



COUNTY GOVERNMENT OF BUSIA

DEPARTMENT OF SMART AGRICULTURE, FISHERIES, BLUE
ECONOMY AND AGRIBUSINESS

NATIONAL AGRICULTURAL VALUE CHAIN DEVELOPMENT
PROJECT

Request for Quotation Irrigation Works VOL. I of 4

Procurement of:

REHABILITATION AND EXPANSION OF CHANGARA
IRRIGATION SCHEME LOCATED AT ANGURAI EAST WARD,
TESO NORTH SUB COUNTY, BUSIA COUNTY.

RFQ No : KE-Busia County-531857-CW-RFQ

Project : NATIONAL AGRICULTURAL VALUE CHAIN DEVELOPMENT PROJECT

Employer : COUNTY GOVERNMENT OF BUSIA

Credit No. : 70640

Project ID : P176758

Issued on : **22nd June, 2026**

TABLE OF CONTENTS

REQUEST FOR QUOTATIONS	vi
PART 1: INSTRUCTIONS TO TENDERERS	1
QUOTATION AND QUALIFICATION DOCUMENTS	3
i) SCHEDULE OF REQUIREMENTS TABLE.....	5
ii) FORM FOR DISCLOSURE OF INTEREST	6
(iii) Certification.....	7
iv) CERTIFICATE OF INDEPENDENT QUOTATION DETERMINATION....	8
v) SELF-DECLARATION FORM	9
vi) FOREIGN TENDERER 40% RULE	10
PART 2: SCHEDULE OF REQUIREMENTS.....	11
TECHNICAL SPECIFICATIONS FOR WORKS/SERVICES	12
TABLE B. SCHEDULE OF REQUIREMENTS TABLE	13
PART 3: CONTRACT	14
CONTRACT AGREEMENT	14
CONDITIONS OF CONTRACT	15

REQUEST FOR QUOTATIONS (RFQ)

DATE: 22nd June, 2026

To: _____

From:

National Agriculture Value Chain Development Project

County Project Coordination Unit

Busia County

P.O. Box 28-50400, Busia

navcdpbusia@gmail.com

REHABILITATION AND EXPANSION OF CHANGARA IRRIGATION SCHEME LOCATED AT ANG'URAI EAST WARD, TESO NORTH SUB COUNTY, BUSIA COUNTY

Request For Quotation No.- KE-Busia County-531857-CW-RFQ

1. The **County Government of Busia** through the Department of Smart Agriculture, Fisheries, Blue Economy and Agribusiness invites you to submit quotations for Rehabilitation of Changara Irrigation Scheme located at Angurai East Ward, Teso North Sub County, Busia County indicated in detail in "Table A. Schedule of Requirements and Specifications". The quotation shall follow the instructions and documents in this RFQ document and shall be in English Language. Tenderers may obtain further information during office hours, **8.00am to 5.00pm** at the address given below.

2. Quotations shall be submitted in accordance with the instruction in Part1: Quotation Procedures and in a sealed envelope clearly indicating name and address of tenderer, the quotation name and title must reach the Procuring Entity at the address indicated below not later than **July 16th 2026 at 10.00 am**. Quotations can be delivered by registered mail, courier or hand delivery at the tenderer's option. Late quotations shall be rejected.

3. Enquiries regarding this quotation may be addressed to:

County Project Coordinator

Att. County Project Procurement Officer

National Agricultural Value Chain Development Project,

Email: navcdpbusia@gmail.com

4. Any resulting contract shall be subject to the terms and conditions detailed in Part3: Contract.

5. Please inform by email or express mail the undersigned within **three (3) days** of receipt to this RFQ if you will not be submitting a quotation.

Address for Submission of Quotations.

