SITE CLEARANCE AND TOPSOIL STRIPPING

Item No.	Description	Unit	Quantity	Rate (KES)	Amount (KES)
4.01	Clear site including removal of trees, hedges, bushes and other vegetation and objectionable organic material as prescribed in the Specification (except those trees designated by the Engineer to remain).	m^2	14,000		
4.02	Remove topsoil to a depth and in locations as directed by the Engineer. Stockpile for later topsoiling of side slopes and dispose of the remainder by spreading uniformly within the road reserve, all to the satisfaction of the Engineer.	m^3	4,240		
4.03	Excavate and remove existing pipes and culverts of any size and the inlet and outlet structures, including backfilling.	m	36		
4.04a	Removal and alteration to existing services: allow the Prime Cost Sum for the removal and reinstatement of 415 volt overhead electricity poles (payable to the Kenya Power and Lighting Company), in accordance with the Specification and in conformity with the Engineer's instructions.	P.C. Sum	—		1,000,000.00
4.04b	Removal and alteration to existing services: allow the Prime Cost Sum for the removal and reinstatement of HDPE water pipes along the road reserve, in accordance with the Specification and in conformity with the Engineer's instructions.	P.C. Sum	—		500,000.00
4.05	Allow for the Contractor's overheads and profit on the Prime Cost Sums in items 4.04a and 4.04b.	%	___ %		

Total of Bill 4 carried to the Collection for Part A: _____

Bill 5 — EARTHWORKS

Item No.	Description	Unit	Quantity	Rate (KES)	Amount (KES)
5.01	Compact original ground below fills to at least 97 per cent MDD (AASHTO T.180), including all necessary scarifying and watering, in stretches as directed by the Engineer, to a depth of 300 mm below ground level.	m³	3,180		
5.02	Provide, transport, spread and compact improved sub-grade quality material approved by the Engineer for reconstruction areas to provide a minimum CBR of 22.5 per cent as directed by the Engineer.	m³	4,240		

Total of Bill 5 carried to the Collection for Part A: _____

Bill 7 — EXCAVATION AND FILLING FOR STRUCTURES

Item No.	Description	Unit	Quantity	Rate (KES)	Amount (KES)
7.01	Excavation in soft material to any depth for the foundations of the twin pipe culverts, headwalls, wingwalls and aprons, backfilling and compacting or hauling to spoil the excavated material, all in accordance with the Specification and in conformity with the Engineer's instructions.	m^3	Nil		

Total of Bill 7 carried to the Collection for Part A: _____

Bill 8 — CULVERTS AND DRAINAGE WORKS

Note: No separate payment shall be made for the haulage of surplus or unsuitable excavated material; the cost of such haulage for disposal of the material shall be deemed to be included in the rates and prices entered against the items of this Bill.

Item No.	Description	Unit	Quantity	Rate (KES)	Amount (KES)
8.01	Excavate for drains and culverts in soft material to any depth, compact the invert of the excavation, backfill with excavated material or remove excavated material to spoil, in accordance with the Specification and in conformity with the Engineer's instructions.	m^3	400.95		
8.02	Provide, lay and joint 900 mm internal diameter ogee-jointed concrete pipes to cross and access culverts, including approved gravel backfill to sub-grade quality and Class 15/20 compacted concrete bed and surround to the concrete pipes, including formwork as approved by the Engineer.	m	264		
8.03	Construct headwalls, wingwalls and aprons of compacted concrete Class 20/20 to the single 900 mm access and cross culverts, including approved gravel backfill to sub-grade quality and formwork, as approved by the Engineer.	No.	80		
8.04	Excavate in soft material, provide and construct 150 mm thick stone pitching to the sides of the watercourses on both sides where necessary to prevent scour.	m^2	Nil		
8.05	Excavate in soft material, provide and construct the lined closed drain, U-type, 1.00 m × 1.00 m internal, with 150 mm thick reinforced Class 20/20 concrete walls and base on a 75 mm compacted gravel bed, together with 100 mm thick slotted precast concrete cover slabs forming the walking surface, along one side of the road as shown on the Drawings.	m	2,400		
8.06	Cross culverts at seasonal watercourses: excavate in soft material, provide, lay and joint twin 900 mm internal diameter ogee-jointed concrete pipes, including approved gravel backfill to sub-grade quality, Class 20/20 compacted 75 mm concrete bed and surround to the pipes as specified, and formwork as approved by the Engineer. Measured per metre of twin culvert.	m	Nil		
8.07	Excavate in soft material, construct headwalls, wingwalls and aprons of compacted concrete Class 20/20 to the twin 900 mm culverts in item 8.06, including approved gravel backfill to sub-grade quality, formwork and 75 mm Class 20/20 concrete blinding, as approved by the Engineer.	No.	Nil		
8.08	Cross culvert at seasonal watercourse: excavate in soft material, provide, lay and joint twin 1200 mm internal diameter ogee-jointed concrete pipes, including approved gravel backfill to sub-grade quality, Class 20/20 compacted 75 mm concrete bed and surround to the pipes as specified, and formwork as approved by the Engineer. Measured per metre of twin culvert.	m	Nil		
8.09	Excavate in soft material, construct headwalls, wingwalls and aprons of compacted concrete Class 20/20 to the twin 1200 mm culvert in item 8.08, including approved gravel backfill to sub-grade quality, formwork and 75 mm Class 20/20 concrete blinding, as approved by the Engineer.	No.	Nil		

Total of Bill 8 carried to the Collection for Part A: _____

Bill 9 — PASSAGE OF TRAFFIC

Note: No separate payment shall be made for the haulage of surplus or unsuitable excavated material; the cost of such haulage for disposal of the material shall be deemed to be included in the rates and prices entered against the items of this Bill.

Item No.	Description	Unit	Quantity	Rate (KES)	Amount (KES)
9.01	Construction of diversions in maximum 0.3 km sections: all operations connected with the initial construction of temporary deviations of appropriate width to allow the passage of traffic during the Works, all in accordance with the Specification.	km	0.25		
9.02	Maintenance of gravel wearing surfacing: allow for maintenance and weekly grading of diversions, all in accordance with the Specification.	km	0.25		
9.03	Watering of gravel wearing surfacing: allow for watering at a minimum rate of 5 mm per day on diversions, all in accordance with the Specification.	m²	1,250		
9.04	Provision, erection and maintenance of temporary signs, barriers, lights, traffic signals and the like along the diversions constructed, all in accordance with the Specification and in conformity with the Engineer's instructions.	Item	1		
9.05	Access roads: site clearance, topsoil stripping, earthworks, drainage, gravel wearing course, maintenance and reinstatement, all in accordance with the Specification and in conformity with the Engineer's instructions.	m²	330		

Total of Bill 9 carried to the Collection for Part A: _____

Bill 12 — NATURAL MATERIAL SUB-BASE AND BASE

Note: No haulage will be payable for the items of this Bill and the cost of haulage shall be deemed to be included in the Contractor's rates and prices.

Item No.	Description	Unit	Quantity	Rate (KES)	Amount (KES)
12.01	Provide, spread, water, process and compact natural material of sub-base/base quality to 95 per cent MDD (AASHTO T.180) as sub-base and base on the carriageway as instructed.	m^3	6,480		

Total of Bill 12 carried to the Collection for Part A: _____

Bill 13 — GRADED CRUSHED STONE FOR SUB-BASE AND BASE

Note: No haulage will be payable for the items of this Bill and the cost of haulage shall be deemed to be included in the Contractor's rates and prices.

Item No.	Description	Unit	Quantity	Rate (KES)	Amount (KES)
13.01	Provide, spread, water, process and compact graded crushed stone (GCS) as sub-base and base on the carriageway and elsewhere as instructed.	m^3	Nil		

Total of Bill 13 carried to the Collection for Part A: _____

Bill 14 — CEMENT AND LIME TREATED MATERIALS

Item No.	Description	Unit	Quantity	Rate (KES)	Amount (KES)
14.01	Provide and spread cement stabiliser at 40–80 kg/m³ as directed by the Engineer to natural material.	tonne	181.60		
14.02	Mix in the cement stabiliser to the material in item 14.01 using stationary plant where required.	m³	2,190		
14.03	Curing of treated layers.	m²	14,600		

Total of Bill 14 carried to the Collection for Part A: _____

Bill 15 — BITUMINOUS SURFACE TREATMENTS

Note: No haulage will be paid for bitumen or chippings and the cost shall be deemed to be included in the following rates and prices. The rates of spray and spread will be subject to the Engineer's instructions on site.

Item No.	Description	Unit	Quantity	Rate (KES)	Amount (KES)
15.01	Provide, heat and spray bituminous prime coat type MC 70 at a spray rate of 1.0 litre/m².	litre	21,200		
15.02	Provide and spray bituminous tack coat type K1-60 at a spray rate of 0.8 litre/m².	litre	14,600		

Total of Bill 15 carried to the Collection for Part A: _____

Bill 16 — BITUMINOUS MIX BASES, BINDER COURSES AND WEARING COURSES

Note: No haulage will be paid for aggregate, bitumen or premix and the cost shall be deemed to be included in the Contractor's rates and prices.

Item No.	Description	Unit	Quantity	Rate (KES)	Amount (KES)
16.01	Provide, lay and compact 50 mm heavy duty asphalt concrete Type II (0/14) as wearing course to the carriageway as specified, using a nominal bitumen content of 5.7 per cent by weight of total mix.	m^3	730		
16.02	Prepare the surface of the underlying material, provide, lay and compact dense bitumen macadam (0/30 mm) as base layer in the compacted thickness specified, using 4.5 per cent nominal bitumen content by weight of total mix on the carriageway, all in accordance with the Specification and as directed by the Engineer.	m^3	Nil		

Total of Bill 16 carried to the Collection for Part A: _____

Bill 20 — ROAD FURNITURE AND STREET LIGHTING

Note: Item 20.12, solar street lighting, forms part of this Contract. The rate shall include the design of the pole foundations for the ground conditions encountered, all civil works, supply, installation, testing and commissioning.

Item No.	Description	Unit	Quantity	Rate (KES)	Amount (KES)
20.01	Warning signs: excavate for, provide and erect warning signs of 750 mm size including backfill and Class 15/20 concrete to bases, all in accordance with the Specification and in conformity with the Engineer's instructions.	No.	4		
20.02a	Priority signs: excavate for, provide and erect priority signs including backfilling and Class 15/20 concrete to bases — 750 mm size.	No.	4		
20.02b	Priority signs — 1000 mm size.	No.	4		
20.03	Mandatory signs: excavate for, provide and erect prohibitory signs including backfilling and Class 15/20 concrete to bases — 1000 mm size.	No.	4		
20.04a	Standard informatory signs: excavate for, provide and erect information signs including backfilling and Class 15/20 concrete to bases — less than 1 m².	No.	1		
20.04b	Standard informatory signs — equal to or more than 1 m² but less than 2 m².	No.	1		
20.04c	Standard informatory signs — equal to or more than 2 m² but less than 5 m².	No.	1		
20.05a	Road marking: prepare the road surface, supply approved thermoplastic road marking paint and glass beads and mark out, all in accordance with the Specification — white thermoplastic.	m²	240		
20.05b	Road marking — yellow thermoplastic, 100 mm wide.	m	480		
20.06	Guardrail: provision and transport of all materials, excavation, erection of metal posts, backfilling and installation of the guardrails, all in accordance with the Specification.	m	Nil		
20.07	Speed reduction bituminous bumps: provision, transport and placing of materials in accordance with the Specification and in conformity with the Engineer's instructions.	No.	6		
20.08	Rumble strips on pavement: provision, transport and placing of materials in accordance with the Specification and in conformity with the Engineer's instructions.	No.	48		
20.09	Concrete kerbs: excavate for, provide and place 250 × 125 mm Class 25/20 precast concrete kerbs haunched in 100 mm thick Class 15/20 bedding, jointed, straight and of any radius, including at bus bays.	m	2,200		
20.10	Ditto item 20.09 but 100 × 125 mm flush kerbs — straight kerbs and of any radius.	m	6,600		
20.11	Steel bollards: provide and place gauge 16 steel pipe bollards of 150 mm diameter standing 1.05 m above ground level and embedded in a Class 15/20 concrete foundation.	No.	1,468		
20.12	Street lighting: supply and install 80 W integrated solar street lights with motion sensor on 8 m high single or double arm poles of minimum 100 mm diameter, Class A heavy duty rigid steel, galvanised, corrosion free and able to withstand peak winds of 100 km/h, spaced at 50 m staggered on both sides and opposite each other at junctions, as directed by the Engineer and in accordance with Clause 2014. The rate shall include excavation, foundations, backfilling and all general civil works.	No.	44		

Total of Bill 20 carried to the Collection for Part A: _____

Bill 23 — CONCRETE PAVING BLOCKS

Item No.	Description	Unit	Quantity	Rate (KES)	Amount (KES)
23.01	Prepare the road base surface, provide and spread a 40 mm quarry dust or river sand (0/6) laying course to receive paving blocks as instructed by the Engineer.	m^3	264		
23.02	Provide, lay and compact 60 mm thick interlocking concrete paving blocks with 35 N/mm^2 cube crushing strength conforming to BS 6717 Part 1 of 1986 or equivalent.	m^2	6,600		

Total of Bill 23 carried to the Collection for Part A: _____

Part A — Road 1 — Hashi Petrol Station – Food Distribution Centre 1 Road					
Bill 24—	**ENVIRONMENTAL, SOCIAL, HEALTH AND SAFETY (ESHS) MANAGEMENT**				
Item No.	**Description**	**Unit**	**Quantity**	**Rate (KES)**	**Amount (KES)**
A	**PRELIMINARIES AND ESMP DOCUMENTATION**				
A1	Prepare, submit and obtain approval of the Contractor's Environmental and Social Management Plan (C-ESMP), including site-specific plans, method statements and implementation programme.	Lump Sum	1.00		
A2	Mobilisation and deployment of competent ESHS personnel, including Environmental/Social Officer and Occupational Health and Safety Officer, as required by the contract.	Month	12.00		
B	**IMPLEMENTATION AND MONITORING**				
B1	Implement routine environmental and social mitigation measures required by the approved C-ESMP and project ESMP.	Month	12.00		
B2	Environmental and social inspections, monitoring, record keeping and submission of periodic compliance reports.	Month	12.00		
B3	Dust suppression, including water spraying and other approved dust-control measures at work sites, haul routes and access roads.	Month	12.00		
B4	Noise and vibration management, including monitoring where specified and implementation of mitigation measures.	Month	12.00		
B5	Erosion, sediment and stormwater pollution control measures, including temporary controls and maintenance.	Lump Sum	1.00		
B6	Waste management, including segregation, collection, transportation and disposal at approved facilities.	Month	12.00		
B7	Protection of water resources, soil and vegetation, including spill prevention and response measures.	Lump Sum	1.00		
B8	Reinstatement and rehabilitation of temporary work areas, borrow areas, camps, storage areas and other disturbed sites, as specified.	Lump Sum	1.00		
C	**OCCUPATIONAL HEALTH AND SAFETY**				
C1	Prepare and implement the project Occupational Health and Safety Plan, including task risk assessments and safe work procedures.	Lump Sum	1.00		
C2	Provide and maintain required personal protective equipment (PPE), safety signage, barriers, first-aid facilities and emergency arrangements.	Lump Sum	1.00		
C3	Conduct toolbox talks, safety inductions, emergency drills and other workforce safety training.	Month	12.00		
C4	Incident reporting, investigation and corrective-action tracking.	Month	12.00		
D	**COMMUNITY HEALTH, SAFETY AND STAKEHOLDER ENGAGEMENT**				

D1	Prepare and implement the Community Health and Safety Plan, including traffic and pedestrian safety measures around construction areas.	Lump Sum	1.00		
D2	Establish and operate the project Grievance Redress Mechanism (GRM), including accessible channels, registers and reporting.	Lump Sum	1.00		
D3	Implement measures addressing gender-based violence (GBV), sexual exploitation and abuse (SEA), and sexual harassment (SH), including worker codes of conduct, awareness and referral protocols.	Lump Sum	1.00		
	Total of Bill 24				

Total of Bill 24 carried to the Collection for Part A: _____

Collection for Part A

Bill No.	Description	Amount (KES)
Bill 4	SITE CLEARANCE AND TOPSOIL STRIPPING	
Bill 5	EARTHWORKS	
Bill 7	EXCAVATION AND FILLING FOR STRUCTURES	
Bill 8	CULVERTS AND DRAINAGE WORKS	
Bill 9	PASSAGE OF TRAFFIC	
Bill 12	NATURAL MATERIAL SUB-BASE AND BASE	
Bill 13	GRADED CRUSHED STONE FOR SUB-BASE AND BASE	
Bill 14	CEMENT AND LIME TREATED MATERIALS	
Bill 15	BITUMINOUS SURFACE TREATMENTS	
Bill 16	BITUMINOUS MIX BASES, BINDER COURSES AND WEARING COURSES	
Bill 20	ROAD FURNITURE AND STREET LIGHTING	
Bill 23	CONCRETE PAVING BLOCKS	
Bill 24	**ENVIRONMENTAL, SOCIAL, HEALTH AND SAFETY (ESHS) MANAGEMENT**	
	Sub-total, Part A Carried to GRAND SUMMARY	

Daywork Schedule (Bill 22)

Dayworks shall be executed only on the written instruction of the Engineer. The provisional quantities below are given solely to permit comparison of Bids and do not indicate the extent of daywork that will be ordered.

Labour

Item No.	Description	Unit	Provisional quantity	Rate (KES)	Amount (KES)
22.L01	Unskilled labourer	hour	200		
22.L02	Semi-skilled labourer	hour	60		
22.L03	Mason	hour	60		
22.L04	Carpenter / steel fixer	hour	60		
22.L05	Plant operator	hour	60		
22.L06	Driver	hour	60		
22.L07	Foreman / chargehand	hour	40		
22.L08	Surveyor with chainmen	hour	20		

Plant

Item No.	Description	Unit	Provisional quantity	Rate (KES)	Amount (KES)
22.P01	Bulldozer, minimum 150 hp	hour	20		
22.P02	Motor grader, minimum 140 hp	hour	20		
22.P03	Wheeled loader, minimum 2.0 m³	hour	20		
22.P04	Excavator, minimum 0.9 m³	hour	30		
22.P05	Backhoe loader	hour	30		
22.P06	Vibratory roller, minimum 10 tonnes	hour	20		
22.P07	Pneumatic tyred roller, minimum 15 tonnes	hour	20		
22.P08	Tipper truck, minimum 15 tonnes	hour	40		
22.P09	Water tanker, minimum 10,000 litres	hour	20		
22.P10	Concrete mixer, 0.5 m³	hour	20		
22.P11	Poker vibrator	hour	20		
22.P12	Plate compactor	hour	20		
22.P13	Mobile crane, minimum 5 tonnes	hour	10		

Materials

Item No.	Description	Unit	Provisional quantity	Rate (KES)	Amount (KES)
22.M01	Ordinary Portland cement CEM I 42.5N	tonne	10		
22.M02	Steel reinforcement to BS 4449 grade 500	tonne	5		
22.M03	Coarse aggregate 20 mm	m³	30		
22.M04	Fine aggregate / river sand	m³	30		
22.M05	Natural gravel, sub-base quality	m³	100		
22.M06	Hardcore / stone for pitching	m³	30		
22.M07	Sawn formwork timber	m²	50		
22.M08	Bitumen, 60/70 penetration grade	tonne	5		

Percentage addition to the net cost of labour, to cover supervision, overheads, profit, insurances and statutory charges: _____ per cent

Percentage addition to the net cost of plant, to cover fuel, operator, maintenance, overheads and profit: _____ per cent

Percentage addition to the net cost of materials, to cover handling, wastage, overheads and profit: _____ per cent

	Amount (KES)
Total of the Daywork Schedule carried to the Grand Summary	

Grand Summary

Item	Description	Amount (KES)
1	Bill 1 — Preliminaries and General	
2	Part A — Road 1: Hashi Petrol Station – Food Distribution Centre 1 Road	
3	Daywork Schedule (Bill 22)	
	Sub-total	
4	Value Added Tax at 16 per cent	
	GRAND TOTAL carried to the Letter of Bid	

Amount in words:

_____

Name of Bidder: _____

Signature: _____ Date: _____

General — applies to the whole of the Works
Bill 1 — PRELIMINARIES AND GENERAL

Item No.	Description	Unit	Quantity	Rate (KES)	Amount (KES)
1.1	Contractor's camp(s): the Employer has no land to offer for the Contractor's camp, storage of materials or preparation of concrete. Allow for the identification and establishment of suitable sites for the Contractor's camps in Kakuma, including obtaining their NEMA certificate. Details of the land on which the Contractor will establish its camp(s) shall be submitted with the Bid.	Item	1.00		
1.2	Resident Engineer's office: allow for monthly rent not exceeding KES 100,000 for rented office space at a suitable location in Kakuma for the Resident Engineer and staff, of not less than 150 m² and not more than 200 m², including a conference room and day and night security, all to the satisfaction of the Resident Engineer and in accordance with Clause 121.	Month	12.00	100,000.00	1,200,000.00
1.3	Allow for the Contractor's overheads and profit on item 1.2.	%			
1.4.1	Services to the Resident Engineer and staff (items to revert to the Employer): utility bills — electricity, internet, water, office waste collection and the like. Provisional Sum per month.	Month	12.00	15,000.00	180,000.00
1.4.2	Allow for the Contractor's overheads and profit on item 1.4.1.	%			
1.4.3	Office, survey and kitchen equipment to the schedule in Clause 121 of the Technical Specifications, and other office maintenance overheads. Prime Cost Sum.	P.C. Sum	—		3,500,000.00
1.4.4	Allow for the Contractor's overheads and profit on item 1.4.3.	%			
1.5	Materials laboratory tests: allow the Prime Cost Sum for laboratory tests of materials and any other item as instructed by the Resident Engineer, in accordance with Clause 122.	P.C. Sum	—		1,500,000.00
1.6	Allow for the Contractor's overheads and profit on item 1.5.	%			
2.1	Sign boards: provide, erect and maintain project sign boards at the sites indicated by the Engineer, in accordance with the Conditions of Contract and drawing C-G-STD-007.	No.	2.00		
2.2	Progress photographs, reports and programme of works: provide 4 sets of A3 foam board photograph prints showing the progress of the Works each month in accordance with the Specification, 2 sets of the A1 master programme of works, and 3 colour copies of each A4 progress report.	Item	1.00		
2.3	Adjudication: allow the Provisional Sum for the adjudication process, to be used as directed by the Resident Engineer.	Prov. Sum	—		500,000.00
2.4	Allow for the Contractor's overheads and profit on item 2.3.	%			
	Total of Bill 1				**6,880,000.00**

Part A — Road 1 — Hashi Petrol Station – Food Distribution Centre 1 Road
Bill 4 — SITE CLEARANCE AND TOPSOIL STRIPPING

Item No.	Description	Unit	Quantity	Rate (KES)	Amount (KES)
4.01	Clear site including removal of trees, hedges, bushes and other vegetation and objectionable organic material as prescribed in the Specification (except those trees designated by the Engineer to remain).	m^2	14,000.00		
4.02	Remove topsoil to a depth and in locations as directed by the Engineer. Stockpile for later topsoiling of side slopes and dispose of the remainder by spreading uniformly within the road reserve, all to the satisfaction of the Engineer.	m^3	4,240.00		
4.03	Excavate and remove existing pipes and culverts of any size and the inlet and outlet structures, including backfilling.	m	36.00		
4.04a	Removal and alteration to existing services: allow the Prime Cost Sum for the removal and reinstatement of 415 volt overhead electricity poles (payable to the Kenya Power and Lighting Company), in accordance with the Specification and in conformity with the Engineer's instructions.	P.C. Sum	—		1,000,000.00
4.04b	Removal and alteration to existing services: allow the Prime Cost Sum for the removal and reinstatement of HDPE water pipes along the road reserve, in accordance with the Specification and in conformity with the Engineer's instructions.	P.C. Sum	—		500,000.00
4.05	Allow for the Contractor's overheads and profit on the Prime Cost Sums in items 4.04a and 4.04b.	%			
	Total of Bill 4				**1,500,000.00**

Part A — Road 1 — Hashi Petrol Station – Food Distribution Centre 1 Road
Bill 5 — EARTHWORKS

Item No.	Description	Unit	Quantity	Rate (KES)	Amount (KES)
5.01	Compact original ground below fills to at least 97 per cent MDD (AASHTO T.180), including all necessary scarifying and watering, in stretches as directed by the Engineer, to a depth of 300 mm below ground level.	m³	3,180.00		
5.02	Provide, transport, spread and compact improved sub-grade quality material approved by the Engineer for reconstruction areas to provide a minimum CBR of 22.5 per cent as directed by the Engineer.	m³	4,240.00		
	Total of Bill 5				**0.00**

Part A — Road 1 — Hashi Petrol Station – Food Distribution Centre 1 Road
Bill 7 — EXCAVATION AND FILLING FOR STRUCTURES

Item No.	Description	Unit	Quantity	Rate (KES)	Amount (KES)
7.01	Excavation in soft material to any depth for the foundations of the twin pipe culverts, headwalls, wingwalls and aprons, backfilling and compacting or hauling to spoil the excavated material, all in accordance with the Specification and in conformity with the Engineer's instructions.	m^3	0.00		
	Total of Bill 7				**0.00**

Part A — Road 1 — Hashi Petrol Station – Food Distribution Centre 1 Road
Bill 8 — CULVERTS AND DRAINAGE WORKS

Item No.	Description	Unit	Quantity	Rate (KES)	Amount (KES)
8.01	Excavate for drains and culverts in soft material to any depth, compact the invert of the excavation, backfill with excavated material or remove excavated material to spoil, in accordance with the Specification and in conformity with the Engineer's instructions.	m³	400.95		
8.02	Provide, lay and joint 900 mm internal diameter ogee-jointed concrete pipes to cross and access culverts, including approved gravel backfill to sub-grade quality and Class 15/20 compacted concrete bed and surround to the concrete pipes, including formwork as approved by the Engineer.	m	264.00		
8.03	Construct headwalls, wingwalls and aprons of compacted concrete Class 20/20 to the single 900 mm access and cross culverts, including approved gravel backfill to sub-grade quality and formwork, as approved by the Engineer.	No.	80.00		
8.04	Excavate in soft material, provide and construct 150 mm thick stone pitching to the sides of the watercourses on both sides where necessary to prevent scour.	m²	0.00		
8.05	Excavate in soft material, provide and construct the lined closed drain, U-type, 1.00 m × 1.00 m internal, with 150 mm thick reinforced Class 20/20 concrete walls and base on a 75 mm compacted gravel bed, together with 100 mm thick slotted precast concrete cover slabs forming the walking surface, along one side of the road as shown on the Drawings.	m	2,400.00		
8.06	Cross culverts at seasonal watercourses: excavate in soft material, provide, lay and joint twin 900 mm internal diameter ogee-jointed concrete pipes, including approved gravel backfill to sub-grade quality, Class 20/20 compacted 75 mm concrete bed and surround to the pipes as specified, and formwork as approved by the Engineer. Measured per metre of twin culvert.	m	0.00		
8.07	Excavate in soft material, construct headwalls, wingwalls and aprons of compacted concrete Class 20/20 to the twin 900 mm culverts in item 8.06, including approved gravel backfill to sub-grade quality, formwork and 75 mm Class 20/20 concrete blinding, as approved by the Engineer.	No.	0.00		
8.08	Cross culvert at seasonal watercourse: excavate in soft material, provide, lay and joint twin 1200 mm internal diameter ogee-jointed concrete pipes, including approved gravel backfill to sub-grade quality, Class 20/20 compacted 75 mm concrete bed and surround to the pipes as specified, and formwork as approved by the Engineer. Measured per metre of twin culvert.	m	0.00		
8.09	Excavate in soft material, construct headwalls, wingwalls and aprons of compacted concrete Class 20/20 to the twin 1200 mm culvert in item 8.08, including approved gravel backfill to sub-grade quality, formwork and 75 mm Class 20/20 concrete blinding, as approved by the Engineer.	No.	0.00		
	Total of Bill 8				**0.00**

Part A — Road 1 — Hashi Petrol Station – Food Distribution Centre 1 Road
Bill 9 — PASSAGE OF TRAFFIC

Item No.	Description	Unit	Quantity	Rate (KES)	Amount (KES)
9.01	Construction of diversions in maximum 0.3 km sections: all operations connected with the initial construction of temporary deviations of appropriate width to allow the passage of traffic during the Works, all in accordance with the Specification.	km	0.25		
9.02	Maintenance of gravel wearing surfacing: allow for maintenance and weekly grading of diversions, all in accordance with the Specification.	km	0.25		
9.03	Watering of gravel wearing surfacing: allow for watering at a minimum rate of 5 mm per day on diversions, all in accordance with the Specification.	m²	1,250.00		
9.04	Provision, erection and maintenance of temporary signs, barriers, lights, traffic signals and the like along the diversions constructed, all in accordance with the Specification and in conformity with the Engineer's instructions.	Item	1.00		
9.05	Access roads: site clearance, topsoil stripping, earthworks, drainage, gravel wearing course, maintenance and reinstatement, all in accordance with the Specification and in conformity with the Engineer's instructions.	m²	330.00		
	Total of Bill 9				**0.00**

Part A — Road 1 — Hashi Petrol Station – Food Distribution Centre 1 Road
Bill 12 — NATURAL MATERIAL SUB-BASE AND BASE

Item No.	Description	Unit	Quantity	Rate (KES)	Amount (KES)
12.01	Provide, spread, water, process and compact natural material of sub-base/base quality to 95 per cent MDD (AASHTO T.180) as sub-base and base on the carriageway as instructed.	m^3	6,480.00		
	Total of Bill 12				**0.00**

Part A — Road 1 — Hashi Petrol Station – Food Distribution Centre 1 Road
Bill 13 — GRADED CRUSHED STONE FOR SUB-BASE AND BASE

Item No.	Description	Unit	Quantity	Rate (KES)	Amount (KES)
13.01	Provide, spread, water, process and compact graded crushed stone (GCS) as sub-base and base on the carriageway and elsewhere as instructed.	m^3	0.00		
	Total of Bill 13				**0.00**

Part A — Road 1 — Hashi Petrol Station – Food Distribution Centre 1 Road
Bill 14 — CEMENT AND LIME TREATED MATERIALS

Item No.	Description	Unit	Quantity	Rate (KES)	Amount (KES)
14.01	Provide and spread cement stabiliser at 40–80 kg/m³ as directed by the Engineer to natural material.	tonne	181.60		
14.02	Mix in the cement stabiliser to the material in item 14.01 using stationary plant where required.	m³	2,190.00		
14.03	Curing of treated layers.	m²	14,600.00		
	Total of Bill 14				**0.00**

Part A — Road 1 — Hashi Petrol Station – Food Distribution Centre 1 Road
Bill 15 — BITUMINOUS SURFACE TREATMENTS

Item No.	Description	Unit	Quantity	Rate (KES)	Amount (KES)
15.01	Provide, heat and spray bituminous prime coat type MC 70 at a spray rate of 1.0 litre/m².	litre	21,200.00		
15.02	Provide and spray bituminous tack coat type K1-60 at a spray rate of 0.8 litre/m².	litre	14,600.00		
	Total of Bill 15				**0.00**

Part A — Road 1 — Hashi Petrol Station – Food Distribution Centre 1 Road
Bill 16 — BITUMINOUS MIX BASES, BINDER COURSES AND WEARING COURSES

Item No.	Description	Unit	Quantity	Rate (KES)	Amount (KES)
16.01	Provide, lay and compact 50 mm heavy duty asphalt concrete Type II (0/14) as wearing course to the carriageway as specified, using a nominal bitumen content of 5.7 per cent by weight of total mix.	m^3	730.00		
16.02	Prepare the surface of the underlying material, provide, lay and compact dense bitumen macadam (0/30 mm) as base layer in the compacted thickness specified, using 4.5 per cent nominal bitumen content by weight of total mix on the carriageway, all in accordance with the Specification and as directed by the Engineer.	m^3	0.00		
	Total of Bill 16				**0.00**

Part A — Road 1 — Hashi Petrol Station – Food Distribution Centre 1 Road
Bill 20 — ROAD FURNITURE AND STREET LIGHTING

Item No.	Description	Unit	Quantity	Rate (KES)	Amount (KES)
20.01	Warning signs: excavate for, provide and erect warning signs of 750 mm size including backfill and Class 15/20 concrete to bases, all in accordance with the Specification and in conformity with the Engineer's instructions.	No.	4.00		
20.02a	Priority signs: excavate for, provide and erect priority signs including backfilling and Class 15/20 concrete to bases — 750 mm size.	No.	4.00		
20.02b	Priority signs — 1000 mm size.	No.	4.00		
20.03	Mandatory signs: excavate for, provide and erect prohibitory signs including backfilling and Class 15/20 concrete to bases — 1000 mm size.	No.	4.00		
20.04a	Standard informatory signs: excavate for, provide and erect information signs including backfilling and Class 15/20 concrete to bases — less than 1 m².	No.	1.00		
20.04b	Standard informatory signs — equal to or more than 1 m² but less than 2 m².	No.	1.00		
20.04c	Standard informatory signs — equal to or more than 2 m² but less than 5 m².	No.	1.00		
20.05a	Road marking: prepare the road surface, supply approved thermoplastic road marking paint and glass beads and mark out, all in accordance with the Specification — white thermoplastic.	m²	240.00		
20.05b	Road marking — yellow thermoplastic, 100 mm wide.	m	480.00		
20.06	Guardrail: provision and transport of all materials, excavation, erection of metal posts, backfilling and installation of the guardrails, all in accordance with the Specification.	m	0.00		
20.07	Speed reduction bituminous bumps: provision, transport and placing of materials in accordance with the Specification and in conformity with the Engineer's instructions.	No.	6.00		
20.08	Rumble strips on pavement: provision, transport and placing of materials in accordance with the Specification and in conformity with the Engineer's instructions.	No.	48.00		
20.09	Concrete kerbs: excavate for, provide and place 250 × 125 mm Class 25/20 precast concrete kerbs haunched in 100 mm thick Class 15/20 bedding, jointed, straight and of any radius, including at bus bays.	m	2,200.00		
20.10	Ditto item 20.09 but 100 × 125 mm flush kerbs — straight kerbs and of any radius.	m	6,600.00		
20.11	Steel bollards: provide and place gauge 16 steel pipe bollards of 150 mm diameter standing 1.05 m above ground level and embedded in a Class 15/20 concrete foundation.	No.	1,468.00		
20.12	Street lighting: supply and install 80 W integrated solar street lights with motion sensor on 8 m high single or double arm poles of minimum 100 mm diameter, Class A heavy duty rigid steel, galvanised, corrosion free and able to withstand peak winds of 100 km/h, spaced at 50 m staggered on both sides and opposite each other at junctions, as directed by the Engineer and in accordance with Clause 2014. The rate shall include excavation, foundations, backfilling and all general civil works.	No.	44.00		
	Total of Bill 20				**0.00**

Part A — Road 1 — Hashi Petrol Station – Food Distribution Centre 1 Road
Bill 23 — CONCRETE PAVING BLOCKS

Item No.	Description	Unit	Quantity	Rate (KES)	Amount (KES)
23.01	Prepare the road base surface, provide and spread a 40 mm quarry dust or river sand (0/6) laying course to receive paving blocks as instructed by the Engineer.	m^3	264.00		
23.02	Provide, lay and compact 60 mm thick interlocking concrete paving blocks with 35 N/mm^2 cube crushing strength conforming to BS 6717 Part 1 of 1986 or equivalent.	m^2	6,600.00		
	Total of Bill 23				**0.00**

Collection — Part A (Road 1 — Hashi Petrol Station – Food Distribution Centre 1 Road)

Bill No.	Description	Amount (KES)
Bill 4	SITE CLEARANCE AND TOPSOIL STRIPPING	1,500,000.00
Bill 5	EARTHWORKS	0.00
Bill 7	EXCAVATION AND FILLING FOR STRUCTURES	0.00
Bill 8	CULVERTS AND DRAINAGE WORKS	0.00
Bill 9	PASSAGE OF TRAFFIC	0.00
Bill 12	NATURAL MATERIAL SUB-BASE AND BASE	0.00
Bill 13	GRADED CRUSHED STONE FOR SUB-BASE AND BASE	0.00
Bill 14	CEMENT AND LIME TREATED MATERIALS	0.00
Bill 15	BITUMINOUS SURFACE TREATMENTS	0.00
Bill 16	BITUMINOUS MIX BASES, BINDER COURSES AND WEARING COURSES	0.00
Bill 20	ROAD FURNITURE AND STREET LIGHTING	0.00
Bill 23	CONCRETE PAVING BLOCKS	0.00
	Sub-total, Part A	**1,500,000.00**

Daywork Schedule (Bill 22)

Item No.	Description	Unit	Provisional quantity	Rate (KES)	Amount (KES)
	Labour				
22.L01	Unskilled labourer	hour	200.00		
22.L02	Semi-skilled labourer	hour	60.00		
22.L03	Mason	hour	60.00		
22.L04	Carpenter / steel fixer	hour	60.00		
22.L05	Plant operator	hour	60.00		
22.L06	Driver	hour	60.00		
22.L07	Foreman / chargehand	hour	40.00		
22.L08	Surveyor with chainmen	hour	20.00		
	Plant				
22.P01	Bulldozer, minimum 150 hp	hour	20.00		
22.P02	Motor grader, minimum 140 hp	hour	20.00		
22.P03	Wheeled loader, minimum 2.0 m^3	hour	20.00		
22.P04	Excavator, minimum 0.9 m^3	hour	30.00		
22.P05	Backhoe loader	hour	30.00		
22.P06	Vibratory roller, minimum 10 tonnes	hour	20.00		
22.P07	Pneumatic tyred roller, minimum 15 tonnes	hour	20.00		
22.P08	Tipper truck, minimum 15 tonnes	hour	40.00		
22.P09	Water tanker, minimum 10,000 litres	hour	20.00		
22.P10	Concrete mixer, 0.5 m^3	hour	20.00		
22.P11	Poker vibrator	hour	20.00		
22.P12	Plate compactor	hour	20.00		
22.P13	Mobile crane, minimum 5 tonnes	hour	10.00		
	Materials				
22.M01	Ordinary Portland cement CEM I 42.5N	tonne	10.00		
22.M02	Steel reinforcement to BS 4449 grade 500	tonne	5.00		
22.M03	Coarse aggregate 20 mm	m^3	30.00		
22.M04	Fine aggregate / river sand	m^3	30.00		
22.M05	Natural gravel, sub-base quality	m^3	100.00		
22.M06	Hardcore / stone for pitching	m^3	30.00		
22.M07	Sawn formwork timber	m^2	50.00		
22.M08	Bitumen, 60/70 penetration grade	tonne	5.00		

Total of the Daywork Schedule **0.00**

PROPOSED UPGRADING TO BITUMEN STANDARD OF THE HASHI PETROL STATION – FOOD DISTRIBUTION CENTRE 1 ROAD (2.0 KM) IN KAKUMA
GRAND SUMMARY

Item	Description	Amount (KES)
1	Bill 1 — Preliminaries and General	6,880,000.00
2	Part A — Road 1: Hashi Petrol Station – Food Distribution Centre 1 Road	1,500,000.00
3	Daywork Schedule (Bill 22)	0.00
	Sub-total	**8,380,000.00**
4	Value Added Tax at 16 per cent	1,340,800.00
	GRAND TOTAL	**9,720,800.00**

No contingency sum is included.

Bill 1 is carried in full in each of Contract 1 (Road 1) and Contract 2 (Road 2).

REPUBLIC OF KENYA
COUNTY GOVERNMENT OF TURKANA
KAKUMA MUNICIPALITY

PROCUREMENT OF:

PROPOSED UPGRADING TO BITUMEN STANDARD OF THE HASHI PETROL STATION – FOOD DISTRIBUTION CENTRE 1 ROAD (2.0 KM) IN KAKUMA MUNICIPALITY, TURKANA COUNTY

CONTRACT 1 — ROAD 1

Tender No.: TCG/KKM / 06 / 2026-2027

Project: KENYA URBAN SUPPORT PROGRAMME II (KUSP II)
Credit Number: 2703782

Employer: COUNTY GOVERNMENT OF TURKANA
Issued on: 2703782

BOOK OF DRAWINGS

Volume 4

Drawing Register and Key Sheets

1. Status of this Volume

This Volume is the register of the Drawings forming part of the Contract. The Drawings themselves are the Detailed Design Book of Drawings, October 2026, as it applies to this Contract: 38 drawing sheets drawn at A1, comprising the Road 1 drawings, the typical cross section, the setting-out data and the standard drawings that apply, issued as a separate bound set and, in electronic form, as a PDF file accompanying the bidding document. Sheets may be printed at A3 for convenience, in which case they are not to scale.

The Contractor shall satisfy itself that it holds the current revision of every drawing listed in the register before commencing any part of the Works. Where a discrepancy is found between the Drawings, the Specification and the Bill of Quantities, the Contractor shall refer the matter to the Engineer before proceeding, and shall not resolve the discrepancy on its own initiative.

Figured dimensions shall be used in preference to scaled dimensions in every case. Drawings shall not be scaled for setting-out purposes.

2. Drawing Register

No.	Drawing number	Title	Size	Revision
1	—	Cover sheet and section dividers	A1	[insert]
2	C-G-PLN1-001	Road 1 — Hashi Petrol Station – Food Distribution Centre 1 Road: plan, KM 0+000 to KM 2+857 (surveyed extent); line drawing and on aerial imagery	A1	[insert]
3	C-G-PLN1-RD1-001	Road 1: layout plan, KM 0+000 to KM 1+120; line drawing and on aerial imagery	A1	[insert]
4	C-G-PLN1-RD1-002	Road 1: layout plan, KM 1+140 to KM 2+000; line drawing and on aerial imagery	A1	[insert]
5	C-G-PP-RD1-001	Road 1: plan and profile, KM 0+000 to KM 0+560	A1	[insert]
6	C-G-PP-RD1-002	Road 1: plan and profile, KM 0+560 to KM 1+120	A1	[insert]
7	C-G-PP-RD1-003	Road 1: plan and profile, KM 1+140 to KM 1+700	A1	[insert]
8	C-G-PP-RD1-004	Road 1: plan and profile, KM 1+720 to KM 2+000	A1	[insert]
9	C-G-SEC-RD1-001	Road 1: cross sections, KM 0+000 to KM 0+320	A1	[insert]
10	C-G-SEC-RD1-002	Road 1: cross sections, KM 0+340 to KM 0+640	A1	[insert]
11	C-G-SEC-RD1-003	Road 1: cross sections, KM 0+660 to KM 0+960	A1	[insert]
12	C-G-SEC-RD1-004	Road 1: cross sections, KM 0+980 to KM 1+280	A1	[insert]
13	C-G-SEC-RD1-005	Road 1: cross sections, KM 1+300 to KM 1+600	A1	[insert]
14	C-G-SEC-RD1-006	Road 1: cross sections, KM 1+620 to KM 1+920	A1	[insert]
15	C-G-SEC-RD1-007	Road 1: cross sections, KM 1+940 to KM 2+000	A1	[insert]
16	C-G-PLN-RD1 JXN-001	Road 1: junction improvement	A1	[insert]
17	C-G-PDD-001	Typical cross section and pavement details — Road 1 and Road 2	A1	[insert]
18	C-G-SET-001	Setting-out data	A1	[insert]
19	C-G-STD-001	Standard drawing: concrete kerbs and channels	A1	[insert]
20	C-G-STD-002	Standard drawing: sub-surface water drains, trenches and bedding details	A1	[insert]
21	C-G-STD-003	Standard drawing: catch basins	A1	[insert]
22	C-G-STD-004	Standard drawing: standard single pipe culvert with concrete surround	A1	[insert]
23	C-G-STD-006	Standard drawing: standard bus bay layout	A1	[insert]
24	C-G-STD-007	Standard drawing: project signboard	A1	[insert]
25	C-G-STD-008	Standard drawing: movable concrete barrier	A1	[insert]
26	C-G-STD-009	Standard drawing: environmental barrier	A1	[insert]
27	C-G-STD-010 and 011	Standard drawings: road sign erection details	A1	[insert]
28	C-G-STD-012	Standard drawing: standard road signs and marking details	A1	[insert]
29	C-G-STD-013	Standard drawing: road signs — warning signs	A1	[insert]
30	C-G-STD-014	Standard drawing: road signs — regulatory, mandatory and informatory signs	A1	[insert]
31	C-G-STD-015	Standard drawing: standard speed hump	A1	[insert]
32	C-G-STD-016	Standard drawing: rumble strips	A1	[insert]
33	C-G-STD-017	Standard drawing: concrete bollard	A1	[insert]
34	C-G-STD-018	Standard drawing: pedestrian guard rail	A1	[insert]
35	C-G-STD-019	Standard drawing: flexi beam guardrail	A1	[insert]

3. Extent of the Works

Road	Description	Chainage	Length (km)
Road 1	Hashi Petrol Station – Food Distribution Centre 1 Road	KM 0+000 to KM 2+000	2.00
Total			**2.00**

4. Key Sheets

The following sheets are reproduced from the Book of Drawings for reference; the signed drawings govern.

4.1 Typical cross section and pavement details — drawing C-G-PDD-001

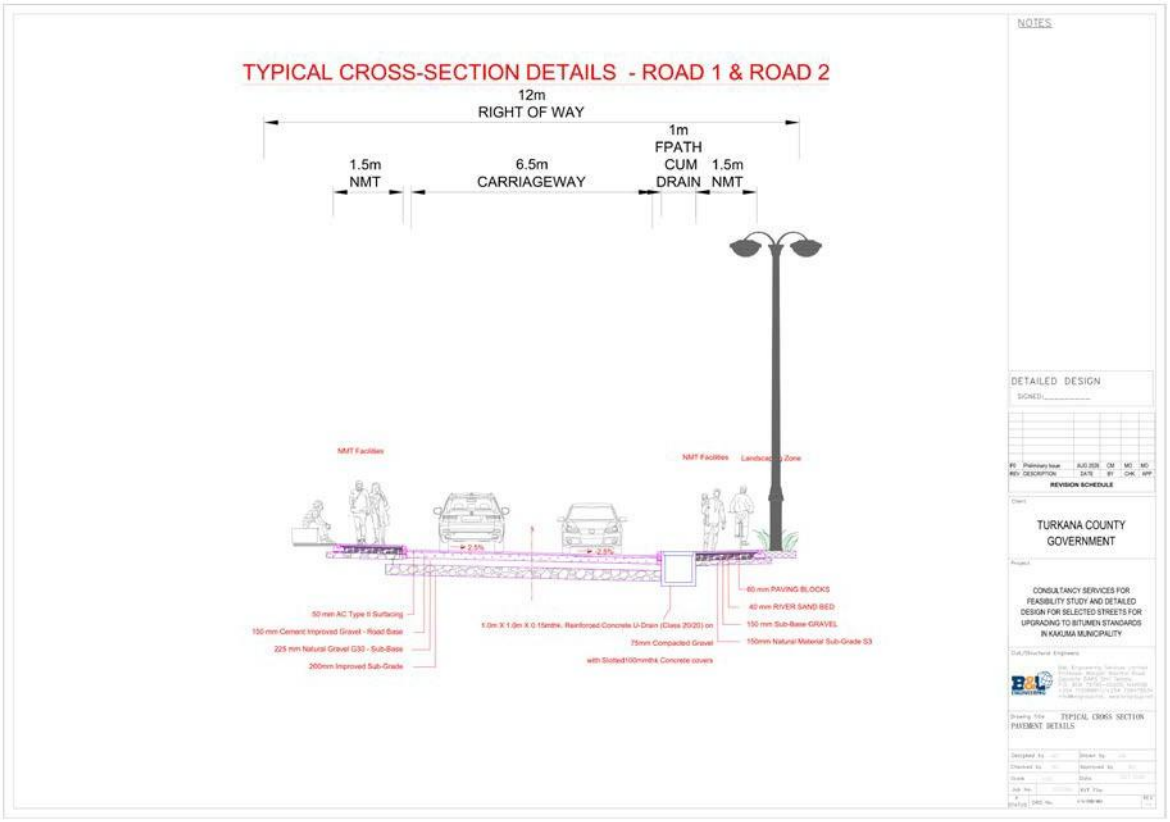


Figure 1: Typical cross section and pavement details, drawing C-G-PDD-001

4.2 Cross sections — drawing C-G-SEC-RD1-001

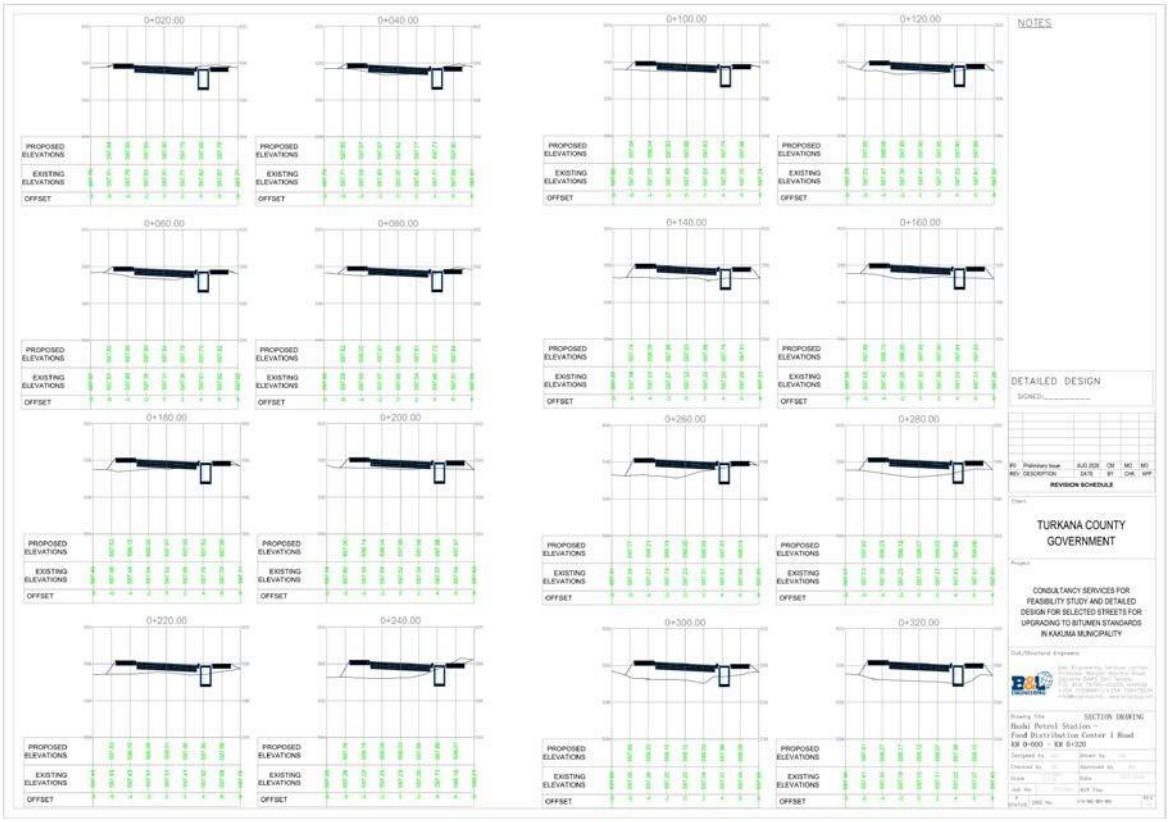


Figure 2: Road 1 cross sections, KM 0+000 to KM 0+320, drawing C-G-SEC-RD1-001

4.3 Standard single pipe culvert — drawing C-G-STD-004

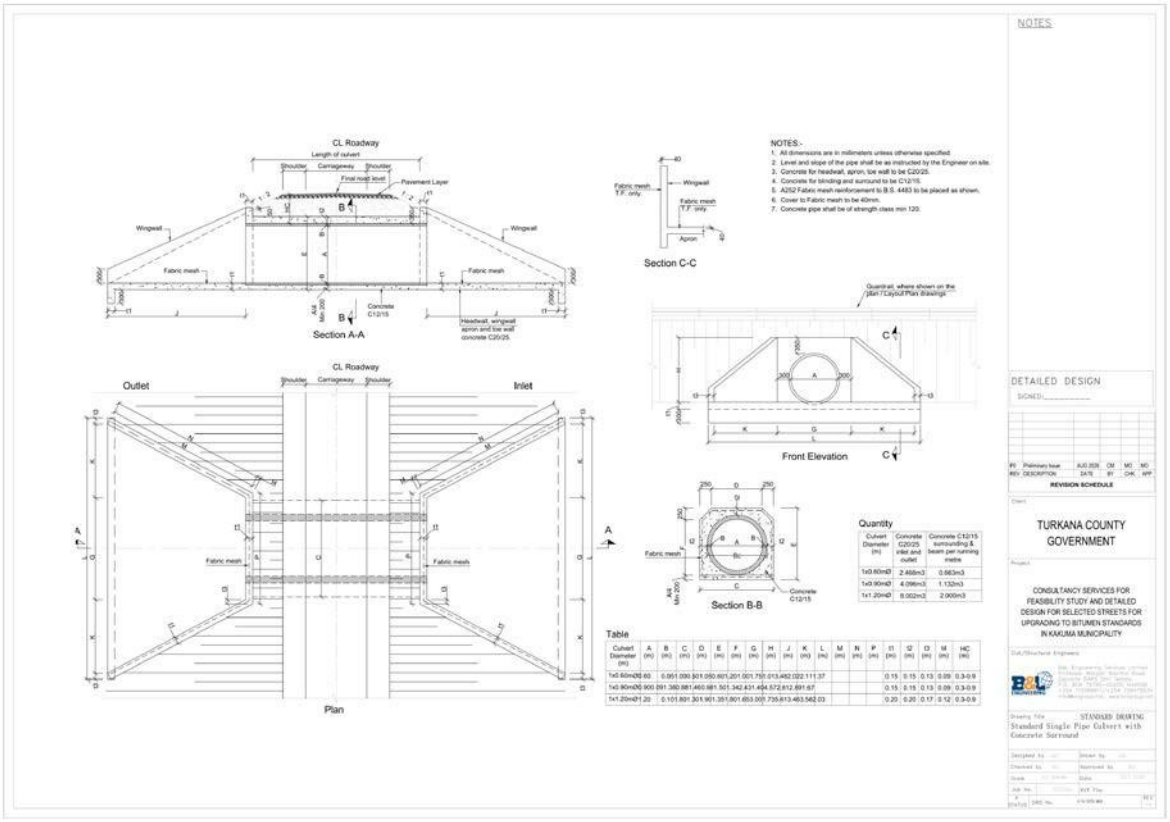


Figure 3: Standard single pipe culvert with concrete surround, drawing C-G-STD-004

4.4 Road 1 plan and profile — drawing C-G-PP-RD1-001

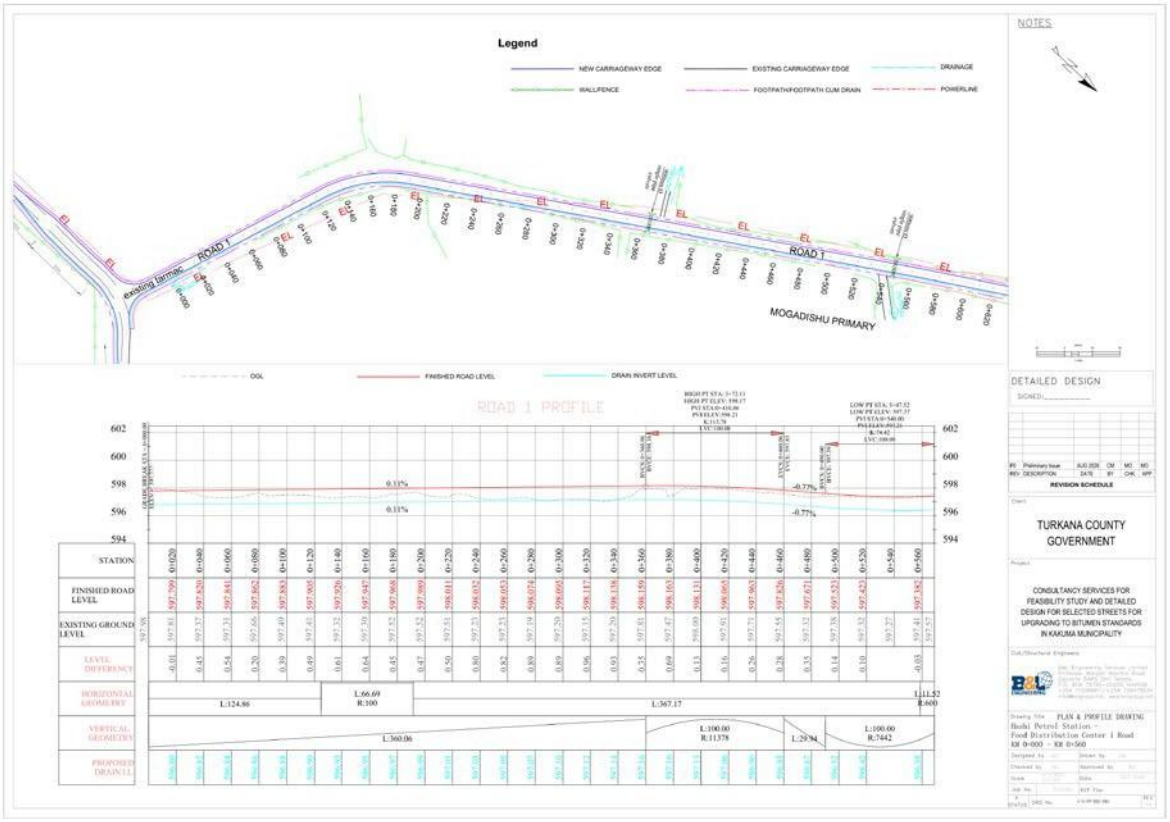


Figure 4: Road 1 plan and profile, KM 0+000 to KM 0+560, drawing C-G-PP-RD1-001

4.5 Road 1 layout plan — drawing C-G-PLN1-RD1-001

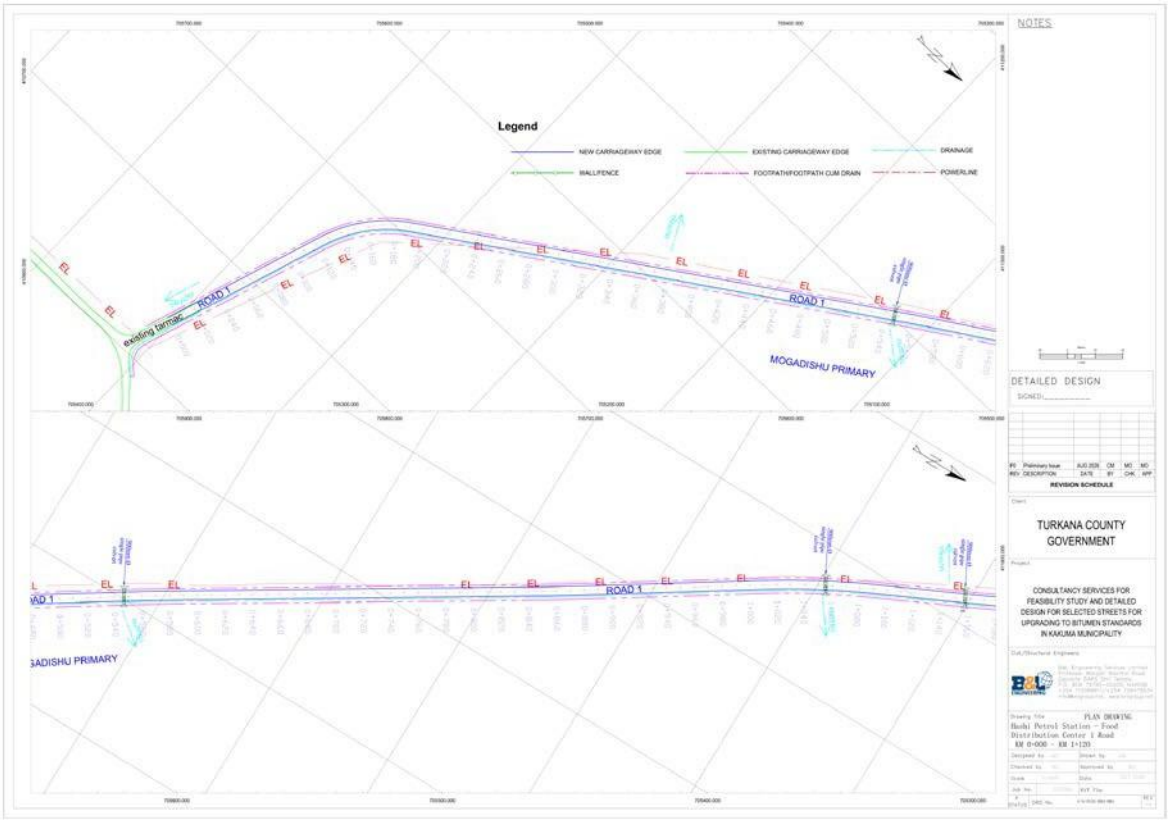


Figure 5: Road 1 layout plan, KM 0+000 to KM 1+120, drawing C-G-PLN1-RD1-001

5. Drawings to be Produced by the Contractor

In addition to the Drawings listed in the register, the Contractor shall prepare and submit for the Engineer's acceptance:

- the design, reinforcement drawings and bending schedules for the precast slotted drain cover slabs, prepared, signed and sealed by an engineer registered with the Engineers Board of Kenya, in accordance with Clause 819 of the Specification;
- the street lighting layout showing the position of each of the 44 poles, the foundation designs and the photometric calculation required by Clause 2014;
- setting-out drawings and the traffic and pedestrian management drawings for each stage of the Works;
- as-built drawings of the whole of the Works, including the recorded coordinates and invert levels of every culvert, gully inlet, drain access opening and outfall, and the position of every street light, to be submitted 28 days before the end of the Defects Liability Period in accordance with GCC Sub-Clause 58.1.

BOOK OF DRAWINGS

FEASIBILITY STUDY, DETAILED DESIGN,
CONSTRUCTION, SUPERVISION AND OPERATION &
MAINTENANCE ENHANCEMENT PLAN FOR SELECTED STREETS FOR
UPGRADING TO BITUMEN
STANDARDS IN KAKUMA

County Government of Turkana,
Kakuma Municipality,
P.O.BOX 11-30500,
LODWAR.KENYA

Kenya Urban Support Programme II
(KUSP II) with
Financing from World Bank

B&L Engineering Services Limited,
P.O.BOX 79795-00200, NAIROBI.KENYA

Hashi Petrol Station - Food Distribution Center 1 Road

Legend

NEW CARRIAGEWAY EDGE

EXISTING CARRIAGEWAY EDGE

DRAINAGE

WALL/FENCE

FOOTPATH/FOOTPATH CUM DRAIN

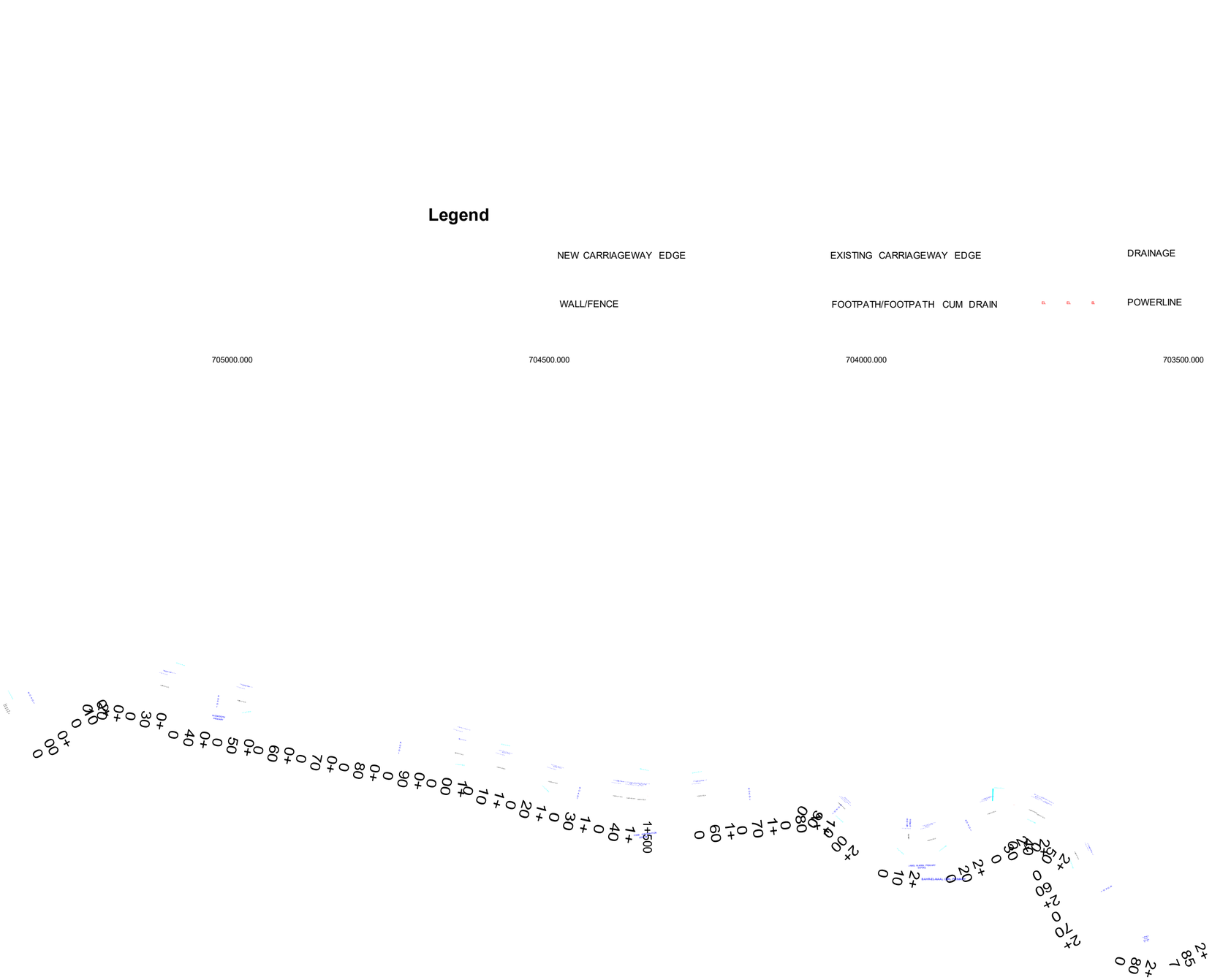
POWERLINE

705500.000 705000.000 704500.000 704000.000 703500.000

410000.000 412500.000

410500.000 413000.000

411000.000 413500.000



DETAILED DESIGN

SIGNED:_____

REV	DESCRIPTION	DATE	BY	CHK	APP
P0	Preliminary Issue	AUG 2026	CM	MO	MO

REVISION SCHEDULE

TURKANA COUNTY GOVERNMENT

CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND DETAILED DESIGN FOR SELECTED STREETS FOR UPGRADING TO BITUMEN STANDARDS IN KAKUMA MUNICIPALITY

PLAN DRAWING

Hashi Petrol Station - Food Distribution Center 1 Road

KM 0+000 - KM 2+857

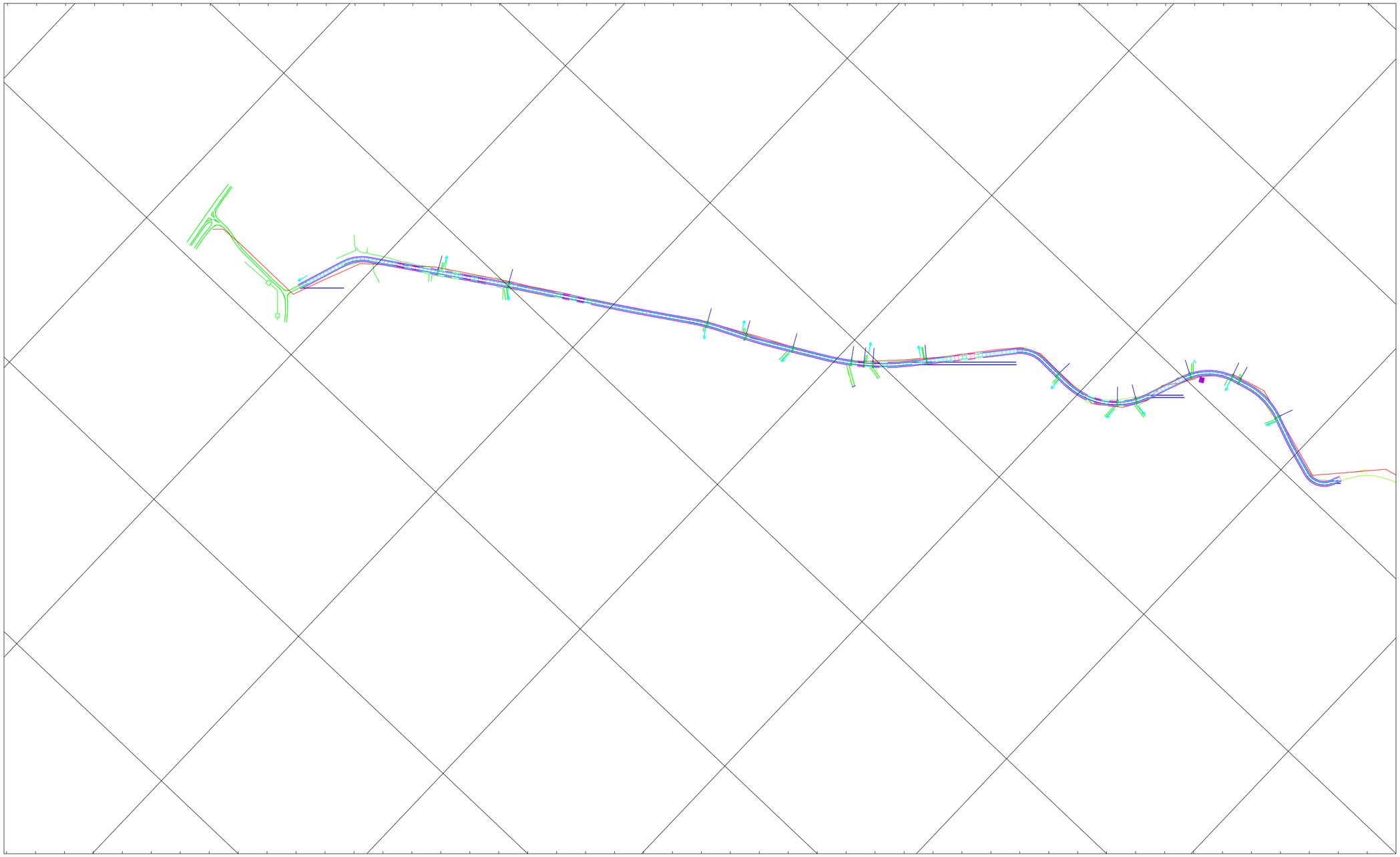
Designed by	MO	Drawn by	EM
Checked by	MO	Approved by	MO
Scale	1:5000	Date	AUG 2026

707000.000

706500.000

706000.000

705500.000



NOTES

Job No. BE0056 RVT File: C-G-PLN1-001

P REV

STATUS DRG No. P0

Client

Project

Civil/Structural Engineers.

B&L Engineering Services Limited
Professor Wangari Maathai Road
Opposite BAPS Shri Temple
P.O. BOX 79795-00200, NAIROBI
+254 110088811/+254 759479534
info@bnlgroup.net, www.bnlgroup.net

Drawing Title

Legend

NEW CARRIAGEWAY EDGE

EXISTING CARRIAGEWAY EDGE

DRAINAGE

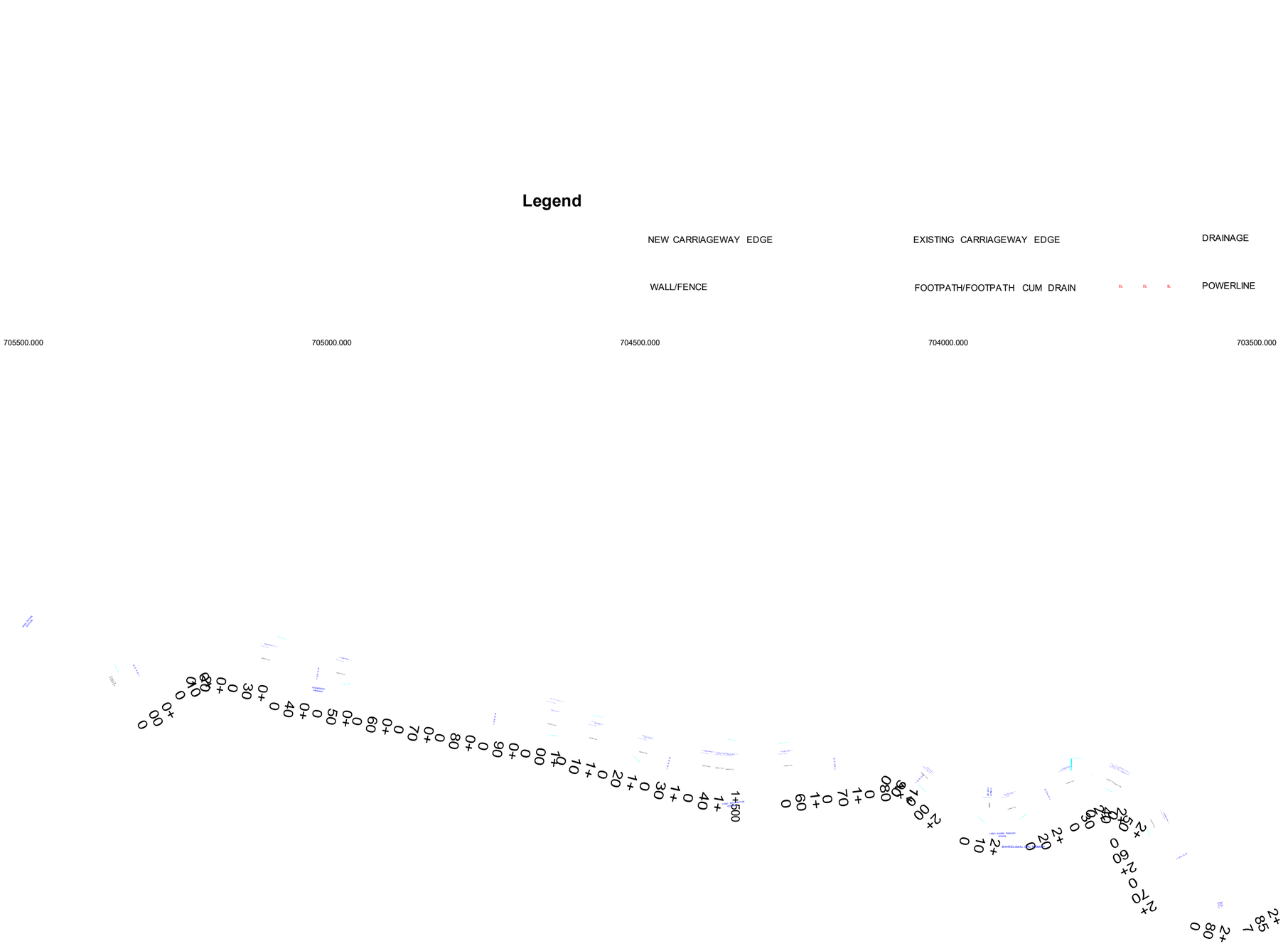
WALL/FENCE

FOOTPATH/FOOTPATH CUM DRAIN

POWERLINE

705500.000 705000.000 704500.000 704000.000 703500.000

410000.000 412500.000



410500.000

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DETAILED DESIGN

SIGNED:_____

REV	DESCRIPTION	DATE	BY	CHK	APP
P0	Preliminary Issue	AUG 2026	CM	MO	MO

REVISION SCHEDULE

TURKANA COUNTY GOVERNMENT

CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND DETAILED DESIGN FOR SELECTED STREETS FOR UPGRADING TO BITUMEN STANDARDS IN KAKUMA MUNICIPALITY

PLAN DRAWING

Hashi Petrol Station - Food Distribution Center 1 Road
KM 0+000 - KM 2+857

Designed by	MO	Drawn by	EM
Checkedby Scale	MO	Approvedby Date	MO AUG
1:5000			2026

707000.000

706500.000

706000.000

705500.000



NOTES

Job No. P

BE0056

RVT File: C-G-PLN1-001

REV P0

STATUS

DRG No.

Client

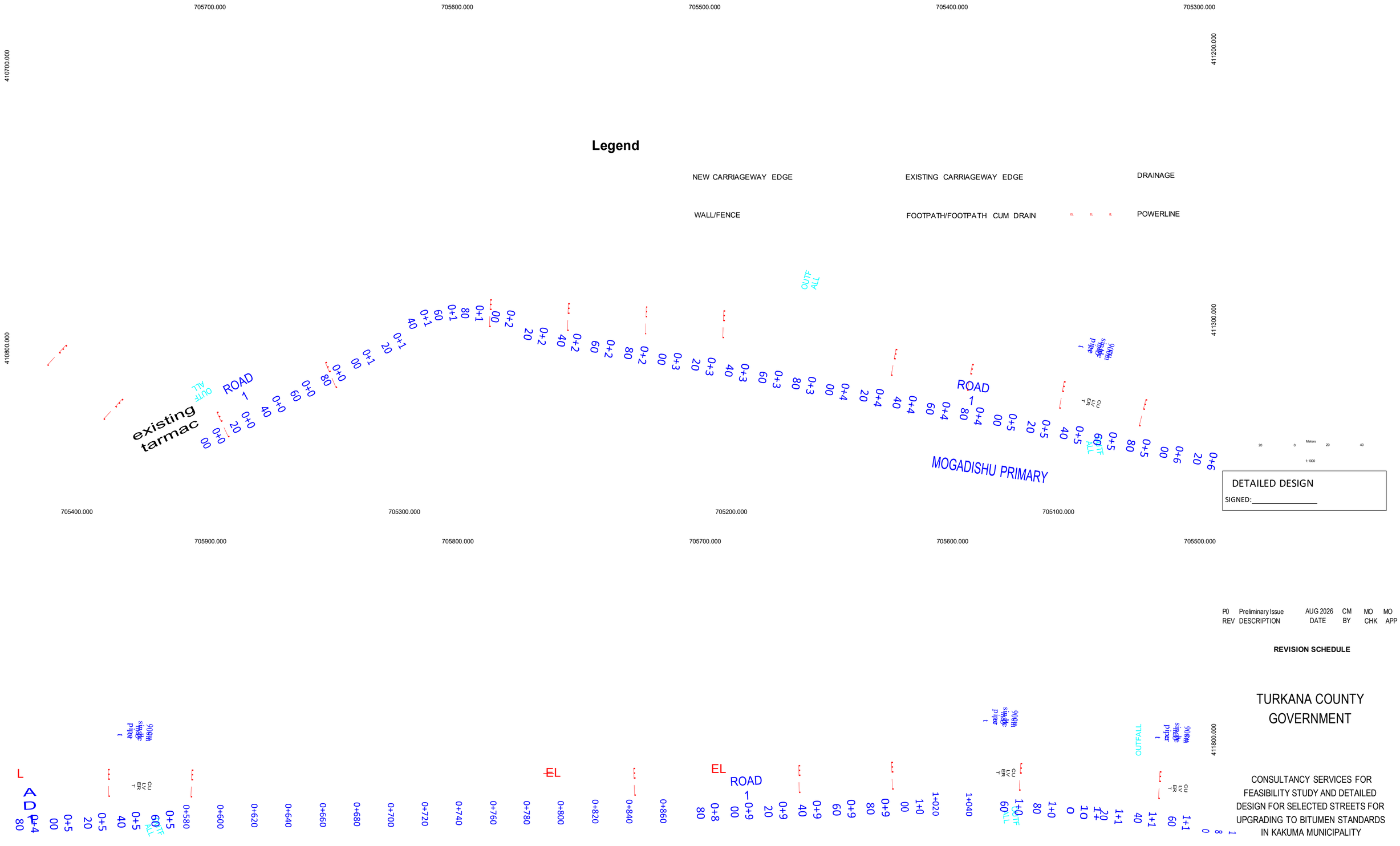
Project

Civil/Structural Engineers.

B&L Engineering Services Limited
Professor Wangari Maathai Road
Opposite BAPS Shri Temple
P.O. BOX 79795-00200, NAIROBI
+254 110088811/+254 759479534
info@bnlgroup.net, www.bnlgroup.net

Drawing Title

LAYOUT DRAWINGS



DETAILED DESIGN

SIGNED:_____

REV	DESCRIPTION	DATE	BY	CHK	APP
P0	Preliminary Issue	AUG 2026	CM	MO	MO

REVISION SCHEDULE

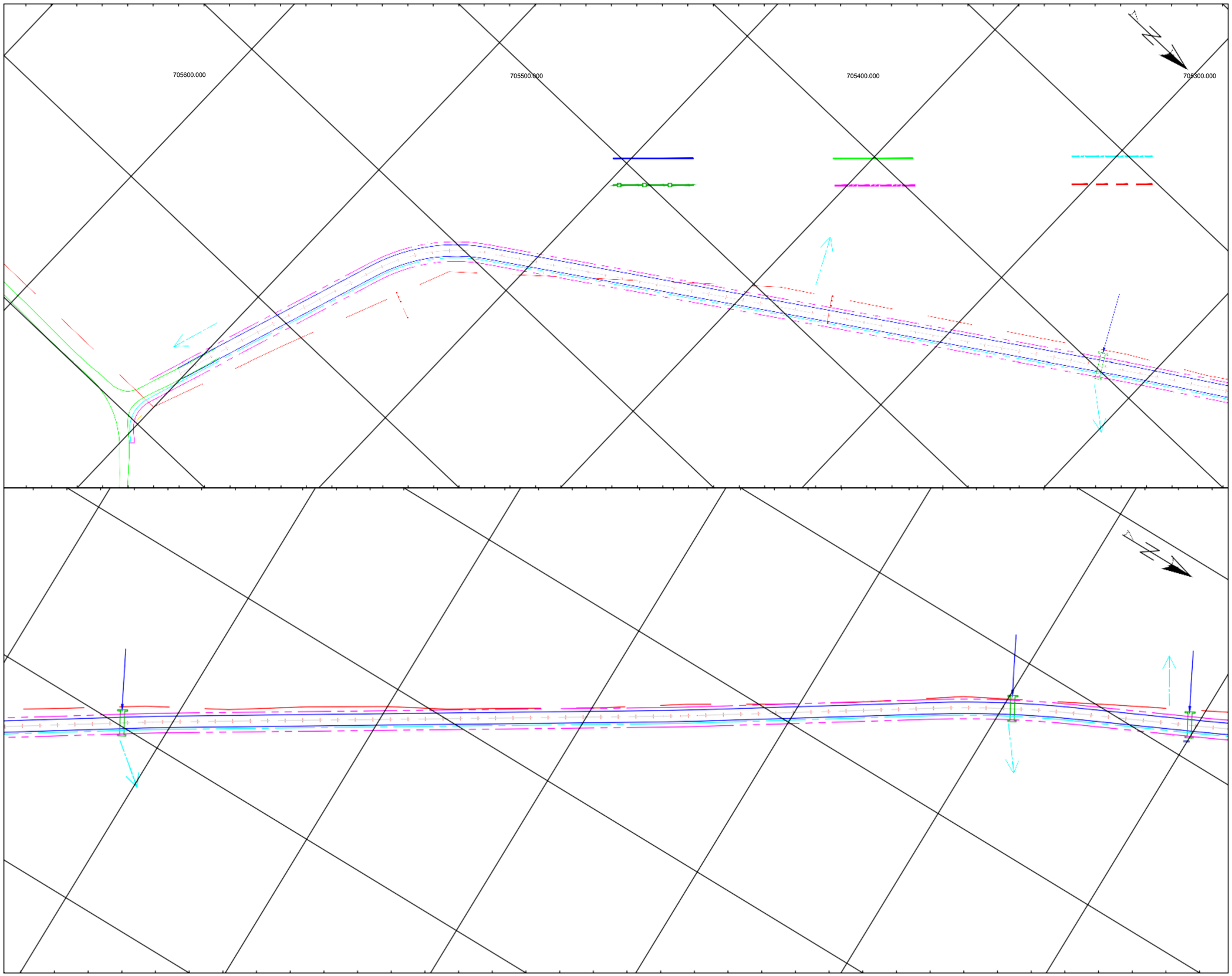
TURKANA COUNTY GOVERNMENT

CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND DETAILED DESIGN FOR SELECTED STREETS FOR UPGRADING TO BITUMEN STANDARDS IN KAKUMA MUNICIPALITY

PLAN DRAWING

Hashi Petrol Station - Food Distribution Center 1 Road
KM 0+000 - KM 1+120

Designed by MO Drawn by EM



NOTES

Checked by Scale MO
1:1000

Approved by Date MO OCT
2026

Job No. BE0056
P

RVT File:
C-G-PLN1-RD1-001

REV

STATUS DRG No.
P0

Client

Project

Civil/Structural Engineers.

B&L ENGINEERING
B&L Engineering Services Limited
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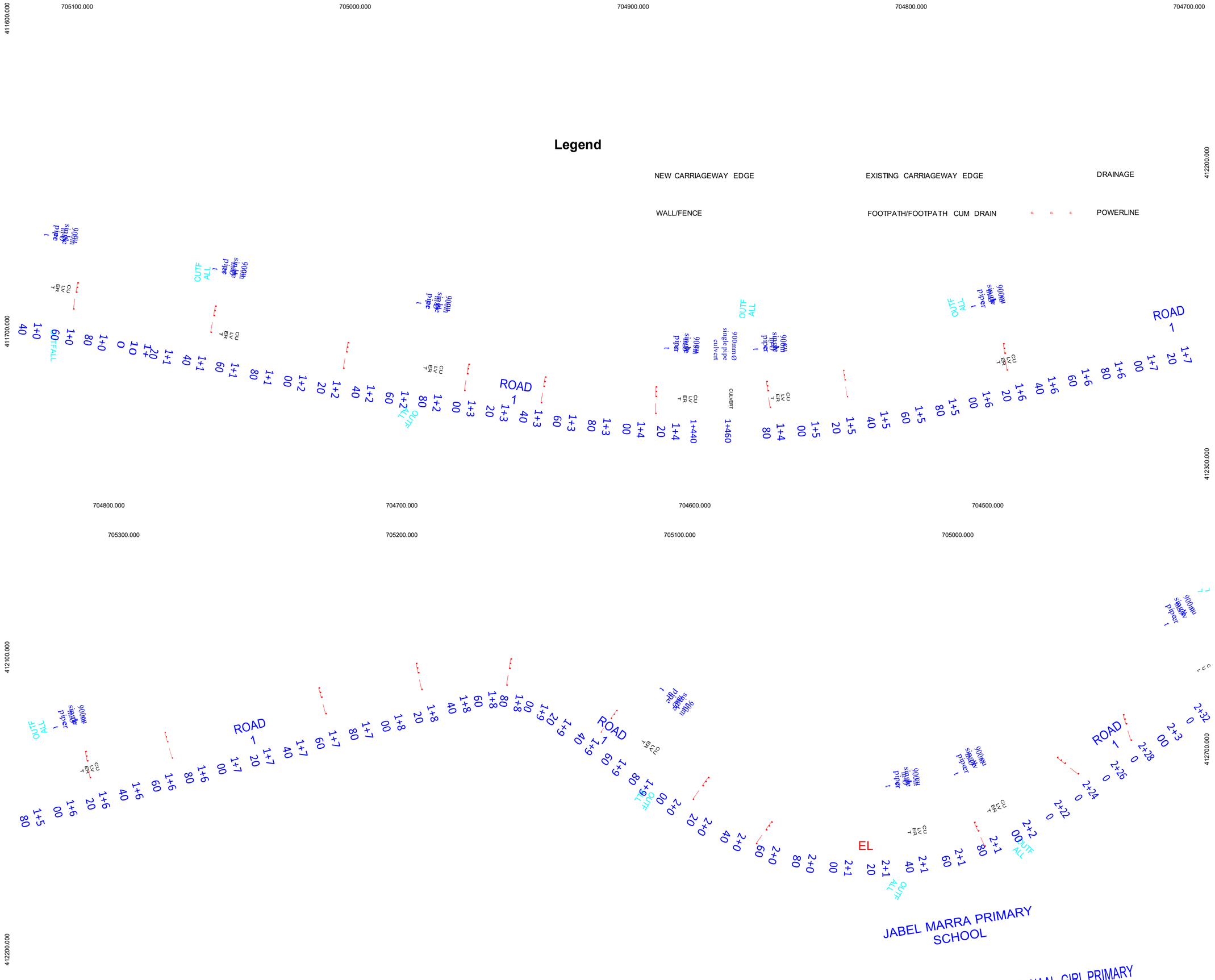
Drawing Title



DETAILED DESIGN

SIGNED:_____

REV	DESCRIPTION	DATE	BY	CHK	APP
P0	Preliminary Issue	AUG 2026	CM	MO	MO

REVISION SCHEDULE

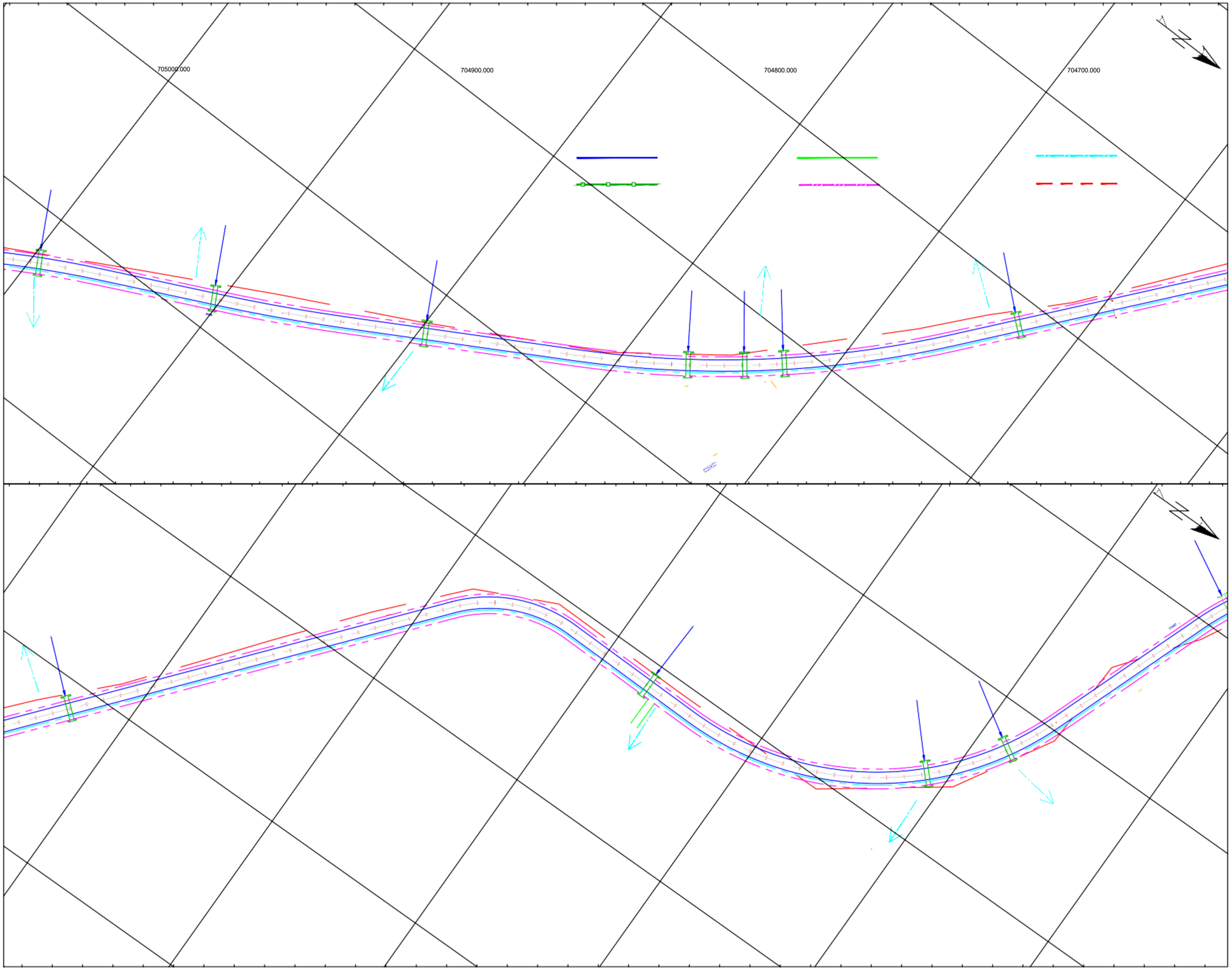
TURKANA COUNTY GOVERNMENT

CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND DETAILED DESIGN FOR SELECTED STREETS FOR UPGRADING TO BITUMEN STANDARDS IN KAKUMA MUNICIPALITY

PLAN DRAWING

Hashi Petrol Station - Food Distribution Center 1 Road
KM 1+140 - KM 2+000

Designed by MO Drawn by EM



NOTES

Checked by Scale MO
1:1000

Approved by Date MO OCT
2026

Job No. BE0056
P

RVT File:
C-G-PLN1-RD1-002

REV

STATUS DRG No.

P0

Client

Project

Civil/Structural Engineers.

B&L Engineering Services Limited
Professor Wangari Maathai Road
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P.O. BOX 79795-00200, NAIROBI
+254 (0)0888217/+254 (0)87/8638
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Drawing Title

705700.000 705600.000 705500.000 705400.000 705300.000

410700.000 411200.000

Legend

NEW CARRIAGEWAY EDGE

EXISTING CARRIAGEWAY EDGE

DRAINAGE

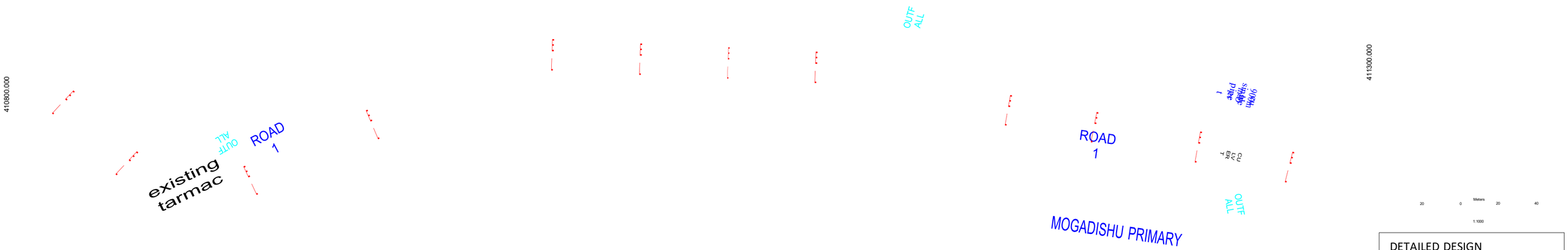
WALL/FENCE

FOOTPATH/FOOTPATH CUM DRAIN

POWERLINE

410800.000 411300.000

705400.000 705300.000 705200.000 705100.000



DETAILED DESIGN

SIGNED:_____

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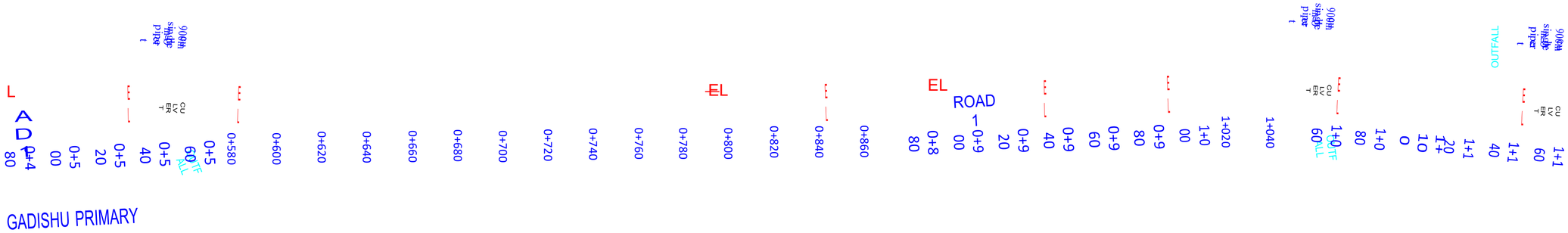

REV	DESCRIPTION	DATE	BY	CHK	APP
P0	Preliminary Issue	AUG 2026	CM	MO	MO

REVISION SCHEDULE

TURKANA COUNTY GOVERNMENT

CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND DETAILED DESIGN FOR SELECTED STREETS FOR UPGRADING TO BITUMEN STANDARDS IN KAKUMA MUNICIPALITY

PLAN DRAWING

Hashi Petrol Station - Food Distribution Center 1 Road
KM 0+000 - KM 1+120

Designed by MO Drawn by EM



NOTES

Checked by Scale MO
1:1000

Approved by Date MO OCT
2026

Job No. BE0056
P

RVT File:
C-G-PLN1-RD1-001

REV

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P0

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Civil/Structural Engineers.