Name of Procuring Entity: National Agricultural Value Chain Development Project, **County Government of Busia**

Mailing Address:

County Project Coordinator

Email: navcdpbusia@gmail.com

PART 1: INSTRUCTIONS TO TENDERERS

1. **Tenderers are advised to read carefully** these instructions and the Conditions of Contract in Part 3: Contract, before preparing the quotation. The standard forms in this RFQ may be photocopied for completion but the Tenderer is responsible for their accurate reproduction. The term Tenderer shall mean the firm or person invited to submit a quotation. The term Quotation herein shall mean the quotation submitted as usually understood in public procurement.
2. **Validity of Quotations:** The quotation will be held valid for **91 days** from the date of submission.
3. **The Quotation shall consist of** completed Tables A, B and C and the Form of Quotation all indicated in Part 2 of this Request for Quotations, and documents to evidence Eligibility and Conformity to Technical Specifications.
4. **Sealing and Marking of Quotations:** Quotations in “one original “should be sealed in a single envelope, clearly marked with the **Quotation Reference Number** in the RFQ, the Tenderer's name and the name of the Procuring Entity. Envelopes should be sealed in such a manner that opening and resealing cannot be achieved undetected.
5. **Submission of Quotations:** Quotations, and any alternatives if allowed as per Item 11 below, should be submitted to the address below, on or before the date and time indicated in sub-item 4 below. Late quotations will be rejected.

Address for Submission of Quotations.

- 1) Name of Procuring Entity – **National Agriculture Value Chain Development Project, County Government of Busia**

Mailing Address: Postal Address (include name of Officer to be attentional)
County Project Coordinator
Att. County Project Procurement Officer,
National Agriculture Value Chain Development Project
County Project Coordination Unit
Busia County
P.O. Box 28-50400, Busia
navcdpbusia@gmail.com

- 2) Physical address for hand or Courier Delivery to an office or Quotation Box (City, Street Name, Building, Floor Number and Room)
County Project Coordinator
Att. County Project Procurement Officer,
County Government of Busia
At Navcdp Offices situated at County Commissioner's Compound, next to ILRI LAB.
- 3) Date of Submission (deadline): **16th July, 2026**
- 4) Time of Submission (deadline): **10.00 am.**
6. **Opening of Quotations:** Quotations will be opened immediately after the closing date and time specified in item 5(3 &4) above, by at least three appointed officials of the Procuring Entity.

7. **Tenderer Eligibility:** Tenderer must submit Documentary evidence to show His/her eligibility to be awarded a contract to cover the following: (i) Invitation to submit quotation. The Tenderer shall also complete attached forms to confirm eligibility and non-existence of a conflict of interest in relation to this procurement requirement by signing the attached Forms.
8. **Invitation not transferable:** This invitation is not transferable to other firms or individuals not so invited.
9. **Works Eligibility:** Tenderer must submit as evidence documents to show the country of origin of any works to be done.
10. **Technical Specifications:** Documentary evidence to show that the works meet the technical specifications.
11. **Alternative Quotations:** Tenderers are **not permitted** to submit alternative quotations for works /alternative technical solutions for specified parts of the Works .Only the alternatives, if any, of the Tenderer with the winning quotation conforming to the basic technical requirements shall be considered by the Procuring Entity.
12. **Currency:** Quotations shall be priced in Kenya Shillings. Quotations in other currencies will be rejected if not allowed.

The Procuring Entity shall not allow quotations in foreign currency

13. **Evaluation of Quotations:** The evaluation of quotations will be conducted using the procedure set out below:
 - i) Preliminary Examination to determine Tender eligibility: **(a) Invitation to submit a quotation**
 - ii) **Technical Evaluation**

Technical examination to determine goods eligibility, compliance with technical specifications and commercial responsiveness. Quotations failing this stage will be rejected and not considered in next stage. **(The Tenderer will be required to sign and stamp PART A: Schedule of Requirement, Technical Specification Confirming Conformity to the Technical Specification as provided)**
 - iii) **Financial Evaluation.**

Financial comparison of quotations to determine the lowest evaluated quotation. In case foreign currency is allowed, for comparison purposes only, foreign currency quotations will be converted to Kenya shillings using the exchange rates published by the Central Bank of Kenya on the day of submission of quotations.
14. **Lowest Evaluated Quotation:** The lowest evaluated quotation shall be recommended for award of contract.
15. **Award of contract:** Award of contract shall be by placement of a **Letter of Acceptance or Local Purchase Order** in accordance with Part3: Contract. The currency of award and payment shall be currency in which the quotation was submitted. Unsuccessful tenderers who responded will be notified of the accepted quotation, indicating the name and the amount of the accepted quotation
16. **Right to Reject:** The Procuring Entity reserves the right to accept or reject any quotation or to cancel the quotation process and reject all quotations at any time prior to contract award.