B&L ENGINEERING
B&L Engineering Services Limited
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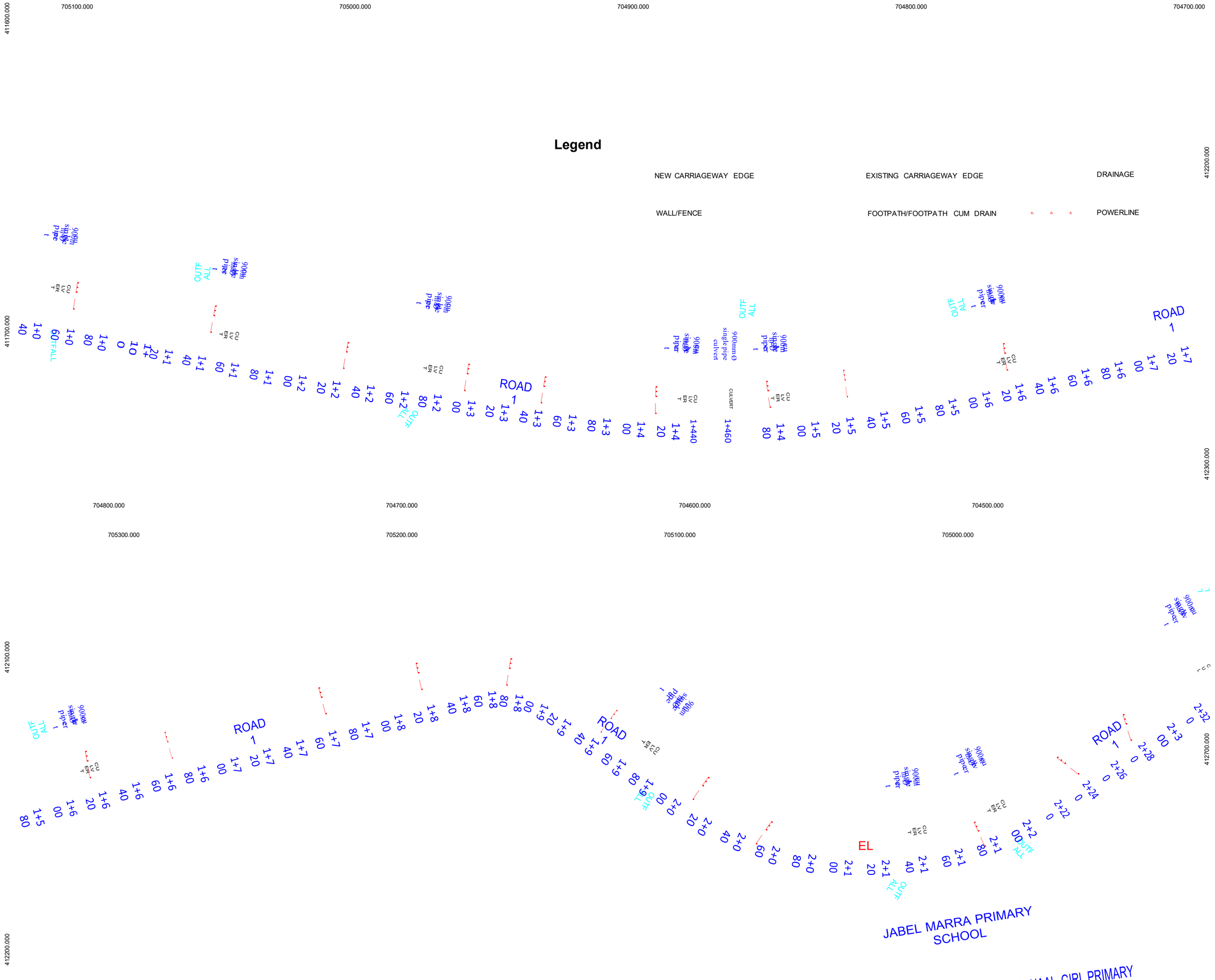
info@bnlgroup.net, www.bnlgroup.net

Drawing Title



DETAILED DESIGN

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P0	Preliminary Issue	AUG 2026	CM	MO	MO

REVISION SCHEDULE

TURKANA COUNTY GOVERNMENT

CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND DETAILED DESIGN FOR SELECTED STREETS FOR UPGRADING TO BITUMEN STANDARDS IN KAKUMA MUNICIPALITY

PLAN DRAWING

Hashi Petrol Station - Food Distribution Center 1 Road
KM 1+140 - KM 2+000

Designed by MO Drawn by EM



NOTES

Checked by Scale MO
1:1000

Approved by Date MO OCT
2026

Job No. BE0056
P

RVT File:
C-G-PLN1-RD1-002

REV

STATUS DRG No.

P0

Client

Project

Civil/Structural Engineers.

B&L Engineering Services Limited
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info@bnlgroup.net, www.bnlgroup.net

Drawing Title

PLAN & PROFILE DRAWINGS

Legend

NEW CARRIAGEWAY EDGE

EXISTING CARRIAGEWAY EDGE

DRAINAGE

WALL/FENCE

FOOTPATH/FOOTPATH CUM DRAIN

EL EL EL

POWERLINE



OGL

FINISHED ROAD LEVEL

DRAIN INVERT LEVEL

GRADE BREAK STA = 0+000.00
ELEV= 597.777

0.11%

0.11%

HIGH PT STA: 3+72.11
HIGH PT ELEV: 598.17
PVI STA:0+410.06
PVI ELEV:598.21
K:113.78
LVC:100.00

BVCS: 0+360.06
BVCE: 598.16

EVCS: 0+460.06
EVCE: 597.83

-0.77%

BVCS: 0+490.00
BVCE: 597.59

LOW PT STA: 5+47.52
LOW PT ELEV: 597.37
PVI STA:0+540.00
PVI ELEV:597.21
K:74.42
LVC:100.00

602
600
598
596
594

STATION		0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+240	0+260	0+280	0+300	0+320	0+340	0+360	0+380	0+400	0+420	0+440	0+460	0+480	0+500	0+520	0+540	0+560
FINISHED ROAD LEVEL		597.799	597.820	597.841	597.862	597.883	597.905	597.926	597.947	597.968	597.989	598.011	598.032	598.053	598.074	598.095	598.117	598.138	598.159	598.163	598.131	598.065	597.963	597.826	597.671	597.523	597.423		597.382
EXISTING GROUND LEVEL	597.98	597.81	597.37	597.31	597.66	597.49	597.41	597.32	597.30	597.52	597.52	597.51	597.23	597.23	597.19	597.20	597.15	597.20	597.81	597.47	598.00	597.91	597.71	597.55	597.32	597.38	597.32	597.27	597.41	597.57
LEVEL DIFFERENCE		-0.01	0.45	0.54	0.20	0.39	0.49	0.61	0.64	0.45	0.47	0.50	0.80	0.82	0.89	0.89	0.96	0.93	0.35	0.69	0.13	0.16	0.26	0.28	0.35	0.14	0.10		-0.03	
HORIZONTAL GEOMETRY		L:124.86							L:66.69 R:100											L:367.17									L:11.52 R:600
VERTICAL GEOMETRY										L:360.06											L:100.00 R:11378			L:29.94			L:100.00 R:7442		
PROPOSED DRAIN I.L		596.80	596.82	596.84	596.86	596.88	596.90	596.93	596.95	596.97	596.99	597.01	597.03	597.05	597.07	597.10	597.12	597.14	597.16	597.16	597.13	597.06	596.96	596.83	596.67	596.52	596.42		596.38	

Meters
20 0 20 40
1:1000

DETAILED DESIGN
SIGNED:_____

REV	DESCRIPTION	DATE	BY	CHK	APP
P0	Preliminary Issue	AUG 2026	CM	MO	MO

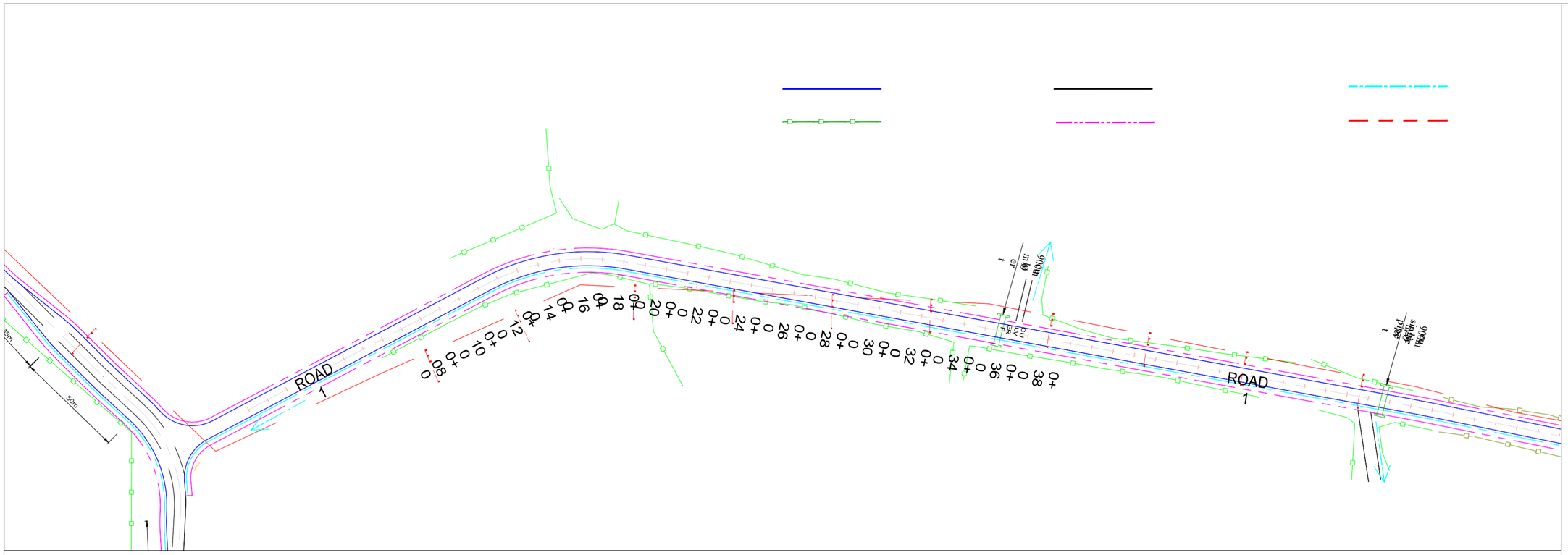
REVISION SCHEDULE

TURKANA COUNTY GOVERNMENT

CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND DETAILED DESIGN FOR SELECTED STREETS FOR UPGRADING TO BITUMEN STANDARDS IN KAKUMA MUNICIPALITY

PLAN & PROFILE DRAWING
Hashi Petrol Station -
Food Distribution Center 1 Road
KM 0+000 - KM 0+560

Designed by MO Drawn by EM
Checked by Scale



NOTES

P

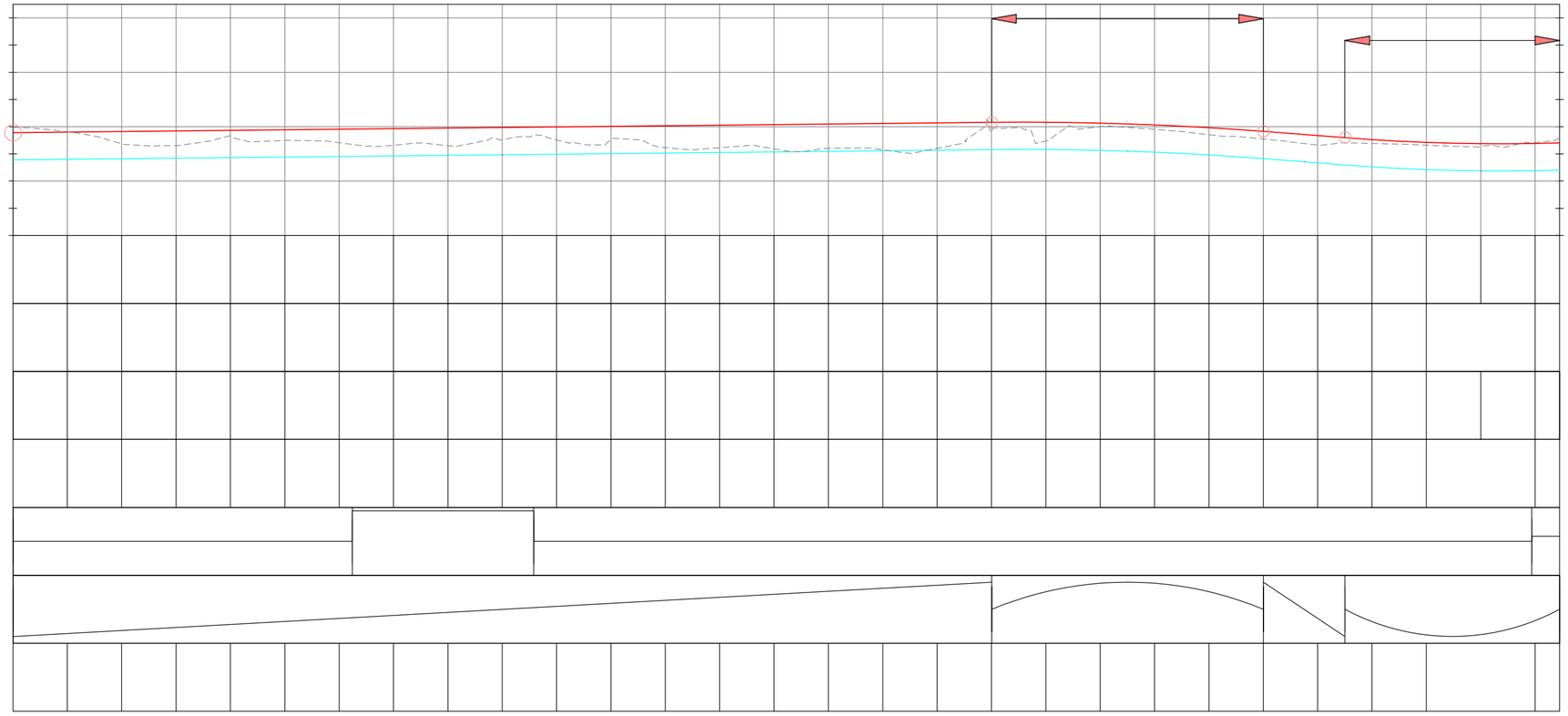
Approvedby Date MO OCT

H:1:1000 V:1:100 RVT File: 2026

BE0056

STATUS DRG No. C-ZZ-RP-RD1-001 REV P0

ROAD 1 PROFILE



Client

Project

Civil/Structural Engineers.

B&L Engineering Services Limited
Professor Wangari Maathai Road
Opposite BAPS Shri Temple
P.O. BOX 79795-00200, NAIROBI
+254 110088811/+254 759479534
info@bnlgroup.net, www.bnlgroup.net

Drawing Title

Legend

NEW CARRIAGEWAY EDGE

EXISTING CARRIAGEWAY EDGE

DRAINAGE

WALL/FENCE

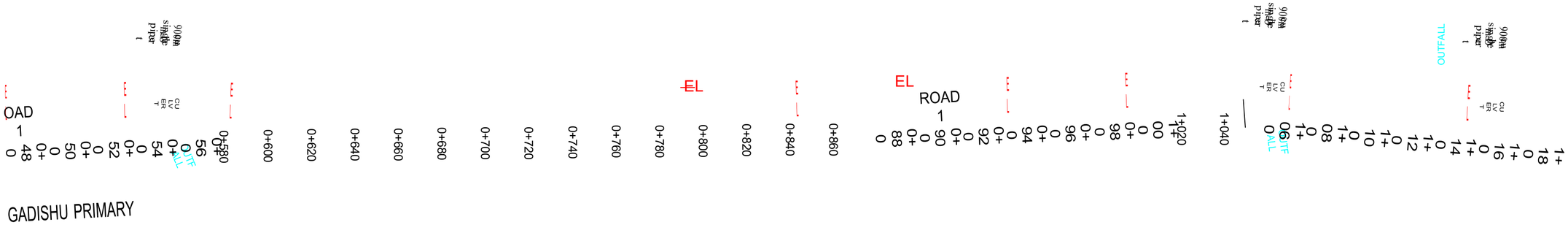
FOOTPATH/FOOTPATH CUM DRAIN

POWERLINE

OGL

FINISHED ROAD LEVEL

DRAIN INVERT LEVEL





STATION	0+580	0+600	0+620	0+640	0+660	0+680	0+700	0+720	0+740	0+760	0+780	0+800	0+820	0+840	0+860	0+880	0+900	0+920	0+940	0+960	0+980	1+000	1+020	1+040	1+060	1+080	1+100	1+120
FINISHED ROAD LEVEL	597.443	597.550	597.664	597.778	597.892	597.998	598.075	598.124	598.143	598.134	598.104	598.074	598.043	598.013	597.983	597.952	597.922		597.857	597.816		597.713	597.651		597.510	597.437	597.365	597.292
EXISTING GROUND LEVEL	597.57	597.76	597.97	597.41	597.57	597.77	597.92	598.02	597.91	597.92	598.08	598.08	598.08	598.09	598.48	598.03	597.96	598.72	597.97	597.80	597.84	597.72	597.47	597.64	596.94	597.18	596.78	596.72	596.88	596.90
LEVEL DIFFERENCE	-0.32	-0.42	0.26	0.20	0.12	-0.02	0.17	0.20	0.06	0.06	0.02	-0.02	-0.44	-0.02	0.03	-0.77	-0.05		0.06	-0.02		0.24	0.01		0.33	0.66	0.64	0.41	
HORIZONTAL GEOMETRY	L:11.52 R:600							L:285.54							L:19.38 R:1000				L:134.55					L:79.88 R:600				L:71.47	
VERTICAL GEOMETRY	L:100.00 R:7442		L:74.55					L:100.00 R:13834							L:155.45						L:120.00 R:56954				L:380.00			
PROPOSED DRAIN I.L.	96.44	96.55	96.66	96.78	96.89	97.00	97.08	97.12	97.14	97.13	97.10	97.07	97.04	97.01	96.98	96.95	96.92		96.86	96.82		96.71	96.65		96.51	96.44	96.36	96.29	

DETAILED DESIGN

SIGNED:_____

REV	DESCRIPTION	DATE	BY	CHK	APP
P0	Preliminary Issue	AUG 2026	CM	MO	MO

REVISION SCHEDULE

TURKANA COUNTY GOVERNMENT

CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND DETAILED DESIGN FOR SELECTED STREETS FOR UPGRADING TO BITUMEN STANDARDS IN KAKUMA MUNICIPALITY

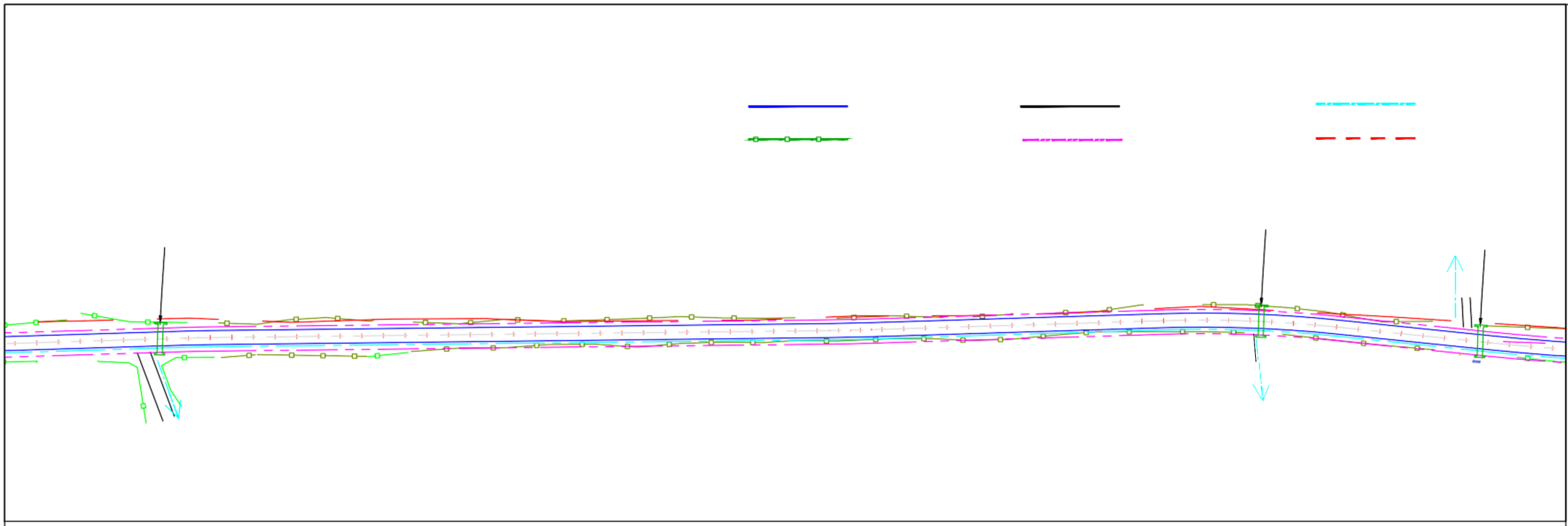
PLAN & PROFILE DRAWING

Hashi Petrol Station - Food Distribution Center 1 Road KM 0+560 - KM 1+120

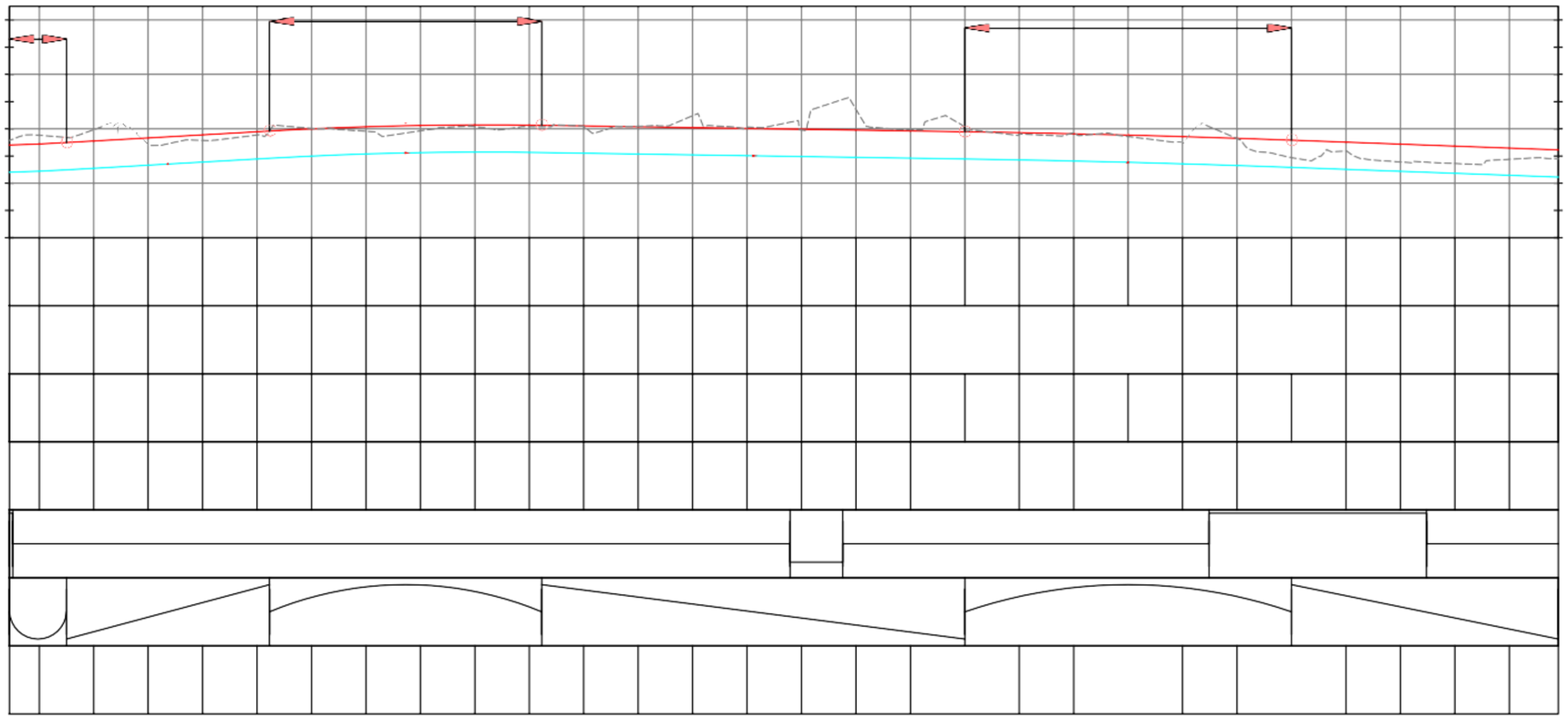
Designed by MO Drawn by EM

20 0 Meters 20 40

1:1000



ROAD 1 PROFILE



NOTES

ckedby Scale

Job No.
P

MO
H:1:1000 V:1:100
BE0036

Approvedby Date
MO OCT
RVT File:
2026

STATUS
DRG No.
C-DRG-001-002
REV
P0

Client

Project

Civil/Structural Engineers.

B&L ENGINEERING

B&L Engineering Services Limited
Professor Wangari Maathai Road
Opposite BAPS Shiri Temple
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info@blgroup.net, www.blgroup.net

Drawing Title

Legend

NEW CARRIAGEWAY EDGE

EXISTING CARRIAGEWAY EDGE

DRAINAGE

WALL/FENCE

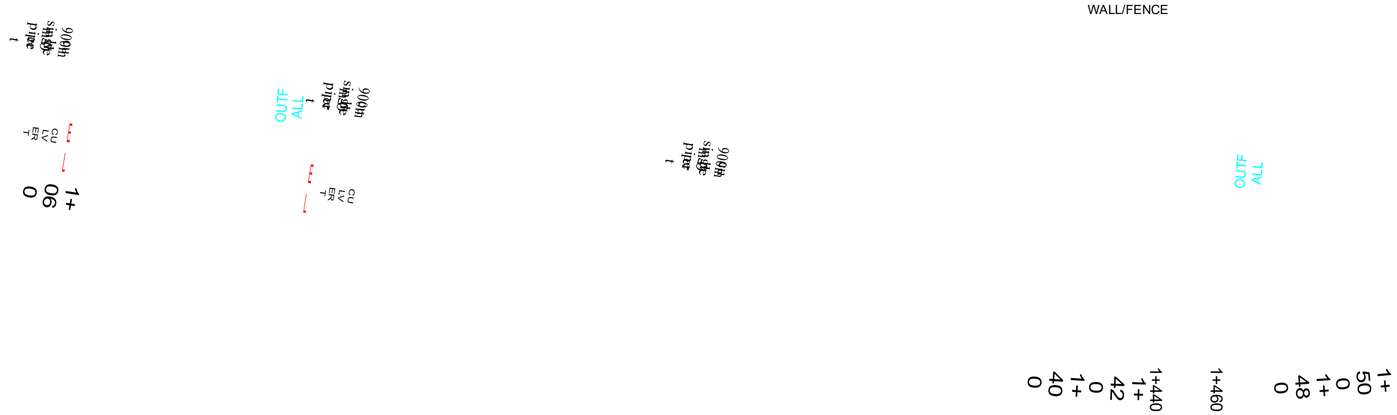
FOOTPATH/FOOTPATH CUM DRAIN

POWERLINE

OGL

FINISHED ROAD LEVEL

DRAIN INVERT LEVEL



LOW PT STA: 15+10.29
LOW PT ELEV: 596.04
PVI STA:1+480.00
PVI ELEV:595.99
K:248.86
LVC:120.00

BVCS: 1+420.00
BVCE: 596.20

EVCS: 1+540.00
EVCE: 596.06

-0.3 6%

0.3 6%

STATION	1+140	1+160	1+180	1+200	1+220	1+240	1+260	1+280	1+300	1+320	1+340	1+360	1+380	1+400	1+420	1+440	1+460	1+480	1+500	1+520	1+540	1+560	1+580	1+600	1+620	1+640	1+660	1+680	1+700
FINISHED ROAD LEVEL	597.219	597.147	597.074	597.002	596.929	596.857	596.784	596.712	596.639	596.566	596.494	596.421	596.349	596.276		596.139	596.091		596.042	596.042		596.081	596.105	596.129	596.153	596.177	596.201	596.225	596.249
EXISTING GROUND LEVEL	596.89	596.79	596.76	596.23	596.59	596.45	596.36	596.18	596.11	596.19	595.98	595.92	596.09	595.71	595.70	596.09	596.23	596.25	596.23	596.38	596.16	595.97	596.01	595.98	597.05	596.17	596.16	596.19	596.01 595.86
LEVEL DIFFERENCE	0.33	0.36	0.31	0.77	0.34	0.40	0.43	0.53	0.52	0.37	0.52	0.50	0.26	0.57		0.05	-0.14		-0.19	-0.33		0.11	0.09	0.15	-0.90	0.00	0.04	0.03	0.24
HORIZONTAL GEOMETRY	L:71.47			L:70.51 R:1000					L:133.26									L:216.37 R:600								L:264.64			
VERTICAL GEOMETRY						L:380.00												L:120.00 R:24886							L:520.00				
PROPOSED DRAIN I.L.	596.22	596.15	596.07	596.00	595.93	595.86	595.78	595.71	595.64	595.57	595.49	595.42	595.35	595.28		595.14	595.09		595.04	595.04		595.08	595.11	595.13	595.15	595.18	595.20	595.22	595.25

Meters
20 0 20 40
1:1000

DETAILED DESIGN

SIGNED:_____

REV	DESCRIPTION	DATE	BY	CHK	APP
P0	Preliminary Issue	AUG 2026	CM	MO	MO

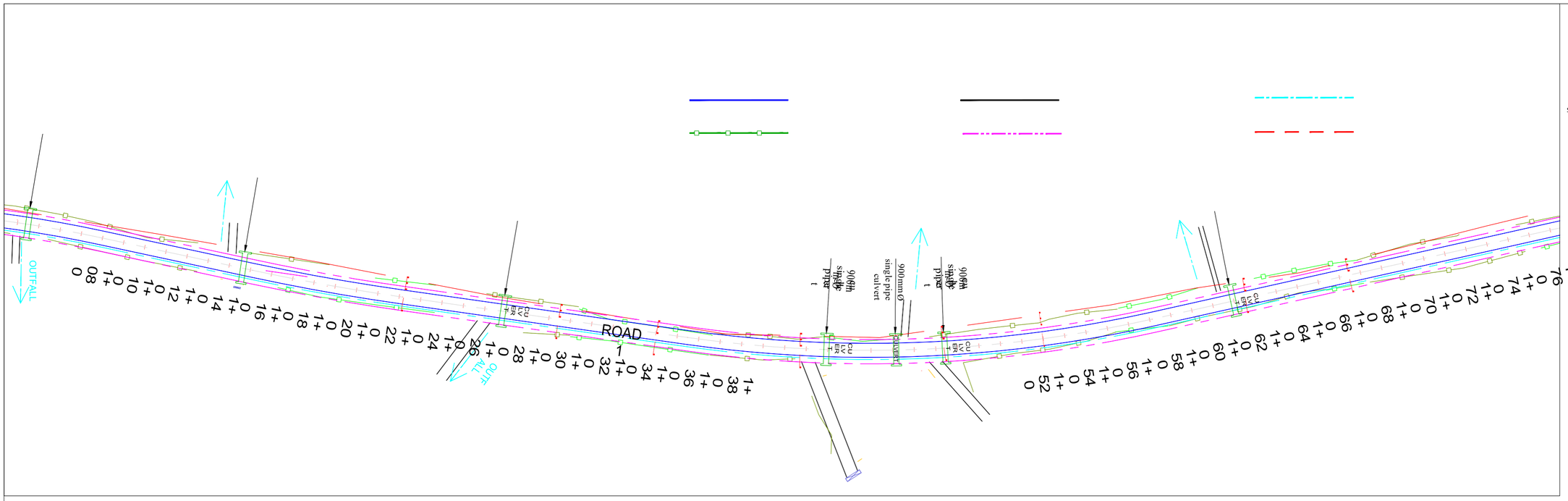
REVISION SCHEDULE

TURKANA COUNTY GOVERNMENT

CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND DETAILED DESIGN FOR SELECTED STREETS FOR UPGRADING TO BITUMEN STANDARDS IN KAKUMA MUNICIPALITY

PLAN & PROFILE DRAWING
Hashi Petrol Station -
Food Distribution Center 1 Road
KM 1+140 - KM 1+700

Designed by MO Drawn by EM
Checked by Scale



NOTES

P

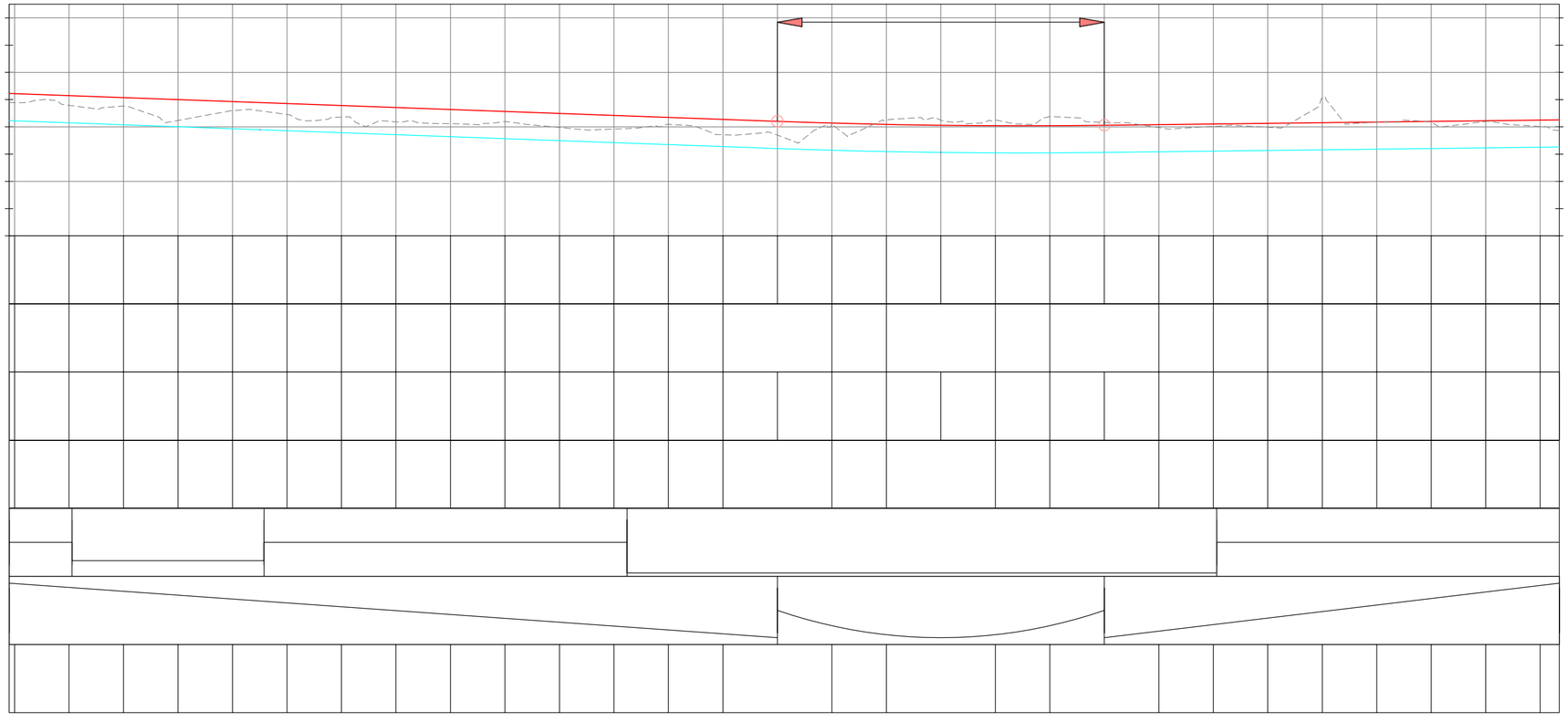
MO Approvedby Date MO OCT

H:1:1000 V:1:100 RVT File: 2026

BE0036

STATUS DRG No. C-CUR-RD1-003 REV P0

ROAD 1 PROFIL-



Client

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Drawing Title

Legend

NEW CARRIAGEWAY EDGE

EXISTING CARRIAGEWAY EDGE

DRAINAGE

WALL/FENCE

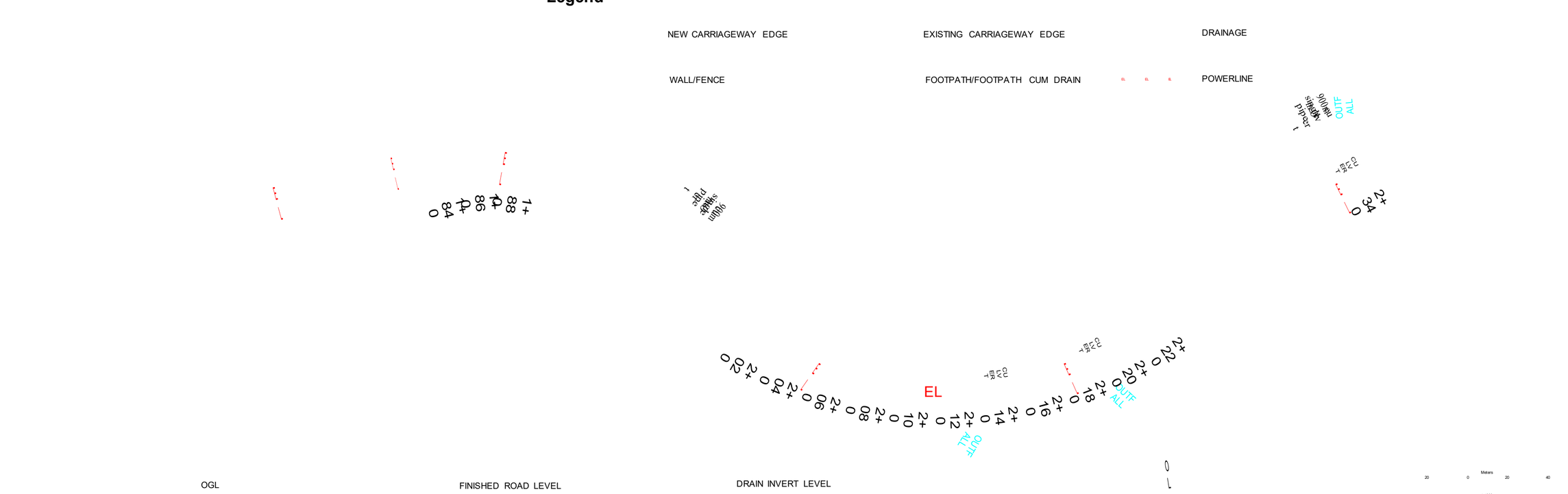
FOOTPATH/FOOTPATH CUM DRAIN

POWERLINE

OGL

FINISHED ROAD LEVEL

DRAIN INVERT LEVEL



STATION		1+720	1+740	1+760	1+780	1+800	1+820	1+840	1+860	1+880	1+900	1+920	1+940	1+960	1+980	2+000	2+020	2+040	2+060	2+080	2+100	2+120	2+140	2+160	2+180	2+200	2+220	2+240	2+260	
FINISHED ROAD LEVEL		596.272	596.296	596.320	596.344	596.368	596.392	596.416	596.440	596.463	596.487	596.511	596.535	596.559	596.583	596.607	596.631	596.654		596.695	596.699		596.664	596.626		596.516	596.458	596.400	596.341	
EXISTING GROUND LEVEL	595.86	595.78	596.37	596.08	595.92	596.11	596.04	595.62	595.43	595.38	595.17	595.09	595.31	595.32	595.24	595.32	595.57	595.55	596.14	596.65	596.64	596.55	596.36	596.36	596.56	596.48	596.45	596.11	595.84	595.73
LEVEL DIFFERENCE		0.49	-0.07	0.24	0.43	0.25	0.35	0.79	1.01	1.08	1.32	1.42	1.22	1.24	1.35	1.29	1.06	1.10		0.04	0.06		0.30	0.27		0.03	0.01	0.29	0.51	
HORIZONTAL GEOMETRY		L:264.64						L:83.81		L:71.26 R:80											L:221.88 R:180						L:100.09			
VERTICAL GEOMETRY		L:520.00																				L:120.00 R:29170				L:456.15				
PROPOSED DRAIN I.L.		595.27	595.30	595.32	595.34	595.37	595.39	595.42	595.44	595.46	595.49	595.51	595.54	595.56	595.58	595.61	595.63	595.65		595.70	595.70		595.66	595.63		595.52	595.46	595.40	595.34	

DETAILED DESIGN

SIGNED:_____

REV	DESCRIPTION	DATE	BY	CHK	APP
P0	Preliminary Issue	AUG 2026	CM	MO	MO

REVISION SCHEDULE

TURKANA COUNTY GOVERNMENT

CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND DETAILED DESIGN FOR SELECTED STREETS FOR UPGRADING TO BITUMEN STANDARDS IN KAKUMA MUNICIPALITY

PLAN & PROFILE DRAWING

Hashi Petrol Station - Food Distribution Center 1 Road KM 1+720 - KM 2+000

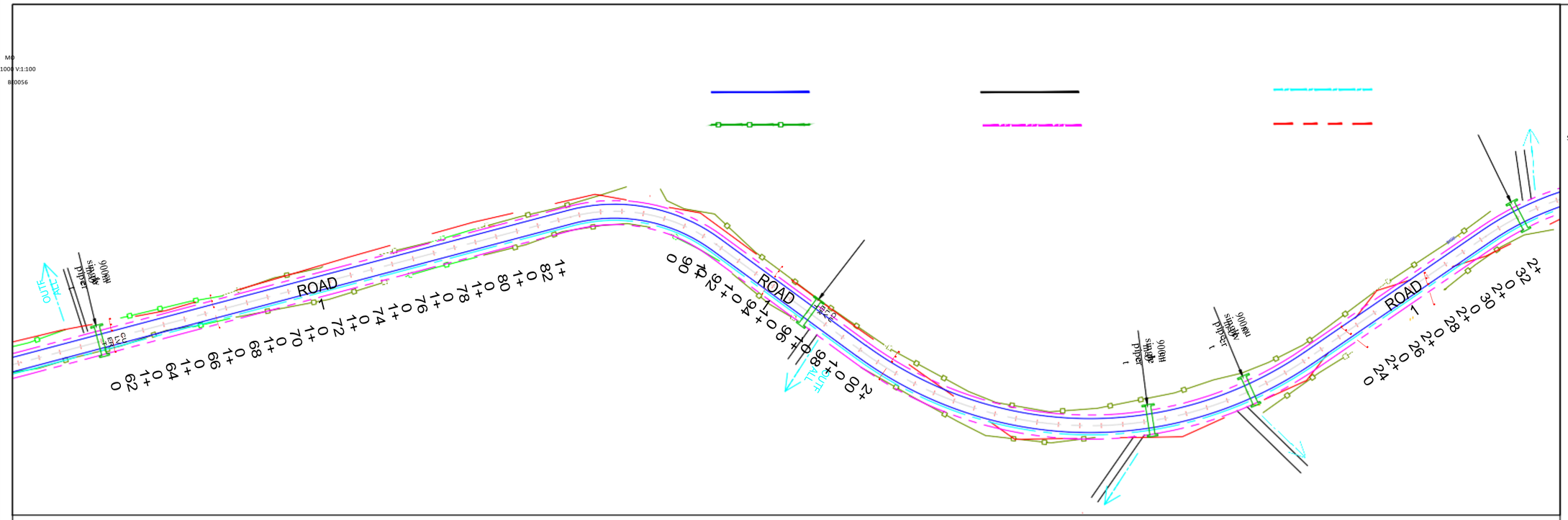
Designed by MO Drawn by EM

Checked by Scale

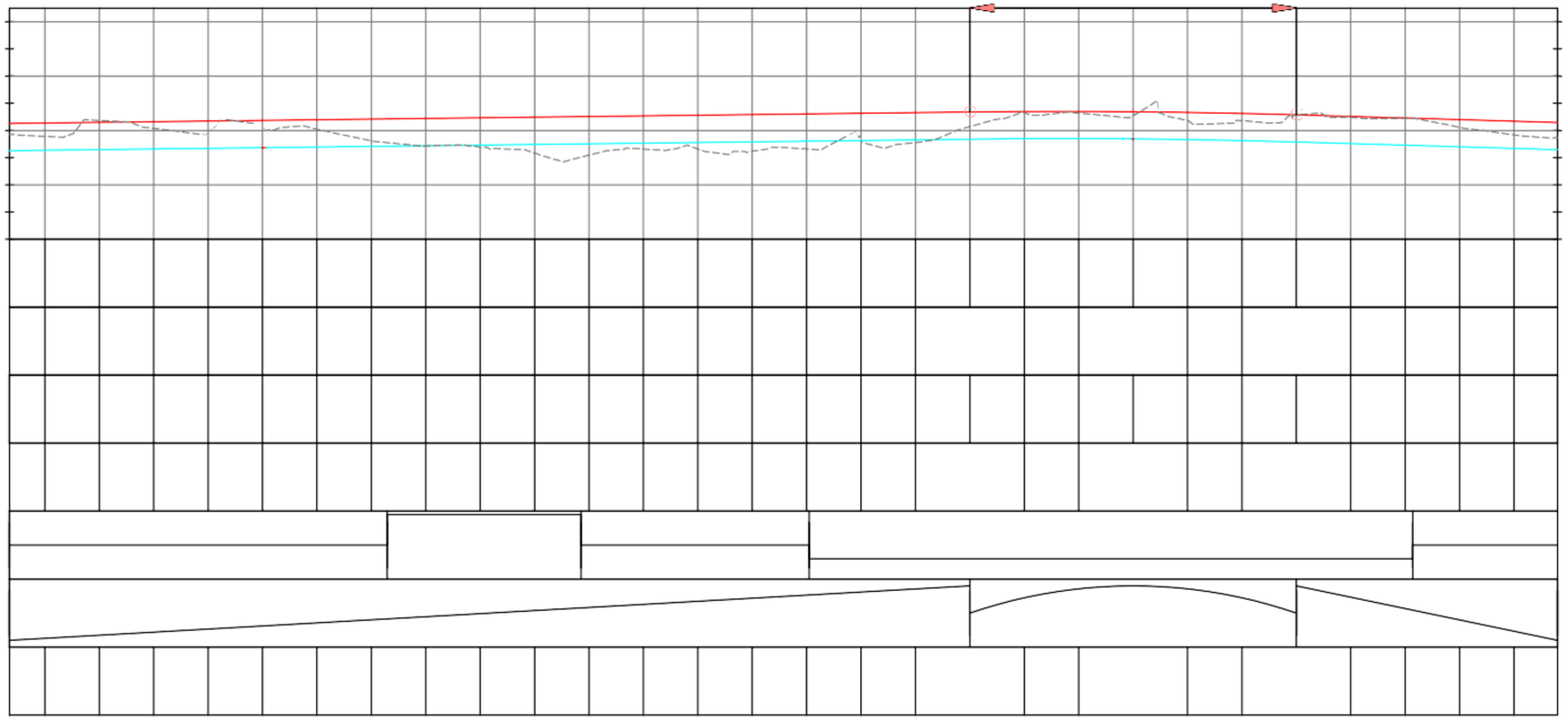
Meters 20 0 20 40

1: 1000

M0
H:1:1000 V:1:100
B00056



ROAD 1 PROFILE



NOTES

Approved by Date
M
O
OCT
2025
RVT File:
REV
C-G-PP-RD1-004

STATUS DRG No.

P0

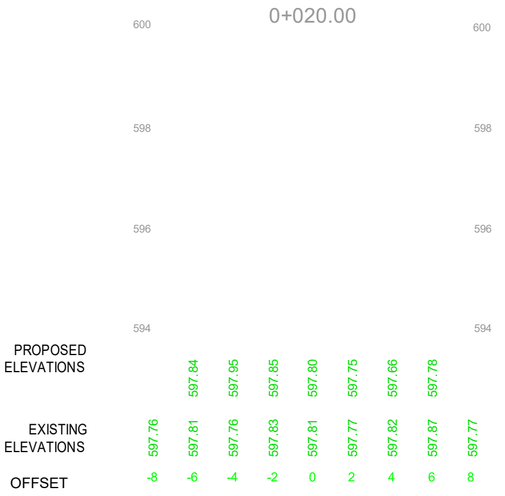
Client

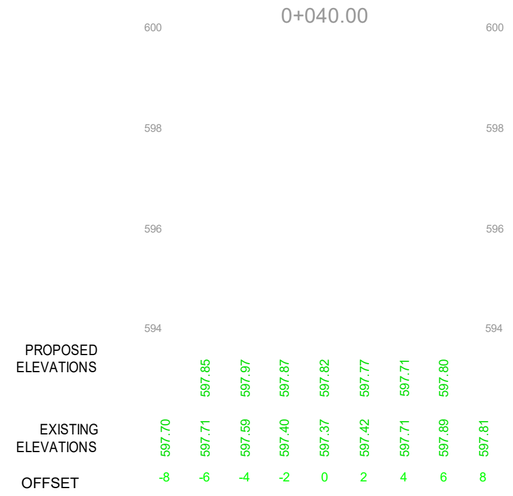
Project

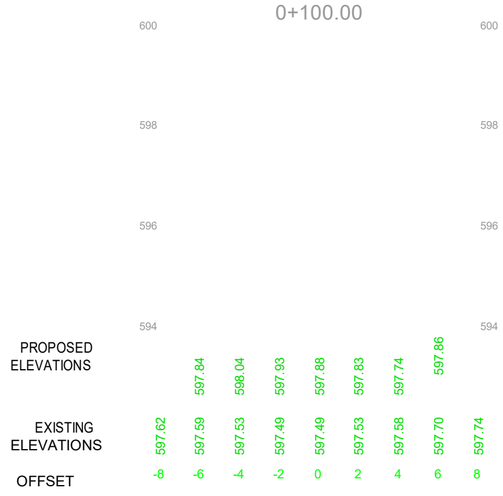
Civil/Structural Engineers.

B&L Engineering Services Limited
Professor Wangari Maathai Road
Opposite BAPS Shri Temple
P.O. BOX 79795-00200, NAIROBI
+254 (0)0888217/+254 (0)7/8/9638
info@blgroup.net, www.blgroup.net

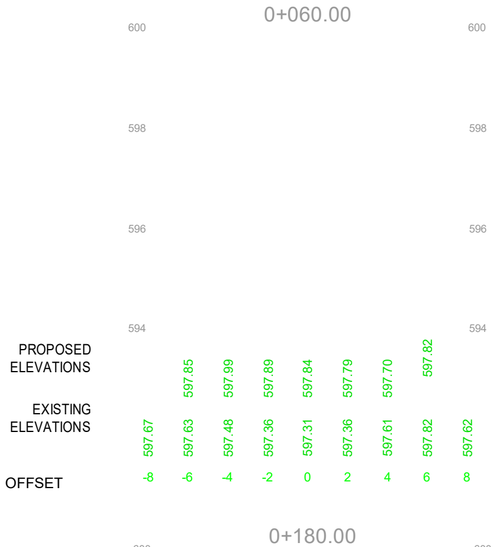
Drawing Title



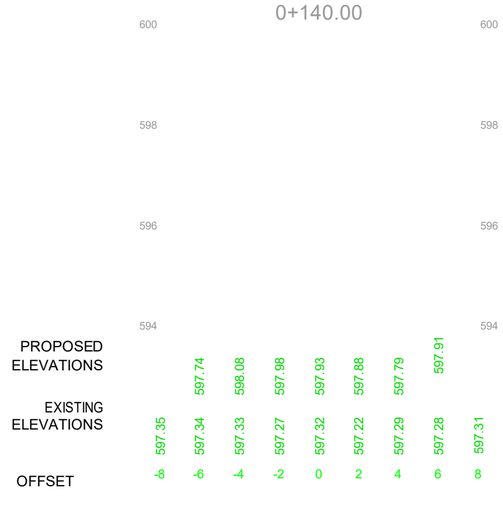


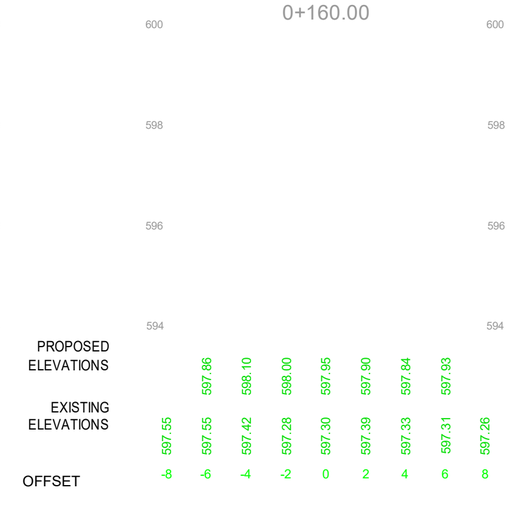




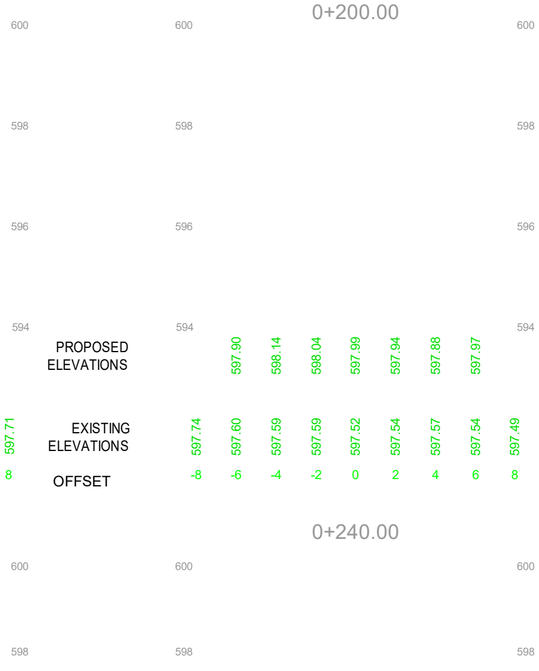


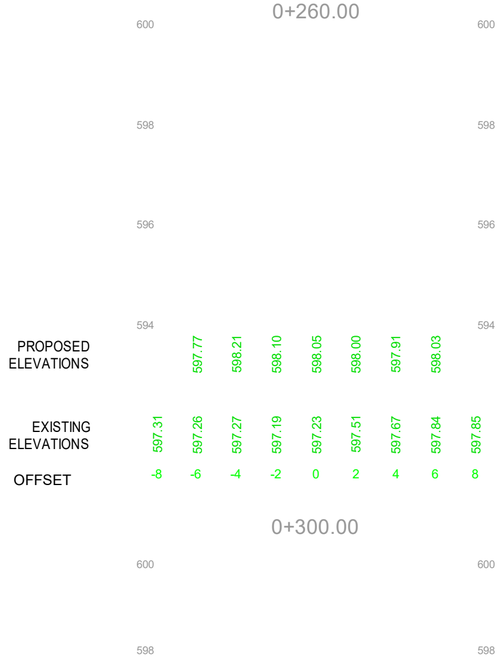














DETAILED DESIGN

SIGNED:_____

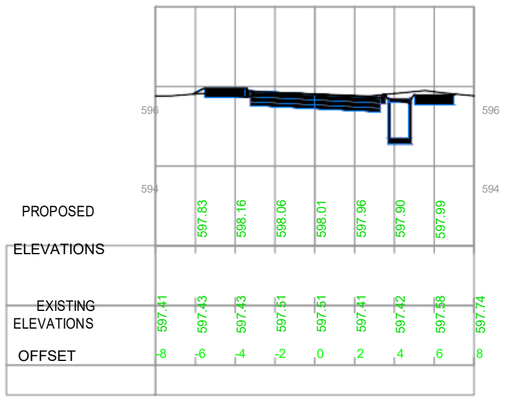
REV	DESCRIPTION	DATE	BY	CHK	APP
P0	Preliminary Issue	AUG 2026	CM	MO	MO

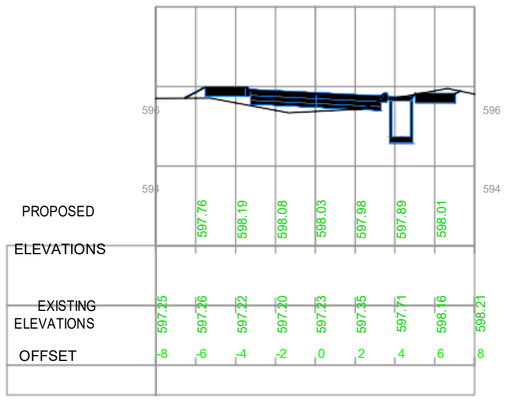
REVISION SCHEDULE

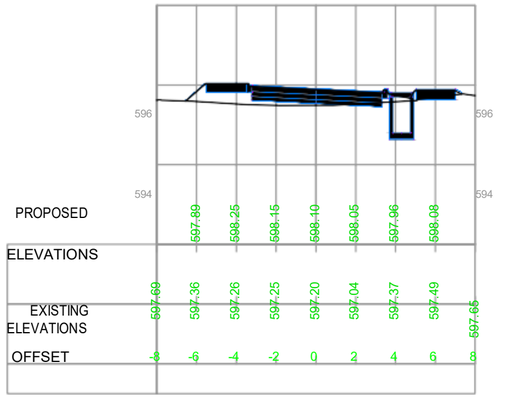
TURKANA COUNTY GOVERNMENT

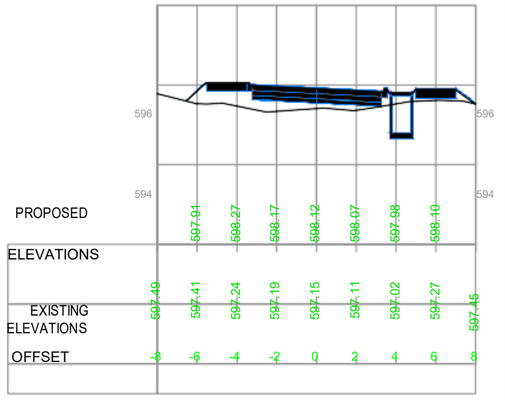
CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND DETAILED DESIGN FOR SELECTED STREETS FOR UPGRADING TO BITUMEN STANDARDS

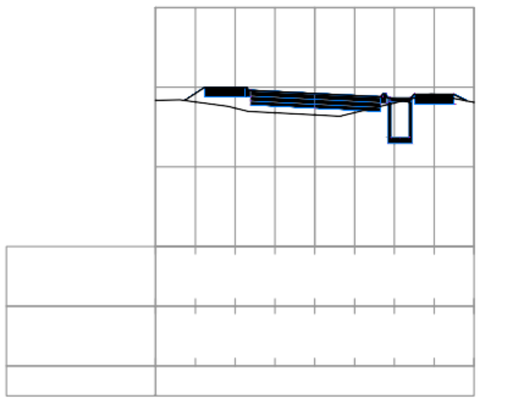
IN KAKUMA MUNICIPALITY

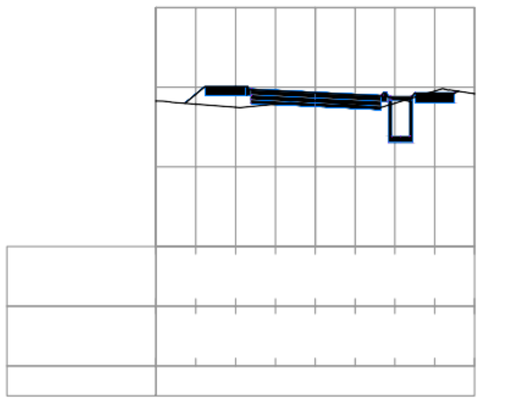


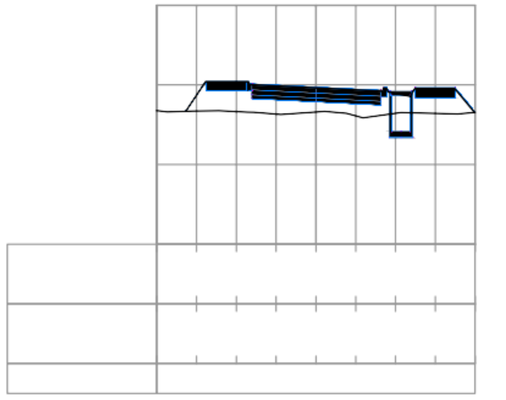


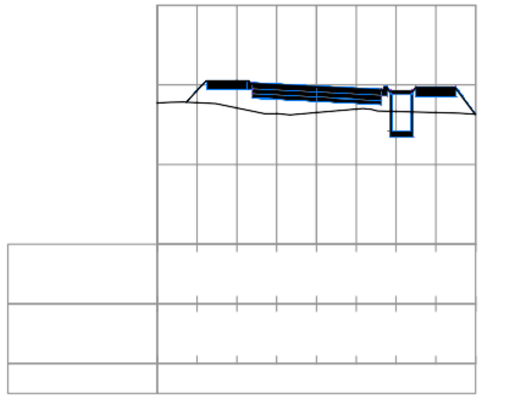


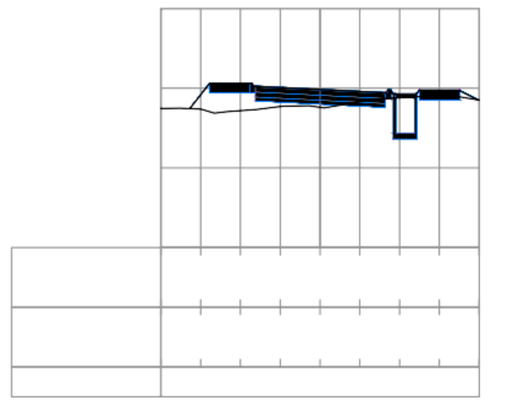


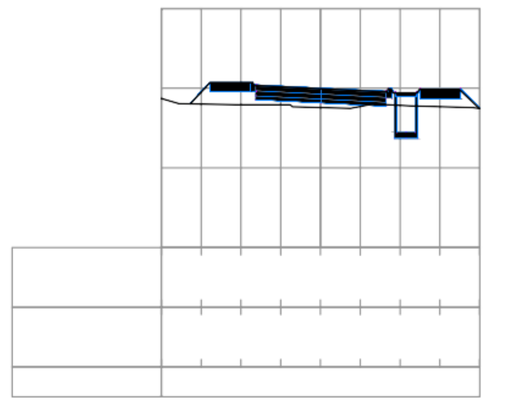


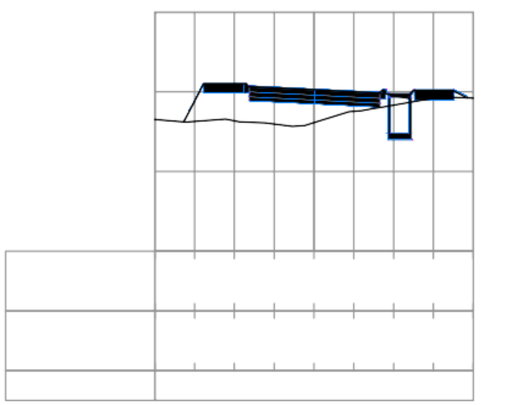


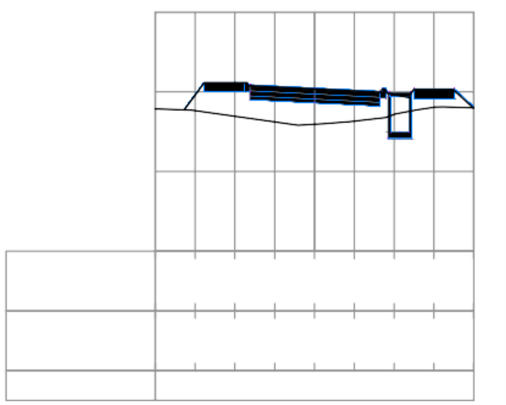


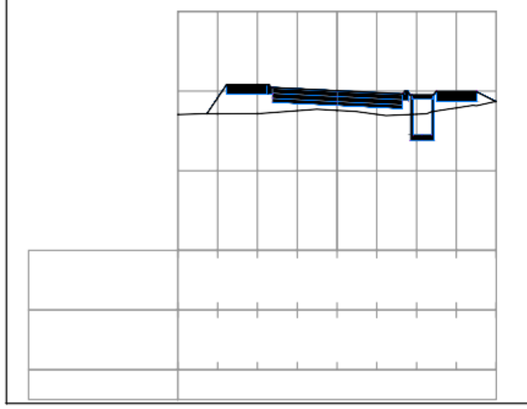


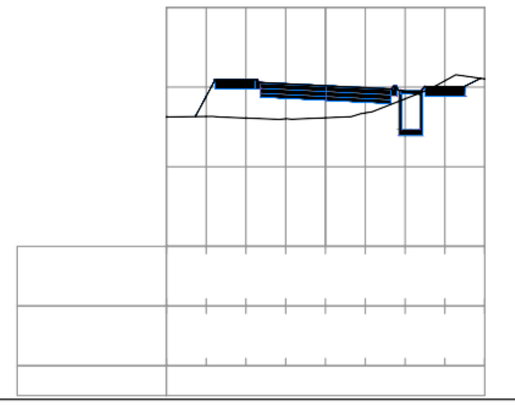


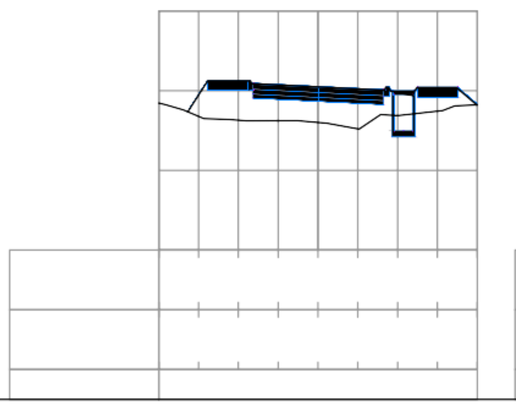


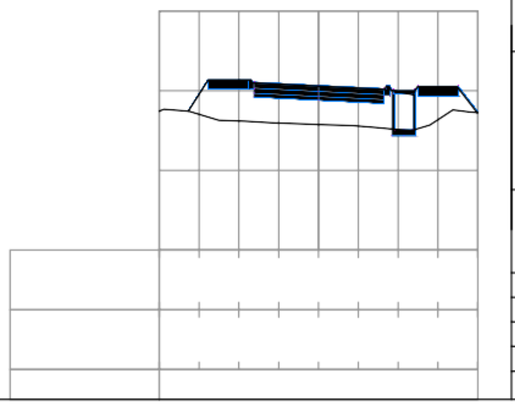












NOTES

SECTION DRAWING
Hashi Petrol Station -
Food Distribution Center 1 Road
KM 0+000 - KM 0+320

Designed by MO | Drawn by EM
Checked by MO | Approved by MO
Scale Job No. H:1:150 V:1:15 BE0056 | Date RVT OCT 2026
P | File: C-G-SEC-RD1-001 | REV
STATUS DRG No. P0

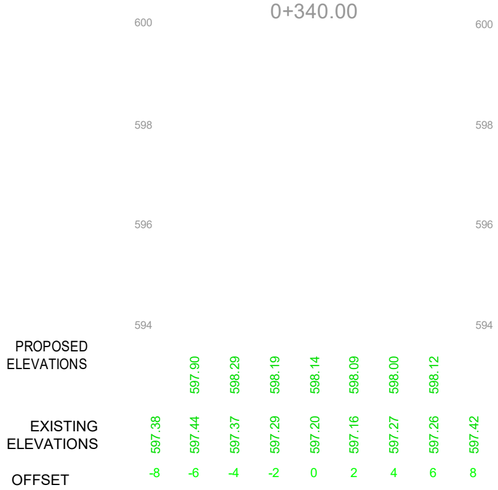
Client

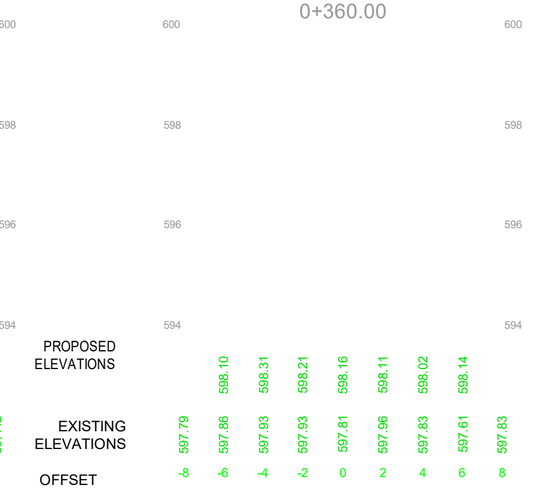
Project

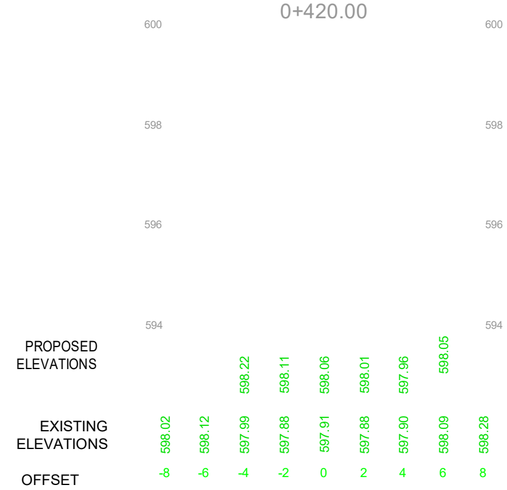
Civil/Structural Engineers.

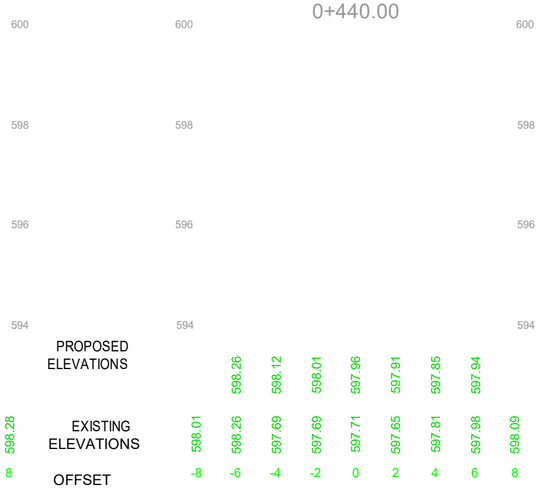
B&L ENGINEERING
B&L Engineering Services Limited
Professor Wangari Maathai Road
Opposite BAPS Shri Temple
P.O. BOX 79795-00200, NAIROBI
+254 (0)0888317/+254 (0)47/8634
info@blgroup.net, www.blgroup.net

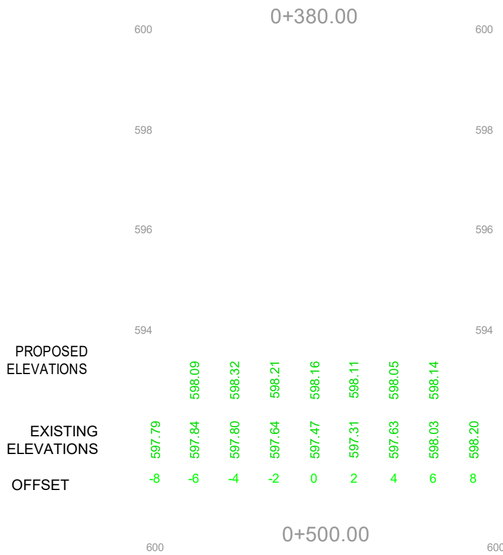
Drawing Title

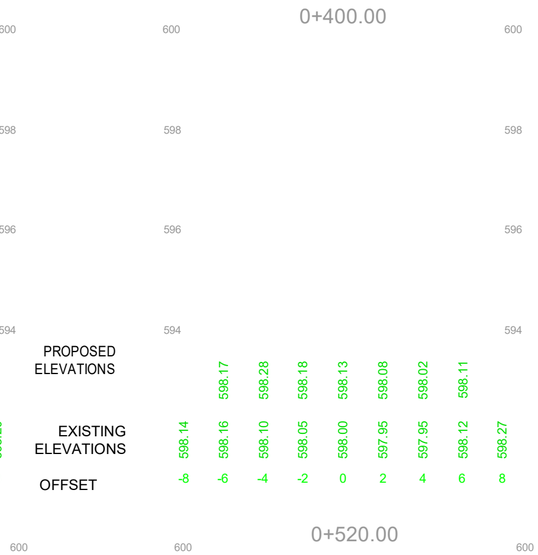


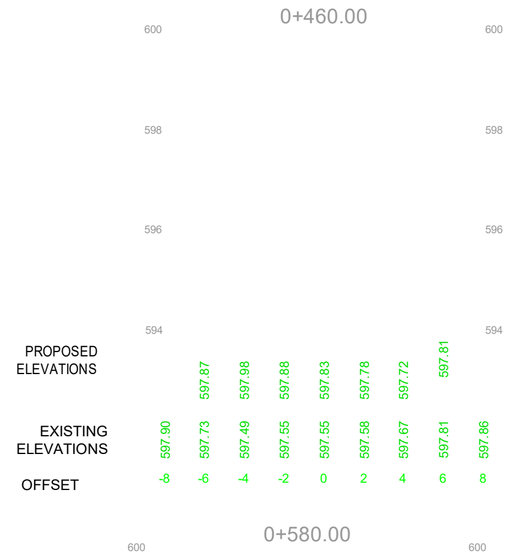


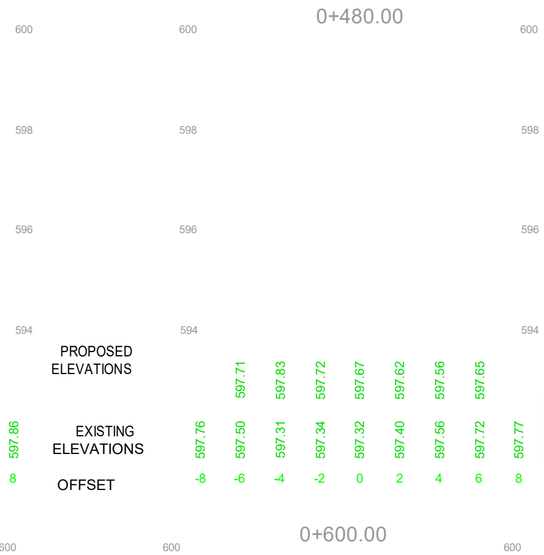




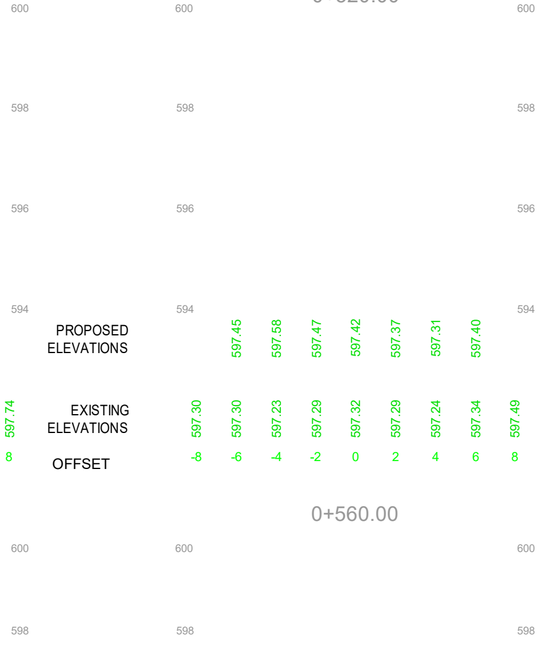


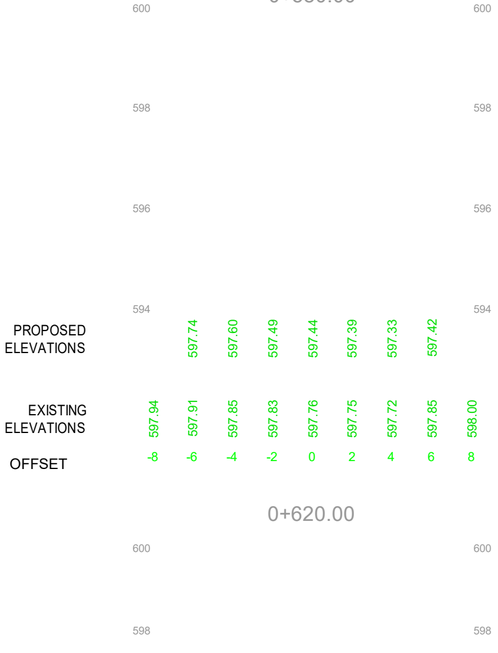














DETAILED DESIGN

SIGNED:_____

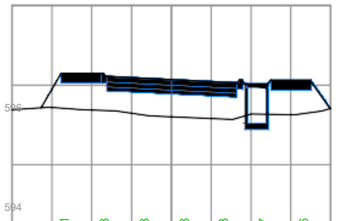
REV	DESCRIPTION	DATE	BY	CHK	APP
P0	Preliminary Issue	AUG 2026	CM	MO	MO

REVISION SCHEDULE

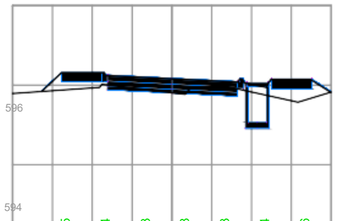
TURKANA COUNTY GOVERNMENT

CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND DETAILED DESIGN FOR SELECTED STREETS FOR UPGRADING TO BITUMEN STANDARDS

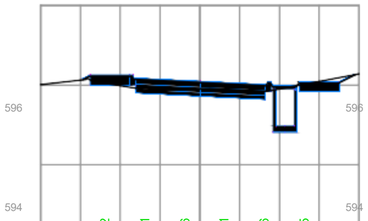
IN KAKUMA MUNICIPALITY



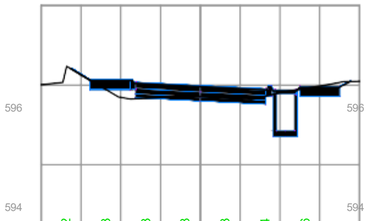
PROPOSED ELEVATIONS		597.41	597.53	597.43	597.38	597.33	597.27	597.36	
EXISTING ELEVATIONS	597.50	597.31	597.30	597.27	597.27	597.30	597.33	597.29	597.24
OFFSET	-8	-6	-4	-2	0	2	4	6	8



PROPOSED ELEVATIONS		597.65	597.54	597.43	597.38	597.33	597.24	597.36	
EXISTING ELEVATIONS	597.79	597.70	597.60	597.51	597.41	597.32	597.24	597.27	597.29
OFFSET	-8	-6	-4	-2	0	2	4	6	8



PROPOSED ELEVATIONS		597.82	597.71	597.66	597.61	597.56	597.65		
EXISTING ELEVATIONS	597.75	597.86	597.77	597.55	597.41	597.46	597.52	597.56	597.57
OFFSET	-8	-6	-4	-2	0	2	4	6	8



PROPOSED ELEVATIONS		597.82	597.93	597.83	597.78	597.73	597.64	597.76	
EXISTING ELEVATIONS	597.77	597.82	597.71	597.61	597.57	597.57	597.58	597.67	597.75
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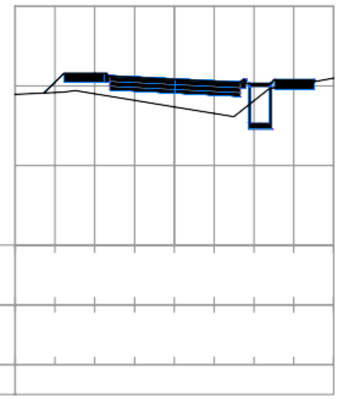
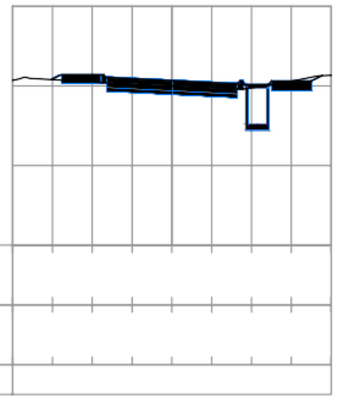
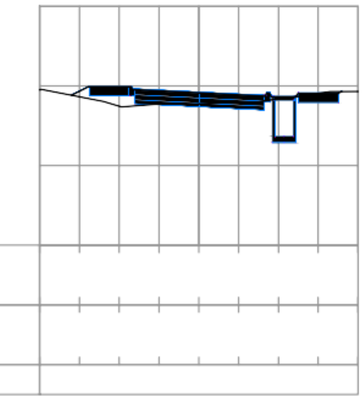
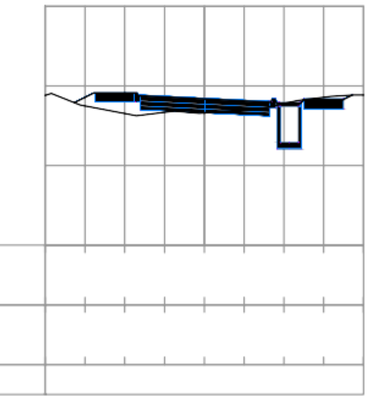
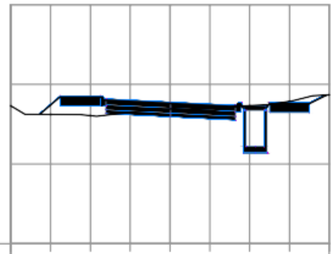
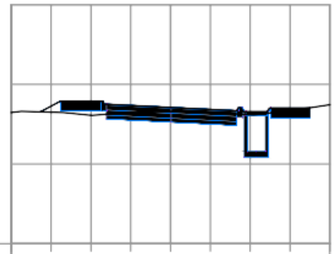


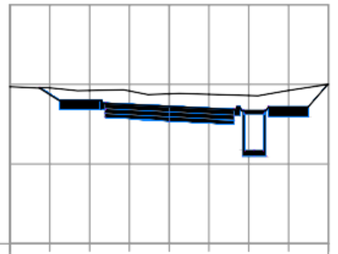


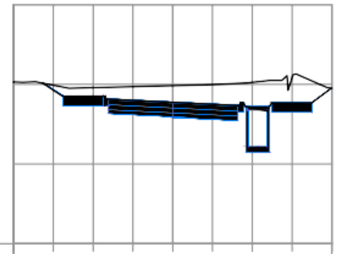


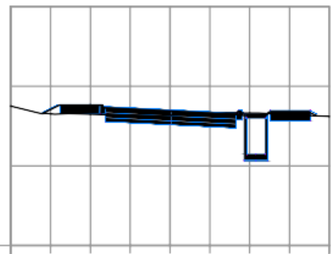


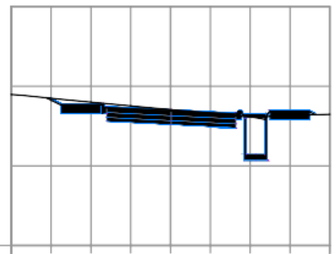


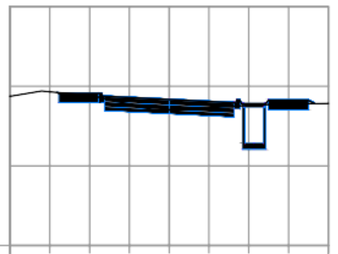


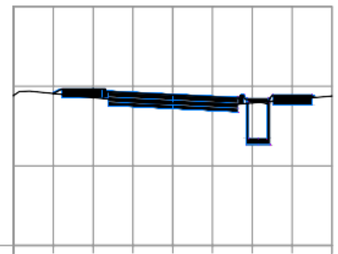












NOTES

SECTION DRAWING

Hashi Petrol Station -
Food Distribution Center 1 Road
KM 0+340 - KM 0+640

Designed by MO | Drawn by EM

Checked by Scale MO | Approved by Date MO OCT

Job No. P | H:1:150 V:1:15 BE0056 | RVT File: C-G-SEC-RD1-002 | 2026

REV

STATUS | DRG No. P0

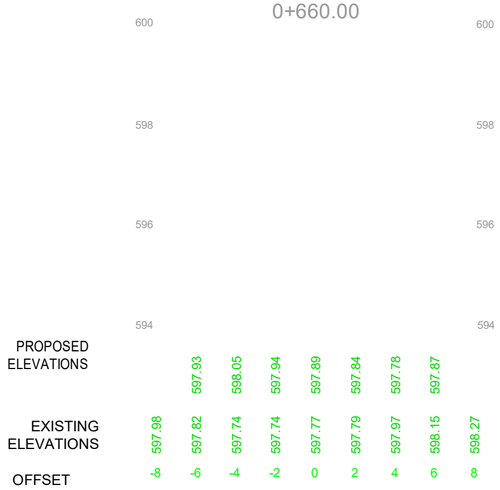
Client

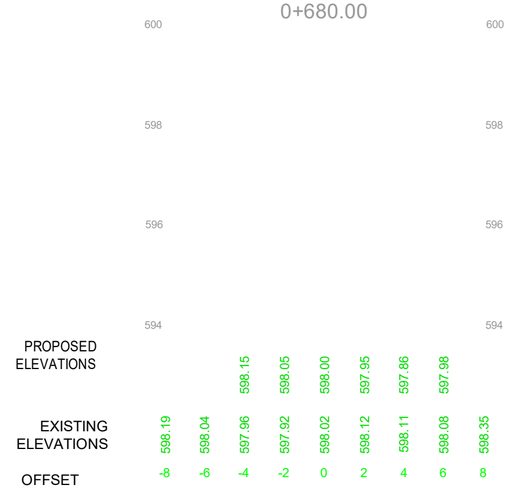
Project

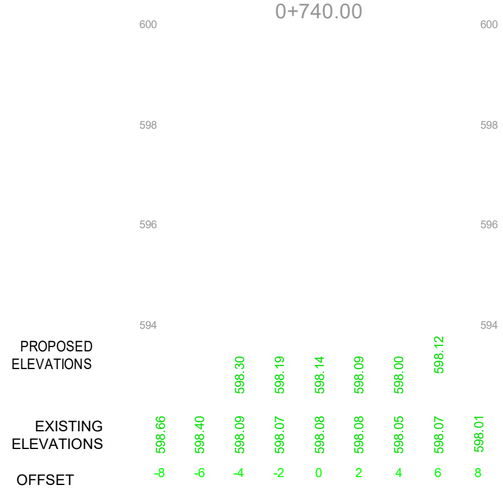
Civil/Structural Engineers:

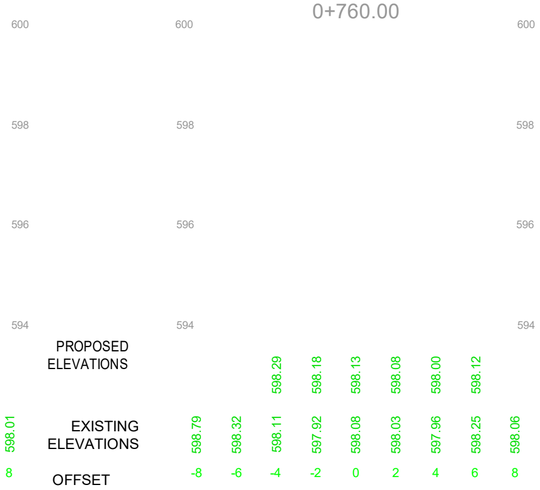
B&L ENGINEERING
B&L Engineering Services Limited
Professor Wangari Maathai Road
Opposite BAPS Shri Temple
P.O. BOX 79796-00200, NAIROBI
+254 (0)0888317/+254 (0)47/2630
info@blgroup.net, www.blgroup.net

Drawing Title

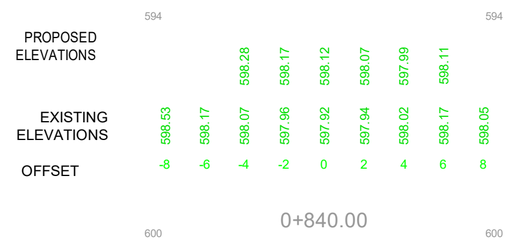


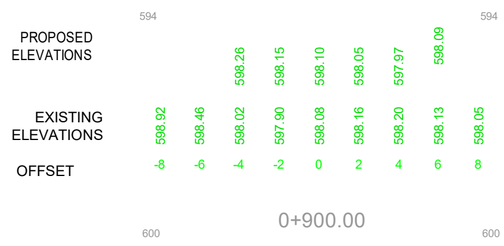


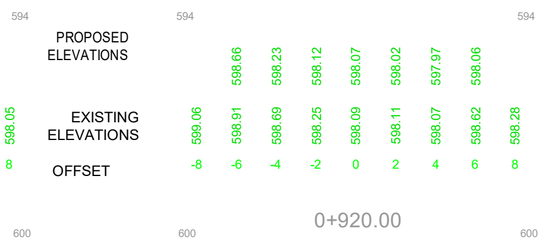








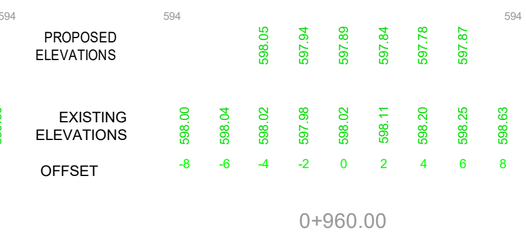












DETAILED DESIGN

SIGNED:_____

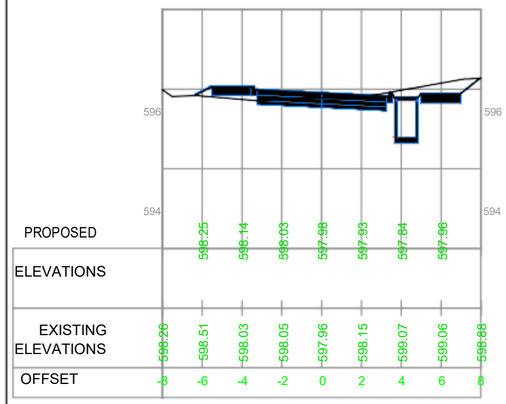
REV	DESCRIPTION	DATE	BY	CHK	APP
P0	Preliminary Issue	AUG 2026	CM	MO	MO

REVISION SCHEDULE

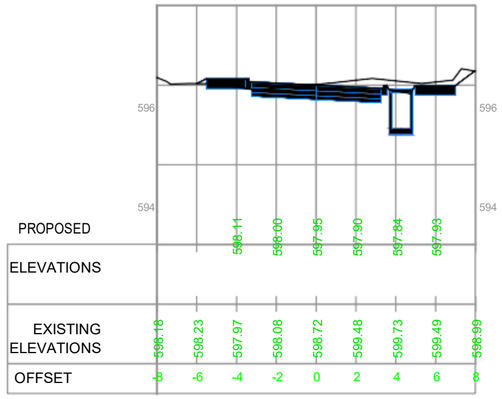
TURKANA COUNTY GOVERNMENT

CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND DETAILED DESIGN FOR SELECTED STREETS FOR UPGRADING TO BITUMEN STANDARDS

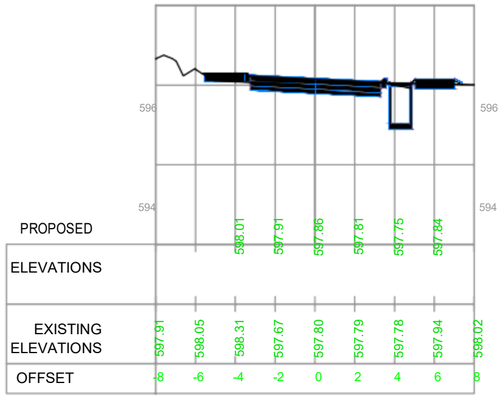
IN KAKUMA MUNICIPALITY



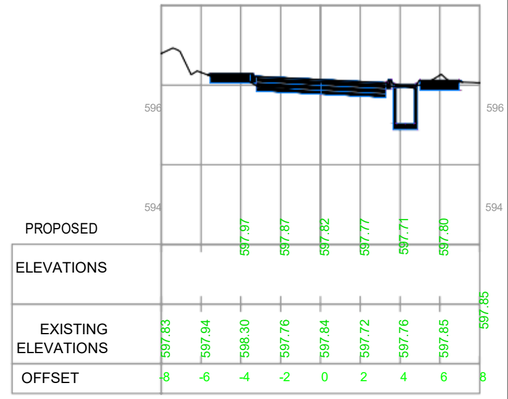
PROPOSED ELEVATIONS	598.25	598.14	598.03	597.98	597.93	597.84	597.96	
EXISTING ELEVATIONS	598.26	598.51	598.03	598.05	597.96	598.15	599.07	599.06	598.88
OFFSET	-8	-6	-4	-2	0	2	4	6	8



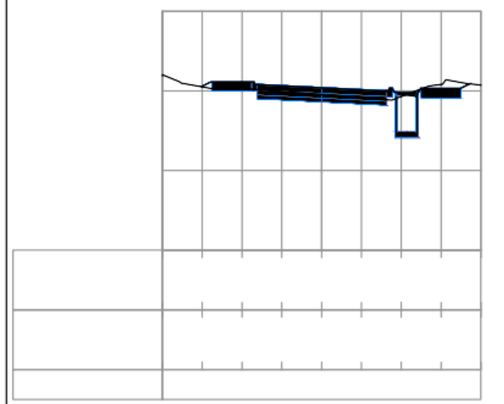
PROPOSED ELEVATIONS	598.11	598.00	597.95	597.90	597.84	597.93		
EXISTING ELEVATIONS	598.18	598.23	597.97	598.08	598.72	599.48	599.73	599.49	599.99
OFFSET	-8	-6	-4	-2	0	2	4	6	8

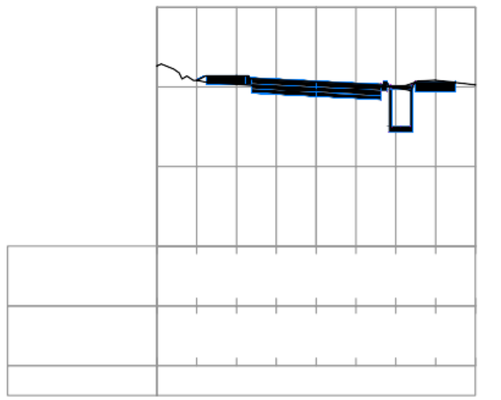


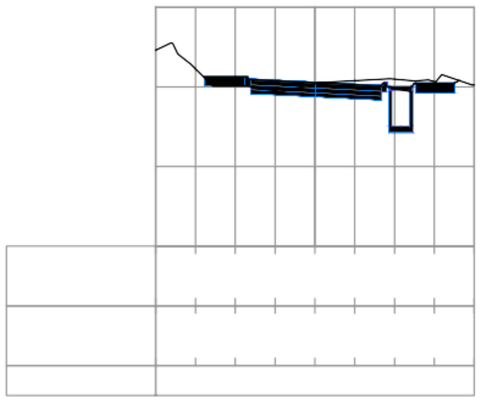
PROPOSED ELEVATIONS	598.01	597.91	597.86	597.81	597.75	597.84		
EXISTING ELEVATIONS	597.91	598.05	598.31	597.67	597.80	597.79	597.78	597.94	598.02
OFFSET	-8	-6	-4	-2	0	2	4	6	8

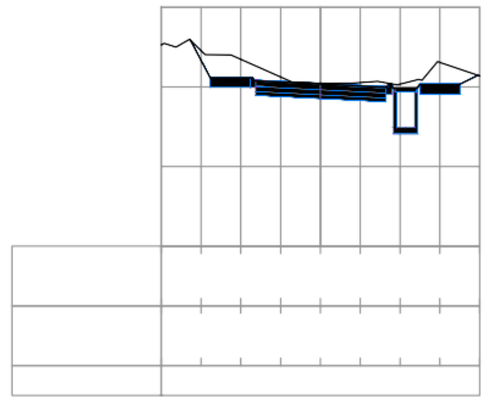


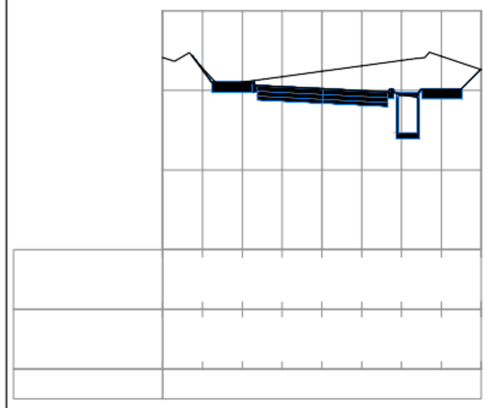
PROPOSED ELEVATIONS	597.97	597.87	597.82	597.77	597.71	597.80		
EXISTING ELEVATIONS	597.83	597.94	598.30	597.76	597.84	597.72	597.76	597.85	597.85
OFFSET	-8	-6	-4	-2	0	2	4	6	8