QUOTATION AND QUALIFICATION DOCUMENTS

Instructions to Tenderer. Tenderer must complete and submit as part of the Form of quotation.

- (i) SCHEDULE OF REQUIREMENTS TABLE
- (ii) FORM FOR DISCLOSURE OF INTEREST
- (iii) CERTIFICATE OF INDEPENDENT QUOTATION DETERMINATION
- (iv) SELF-DECLARATION FORM
- (v) FOREIGN TENDERER 40% RULE (*where provided*)

FORM OF QUOTATION [To be completed by Tenderer]

Quotation Addressed to (Procuring Entity)	
Date of Quotation	
Quotation Reference Number:	
Subject of Quotation	

1. We have examined and have no reservations to the Request for Quotation document, and understand its full content and intent.
2. In compliance with your request for quotations dated _____, referenced above, we offer to
 _____ (specify one of supply goods, complete the works or provide the services) to cover and conform to our pricing listed in the attached in Table B. Quotation Submission TABLE at a total price of Kenya Shillings _____ (in _____ words)

OR in Foreign Currency (if allowed), Currency _____ amount _____ (in _____ words)

3. We confirm that we are eligible to participate in public procurement and meet the eligibility criteria specified in Part 1: INSTRUCTIONS TO TENDERERS.
4. We also confirm that the _____ (goods to be supplied/works to be constructed/services to be provided (select one) conform to the **SCHEDULE OF REQUIREMENTS TABLE** below and in conformity with technical specifications listed in PART 2: SCHEDULE OF REQUIREMENTS of this RFQ Document.
5. We undertake to adhere by the Code of Ethical Conduct for Suppliers, Contractors and Service Providers, copy available from _____ (specify website) during the procurement process and the execution of any resulting contract.
6. We confirm that the prices quoted are fixed and firm for the duration of the validity period and performance of the contract and will not be subject to revision or variation.
7. The validity period of our quotation is: _____ days from the time and date of the submission deadline (number to be same as in the instructions to Tenderers).
8. We confirm we are not submitting any other Quotation as an individual or firm, and we are not participating in any other Quotation as a Joint Venture member or as a sub-contractor. We, along with any of our subcontractors, suppliers, Engineer, manufacturers, or service providers for any part of the contract, are not subject to, and not controlled by any entity or individual that is subject to a temporary suspension or a debarment imposed by the Public Procurement Regulatory Authority or any other entity of the Government of Kenya, or any international organization.

9. 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.

10. We hereby certify and confirm that the Quotation is genuine, non-collusive and made with the intention of accepting the contract if awarded. To this effect we have signed the "Certificate of Independent Quotation Determination" attached below.

11. We, the Tenderer, have completed fully and signed the **FORM FOR DISCLOSURE OF INTEREST**- interest of the firm in the Procuring Entity, attached below.

The Delivery/Completion period offered is: _____ days from date of acceptance of Quotation. The warranty period offered is _____ weeks.

Quotation Authorized by:

Name and designation: _____

Signature: _____

i) SCHEDULE OF REQUIREMENTS TABLE

(Procuring Entity will complete the list of items to be same as those on Part 2 Table A. Schedule of Requirements and Technical Specifications and tenderer should complete columns D and E).

A Item	B Description of Goods/works/services (Procuring Entity to select one)	C Quantity	D Unit price	E Total Price in Ksh
1	REHABILITATION OF MAIN LINES, INTRODUCTION OF SUBMAINS AND ADDITIONAL HYDRANTS, REPAIR OF AUXILLARY STRUCTURES & ESTABLISHMENT OF DEMO-PLOTS TO FACILITATE TECHNOLOGY TRANSFER AND OFFER TRAINING TO THE FARMERS	As per attached BOQ Vol.2 of 4		
TOTAL PRICE IN KeS.				

Signature: _____

And seal/Stamp

Name: _____

Position:

Authorized for and on behalf of *(specify name of tenderer)* _____

Date _____

ii) **FORM FOR DISCLOSURE OF INTEREST** - Interest of the Firm in the Procuring Entity.

- i) Are there any person/persons in (Name of Procuring Entity) who has/have an interest or relationship in this firm? Yes/No.....

If yes, provide details as follows.

	Names of Person	Designation in the Procuring Entity	Interest or Relationship with Tenderer
1			
2			
3			

ii) **Conflict of interest disclosure**

	Type of Conflict	Disclosure YES OR NO	If YES provide details of the relationship with Tenderer
1	Tenderer is directly or indirectly controls, is controlled by or is under common control with another tenderer.		
2	Tenderer receives or has received any direct or indirect subsidy from another tenderer.		
3	Tenderer has the same legal representative as another tenderer		
4	Quotation has a relationship with another tenderer, directly or through common third parties, that puts it in a position to influence the quotation of another tenderer, or influence the decisions of the Procuring Entity regarding this quotation process.		
5	Any of the Tenderer's affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the quotation.		
6	Tenderer would be providing goods, works, non-consulting services or consulting services during implementation of the contract specified in this Quotation Document.		
7	Tenderer has a close business or family relationship with a professional staff of the Procuring Entity who are directly or indirectly involved in the preparation of the Quotation document or specifications of the Contract, and/or the Quotation evaluation process of such contract.		
8	Tenderer has a close business or family relationship with a professional staff of		

	Type of Conflict	Disclosure YES OR NO	If YES provide details of the relationship with Tenderer
	the Procuring Entity who would be involved in the implementation or supervision of the Contract.		
9	Has the conflict stemming from such relationship stated in item 7 and 8 above been resolved in a manner acceptable to the Procuring Entity throughout the quotation process and execution of the Contract?		

iii) Certification

On behalf of the Tenderer, I certify that the information given above is complete, current and accurate as at the date of submission.

Full Name__

Title or Designation__

(Signature)

(Date)

iv) CERTIFICATE OF INDEPENDENT QUOTATION DETERMINATION

I, the undersigned, in submitting the accompanying Letter of quotation to the__

_____ [Name of Procuring Entity] for: _____
_____ [Name and number of quotation] in response to the request
for tenders made by: _____ [Name of Tenderer] do hereby make the
following statements that I certify to be true and complete in every respect:

I certify, on behalf of _____ [Name of Tenderer] that:

1. I have read and I understand the contents of this Certificate;
2. I understand that the Tenderer will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am the authorized representative of the Tenderer with authority to sign this Certificate, and to submit the quotation on behalf of the Tenderer;
4. For the purposes of this Certificate and the quotation, I understand that the word “competitor” shall include any individual or organization, other than the Tenderer, whether or not affiliated with the Tenderer, who:
 - a) has been requested to submit a quotation in response to this request for quotations;
 - b) could potentially submit a quotation in response to this request for quotations based on their qualifications, abilities or experience;
5. The Tenderer discloses that [check one of the following, as applicable]:
 - a) The Tenderer has arrived at the quotation independently from, and without consultation, communication, agreement or arrangement with, any competitor;
 - b) the Tenderer has entered into consultations, communications, agreements or arrangements with one or more competitors regarding this request for quotations, and the Tenderer discloses, in the attached document(s), complete details thereof, including the names of the competitors and the nature of, and reasons for, such consultations, communications, agreements or arrangements;
6. In particular, without limiting the generality of paragraphs (5)(a) or (5)(b) above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
 - a) prices;
 - b) methods, factors or formulas used to calculate prices;
 - c) the intention or decision to submit, or not to submit, a quotation; or
 - d) the submission of a quotation which does not meet the specifications of the request for quotations; except as specifically disclosed pursuant to paragraph (5) (b) above;
7. In addition, there has been no consultation, communication, agreement or arrangement with any competitor regarding the quality, quantity, specifications or delivery particulars of the works or services to which this request for tenders relates, except as specifically authorized by the procuring authority or as specifically disclosed pursuant to paragraph (5)(b) above;
8. the terms of the quotation have not been, and will not be, knowingly disclosed by

the Tenderer, directly or indirectly, to any competitor, prior to the date and time of the official quotation opening, or of the awarding of the Contract, whichever comes first, unless otherwise required by law or as specifically disclosed pursuant to paragraph (5)(b) above.