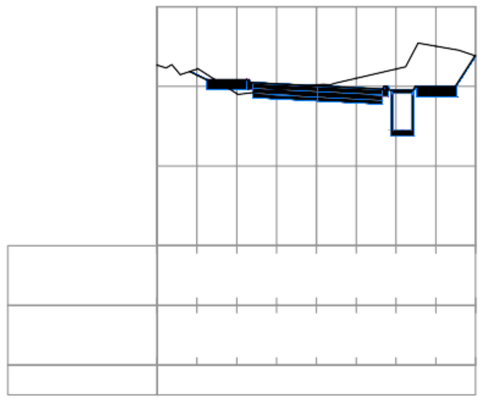


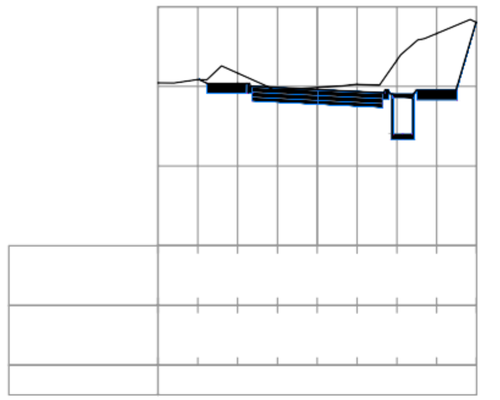


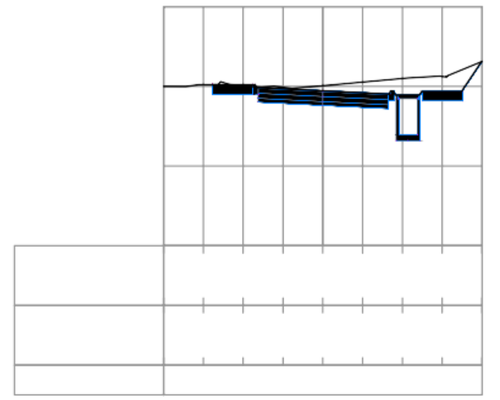


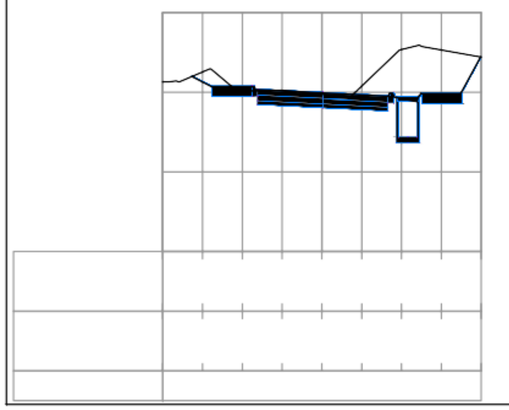


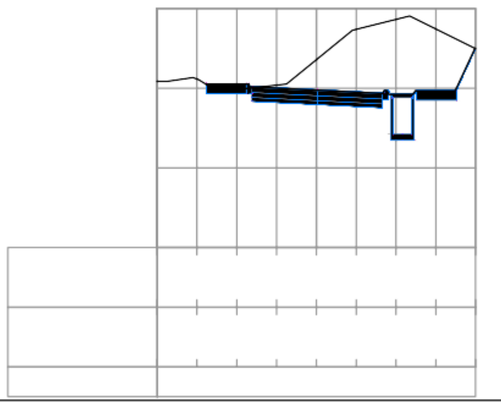


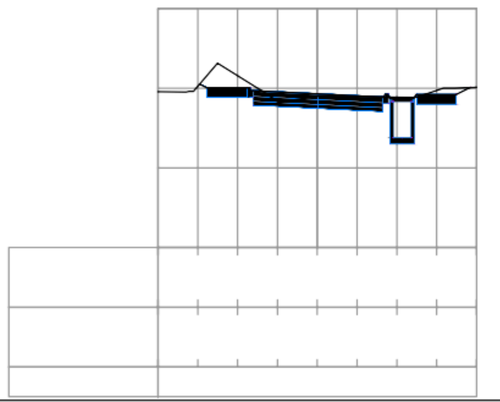


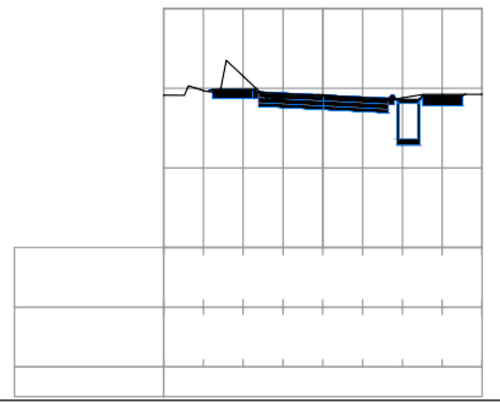












NOTES

SECTION DRAWING
Hashi Petrol Station -
Food Distribution Center 1 Road
KM 0+660 - KM 0+960

Designed by MO | Drawn by EM

Checked by Scale MO H:1:150 V:1:15 | Approved by Date MO OCT

Job No. P | RVT File: BE0056 | 2026

C-G-SEC-RD1-003

REV

STATUS | DRG No. P0

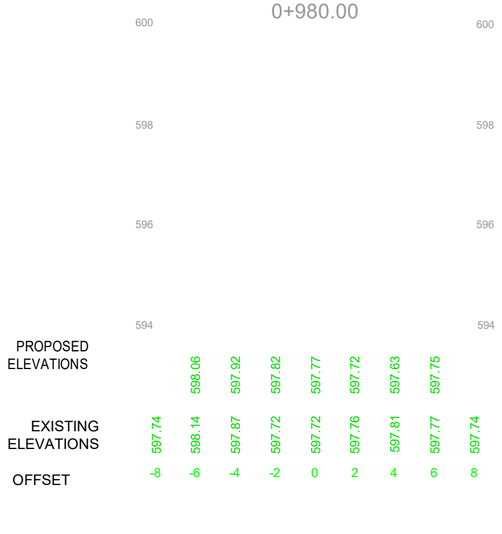
Client

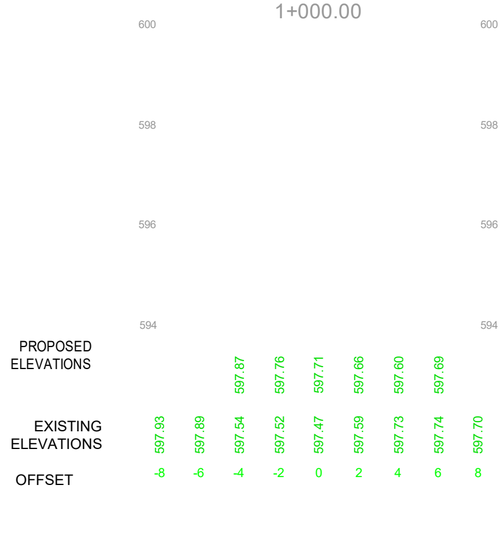
Project

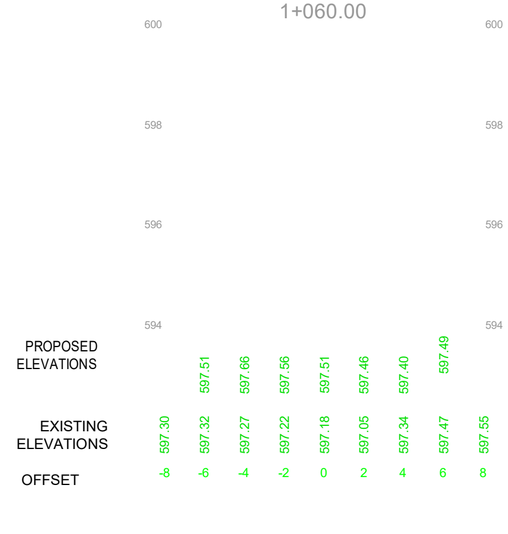
Civil/Structural Engineers:

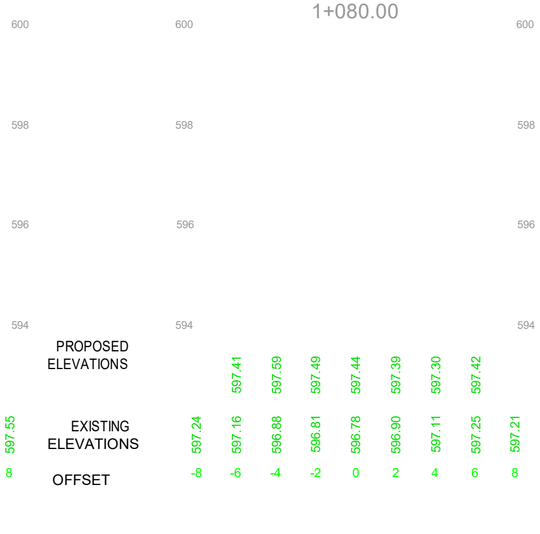
B&L ENGINEERING
B&L Engineering Services Limited
Professor Wangari Maathai Road
Opposite BAPS Shri Temple
P.O. BOX 79796-00200, NAIROBI
+254 (0)0888317/+254 (0)47/2630
info@bnlgroup.net, www.bnlgroup.net

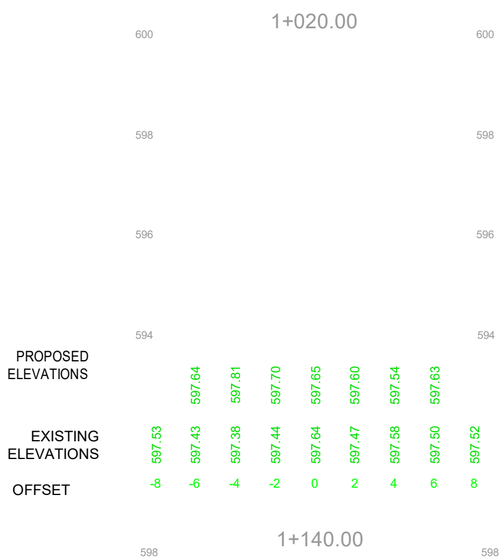
Drawing **Title**

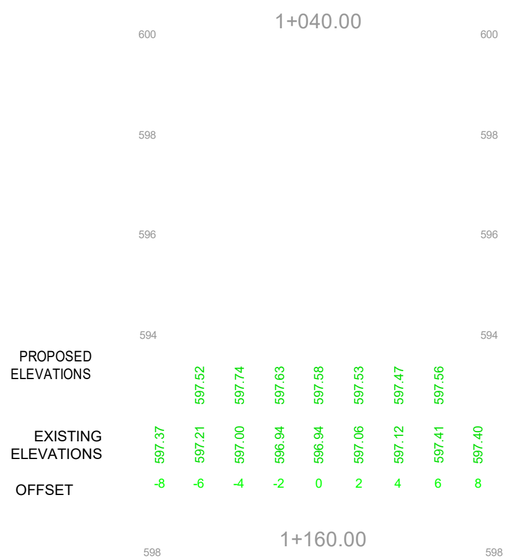


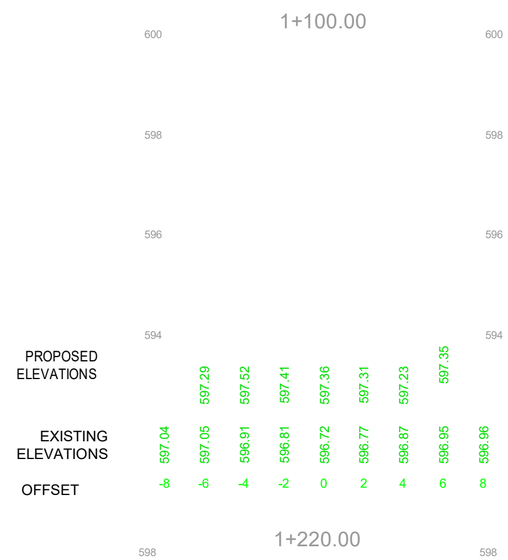


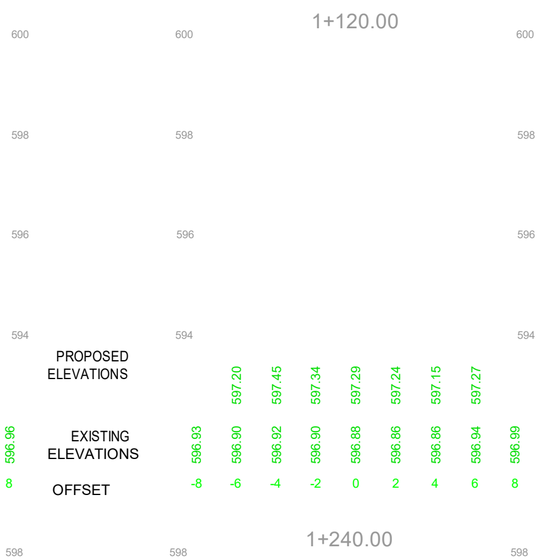


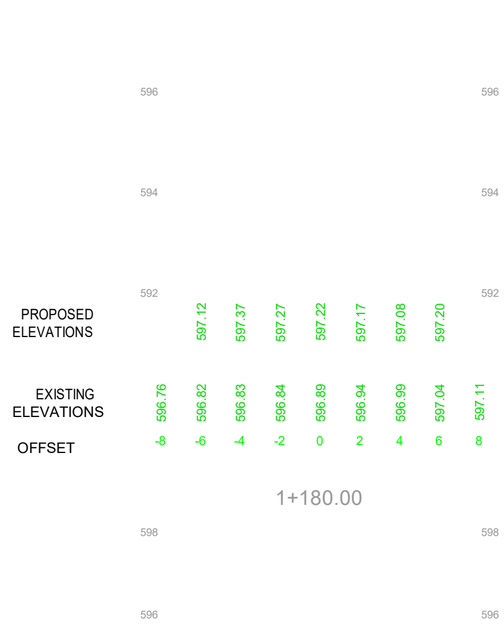


















DETAILED DESIGN

SIGNED:_____

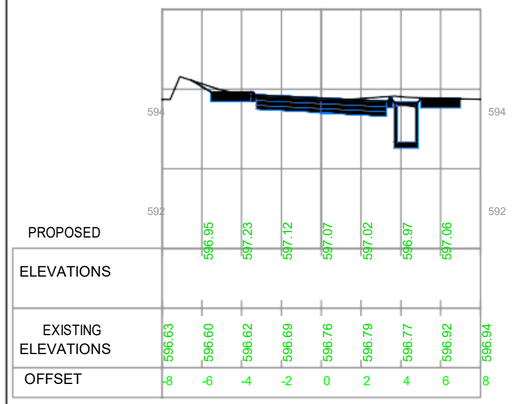
REV	DESCRIPTION	DATE	BY	CHK	APP
P0	Preliminary Issue	AUG 2026	CM	MO	MO

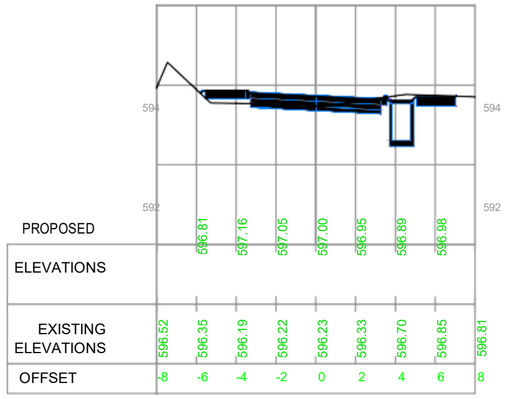
REVISION SCHEDULE

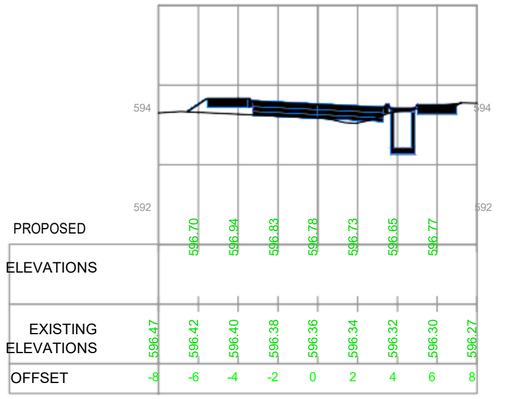
TURKANA COUNTY GOVERNMENT

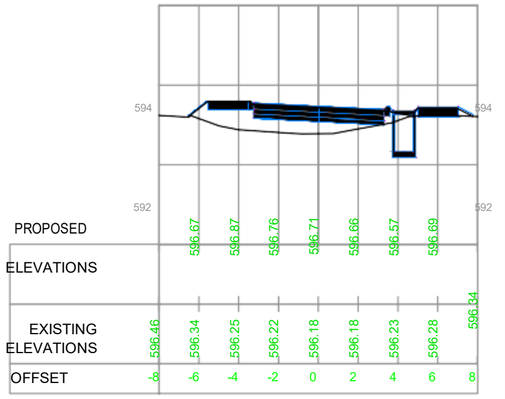
CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND DETAILED DESIGN FOR SELECTED STREETS FOR UPGRADING TO BITUMEN STANDARDS

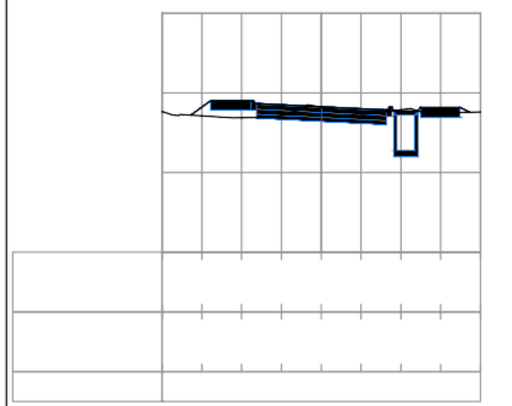
IN KAKUMA MUNICIPALITY

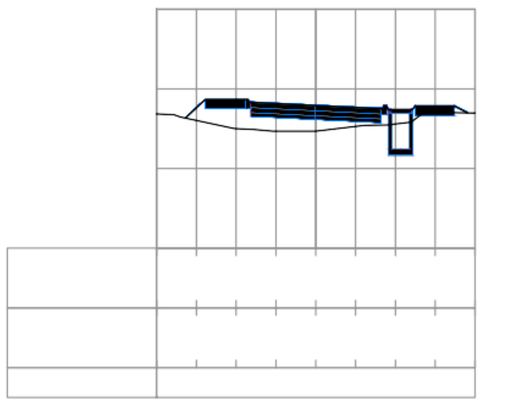


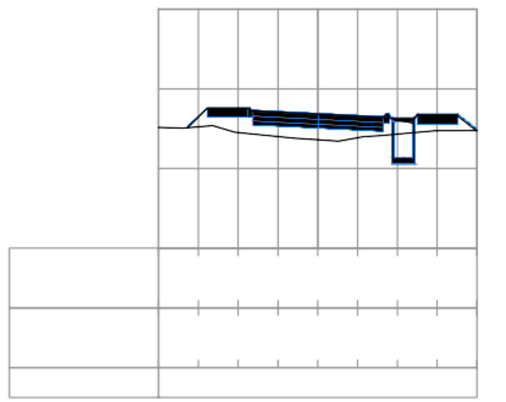


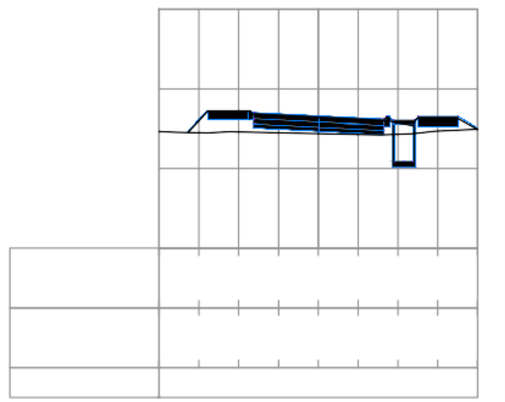


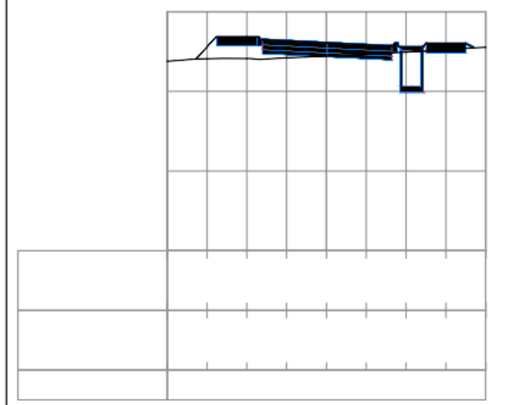


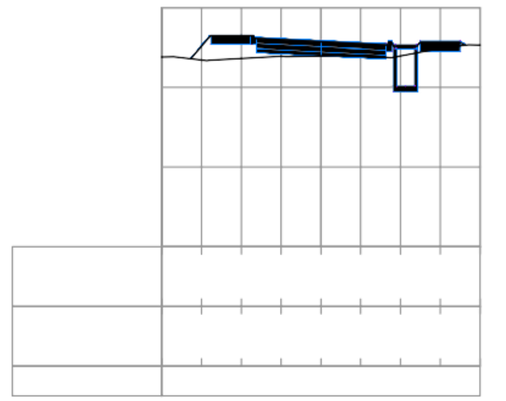


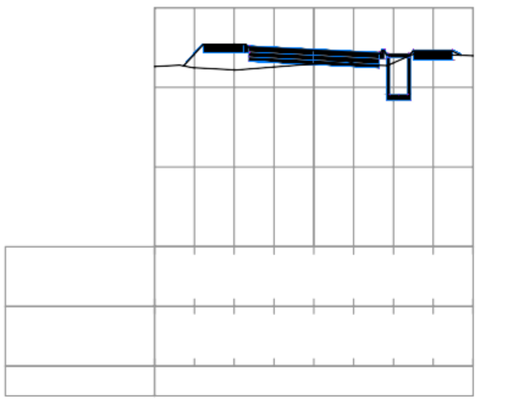


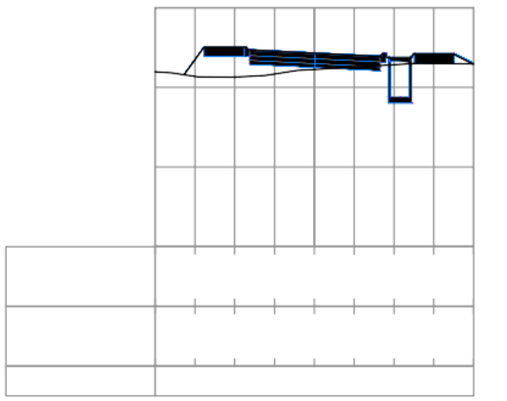


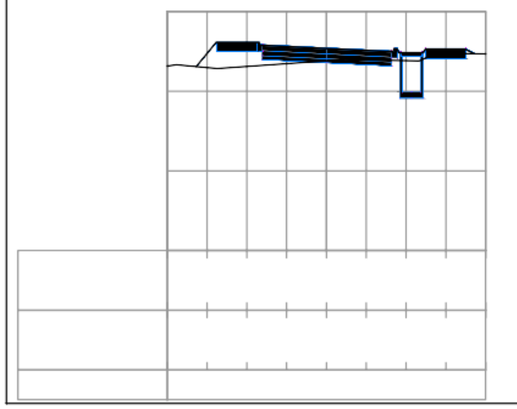


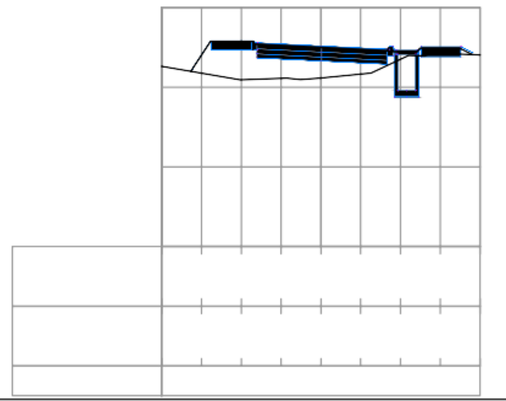


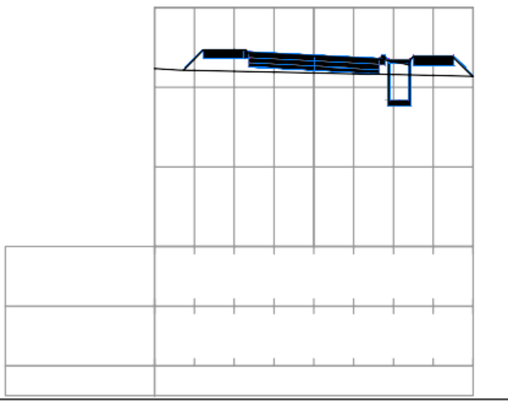


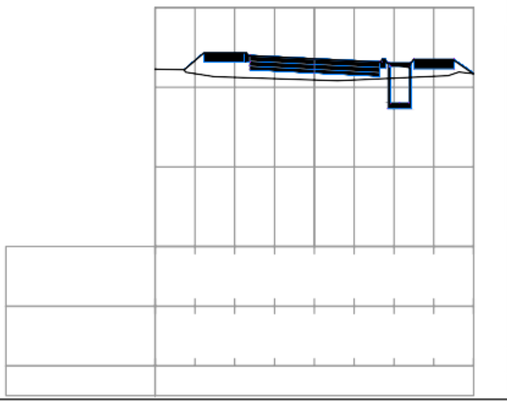












NOTES

SECTION DRAWING
Hashi Petrol Station -
Food Distribution Center 1 Road
KM 0+980 - KM 1+280

Designed by MO
Drawn by EM
Checked by MO
Scale H:1:150 V:1:15
Approved by MO
Date OCT
Job No. P
RVT File: BE0056
2026
C-G-SEC-RD1-004
REV
STATUS
DRG No.
P0

Client

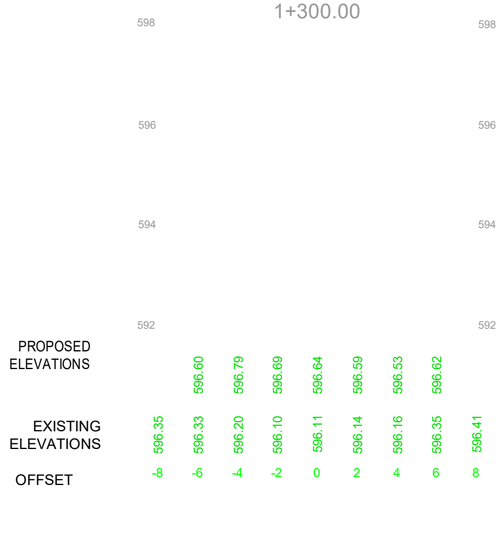
Project

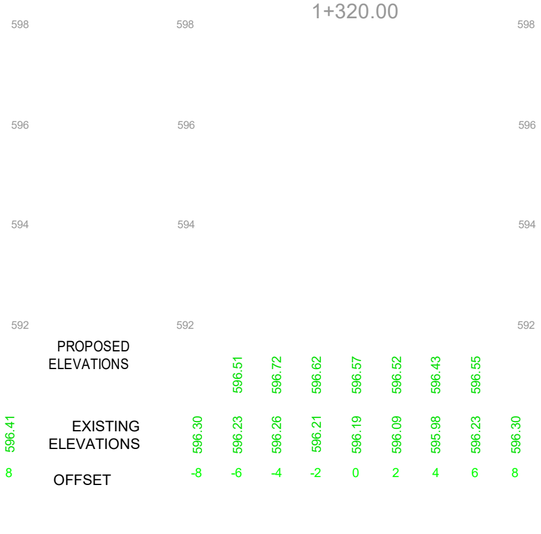
Civil/Structural Engineers:

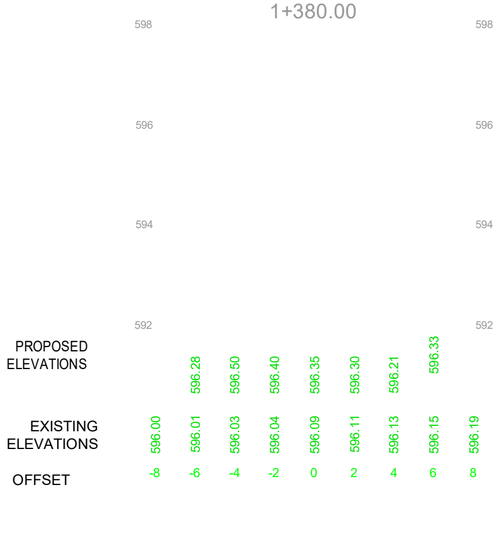
B&L ENGINEERING

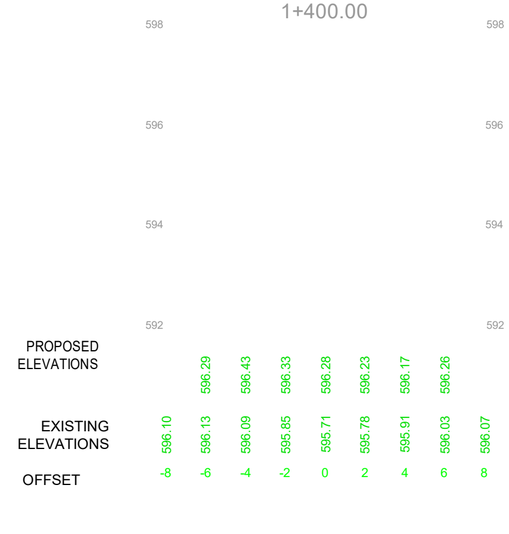
B&L Engineering Services Limited
Professor Wangari Maathai Road
Opposite BAPS Shri Temple
P.O. BOX 79796-00200, NAIROBI
+254 (0)0888317/+254 (0)47/8634
info@bnlgroup.net, www.bnlgroup.net

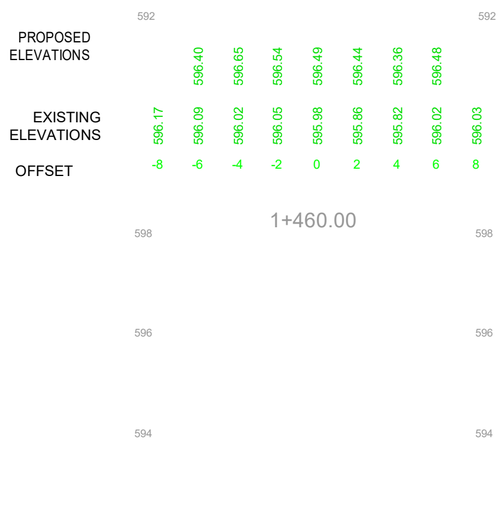
Drawing Title

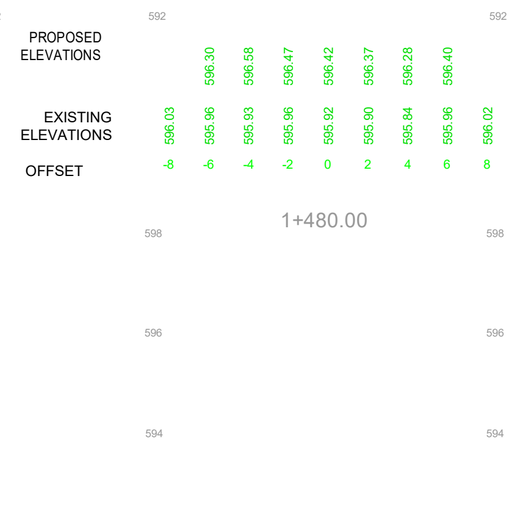


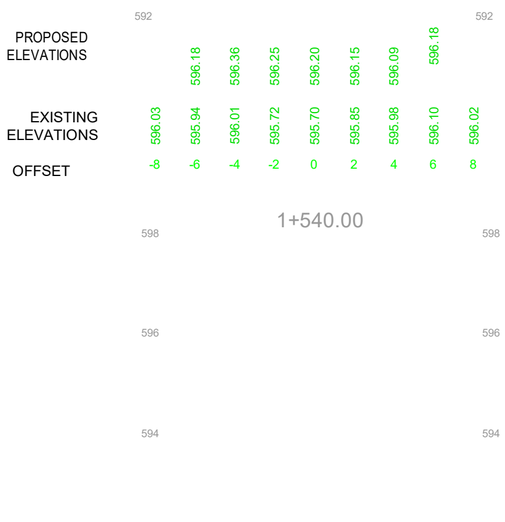








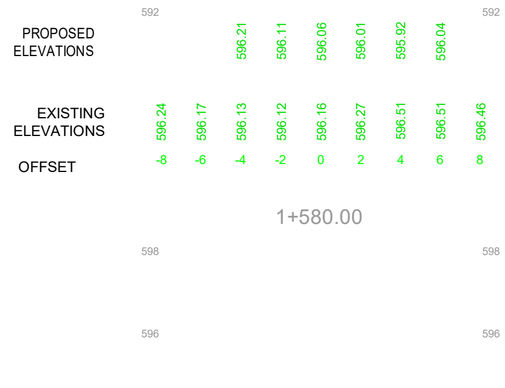


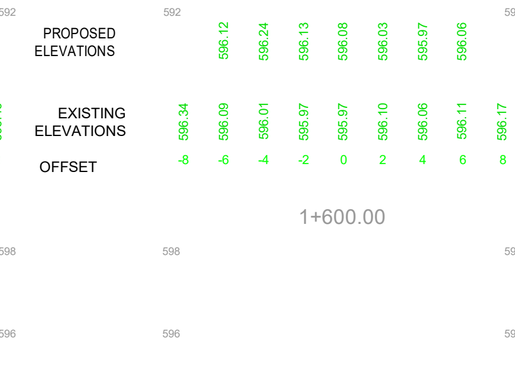












DETAILED DESIGN

SIGNED:_____

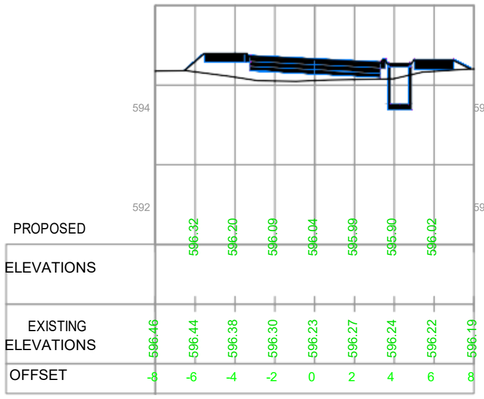
REV	DESCRIPTION	DATE	BY	CHK	APP
P0	Preliminary Issue	AUG 2026	CM	MO	MO

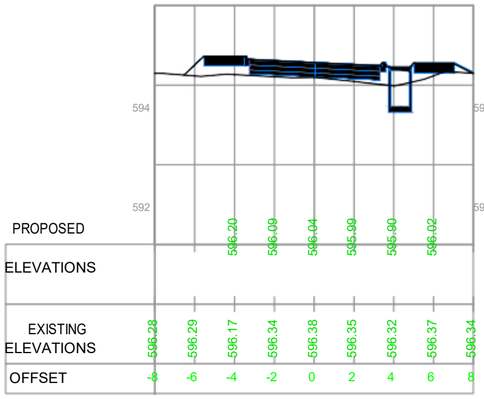
REVISION SCHEDULE

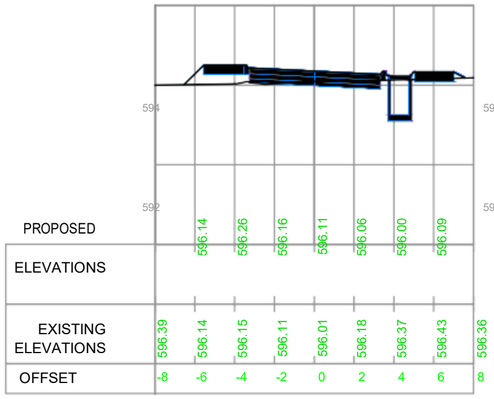
TURKANA COUNTY GOVERNMENT

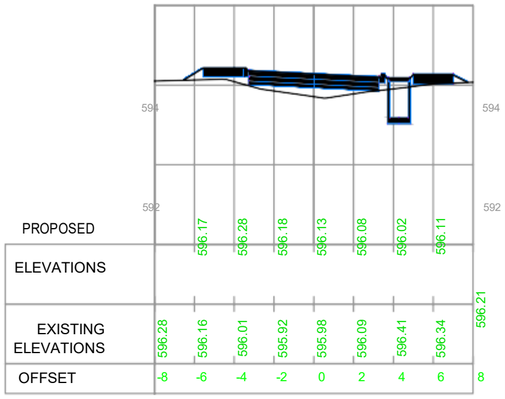
CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND DETAILED DESIGN FOR SELECTED STREETS FOR UPGRADING TO BITUMEN STANDARDS

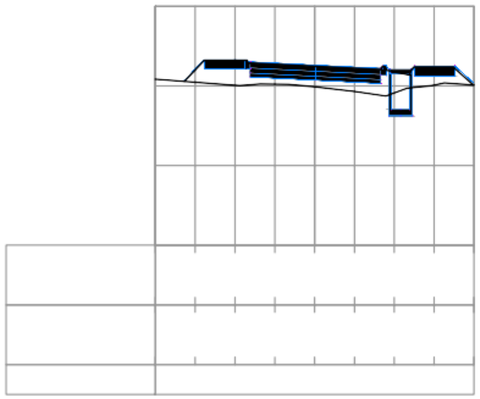
IN KAKUMA MUNICIPALITY

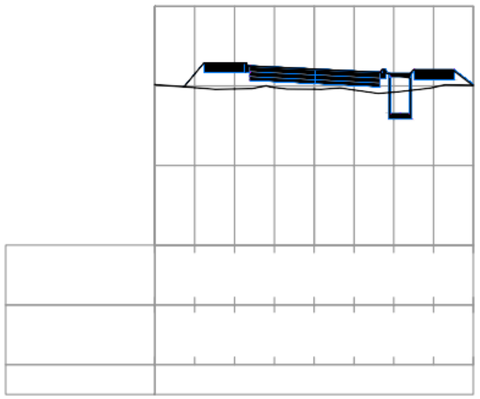


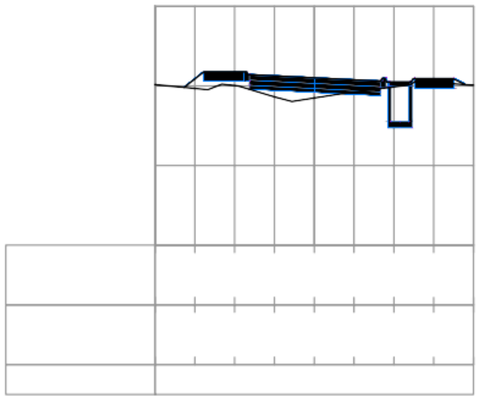


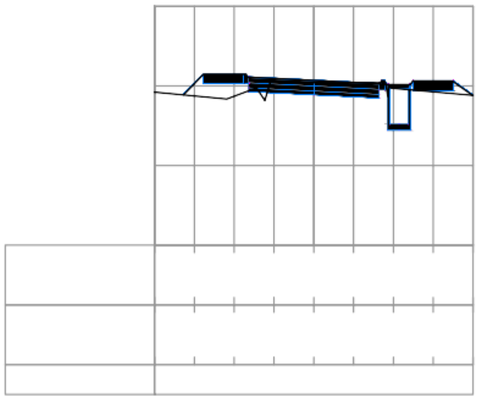


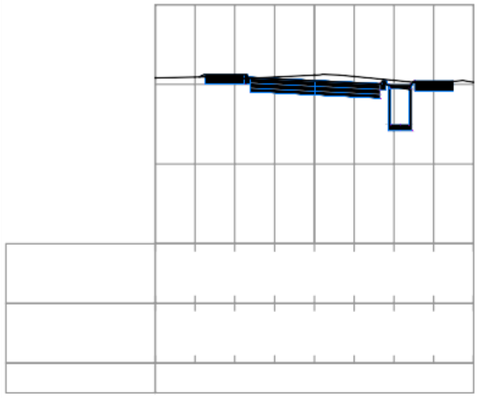


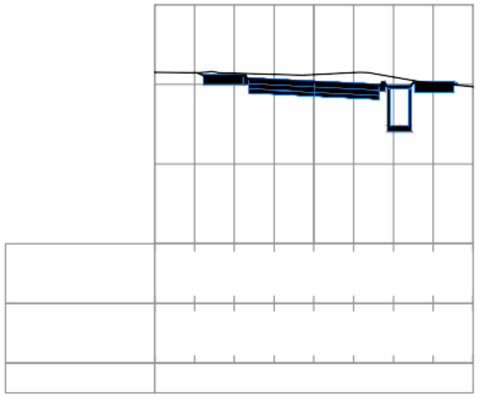


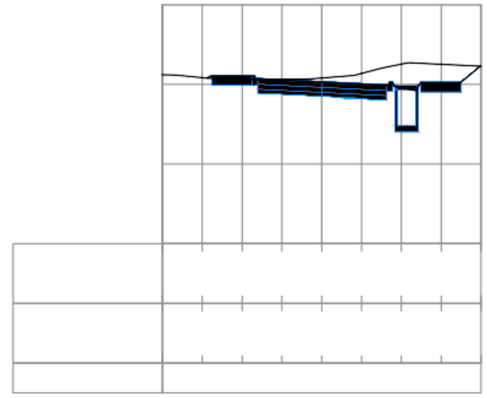


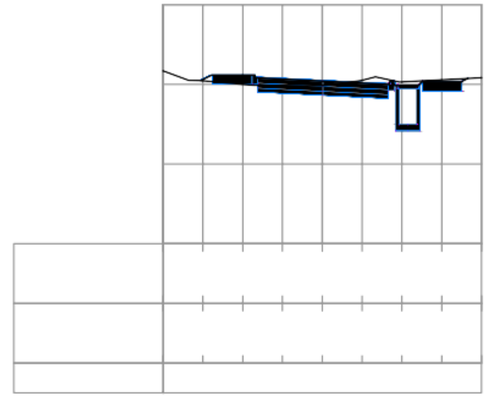


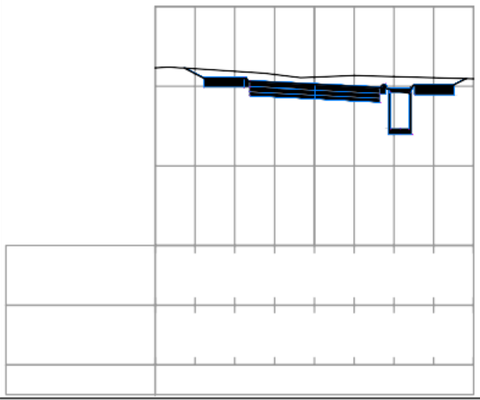


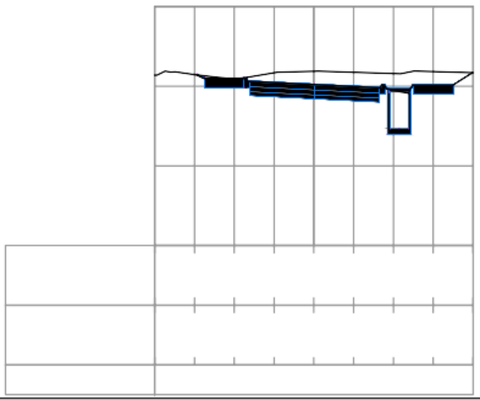


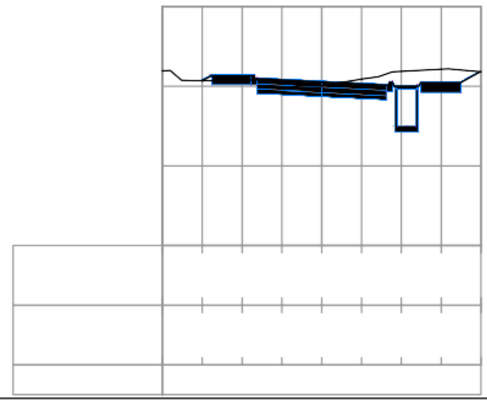


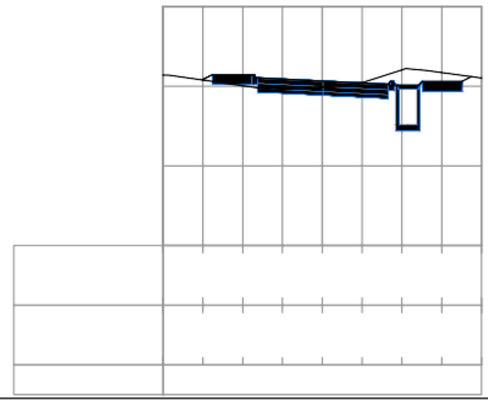












NOTES

SECTION DRAWING
Hashi Petrol Station -
Food Distribution Center 1 Road
KM 1+300 - KM 1+600

Designed by MO
Drawn by EM
Checked by MO
Scale H:1:150 V:1:15
Approved by MO
Date OCT
Job No. P
RVT File: BE0056
2026
C-G-SEC-RD1-005
REV
STATUS
DRG No.
P0

Client

Project

Civil/Structural Engineers:

B&L ENGINEERING

B&L Engineering Services Limited
Professor Wangari Maathai Road
Opposite BAPS Shri Temple
P.O. BOX 79796-00200, NAIROBI
+254 (0)0888317/+254 (0)47/2630
info@bnlgroup.net, www.bnlgroup.net

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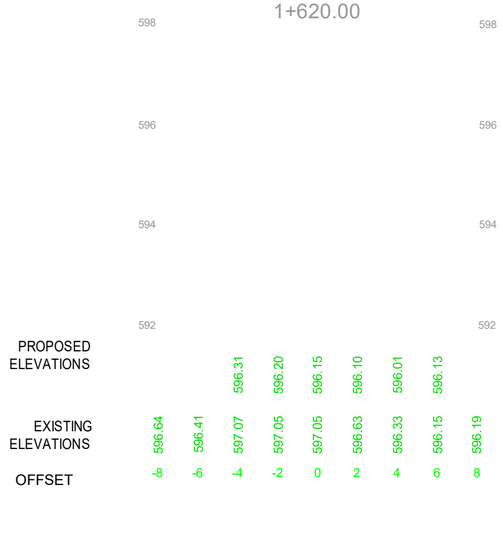
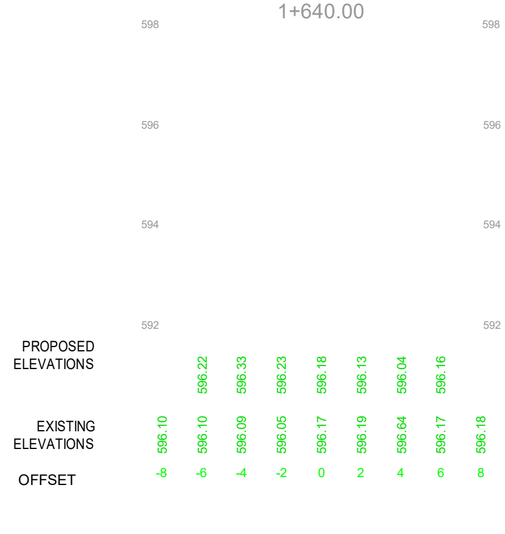
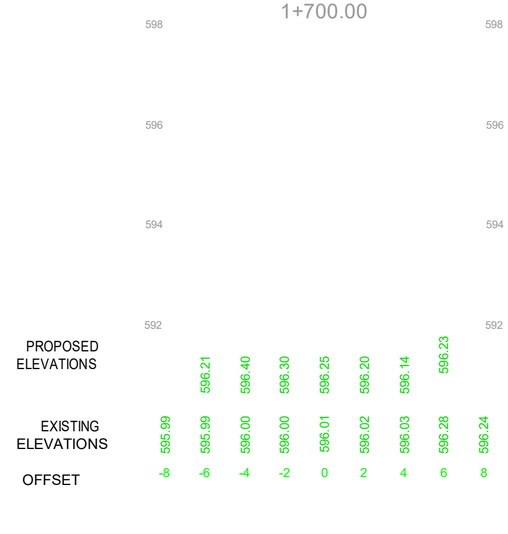
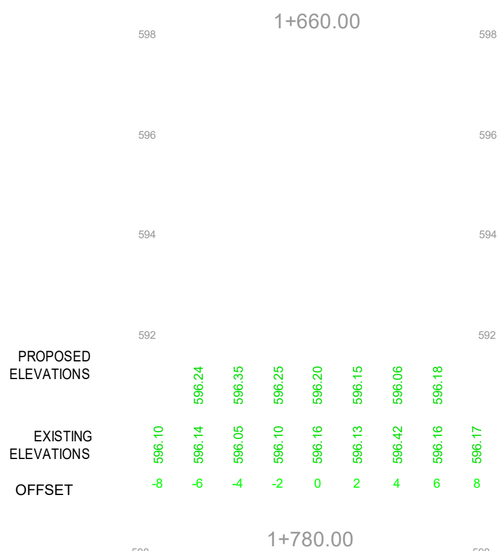
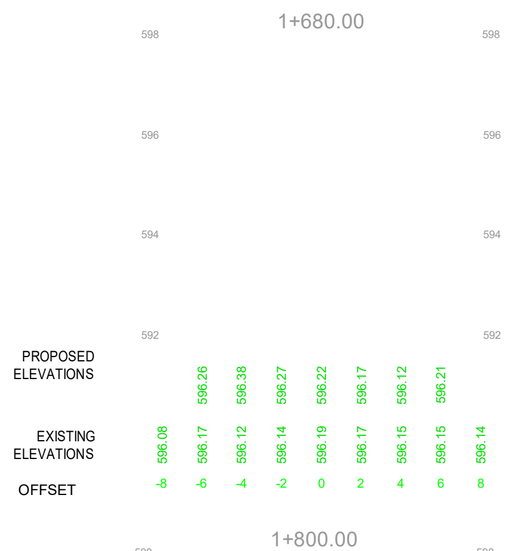


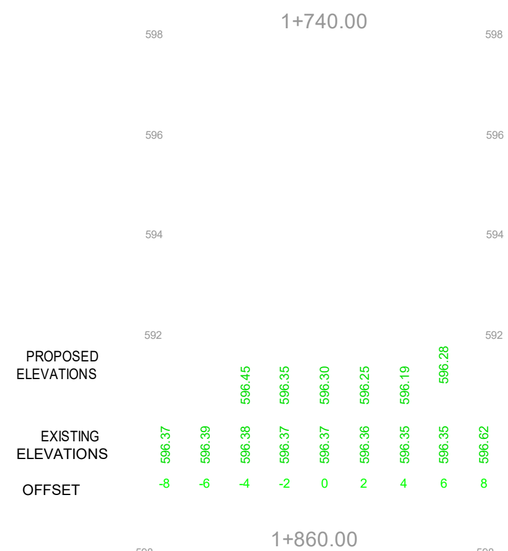


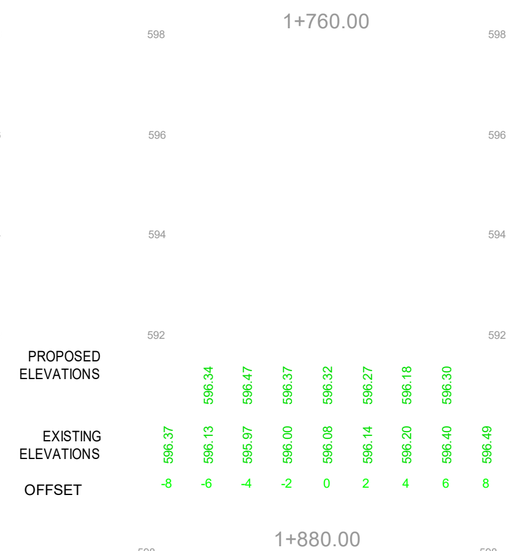


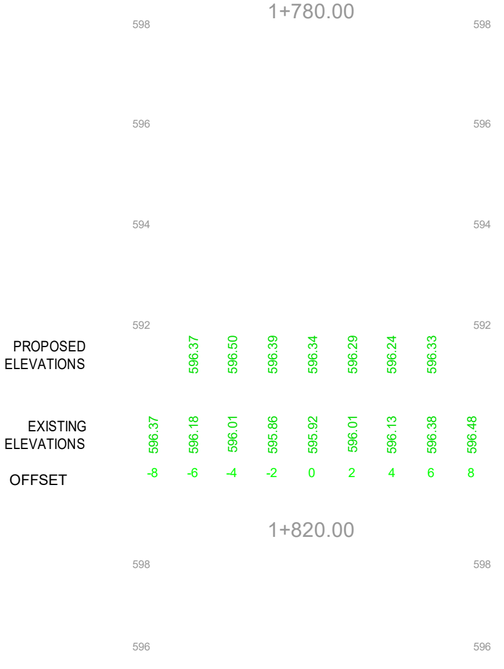


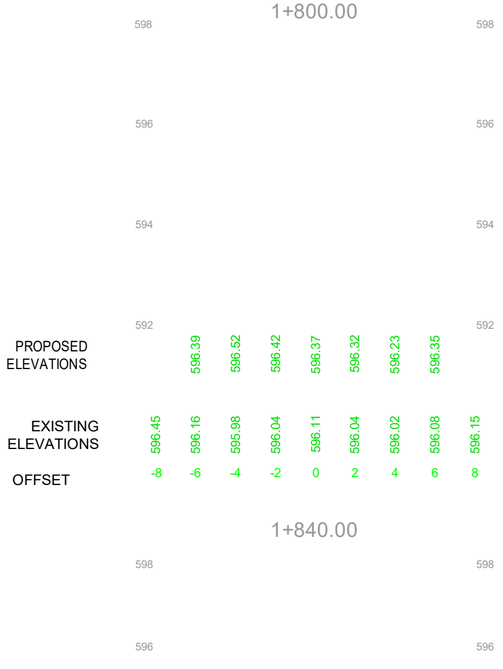
















DETAILED DESIGN

SIGNED:_____

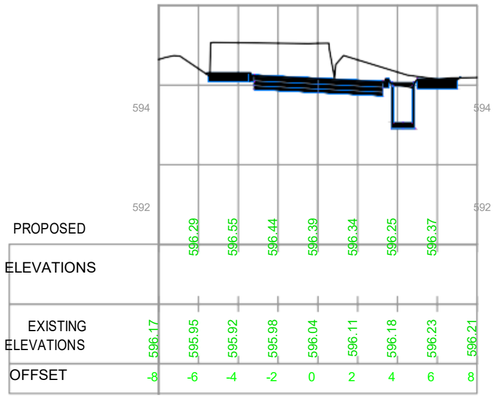
REV	DESCRIPTION	DATE	BY	CHK	APP
P0	Preliminary Issue	AUG 2026	CM	MO	MO

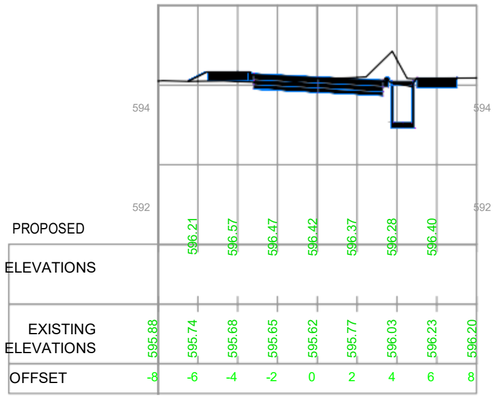
REVISION SCHEDULE

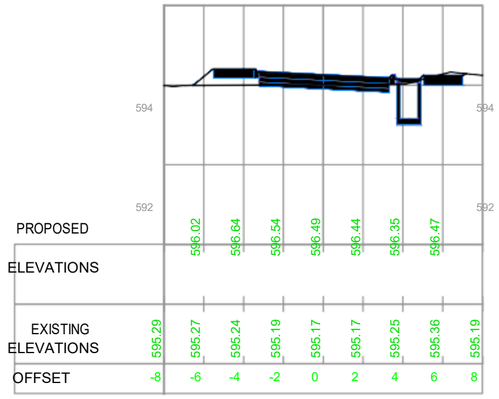
TURKANA COUNTY GOVERNMENT

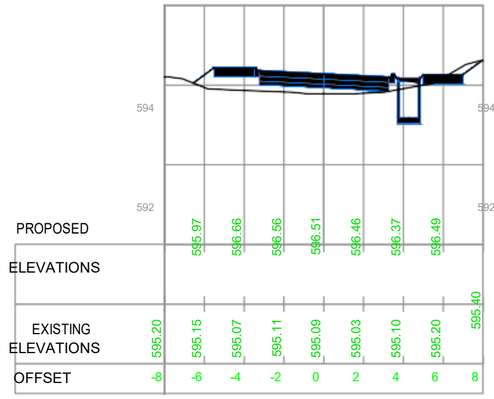
CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND DETAILED DESIGN FOR SELECTED STREETS FOR UPGRADING TO BITUMEN STANDARDS

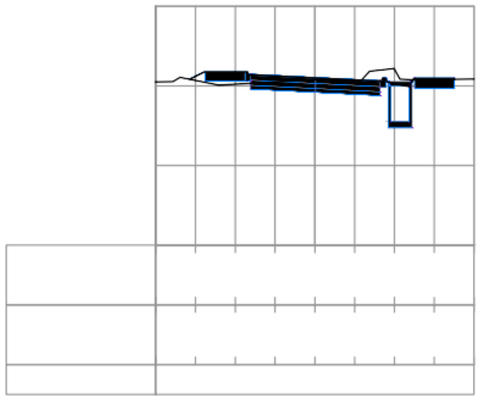
IN KAKUMA MUNICIPALITY

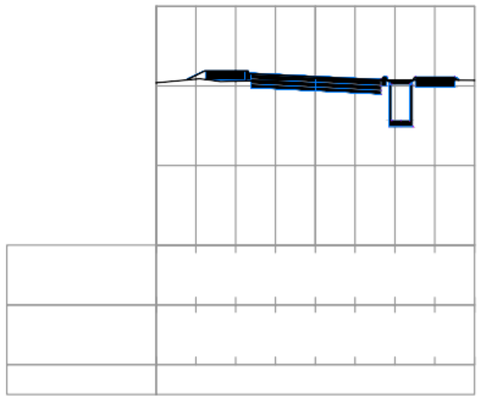


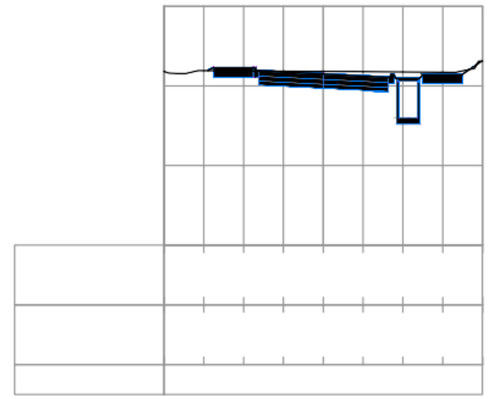


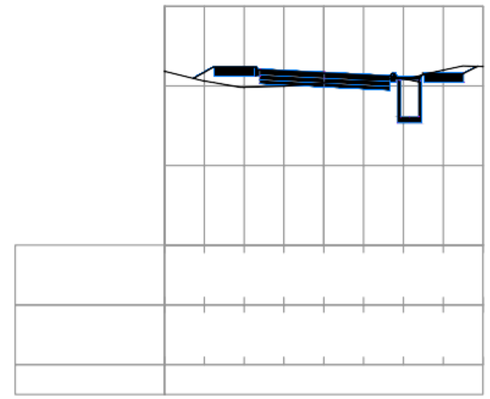


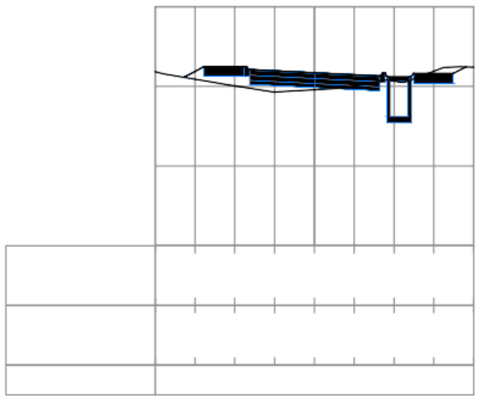


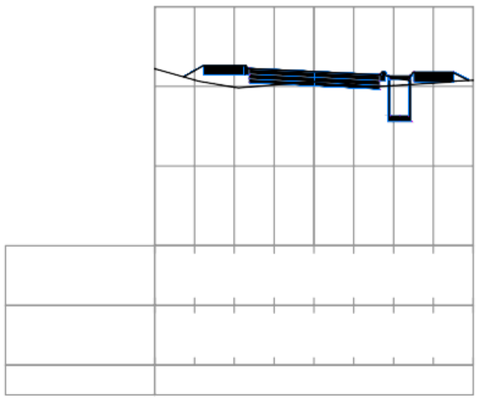


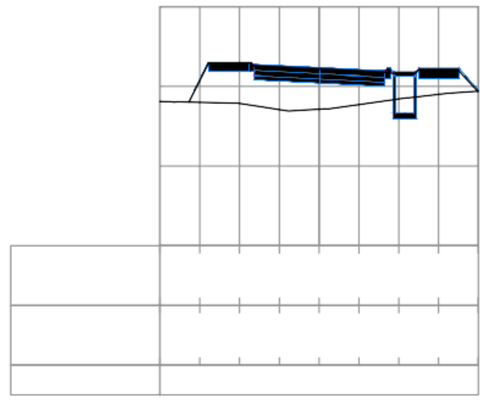


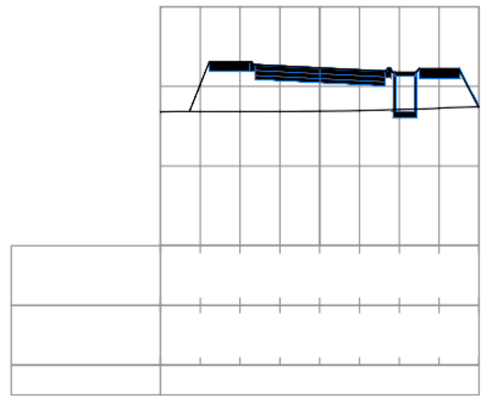


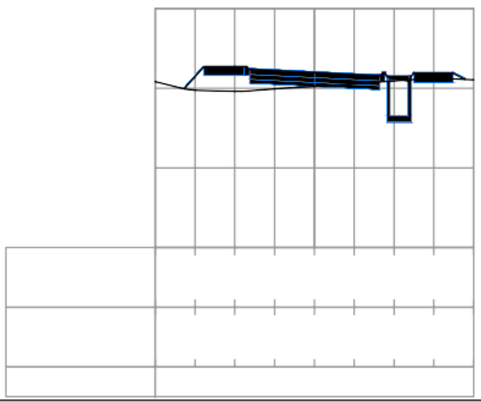


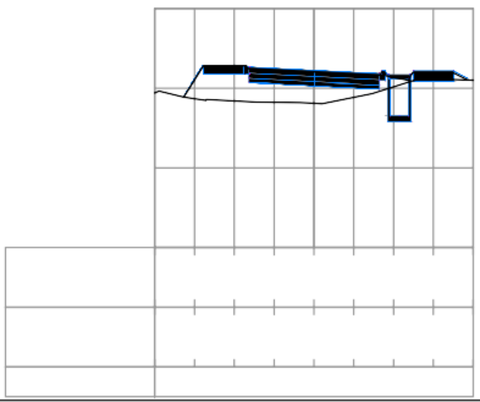


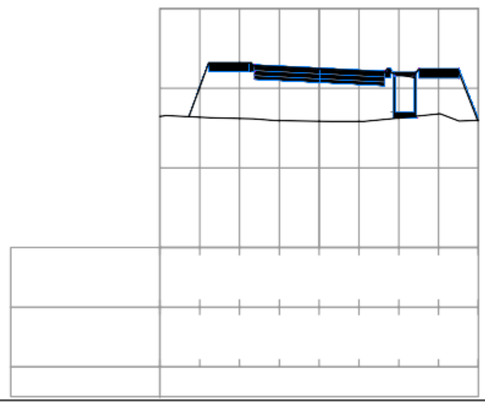


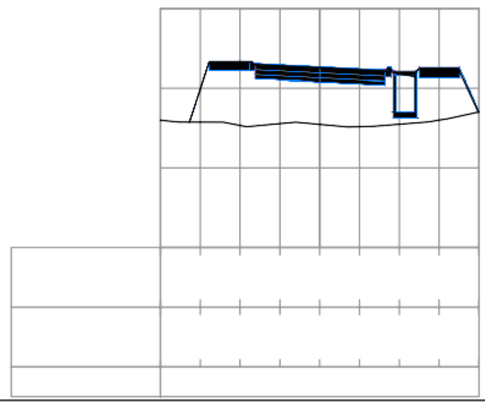












NOTES

SECTION DRAWING
Hashi Petrol Station -
Food Distribution Center 1 Road
KM 1+620 - KM 1+920

Designed by MO
Drawn by EM
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Scale H:1:150 V:1:15
Approved by MO
Date OCT
Job No. BE0056
RVT File: C-G-SEC-RD1-006
2026
P
REV
STATUS
DRG No.
P0

Client

Project

Civil/Structural Engineers:

B&L ENGINEERING

B&L Engineering Services Limited
Professor Wangari Maathai Road
Opposite BAPS Shri Temple
P.O. BOX 79796-00200, NAIROBI
+254 (0)0888017/+254 (0)47/3534
info@bnlgroup.net, www.bnlgroup.net

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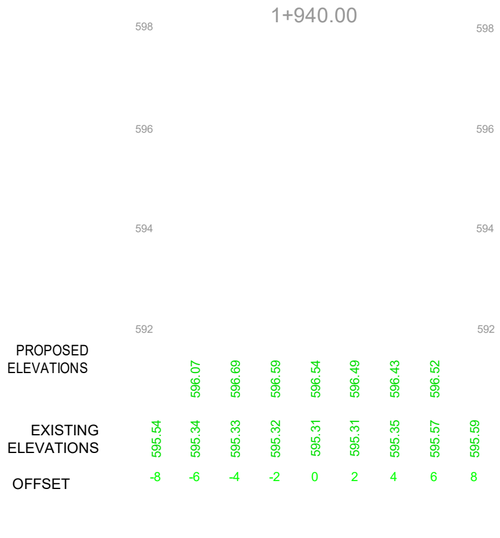

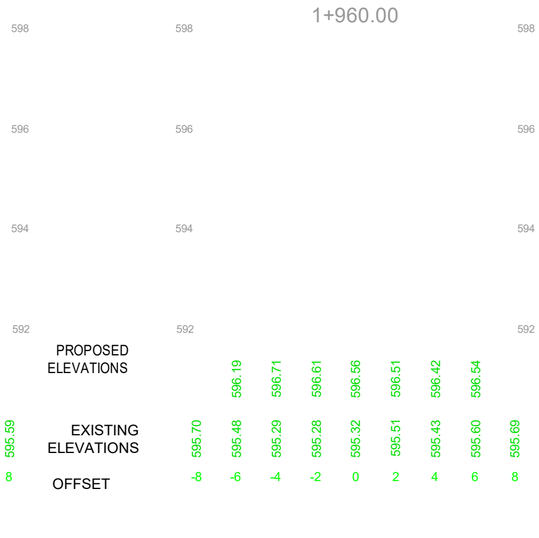

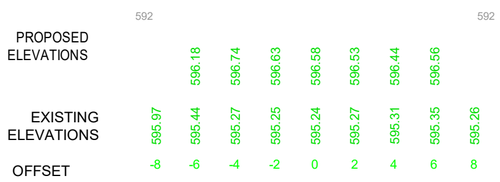

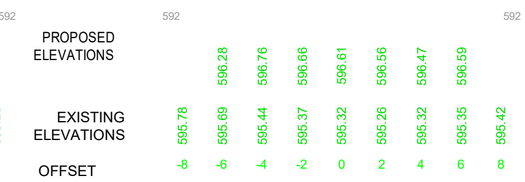

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REVISION SCHEDULE

TURKANA COUNTY GOVERNMENT

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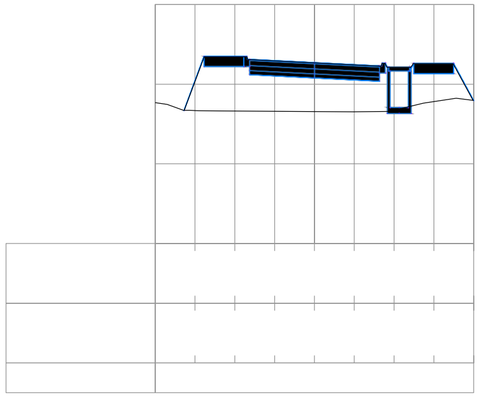
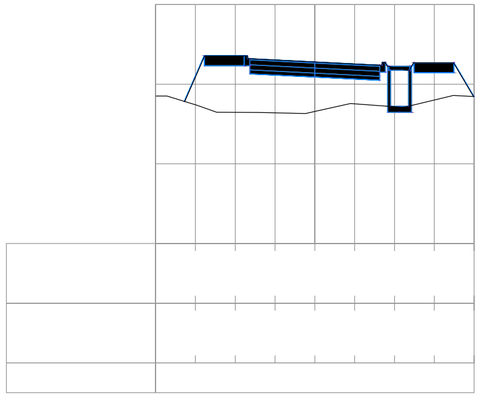
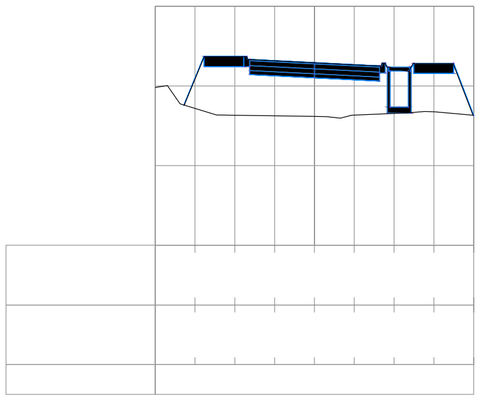
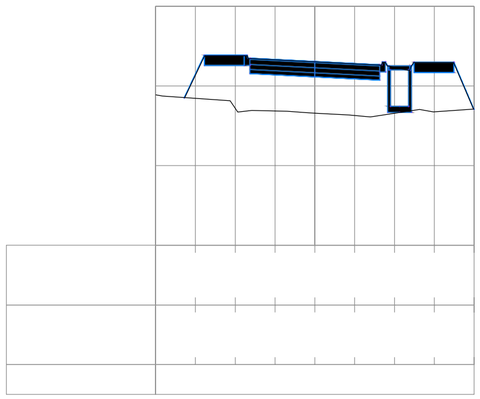








NOTES

SECTION DRAWING

Hashi Petrol Station -
Food Distribution Center 1 Road
KM 1+940 - KM 2+000

Designed by	MO	Drawn by	EM
Checked by	Scale MO	Approved by	Date MO OCT
Job No.	H:1:150 V:1:15	RVT File:	2026
P	BE0056		
STATUS	DRG No.	C-G-SEC-RD1-007	REV P0

Client

Project

Civil/Structural Engineers.

B&L Engineering Services Limited
Professor Wangari Maathai Road
Opposite BAPS Shri Temple
P.O. BOX 79795-00200, NAIROBI
+254 110088811/+254 759479534
info@bnlgroup.net, www.bnlgroup.net

Drawing Title

MAIN JUNCTION DRAWINGS

Legend

NEW CARRIAGEWAY EDGE

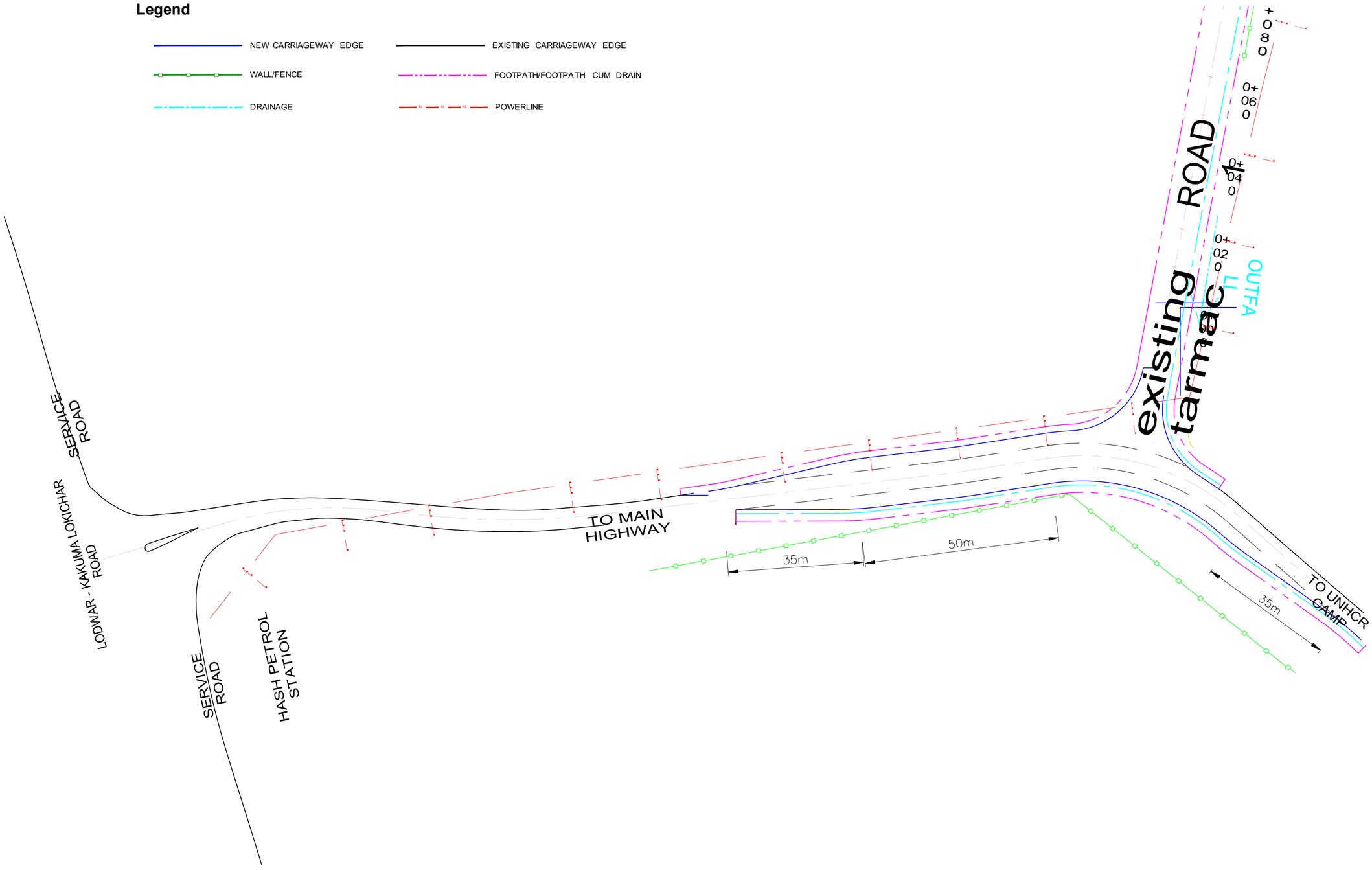
EXISTING CARRIAGEWAY EDGE

WALL/FENCE

FOOTPATH/FOOTPATH CUM DRAIN

DRAINAGE

POWERLINE



Meters

20 0 20 40

1:500

NOTES

DETAILED DESIGN

SIGNED:_____

REV	DESCRIPTION	DATE	BY	CHK	APP
P0	Preliminary Issue	AUG 2026	CM	MO	MO

REVISION SCHEDULE

Client

TURKANA COUNTY GOVERNMENT

Project

CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND DETAILED DESIGN FOR SELECTED STREETS FOR UPGRADING TO BITUMEN STANDARDS IN KAKUMA MUNICIPALITY

Civil/Structural Engineers.

B&L Engineering Services Limited
Professor Wangari Maathai Road
Opposite BAPS Shri Temple
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+254 110088811/+254 759479534
info@bnlgroup.net, www.bnlgroup.net

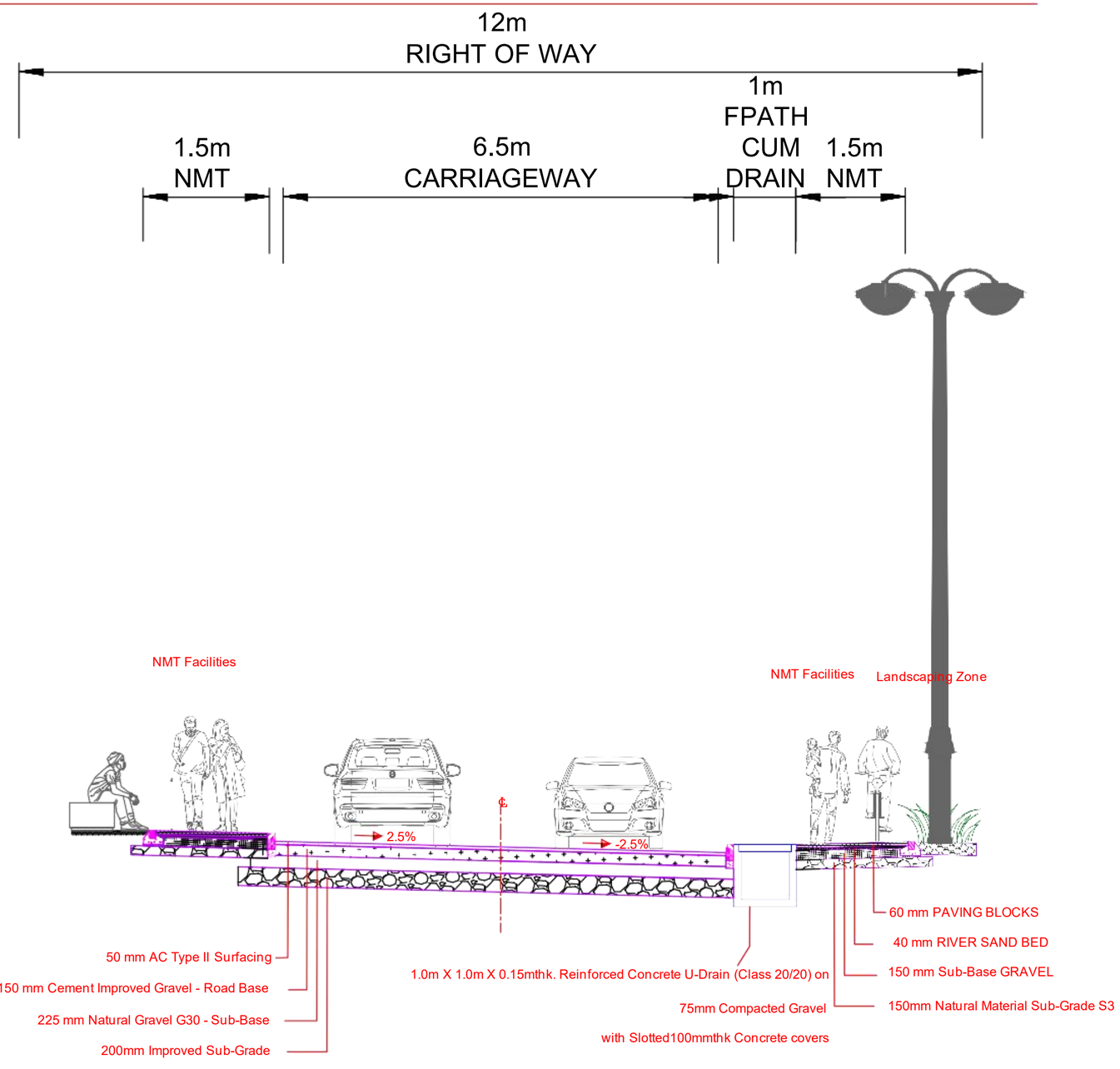
Drawing Title: PLAN DRAWING

Hashi Petrol Station - Food Distribution Center 1 Road Juncion Improvement

Designed by	MO	Drawn by	EM
Checked by	MO	Approved by	MO
Scale	1:500	Date	OCT 2026
Job No.	BE0056	RVT File:	
P STATUS	DRG No.	C-G-PLN-RD1 JXN-001	REV P0

PAVEMENT DETAILS DRAWINGS

TYPICAL CROSS-SECTION DETAILS - ROAD 1 & ROAD 2



NOTES

DETAILED DESIGN

SIGNED:_____

REV	DESCRIPTION	DATE	BY	CHK	APP
P0	Preliminary Issue	AUG 2026	CM	MO	MO

REVISION SCHEDULE

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Civil/Structural Engineers.

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P.O. BOX 79796–00200, NAIROBI
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info@blgroup.net, www.blgroup.net

Drawing Title TYPICAL CROSS SECTION PAVEMENT DETAILS

Designed by	MO	Drawn by	EM
Checked by	MO	Approved by	MO
Scale	1:50	Date	OCT 2026
Job No.	BE0056	RVT File:	
P STATUS	DRG No.	C-G-PDD-001	REV P0

SETTING OUT DATA

SETTING OUT DATA

Road Name: ROAD 1
Station Range: Start: 0+000.00, End: 2+000

Station	Northing	Easting	Elevation
0+000.00	410897.766	705862.284	597.777
0+020.00	410904.172	705843.337	597.799
0+040.00	410910.579	705824.391	597.820
0+060.00	410916.986	705805.445	597.841
0+080.00	410923.392	705786.499	597.862
0+100.00	410929.799	705767.553	597.883
0+120.00	410936.206	705748.607	597.905
0+140.00	410943.677	705730.082	597.926
0+160.00	410954.577	705713.353	597.947
0+180.00	410968.583	705699.122	597.968
0+200.00	410984.950	705687.654	597.989
0+220.00	411001.704	705676.731	598.011
0+240.00	411018.457	705665.807	598.032
0+260.00	411035.210	705654.883	598.053
0+280.00	411051.964	705643.960	598.074
0+300.00	411068.717	705633.036	598.095
0+320.00	411085.470	705622.113	598.117
0+340.00	411102.224	705611.189	598.138
0+360.00	411118.977	705600.265	598.159
0+380.00	411135.731	705589.342	598.163
0+400.00	411152.484	705578.418	598.131
0+420.00	411169.237	705567.495	598.065
0+440.00	411185.991	705556.571	597.963
0+460.00	411202.744	705545.647	597.826
0+480.00	411219.497	705534.724	597.671
0+500.00	411236.251	705523.800	597.523
0+520.00	411253.004	705512.877	597.423
0+540.00	411269.757	705501.953	597.376
0+560.00	411286.511	705491.030	597.382
0+580.00	411303.425	705480.357	597.443
0+600.00	411320.385	705469.757	597.550
0+620.00	411337.345	705459.157	597.664
0+640.00	411354.305	705448.557	597.778
0+660.00	411371.265	705437.957	597.892
0+680.00	411388.224	705427.357	597.998
0+700.00	411405.184	705416.757	598.075
0+720.00	411422.144	705406.157	598.124
0+740.00	411439.104	705395.557	598.143
0+760.00	411456.064	705384.957	598.134
0+780.00	411473.024	705374.357	598.104
0+800.00	411489.984	705363.757	598.074
0+820.00	411506.944	705353.157	598.043
0+840.00	411523.904	705342.557	598.013
0+860.00	411540.859	705331.949	597.983
0+880.00	411557.673	705321.119	597.952
0+900.00	411574.424	705310.193	597.922
0+920.00	411591.176	705299.266	597.891
0+940.00	411607.927	705288.339	597.857
0+960.00	411624.678	705277.412	597.816
0+980.00	411641.430	705266.486	597.768
1+000.00	411658.181	705255.559	597.713
1+020.00	411674.980	705244.706	597.651
1+040.00	411692.090	705234.352	597.582
1+060.00	411709.536	705224.575	597.510
1+080.00	411727.298	705215.384	597.437
1+100.00	411745.318	705206.708	597.365
1+120.00	411763.372	705198.102	597.292
1+140.00	411781.425	705189.496	597.219
1+160.00	411799.479	705180.889	597.147
1+180.00	411817.454	705172.122	597.074
1+200.00	411835.251	705162.997	597.002
1+220.00	411852.862	705153.518	596.929
1+240.00	411870.297	705143.720	596.857
1+260.00	411887.699	705133.863	596.784
1+280.00	411905.102	705124.006	596.712
1+300.00	411922.504	705114.149	596.639
1+320.00	411939.907	705104.292	596.566
1+340.00	411957.309	705094.436	596.494
1+360.00	411974.711	705084.579	596.421
1+380.00	411992.018	705074.556	596.349
1+400.00	412008.991	705063.979	596.276
1+420.00	412025.602	705052.841	596.204
1+440.00	412041.833	705041.157	596.139
1+460.00	412057.665	705028.938	596.091
1+480.00	412073.081	705016.198	596.058
1+500.00	412088.064	705002.951	596.042
1+520.00	412102.597	704989.213	596.042
1+540.00	412116.665	704974.998	596.058
1+560.00	412130.250	704960.321	596.081
1+580.00	412143.339	704945.201	596.105
1+600.00	412156.145	704929.838	596.129
1+620.00	412168.950	704914.475	596.153
1+640.00	412181.755	704899.111	596.177
1+660.00	412194.560	704883.748	596.201
1+680.00	412207.365	704868.385	596.225
1+700.00	412220.171	704853.021	596.249
1+720.00	412232.976	704837.658	596.272
1+740.00	412245.781	704822.295	596.296
1+760.00	412258.586	704806.931	596.320
1+780.00	412271.391	704791.568	596.344
1+800.00	412284.196	704776.205	596.368
1+820.00	412297.001	704760.841	596.392
1+840.00	412309.806	704745.478	596.416
1+860.00	412323.523	704730.971	596.440
1+880.00	412340.274	704720.140	596.463
1+900.00	412359.184	704713.789	596.487
1+920.00	412379.079	704712.261	596.511
1+940.00	412399.076	704712.555	596.535
1+960.00	412419.074	704712.850	596.559
1+980.00	412439.072	704713.144	596.583
2+000.00	412459.070	704713.438	596.607

Road 2: ROAD 2-1
Station Range: Start: 0+000.00, End: 1+910.00

Station	Northing	Easting	Elevation
0+000.00	410528.600	707217.938	605.947
0+020.00	410535.631	707236.654	605.847
0+040.00	410544.454	707254.594	605.747
0+060.00	410554.907	707271.640	605.647
0+080.00	410565.695	707288.481	605.547
0+100.00	410576.483	707305.322	605.447
0+120.00	410584.715	707323.225	605.347
0+140.00	410580.371	707342.670	605.247
0+160.00	410575.088	707361.960	605.147
0+180.00	410569.805	707381.250	605.047
0+200.00	410564.522	707400.539	604.953
0+220.00	410559.418	707419.876	604.912
0+240.00	410555.665	707439.515	604.932
0+260.00	410553.375	707459.381	605.013
0+280.00	410550.802	707479.213	605.156
0+300.00	410547.349	707498.911	605.361
0+320.00	410543.025	707518.436	605.620
0+340.00	410537.838	707537.750	605.889
0+360.00	410531.798	707556.814	606.158
0+380.00	410524.917	707575.591	606.426
0+400.00	410517.382	707594.118	606.695
0+420.00	410510.295	707612.818	606.964
0+440.00	410504.046	707631.815	607.233
0+460.00	410498.647	707651.071	607.501
0+480.00	410494.108	707670.547	607.757
0+500.00	410490.440	707690.206	607.990
0+520.00	410487.648	707710.009	608.199
0+540.00	410485.740	707729.916	608.386
0+560.00	410484.717	707749.888	608.550
0+580.00	410484.583	707769.886	608.690
0+600.00	410485.065	707789.880	608.821
0+620.00	410485.567	707809.874	608.952
0+640.00	410486.069	707829.868	609.083
0+660.00	410486.352	707849.865	609.214
0+680.00	410485.785	707869.855	609.345
0+700.00	410484.374	707889.804	609.476
0+720.00	410483.036	707909.758	609.607
0+740.00	410482.568	707929.751	609.738
0+760.00	410482.989	707949.745	609.868
0+780.00	410484.291	707969.701	609.995
0+800.00	410485.934	707989.633	610.116
0+820.00	410487.577	708009.565	610.233
0+840.00	410489.220	708029.498	610.344
0+860.00	410490.863	708049.430	610.450
0+880.00	410493.680	708069.205	610.551
0+900.00	410500.213	708088.077	610.651
0+920.00	410508.039	708106.483	610.751
0+940.00	410515.865	708124.888	610.851
0+960.00	410523.690	708143.294	610.951
0+980.00	410531.516	708161.699	611.051
1+000.00	410539.342	708180.104	611.151
1+020.00	410547.167	708198.510	611.251
1+040.00	410554.993	708216.915	611.351
1+060.00	410563.046	708235.218	611.459
1+080.00	410571.992	708252.966	611.576
1+100.00	410565.855	708271.199	611.703
1+120.00	410552.825	708286.372	611.840
1+140.00	410539.796	708301.546	611.986
1+160.00	410526.705	708316.665	612.141
1+180.00	410513.004	708331.233	612.299
1+200.00	410498.592	708345.097	612.457
1+220.00	410483.505	708358.223	612.615
1+240.00	410468.183	708371.076	612.773
1+260.00	410453.465	708384.615	612.931
1+280.00	410439.442	708398.872	613.089
1+300.00	410426.149	708413.812	613.247
1+320.00	410413.619	708429.398	613.405
1+340.00	410401.883	708445.591	613.563
1+360.00	410390.972	708462.349	613.721
1+380.00	410380.912	708479.633	613.879
1+400.00	410371.472	708497.264	614.037
1+420.00	410362.057	708514.910	614.195
1+440.00	410352.642	708532.555	614.352
1+460.00	410343.227	708550.200	614.510
1+480.00	410333.812	708567.846	614.668
1+500.00	410324.397	708585.491	614.826
1+520.00	410314.497	708602.865	614.984
1+540.00	410303.819	708619.776	615.142
1+560.00	410293.119	708636.673	615.300
1+580.00	410282.418	708653.570	615.458
1+600.00	410271.718	708670.466	615.616
1+620.00	410261.338	708687.557	615.774
1+640.00	410252.159	708705.322	615.932
1+660.00	410244.183	708723.659	616.090
1+680.00	410237.364	708742.458	616.248
1+700.00	410230.800	708761.351	616.406
1+720.00	410224.237	708780.243	616.564
1+740.00	410217.666	708799.133	616.722
1+760.00	410210.700	708817.879	616.879
1+780.00	410203.498	708836.538	617.037
1+800.00	410196.297	708855.196	617.195
1+820.00	410189.095	708873.855	617.353
1+840.00	410181.894	708892.513	617.511
1+860.00	410174.835	708911.226	617.669
1+880.00	410168.451	708930.179	617.827
1+900.00	410162.185	708949.172	617.985
1+910.00	410159.052	708958.668	618.064

Road Name: ROAD 2-2
Station Range: Start: 0+000.00, End: 0+151.34

Station	Northing	Easting	Elevation
0+000.00	410089.881	708939.476	618.573
0+020.00	410109.153	708944.823	618.473
0+040.00	410128.425	708950.170	618.373
0+060.00	410147.697	708955.518	618.273
0+080.00	410166.969	708960.865	618.173
0+100.00	410186.241	708966.212	618.073
0+120.00	410205.513	708971.559	617.973
0+140.00	410224.785	708976.906	617.873
0+151.34	410235.712	708979.938	617.816

NOTES

DETAILED DESIGN

SIGNED:_____

REV	DESCRIPTION	DATE	BY	CHK	APP
P0	Preliminary Issue	AUG 2026	CM	MO	MO

REVISION SCHEDULE

Client

TURKANA COUNTY GOVERNMENT

Project

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Civil/Structural Engineers.

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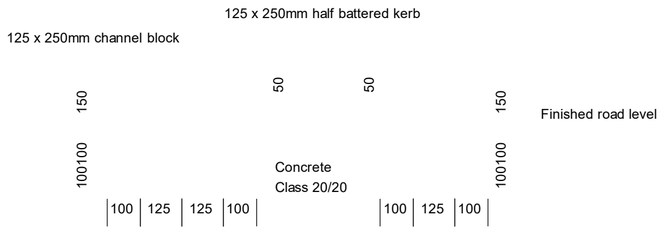
Drawing Title: SETTING OUT DATA
Setting-Out Data

Designed by MO		Drawn by EM	
Checked by MO		Approved by MO	
Scale AS SHOWN		Date OCT 2026	
Job No. BE0056		RVT File:	
P STATUS	DRG No. C-G-SET-001		REV P0

STANDARD DRAWINGS

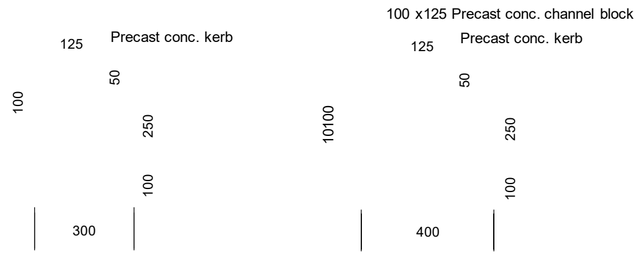
Precast Concrete Kerb - Type 1



Kerb and Channel

Kerb only

Precast Concrete Kerb - Type 2



Kerb only

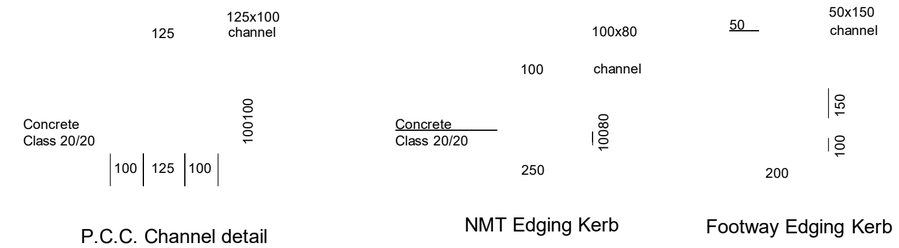
Kerb and Channel

Precast Concrete Kerb - Type 3

Elevation
Scale 1:15

Plan
Scale 1:15

Precast Concrete Kerb - Type 4



P.C.C. Channel detail

NMT Edging Kerb

Footway Edging Kerb

Beds and hauches for kerbs and channels

Standard radius of kerbs and channels	
External kerbs and channels	Internal channe
1.000	
2.000	
3.000	
4.500	
6.000	
7.500	

Notes:
1. All dimensions are in millimetres unless otherwise stated.
2. No dimensions should be scaled from the drawings.

DETAILED DESIGN

SIGNED:_____

REV	DESCRIPTION	DATE	BY	CHK	APP
P0	Preliminary Issue	AUG 2026	CM	MO	MO

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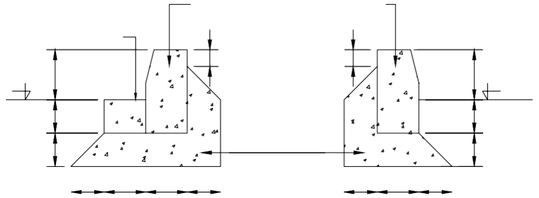
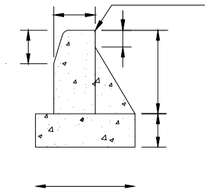
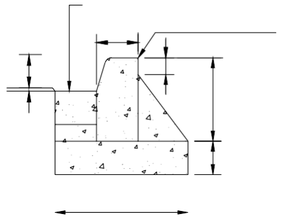
TURKANA COUNTY GOVERNMENT

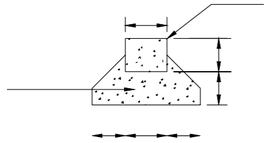
CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND DETAILED DESIGN FOR SELECTED STREETS FOR UPGRADING TO BITUMEN STANDARDS IN KAKUMA MUNICIPALITY

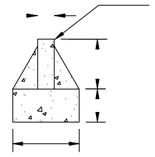
STANDARD DRAWING
Concrete Kerbs & Channels

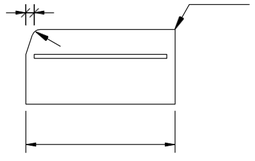


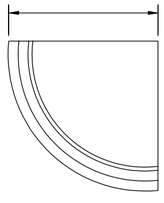












NOTES

Designed by	MO	Drawn by	EM
Checked by	MO	Approved by	MO
Scale	AS SHOWN	Date	OCT 2026
Job No.	BE0056	RVT File:	
P			REV
STATUS	DRG No.	C-G-STD-001	P0

Client

Project

Civil/Structural Engineers.

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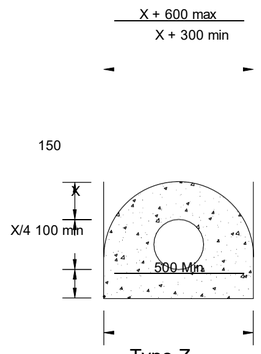
+254 110088811/+254 759479534
info@bnlgroup.net, www.bnlgroup.net

Drawing Title



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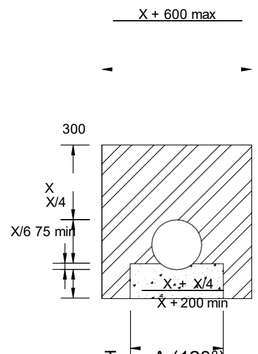

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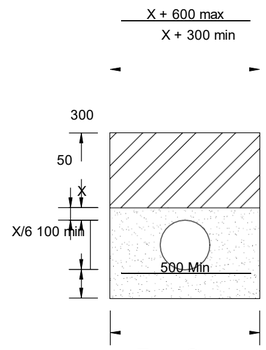

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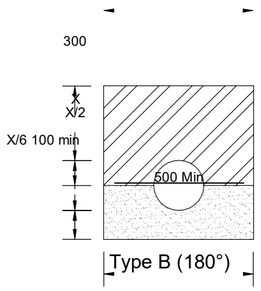

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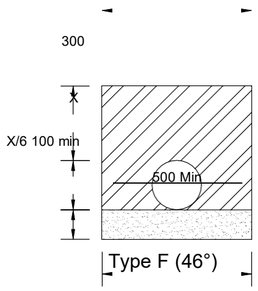

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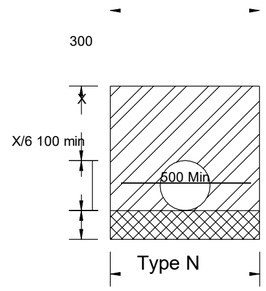

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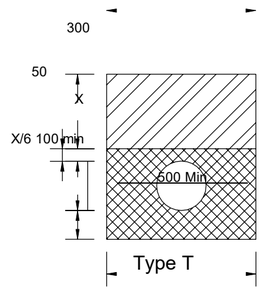

Type T

Notes:

1. All dimensions are in millimetres unless otherwise stated

NOTES

DETAILED DESIGN

SIGNED:_____

REV	DESCRIPTION	DATE	BY	CHK	APP
P0	Preliminary Issue	AUG 2026	CM	MO	MO

REVISION SCHEDULE

Client

TURKANA COUNTY GOVERNMENT

Project

CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND DETAILED DESIGN FOR SELECTED STREETS FOR UPGRADING TO BITUMEN STANDARDS IN KAKUMA MUNICIPALITY

Civil/Structural Engineers.

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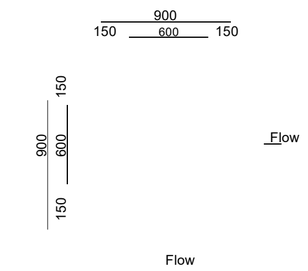
Drawing Title STANDARD DRAWING

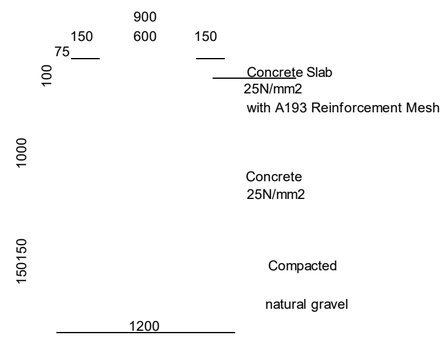
Sub Surface water drains, Trenches & Bedding Details

Designed by	MO	Drawn by	EM
Checked by	MO	Approved by	MO
Scale	AS SHOWN	Date	OCT 2026
Job No.	BE0056	RVT File:	
P STATUS	DRG No. C-G-STD-002		REV P0

CATCH BASIN 1 (CB1)
(600x600)

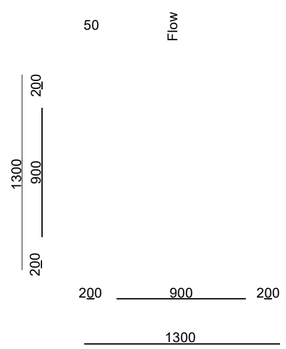


Plan Scale 1:40

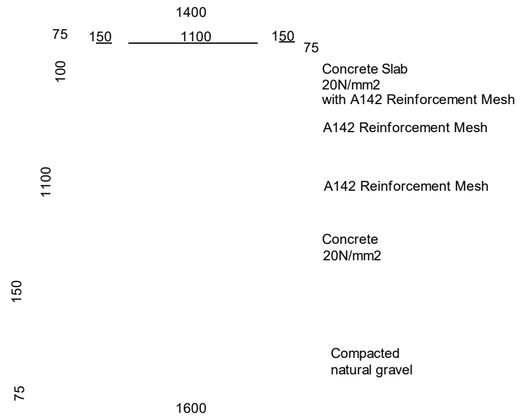


Section Scale 1:40

CATCH BASIN 2 (CB2)
(900x900)

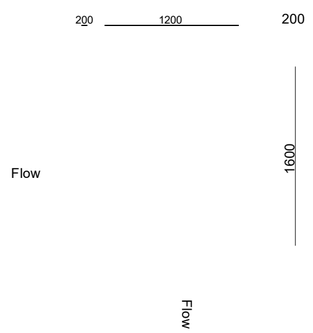


Plan Scale 1:40



Section Scale 1:40

CATCH BASIN 1 (CB1)
(600x600)



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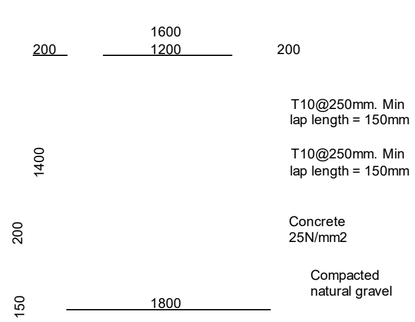


Section Scale 1:40

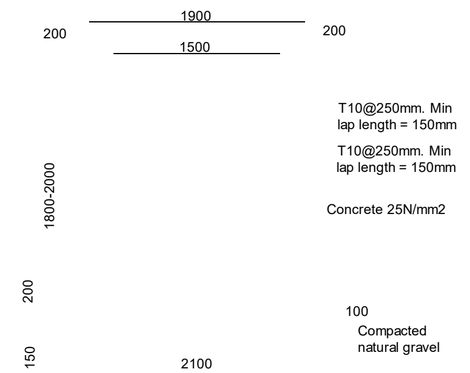
Notes:

1. All dimensions are in millimetres unless otherwise stated.
2. No dimensions should be scaled from the drawings.

CATCH BASIN 2 (CB2)
(900x900)



Plan Scale 1:40



Section Scale 1:40

DETAILED DESIGN

SIGNED:_____

REV	DESCRIPTION	DATE	BY	CHK	APP
P0	Preliminary Issue	AUG 2026	CM	MO	MO

REVISION SCHEDULE

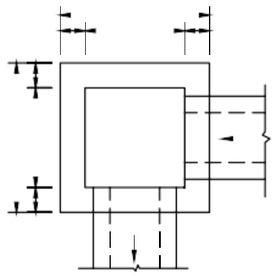
TURKANA COUNTY GOVERNMENT

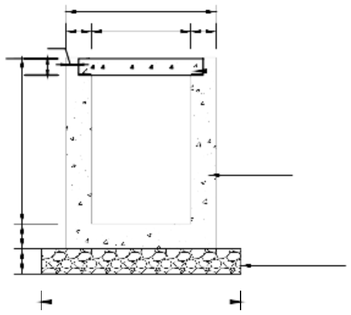
CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND DETAILED DESIGN FOR SELECTED STREETS FOR UPGRADING TO BITUMEN STANDARDS IN KAKUMA MUNICIPALITY

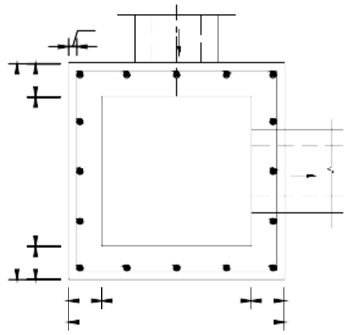
STANDARD DRAWING

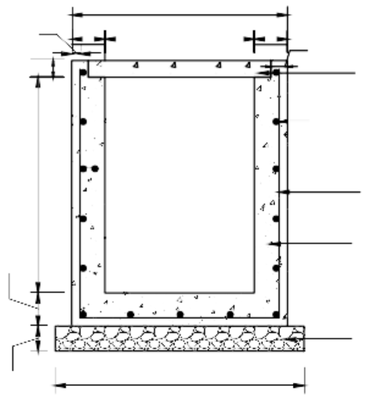
Catch Basins

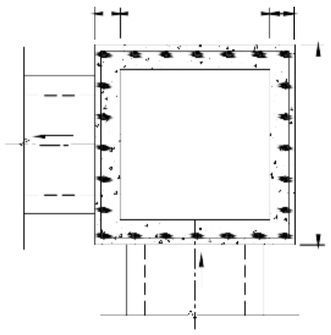
Designed by MO Drawn by EM

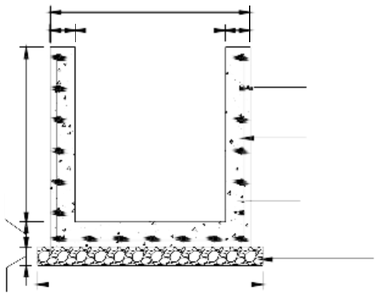


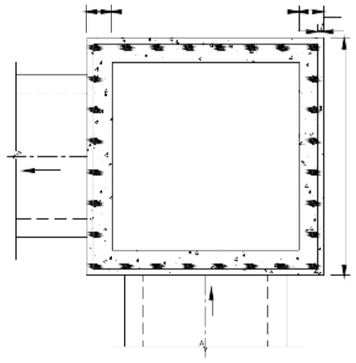


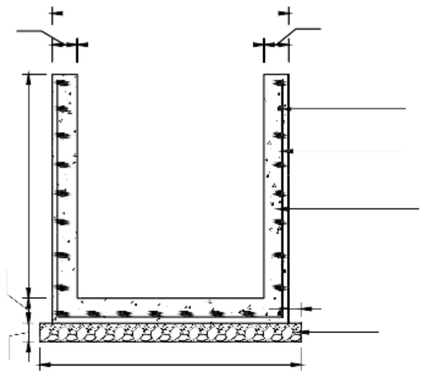












NOTES

ckedby Scale	MO	Approvedby Date	MO
	AS SHOWN		OCT 2026
Job No.	BE0056	RVT File:	REV
P			
STATUS	DRG No.	C-G-STD-003	P0

Client

Project

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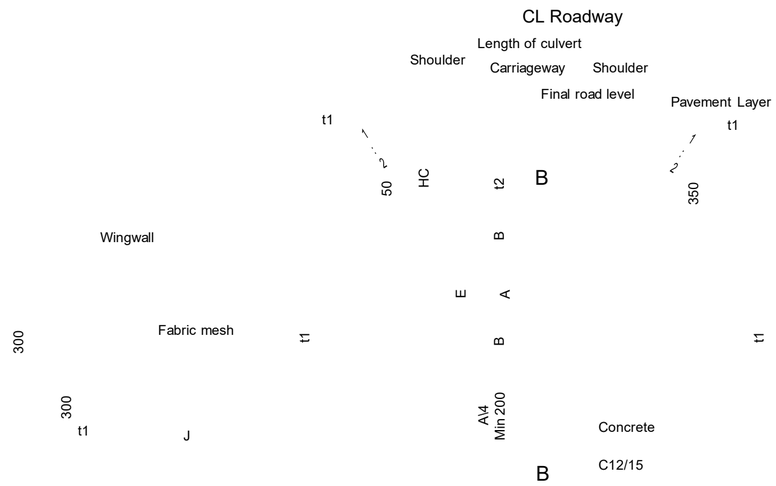
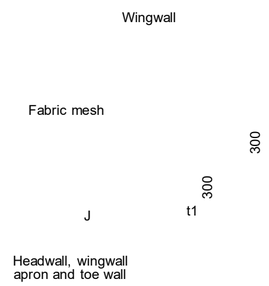
info@bnlgroup.net, www.bnlgroup.net

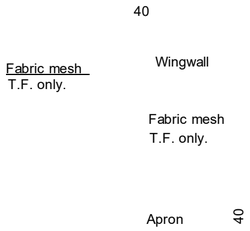
Drawing Title



Section A-A



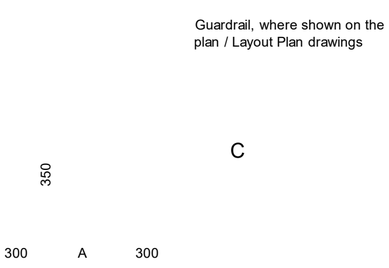
Headwall, wingwall apron and toe wall concrete C20/25.

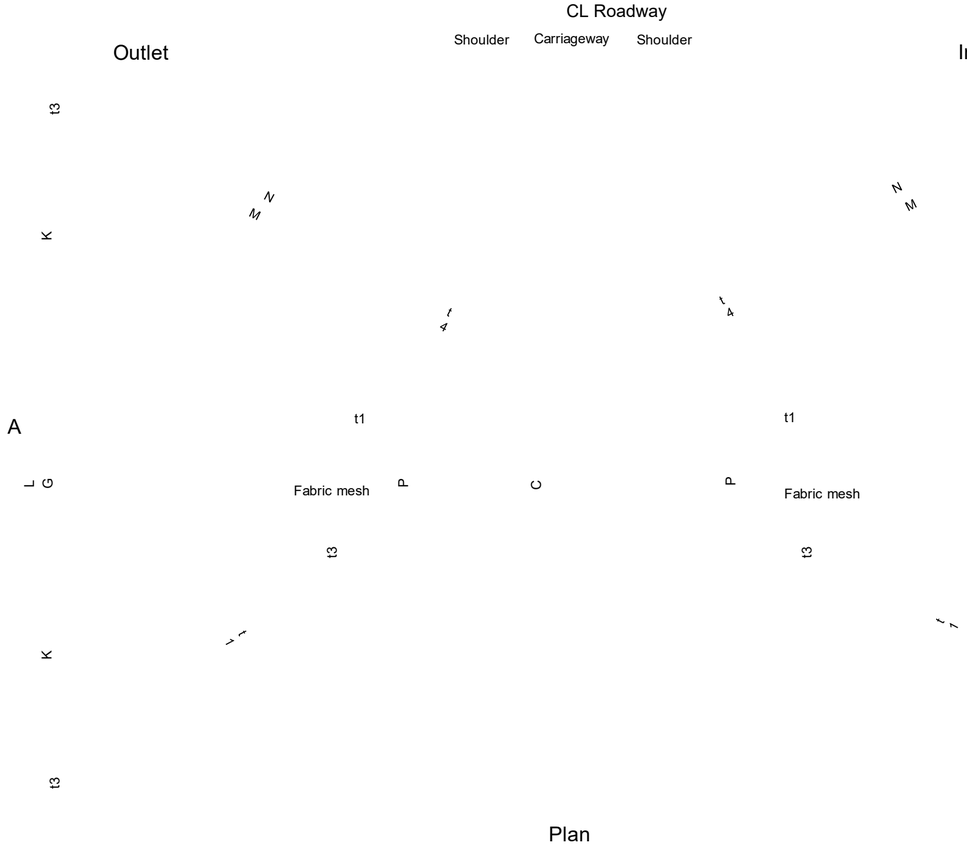


Section C-C

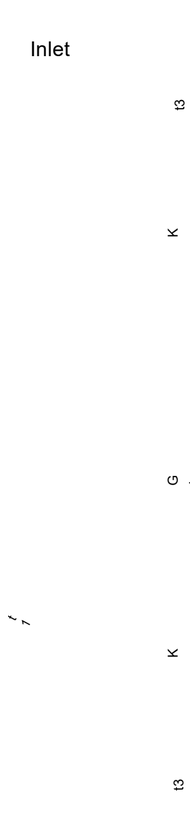
NOTES:-

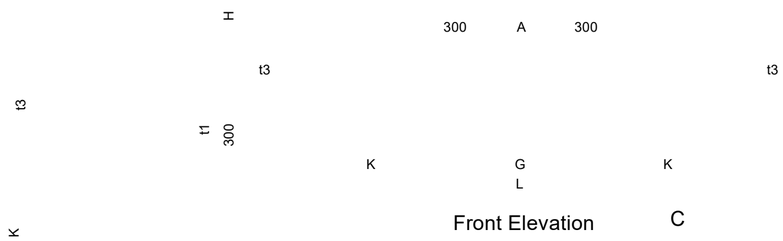
1. All dimensions are in millimeters unless otherwise specified.
2. Level and slope of the pipe shall be as instructed by the Engineer on site.
3. Concrete for headwall, apron, toe wall to be C20/25.
4. Concrete for blinding and surround to be C12/15.
5. A252 Fabric mesh reinforcement to B.S. 4483 to be placed as shown.
6. Cover to Fabric mesh to be 40mm.
7. Concrete pipe shall be of strength class min 120.



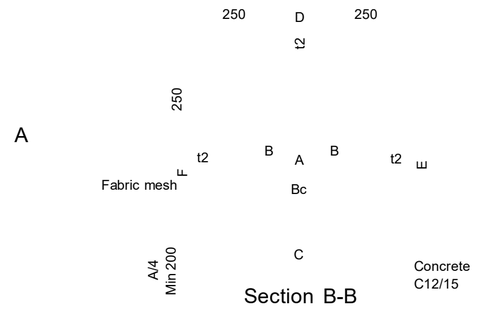


Plan





Front Elevation C



Section B-B

Table

	A	B	C	E	F	J	L
1x0.60mØ	0.05	1	000.50	1.05	0.60	1.20	1.00
1x0.90mØ	0.10	1	801.30	1.90	1.35	1.80	1.65

	1	2	3	4	5	6	7	8	9	10	11	12
1x0.60mØ	0.75	1.01	3.48	2.02	2.43	1.00	1.75	1.01	3.48	2.02	2.37	
1x0.90mØ	0.90	1.35	0.09	1.38	0.88	1.46	0.98	1.50	1.34	2.43	1.40	4.57

Quantity

Culvert Diameter (m)	Concrete C20/25 inlet and outlet	Concrete C12/15 surrounding & beam per running metre
1x0.60mØ	2.468m3	0.663m3
1x0.90mØ	4.096m3	1.132m3
1x1.20mØ	8.002m3	2.000m3

DETAILED DESIGN

SIGNED:_____

REV	DESCRIPTION	DATE	BY	CHK	APP
P0	Preliminary Issue	AUG 2026	CM	MO	MO

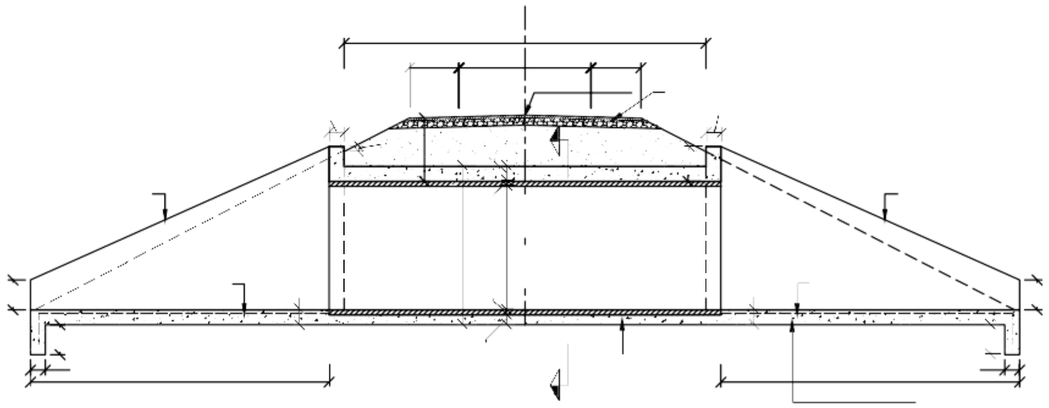
REVISION SCHEDULE

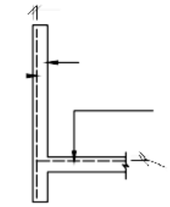
TURKANA COUNTY GOVERNMENT

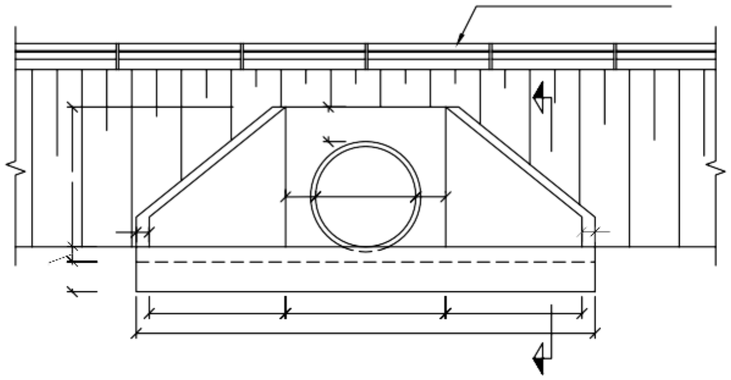
CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND DETAILED DESIGN FOR SELECTED STREETS FOR UPGRADING TO BITUMEN STANDARDS IN KAKUMA MUNICIPALITY

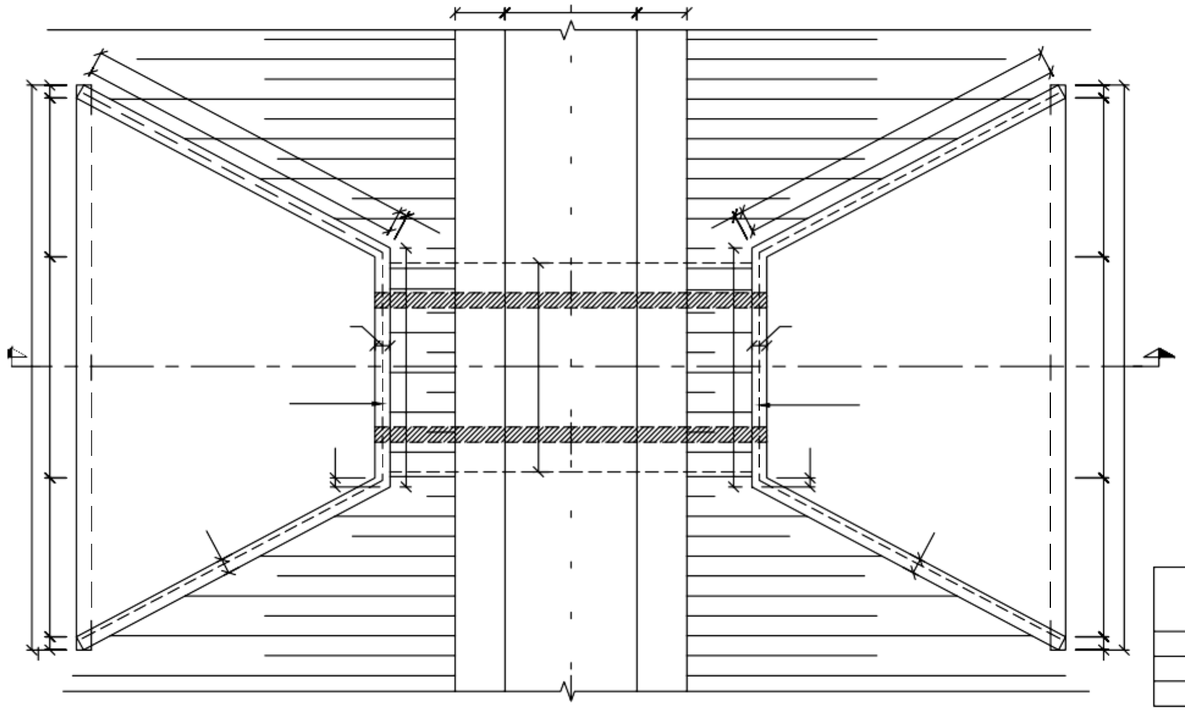
STANDARD DRAWING

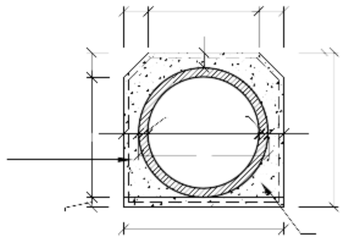
Standard Single Pipe Culvert with Concrete Surround











NOTES

Designed by	MO	Drawn by	EM
Checked by	MO	Approved by	MO
Scale	AS SHOWN	Date	OCT 2026
Job No.	BE0056	RVT File:	
P			REV
STATUS	DRG No.	C-G-STD-004	P0

Client

Project

Civil/Structural Engineers:

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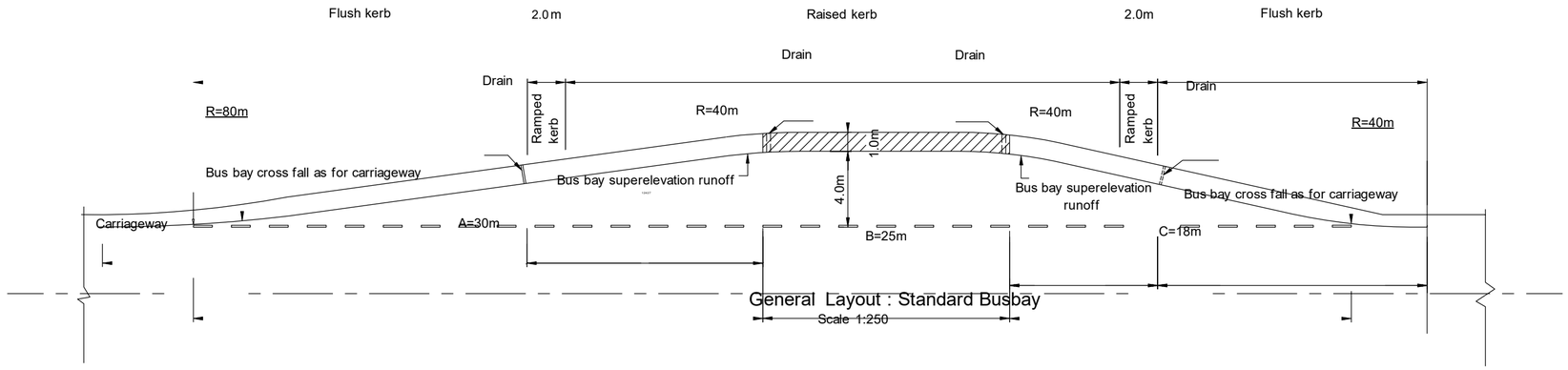
+254 (0)0888317/+254 /0847/9634
info@blgroup.net, www.blgroup.net

Drawing **Title**



General Layout : Standard Busbay

Scale 1:250

Notes:
1. All dimensions are in etres unless otherwise stated
2. "A" To be reduced to 25m in areas with a speed limit of 50km/h or less
3. "B" To be increased to 25m when more than one bus at a time is likely to use the bay
4. Minimum distance between bus bays serving opposite directions should be 60m measured from centre of bays
5. (1) Gutter "1" or gutter "II" to be chosen according to gradient
6. (2) Alternatively gullies and closed drain may be used in densely populated areas

NOTES

DETAILED DESIGN

SIGNED:_____

REV	DESCRIPTION	DATE	BY	CHK	APP
P0	Preliminary Issue	AUG 2026	CM	MO	MO

REVISION SCHEDULE

Client

TURKANA COUNTY GOVERNMENT

Project

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Civil/Structural Engineers.

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Opposite BAPS Shri Temple
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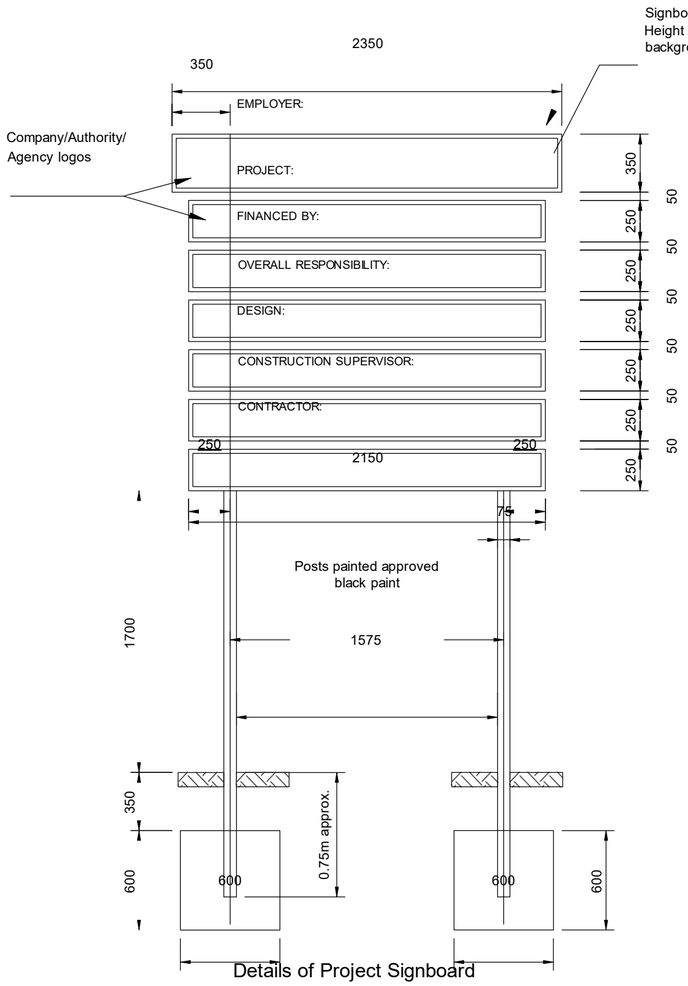
info@bnlgroup.net, www.bnlgroup.net

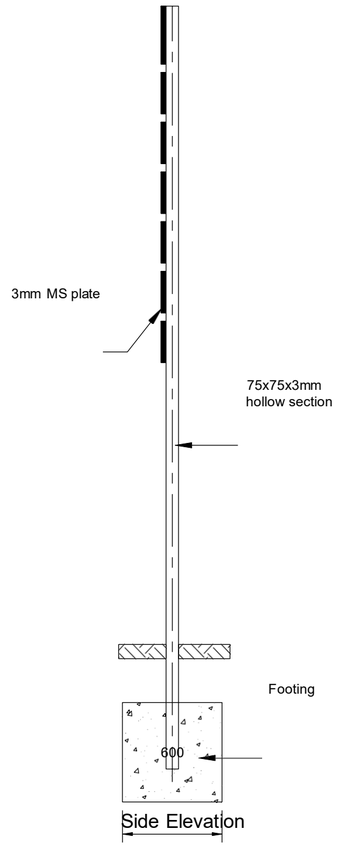
Drawing Title STANDARD DRAWING

Standard Bus Bay Layout

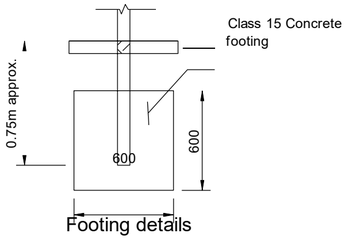
Designed by	MO	Drawn by	EM
Checked by	MO	Approved by	MO
Scale	AS SHOWN	Date	OCT 2026
Job No.	BE0056	RVT File:	
P STATUS	DRG No. C-G-STD-006		REV P0



Details of Project Signboard



Side Elevation



Footing details

NOTES:

1. All dimensions are im millimetres unless otherwise stated.
2. Th sign supports shall consist of 75mmx75mmx3mm MS hollow sections.
3. The MS plates shall be welded to the main supports with 3mm continuous fillet weld.
4. The surface of the plates and supports shall be wire brushed free from dirt and dry before panting.
5. Reflective vinyl sticker may be used instead of paint for the project details as approved by the Engineer
6. The rear edge of the sign shall be 1.8m (2.5m max) from edge of the carriageway.
7. The project board shall be embedded in Class 15 Concrete

NOTES

DETAILED DESIGN

SIGNED:_____

REV	DESCRIPTION	DATE	BY	CHK	APP
P0	Preliminary Issue	AUG 2026	CM	MO	MO

REVISION SCHEDULE

Client

TURKANA COUNTY GOVERNMENT

Project

CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND DETAILED DESIGN FOR SELECTED STREETS FOR UPGRADING TO BITUMEN STANDARDS IN KAKUMA MUNICIPALITY

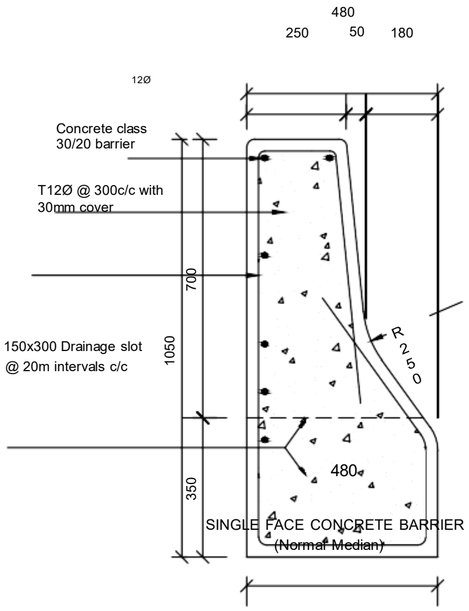
Civil/Structural Engineers.

B&L Engineering Services Limited
Professor Wangari Maathai Road
Opposite BAPS Shri Temple
P.O. BOX 79795-00200, NAIROBI
+254 110088811/+254 759479534
info@bnlgroup.net, www.bnlgroup.net

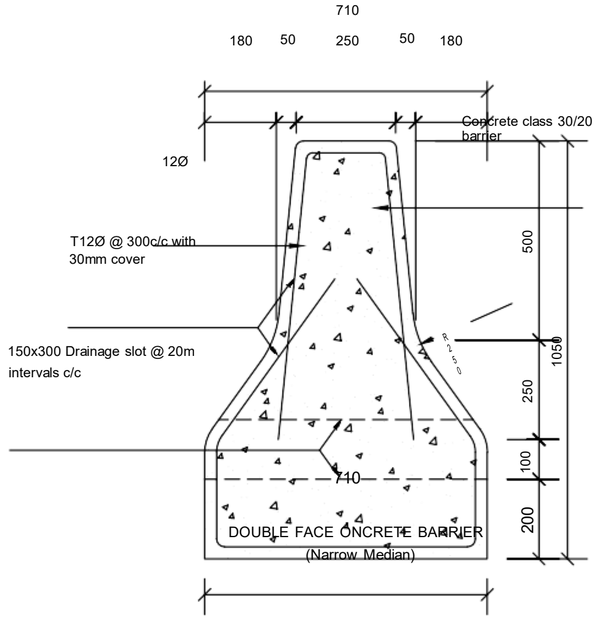
Drawing Title STANDARD DRAWING

Project Signboard

Designed by MO		Drawn by EM	
Checked by MO		Approved by MO	
Scale AS SHOWN		Date OCT 2026	
Job No.	BE0056	RVT File:	
P STATUS	DRG No. C-G-STD-007		REV P0



SINGLE FACE CONCRETE BARRIER
(Normal Median)



DOUBLE FACE CONCRETE BARRIER
(Narrow Median)

Notes:

1. All dimensions are in millimetres unless otherwise stated.
2. No dimensions should be scaled from the drawings.

NOTES

DETAILED DESIGN

SIGNED:_____

REV	DESCRIPTION	DATE	BY	CHK	APP
P0	Preliminary Issue	AUG 2026	CM	MO	MO

REVISION SCHEDULE

Client

TURKANA COUNTY GOVERNMENT

Project

CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND DETAILED DESIGN FOR SELECTED STREETS FOR UPGRADING TO BITUMEN STANDARDS IN KAKUMA MUNICIPALITY

Civil/Structural Engineers.

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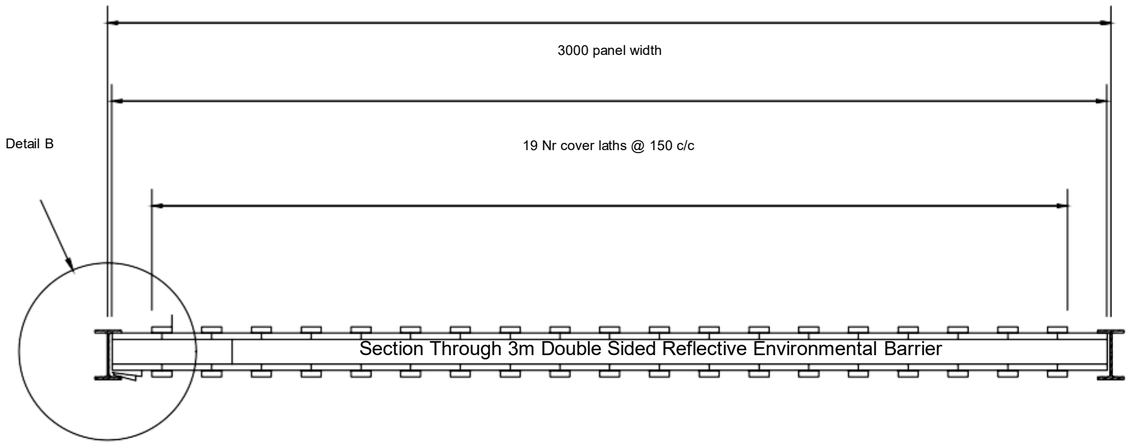
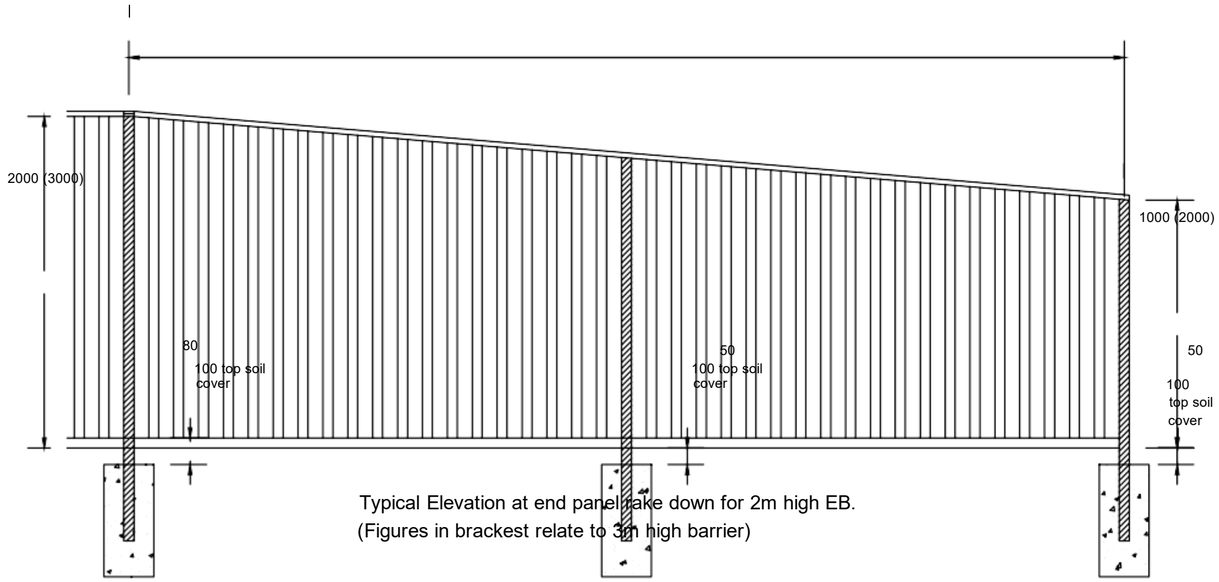
Drawing Title STANDARD DRAWING
Movable Concrete Barrier

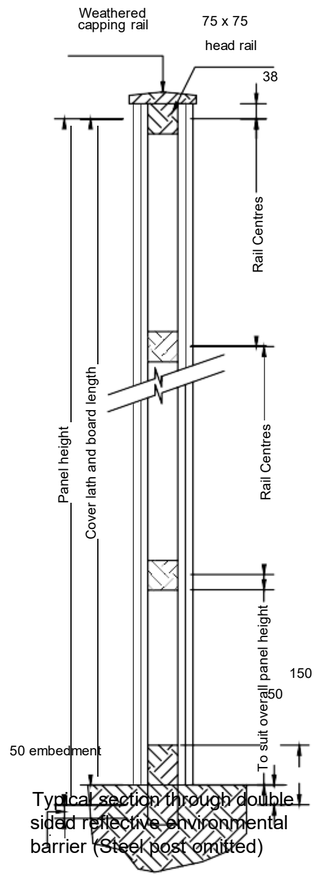
Designed by	MO	Drawn by	EM
Checked by	MO	Approved by	MO
Scale	AS SHOWN	Date	OCT 2026
Job No.	BE0056	RVT File:	
P STATUS	DRG No.	C-G-STD-008	REV P0



2 End bays to raise uniformly (500mm down in 3050 run i.e. 1:6)



Typical Elevation at end panel, rake down for 2m high EB.
(Figures in brackest relate to 3m high barrier)



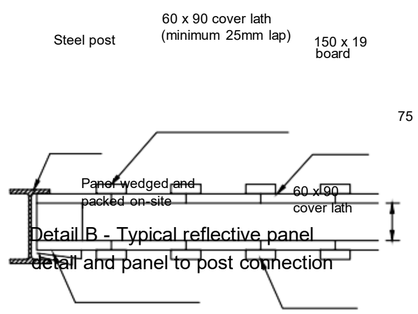
Typical section through double sided reflective environmental barrier (Steel post omitted)

2.00m high barrier		
	End	Next
Steel Section	127x76x13UB	
Foundation Ø, mm	550	550

2.95m high barrier		
	End	Next
Steel Section	178x102x19UB	158x89x16U
Foundation Ø, mm	650	550

Notes:

1. All dimensions are in millimetres unless otherwise stated.
2. No dimensions should be scaled from the drawings.



Detail B - Typical reflective panel detail and panel to post connection

NOTES

DETAILED DESIGN

SIGNED:_____

REV	DESCRIPTION	DATE	BY	CHK	APP
P0	Preliminary Issue	AUG 2026	CM	MO	MO

REVISION SCHEDULE

Client

TURKANA COUNTY GOVERNMENT

Project

CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND DETAILED DESIGN FOR SELECTED STREETS FOR UPGRADING TO BITUMEN STANDARDS IN KAKUMA MUNICIPALITY

Civil/Structural Engineers.

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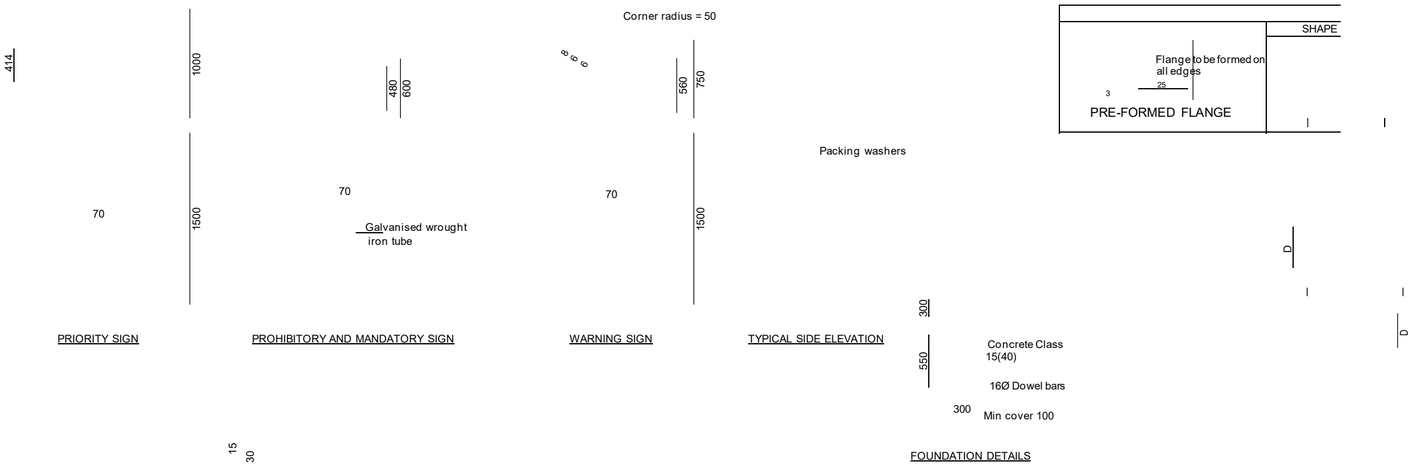
Drawing Title: STANDARD DRAWING
Environmental Barrier

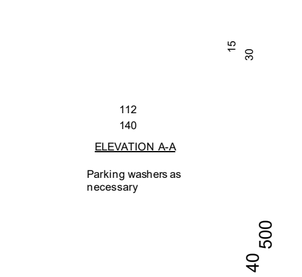
Designed by	MO	Drawn by	EM
Checked by	MO	Approved by	MO
Scale	AS SHOWN	Date	OCT 2026
Job No.	BE0056	RVT File:	
P STATUS	DRG No.	C-G-STD-009	REV P0



PRIORITY SIGN | PROHIBITORY AND MANDATORY SIGN | WARNING SIGN | TYPICAL SIDE ELEVATION

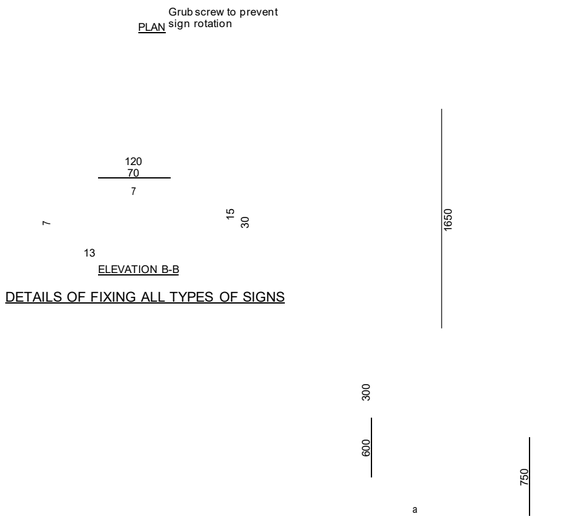
FOUNDATION DETAILS

(FOR PRIORITY, PROHIBITORY, INFORMATION, MANDATORY AND WARNING SIGNS)



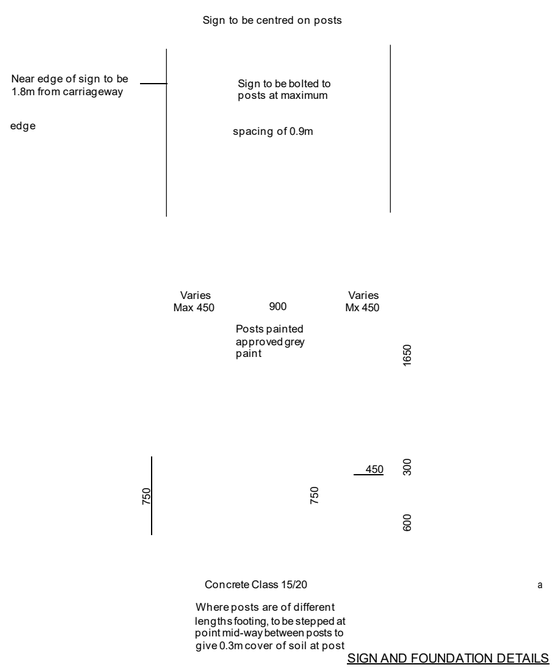
ELEVATION A-A

ERECTION DETAILS



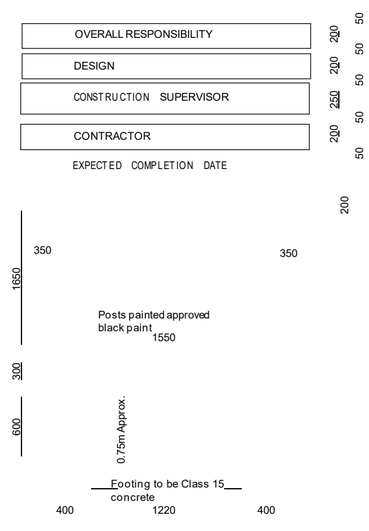
ELEVATION B-B

DETAILS OF FIXING ALL TYPES OF SIGNS



SIGN AND FOUNDATION DETAILS

Top of post to be capped to seal tube



Heights of letters 70mm, 50mm and 35mm

DETAILS FOR CONTRACT SIGNBOARD

DETAILED DESIGN

SIGNED:_____

REV	DESCRIPTION	DATE	BY	CHK	APP
P0	Preliminary Issue	AUG 2026	CM	MO	MO

REVISION SCHEDULE

TURKANA COUNTY GOVERNMENT

CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND DETAILED DESIGN FOR SELECTED STREETS FOR

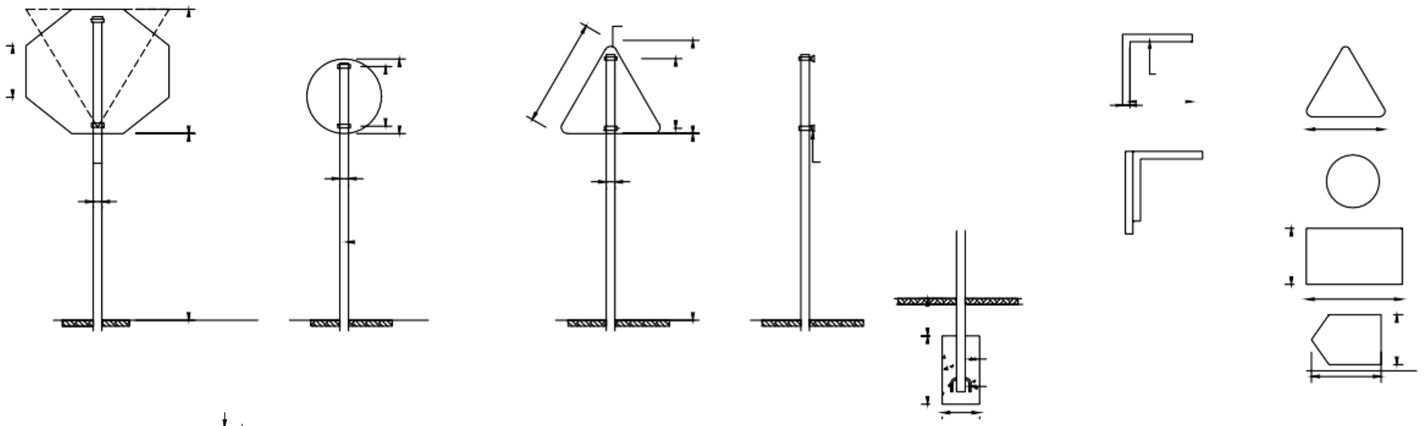
UPGRADING TO BITUMEN STANDARDS IN KAKUMA MUNICIPALITY

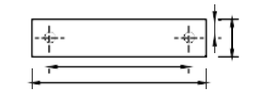
STANDARD DRAWING

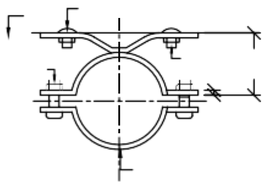
Road Sign Erection Details

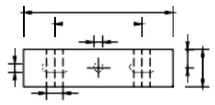
Designed by MO

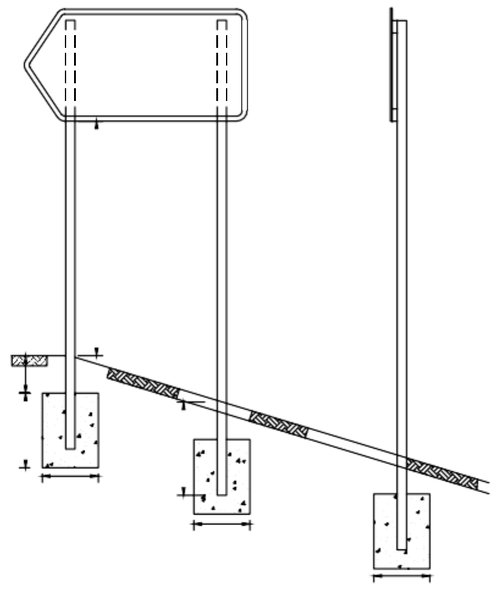
Drawn by EM

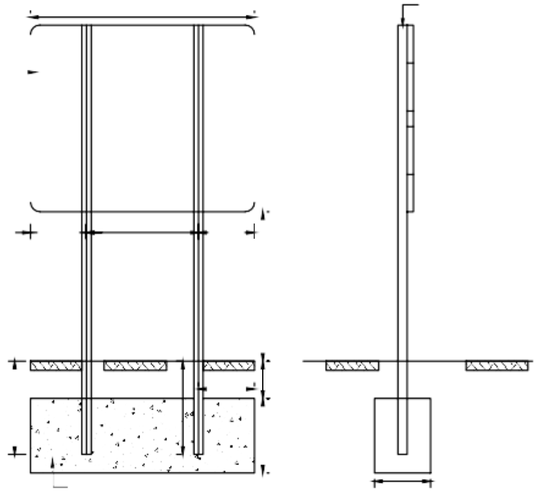


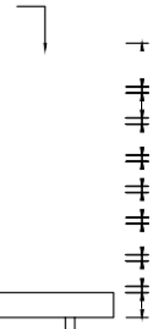


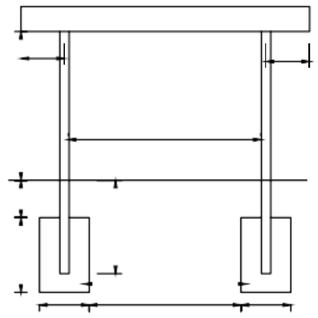












NOTES

Checkedby	MO	Approvedby	MO
Scale	AS SHOWN	Date	OCT 2026
Job No.	BE0056	RVT File:	
P			REV
STATUS	DRG No.	C-G-STD-010	P0

Client

Project

Civil/Structural Engineers

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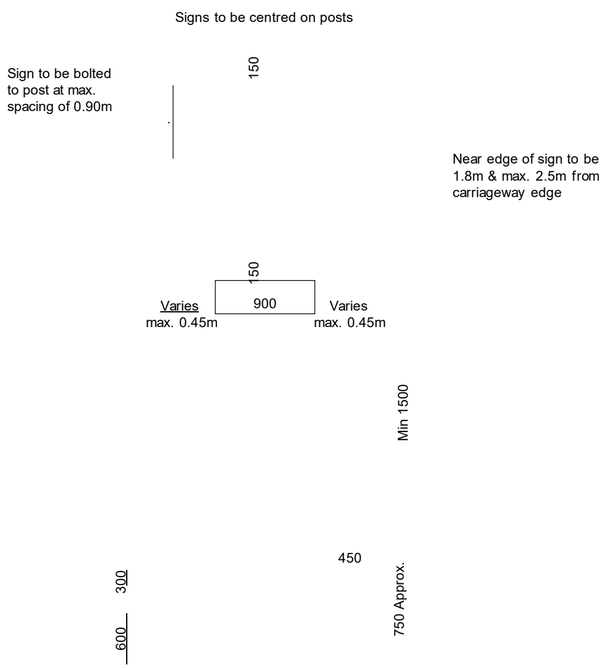
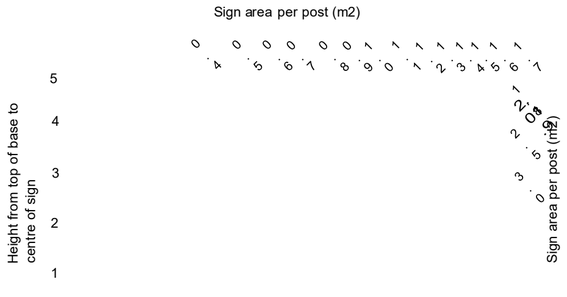
info@bnlgroup.net, www.bnlgroup.net

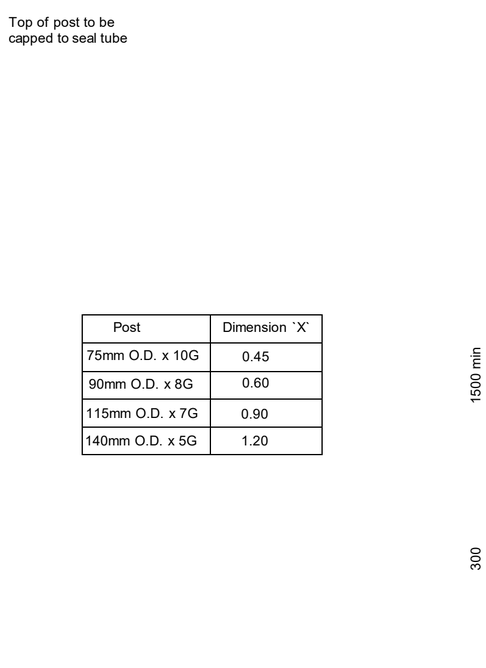
Drawing Title



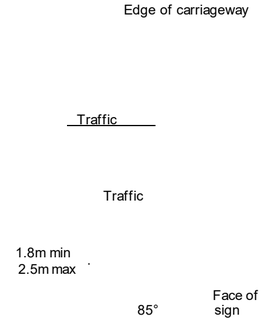
Standard Sign Post Details



Post	75mm	90m	115mm	140mm



Post	Dimension `X`
75mm O.D. x 10G	0.45
90mm O.D. x 8G	0.60
115mm O.D. x 7G	0.90
140mm O.D. x 5G	1.20



Plan

SIGN PLACEMENT

SCALE 1:50

NOTES:

1. All dimensions are in millimetres unless otherwise stated
2. Where posts are on different length, footing to be stepped at point midway between posts to give 0.3m cover of soil at post.
3. Footing to be class 15 concrete
4. For a single post the size in the concrete footing will be 0.9m x 0.6m x`X`m
5. For prohibitory, warning, mandatory and priority signs the size of the concrete footing will be 0.45m x 0.45m
6. Sign post shall be cylindrical, galvanized wrought iron tubes or similar approved by the engineer, of sizes in accordance with the design table below

DETAILED DESIGN

SIGNED:_____

REV	DESCRIPTION	DATE	BY	CHK	APP
P0	Preliminary Issue	AUG 2026	CM	MO	MO

REVISION SCHEDULE

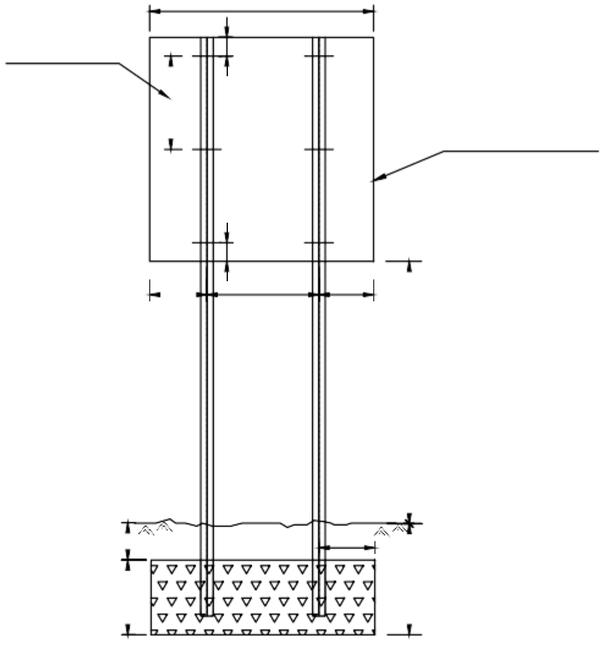
TURKANA COUNTY GOVERNMENT

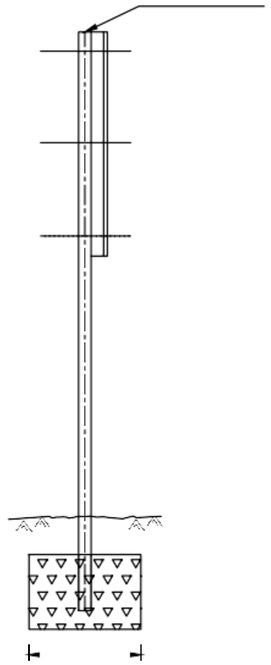
CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND DETAILED DESIGN FOR SELECTED STREETS FOR UPGRADING TO BITUMEN STANDARDS IN KAKUMA MUNICIPALITY

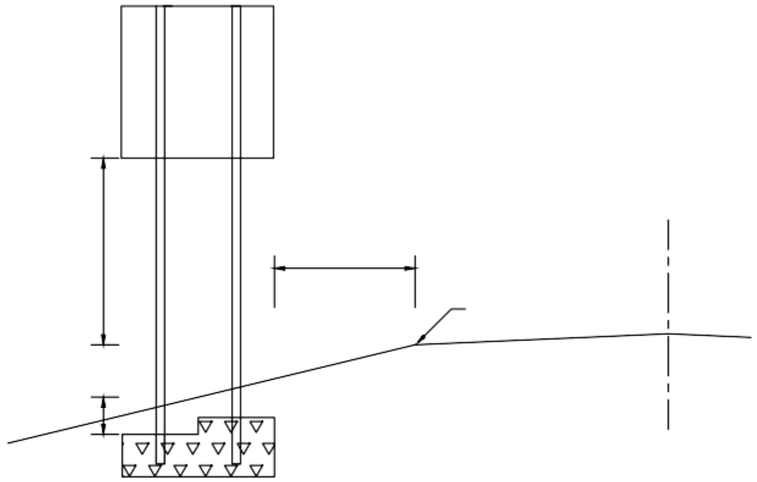
STANDARD DRAWING

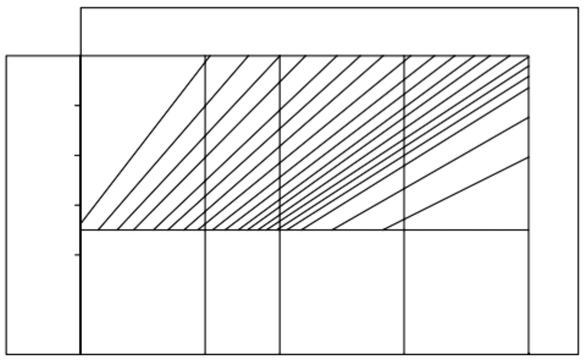
Road Sign Erection Details

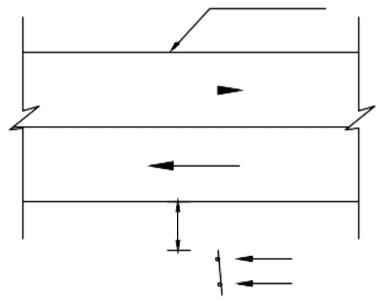
Designed by	MO	Drawn by	EM
Checked by	MO	Approved by	MO
Scale	AS SHOWN	Date	OCT 2026











NOTES

Job No. BE0056 RVT File:

P REV

STATUS DRG No. C-G-STD-011 P0

Client

Project

Civil/Structural Engineers.

B&L Engineering Services Limited
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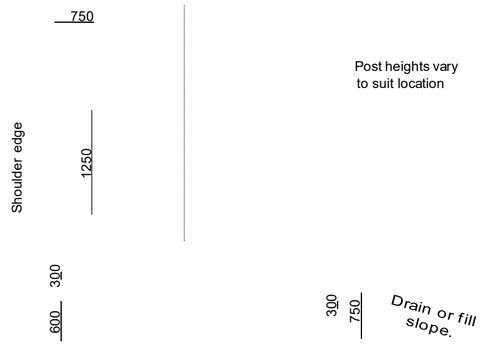
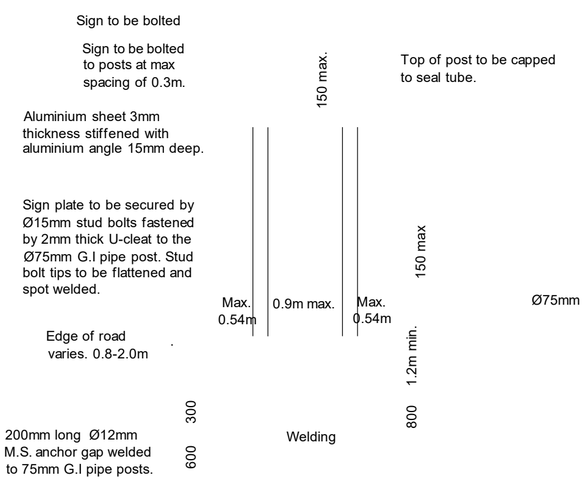
info@blgroup.net, www.blgroup.net

Drawing Title



Sign and Foundation

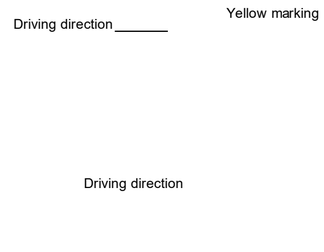


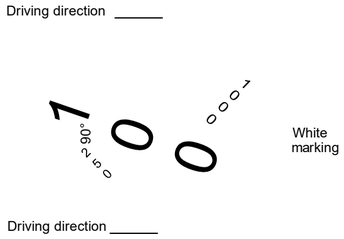
Standard Sign Details

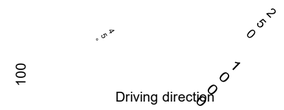
Scale 1:50

NOTES:

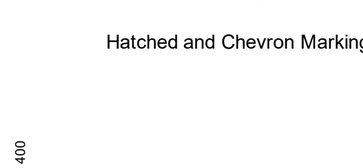
1. All dimensions are in millimetres unless otherwise specified
2. G.I pipe post diameter 75mm for all type of signs. number of posts varies according to the size of sign.
3. Where posts are of different length footings to be stepped at point midway between posts to give 0.3m cover of soil at posts.
4. Footings to be class 15/20 concrete.
5. For a single post the size of the foundation will be 0.9x0.5x0.45m.
6. For three posts the size of the foundation will be 2.7m x 0.6m x 0.45m.
7. The size of foundation for prohibitory, warning, mandatory and priority signs will be 0.45m x 0.45m x 0.45m.
8. Where possible the lower edge of the sign should be mounted between 0.9m and 1.5m above the highest point of the carriageway along the side.





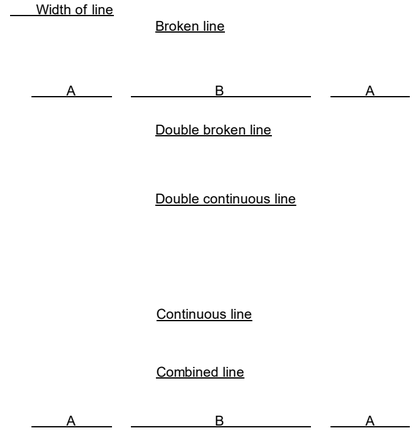


Hatched and Chevron Markings



Stop Line

Pedestrian Crossing



Longitudinal Marking

Scale 1:50

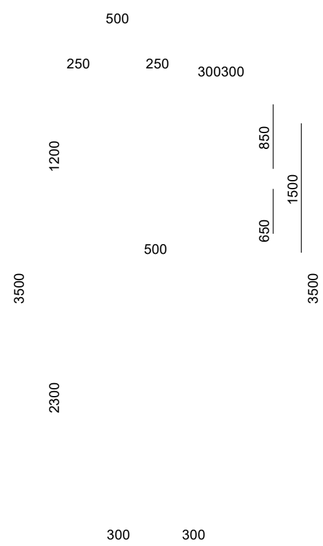
Yellow lines between opposing trafic flow - Dimensions in metres

Centre line	Type	"A"
Continuous line		

White Lines - Dimensions in metres

Centre line	Type	"A"
Broken line		2.0
Continuous line		
Edge marking	Type	"A"

Road Marking Details



Lane Indication Arrows

DETAILED DESIGN

SIGNED:_____

REV	DESCRIPTION	DATE	BY	CHK	APP
P0	Preliminary Issue	AUG 2026	CM	MO	MO

REVISION SCHEDULE

TURKANA COUNTY

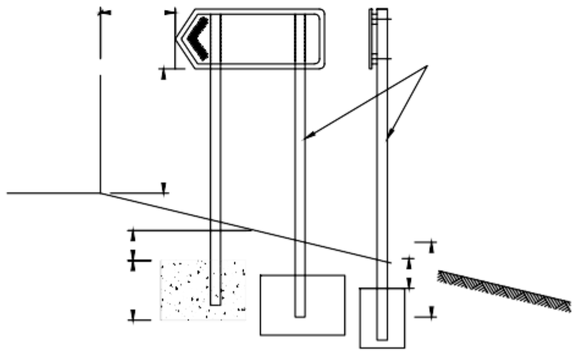
GOVERNMENT

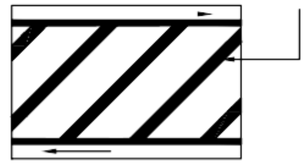
CONSULTANCY SERVICES FOR

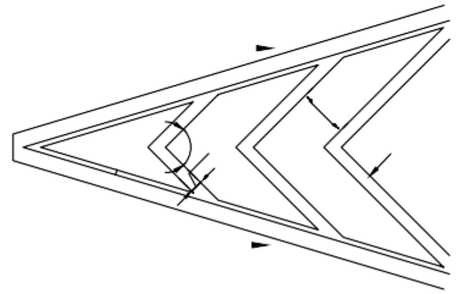
FEASIBILITY STUDY AND DETAILED DESIGN FOR SELECTED STREETS FOR UPGRADING TO BITUMEN STANDARDS IN KAKUMA MUNICIPALITY

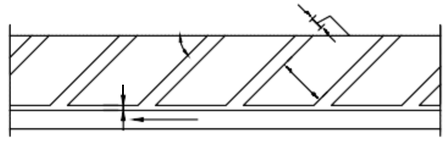
STANDARD DRAWING

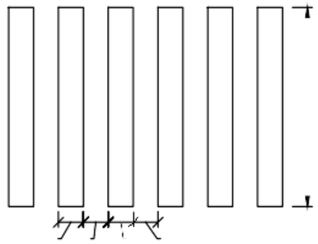
Standard Road Signs & Marking Details

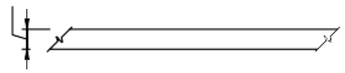


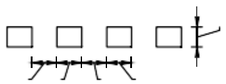


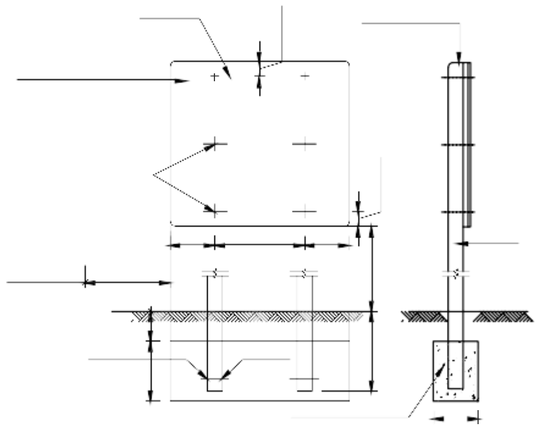


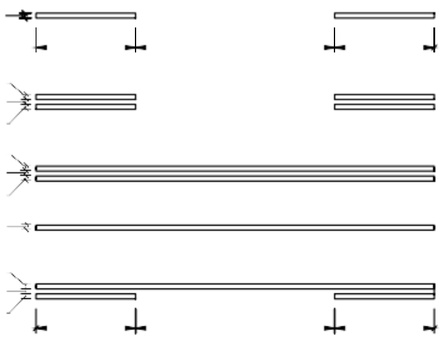


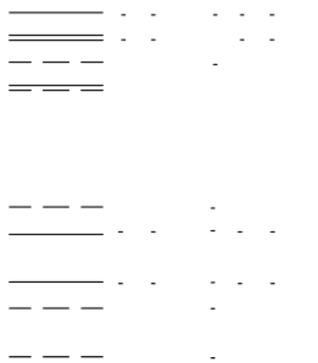


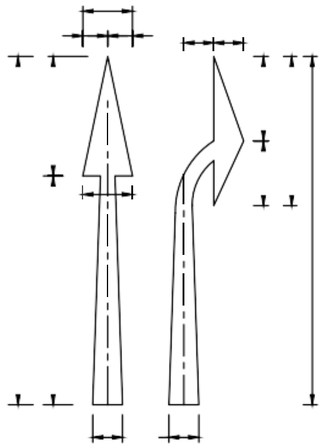












NOTES

Designed by	MO	Drawn by	EM
Checked by	Scale MO AS SHOWN	Approved by	Date MO OCT 2026

Job No. P BE0056 RVT File: REV

STATUS DRG No. C-G-STD-012 P0

Client

Project

Civil/Structural Engineers:

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Drawing Title

Warning Signs

W 1



W 2



W 3



Sharp bends ahead, the first one to the left

W 4



Sharp bends ahead, the first one to the right

W 5



Steep descent ahead

W 6



Steep ascent ahead

W 7



Road narrows ahead

W 8



Road narrows (from right) ahead

W 9



Road narrows (from left) ahead

W 10



Narrow bridge ahead

W 11



W 12



W 13



Cross roads with minor road ahead

W 14



Right hand side road ahead

W 15



Left hand side road ahead

W 16



Staggered cross roads

W 17



Merging traffic from left ahead

W 18



Merging traffic from right ahead

W 19



Uneven road

W 20



Speed hump

W 21



W 22



W 23



School children crossing

W 24



Pedestrian crossing

W 25



Section frequentrd by cyclists

W 26



Road works ahead

W 27



Cattle crossing

W 28



Wild animals crossing

W 29



Traffic signals

W 30



Low flying aircraft

W 31



W 32



W 33



Level crossing without barrier or gate ahead

W 34



Hazard ahead

W 35



Road junction ahead

W 36



Slippery surface ahead

W 37



Road surface of loose stones ahead

W 38



Falling or fallen rocks ahead

W 39



Soft verges

W 40



Unprotected canal, river or quarry ahead

W 42

Railway crossing, one track

W 43

Railway crossing, more than one track

W 44

Hazard demarcation

NOTES

DETAILED DESIGN

SIGNED:_____

REV	DESCRIPTION	DATE	BY	CHK	APP
P0	Preliminary Issue	AUG 2026	CM	MO	MO

REVISION SCHEDULE

Client

TURKANA COUNTY GOVERNMENT

Project

CONSULTANCY SERVICES FOR FEASIBILITY STUDY AND DETAILED DESIGN FOR SELECTED STREETS FOR UPGRADING TO BITUMEN STANDARDS IN KAKUMA MUNICIPALITY

Civil/Structural Engineers.

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Drawing Title

STANDARD DRAWING
Road Signs - Warning Signs

Designed by	MO	Drawn by	EM
Checked by	MO	Approved by	MO
Scale	AS SHOWN	Date	OCT 2026
Job No.	BE0056	RVT File:	
P STATUS	DRG No.	C-G-STD-013	REV P0

Regulatory Signs

R 1



Stop sign

R 2



Give Way sign

Mandatory Signs

M 1



No Entry

M 2



Road closed

M 3



No entry for pedestrians

M 4



No Right turn

M 5



No Left turn

M 6



No U-turn

M 7



No Overtaking

M 8



End of No overtaking section

M 9



Overtaking of goods vehicles prohibited

M 10



Speed limit

M 11



M 12



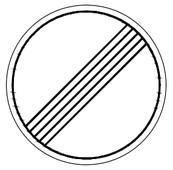
Parking or waiting prohibited

M 13



Parking prohibited

M 14



End of all prohibitions

M 15



No entry for vehicles exceeding height shown

M 16



No entry for vehicles exceeding length shown

M 17



Driving vehicles less than distance shown apart prohibited

M 18



No entry for vehicles exceeding weight on one axle

M 19



End of kilometre sign

Information Signs

I 1

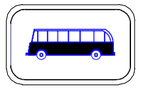


I 2



End of Climbing lane

I 3



Bus Stop

I 4



Hospital







I 8



Keep left



I 10



One way traffic

NOTE

DETAILED DESIGN

SIGNED:_____

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P0	Preliminary Issue	AUG 2026	CM	MO	MO

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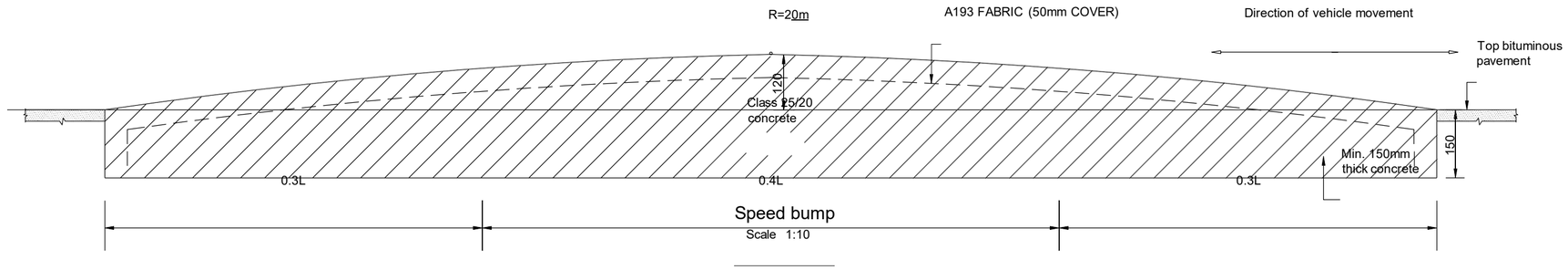
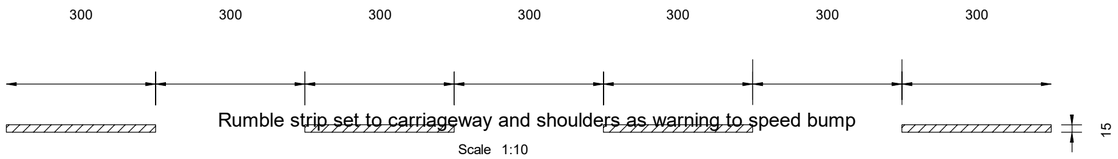
Drawing Title: STANDARD DRAWING
Road Signs - Regulatory, Mandatory & Informatory Signs

Designed by	MO	Drawn by	EM
Checked by	MO	Approved by	MO
Scale	AS SHOWN	Date	OCT 2026
Job No.	BE0056	RVT File:	
P STATUS	DRG No.	C-G-STD-014	REV P0



Speed bump

Scale 1:10

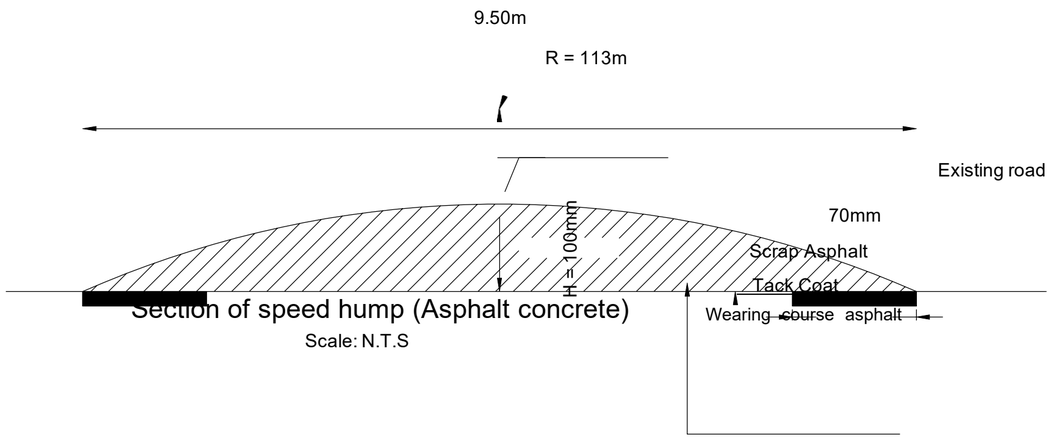


Rumble strip set to carriageway and shoulders as warning to speed bump

Scale 1:10

Note

When	Middle	Slope	Respective speed
L=	0.4xL	0.3xL	
5m	2.0m	1.5m	50kmp
4m	1.6m	1.2m	40kmp
3m	1.2m	0.9m	30kmp



Section of speed hump (Asphalt concrete)

Scale: N.T.S

NOTES

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P0	Preliminary Issue	AUG 2026	CM	MO	MO

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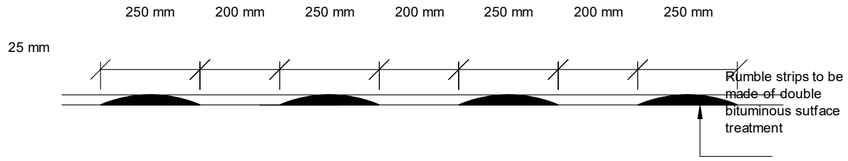
Drawing Title STANDARD DRAWING

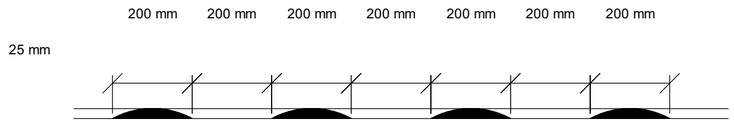
Standard Speed Hump

Designed by MO		Drawn by EM	
Checked by MO		Approved by MO	
Scale AS SHOWN		Date OCT 2026	
Job No.	BE0056	RVT File:	
P STATUS	DRG No. C-G-STD-015		REV P0

Rumble strips type 1

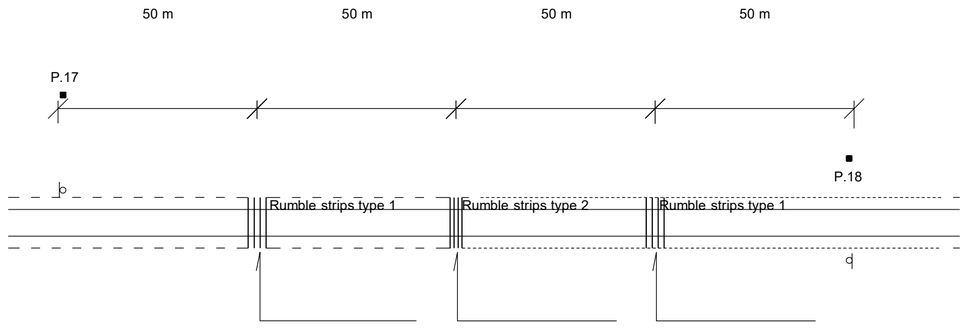


Rumble strips type 2



Rumble strip principles

Scale N.T.S.



NOTES

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REV	DESCRIPTION	DATE	BY	CHK	APP

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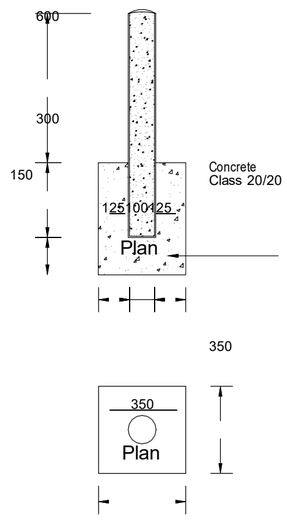
Drawing Title STANDARD DRAWING

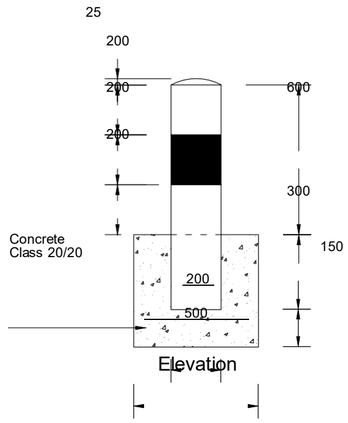
Rumble Strips

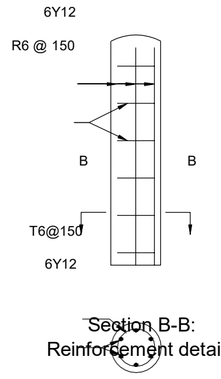
Designed by	MO	Drawn by	EM
Checked by	MO	Approved by	MO
Scale	AS SHOWN	Date	OCT 2026
Job No.	BE0056	RVT File:	
P STATUS	DRG No.	C-G-STD-016	REV P0

Type 1 - Concrete filled steel bollard



Type 2 - Precast concrete bollard





Section B-B:
Reinforcement details

Notes:
1. All dimensions are in millimetres unless otherwise stated.
2. No dimensions should be scaled from the drawings.

NOTES

DETAILED DESIGN

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Civil/Structural Engineers.

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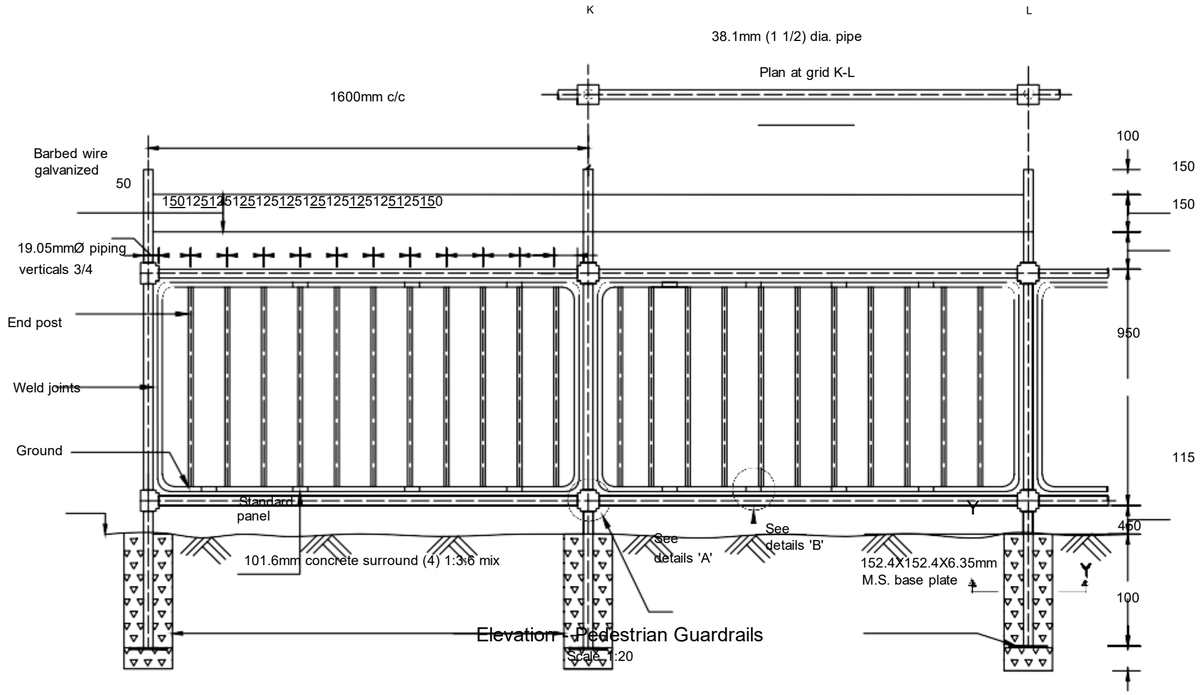
Drawing Title STANDARD DRAWING

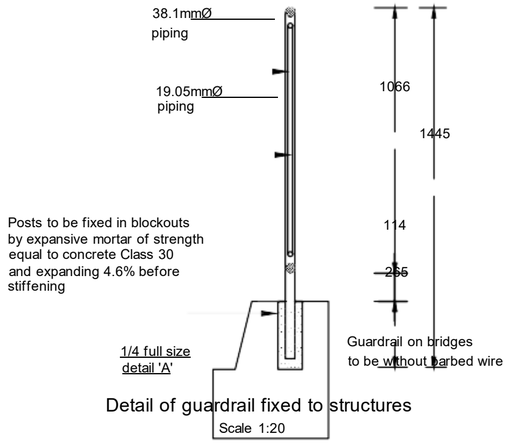
Concrete Bollard

Designed by	MO	Drawn by	EM
Checked by	MO	Approved by	MO
Scale	AS SHOWN	Date	OCT 2026
Job No.	BE0056	RVT File:	
P STATUS	DRG No.	C-G-STD-017	REV P0



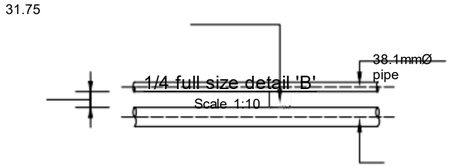
Elevation - Pedestrian Guardrails

Scale 1:20



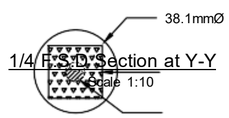
Detail of guardrail fixed to structures

Scale 1:20



1/4 full size detail 'B'

Scale 1:10



1/4 F.S.D. Section at Y-Y

Scale 1:10

notes

1. All materials and fabrication to latest edition of the appropriate b.s.s
2. Alternative couplings on vertical posts to accomodate changes in direction of between 120° to 175°
3. Railings to be supplied with one coat inhibitive primer and one oil bound undercoat erection damage to be made good and one full gross oil bound finish coat applied after erection.
4. All welds to be done conveniently to suit the adjoining parts.

NOTES

DETAILED DESIGN

SIGNED:

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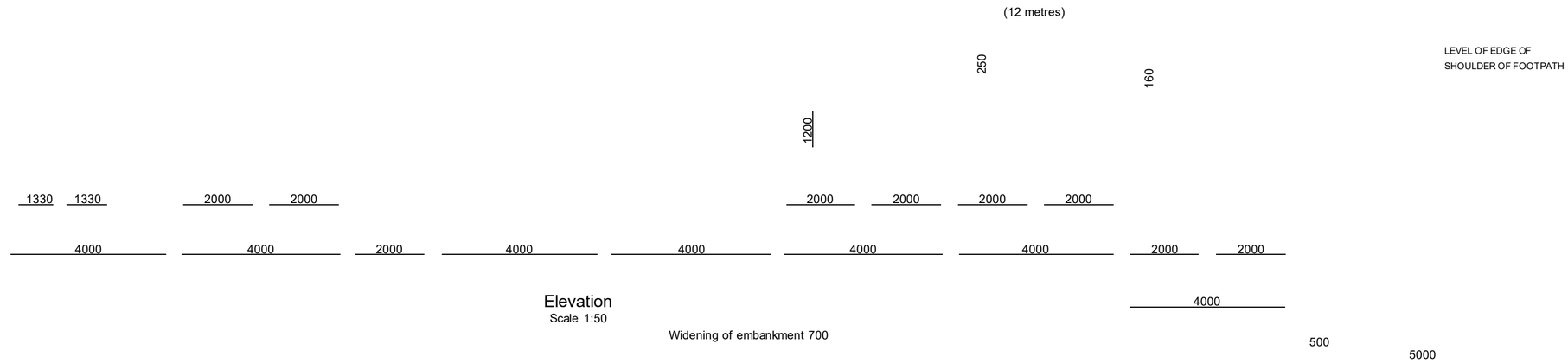
Drawing Title: STANDARD DRAWING
Pedestrian Guard Rail

Designed by	MO	Drawn by	EM
Checked by	MO	Approved by	MO
Scale	AS SHOWN	Date	OCT 2026
Job No.	BE0056	RVT File:	
P STATUS	DRG No.	C-G-STD-018	REV P0



Elevation
Scale 1:50

Bridges approaches
where guardrail is used on the bridge

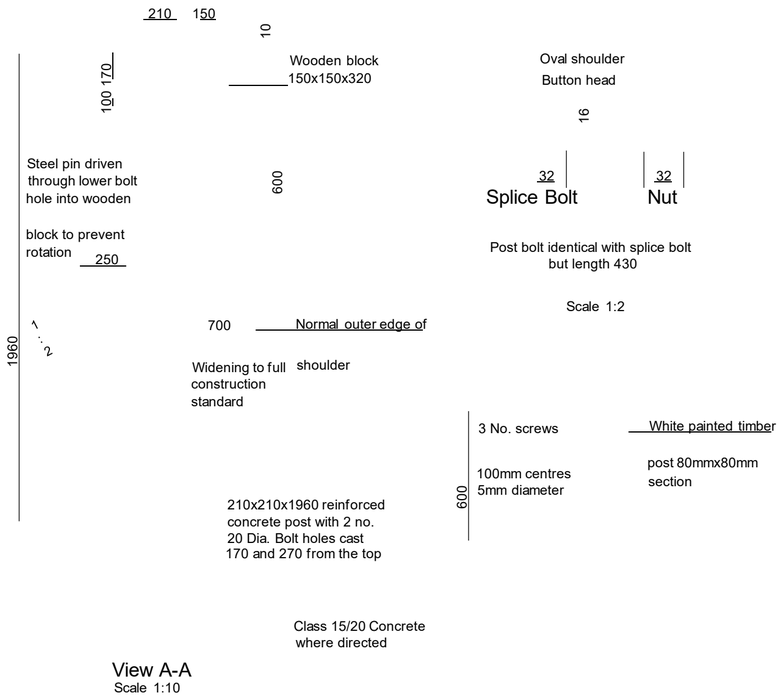
Normal arrangement

Arrangement at guardaril end

Normal edge of
shoulder or footpath

Plan
Guardrail Arrangement Scale 1:10

A



View A-A
Scale 1:10

Scale 1:2

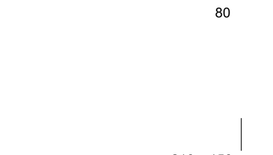
Rear Elevation
Scale 1:10

A

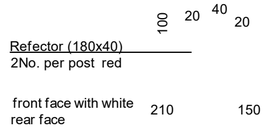
Plan Scale 1:10

Edge of widened shoulder
or footpath as appropriate

Direction of
traffic



Plan
Scale 1:10



Front Elevation
Scale 1:10

Flex-Beam Joints

Scale 1:10

NOTES:
1. All dimensions are in millimetres unless otherwise stated
2. Lap guardrail sections in direction of traffic flow.
3. All bolts shall be button-headed and galvanised.
4. the guardrail shall be galvanised.
5. Start and end of guardrail section to be identical.
6. Compaction around posts to be the same as surrounding earthworks.
7. Normal shoulder width to be increased as shown where guardrail is required.
8. All nuts to be spot welded to the bolt.
9. Standard units also to be used on the end sections.
10. All spacer blocks shall be seasoned cypress and treated with copper/ chrome/ arsenic composition in accordance with B.S. 4072 to class 8 (average dry salt retention of 6.4 kg/m3)
11. The post shall be dug into the fill by method approved by the engineer.
12. Guardrail to be located as indicated in the plan and profile drawings and/or as directed by the engineer.

DETAILED DESIGN
SIGNED:_____

REV	DESCRIPTION	DATE	BY	CHK	APP
P0	Preliminary Issue	AUG 2026	CM	MO	MO

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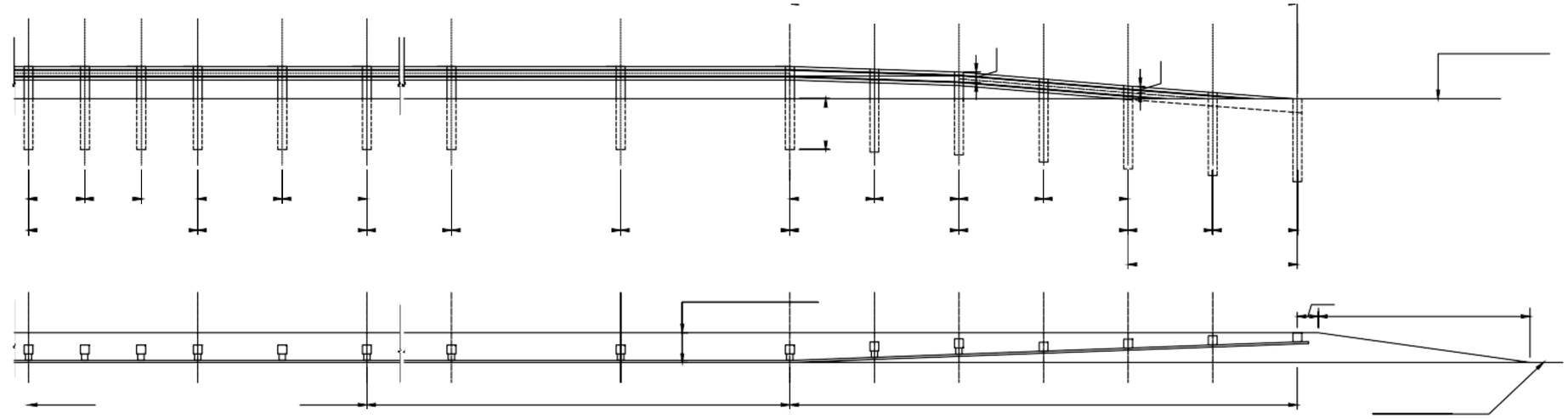
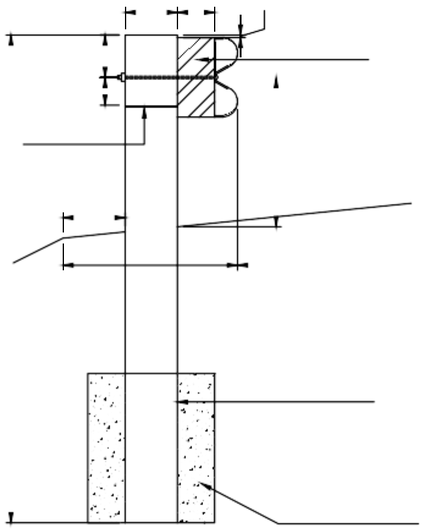
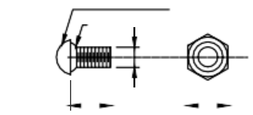
TURKANA COUNTY
GOVERNMENT

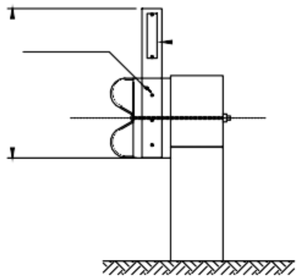
CONSULTANCY SERVICES FOR
FEASIBILITY STUDY AND DETAILED
DESIGN FOR SELECTED STREETS FOR
UPGRADING TO BITUMEN STANDARDS
IN KAKUMA MUNICIPALITY

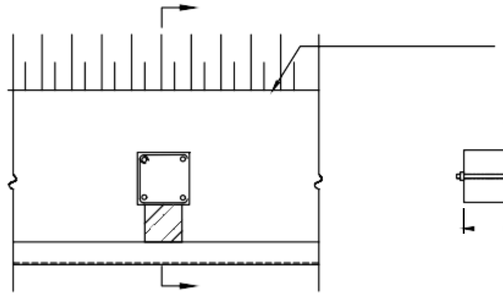
STANDARD DRAWING
Flexi Beam Guardrail

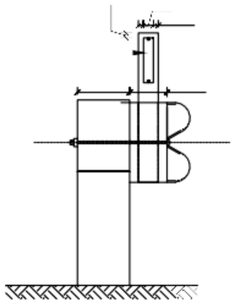


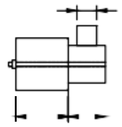


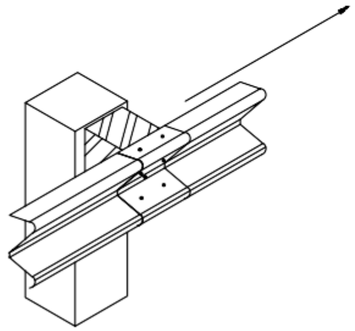












NOTES

Designed by	MO	Drawn by	EM
Checked by	Scale MO	Approved by	Date MO
	AS SHOWN		OCT 2026
Job No. P	BE0056	RVT File:	REV
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Client

Project

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Drawing Title