Name

Title

Date

[Name, title and signature of authorized agent of Tenderer and Date]

v) SELF-DECLARATION FORM

We, the Tenderer _____ (*insert name*) submitting our Quotation in respect of Quotation No _____ for _____ (*insert quotation Title Description*) for _____ (*insert Name of Procuring Entity*)

DECLARE AS FOLLOWS:

That, We the Tenderer including any entity or individual that directly or indirectly controls, is controlled by or is under common control with us, and any subcontractors, suppliers, project managers, consultants, manufacturers, service providers, agents, individuals, or any other party involved or to be involved for any part of the processes of procurement and contract execution related to the above quotation:

- a) have not engaged/will not engage in any corrupt or fraudulent practices in the processes of procurement and contract execution related to the above quotation as defined and/or described in the following:
 - i) the RFQ for the above Quotation;
 - ii) Kenya's Public Procurement and Asset Disposal Act, 2015) and its attendant Regulations;
 - iii) Kenya's Anti-Corruption and Economic Crimes Act, 2013; and
 - iv) any such other Acts or Regulations of Government of Kenya;
- b) have not offered/will not offer any inducement to any member of the board, management, staff and/or employees and/or agents of (*name of the procuring entity*);
- c) have not engaged/will not engage in any collusive or corrosive practice with other tenderers participating in the subject quotation;
- d) have not been sanctioned or debarred by any entity from participation in public procurement proceedings of Kenya.

That, what is deponed to herein above is true to the best of our knowledge, information and belief.

Name of the Tenderer: [*Insert complete name of tenderer signing the quotation*]

Name of the person duly authorized to sign the quotation on behalf of the Tenderer: [*Insert complete name of person duly authorized to sign the quotation*]

Title of the person signing the Quotation: [*Insert complete title of the person signing the quotation*]

Signature of the person named above: [*Insert signature of person whose name and capacity are shown above*]

vi) FOREIGN TENDERER 40% RULE- N/A

(not to be included in the RFQ for supply of goods, supply and installation of plant and equipment, insurance, purchase of property, and other RFQ where this rule may not be practical).

Pursuant to the provisions in the Public Procurement and Disposal Act, 2015, a Foreign Tenderer must complete this form to demonstrate that the quotation fulfils this condition

ITEM	Description of Work Item	Describe location of Source	COST in K. shillings	Comments, if any
A	Local Labor			
1				
2				
3				
4				
5				
B	Sub contracts from Local sources			
1				
2				
3				
4				
5				
C	Local materials			
1				
2				
3				
4				
5				
D	Use of Local Plant and Equipment			
1				
2				
3				
4				
5				
E	Add any other items			
1				
2				
3				
4				
5				
6				
	TOTAL COST LOCAL CONTENT		XXXXX	
	PERCENTAGE OF CONTRACT PRICE			

PART 2: SCHEDULE OF REQUIREMENTS

TABLE A. SCHEDULE OF REQUIREMENTS, TECHNICAL SPECIFICATIONS

Table A. SCHEDULE OF REQUIREMENTS AND TECHNICAL SPECIFICATIONS

[Procuring Entity to complete Columns a-e, and Tenderer to complete Column f Indicating YES or No and if NO indicate the specification of the offered item]

Item No	Description of works (For works attach drawings)	Quantity	Technical Specifications Procuring Entity	Expected completion period	Conformity with specifications with technical specifications (To be completed by the tenderer)
1	B	C	D	E	F
2	REHABILITATION OF MAIN LINES, INTRODUCTION OF SUBMAINS AND ADDITIONAL HYDRANTS, REPAIR OF AUXILLARY STRUCTURES & ESTABLISHMENT OF DEMO-PLOTS TO FACILITATE TECHNOLOGY TRANSFER AND OFFER TRAINING TO THE FARMERS	AS PER attached Vol.2 of 4	Detailed specifications are provided in Vol. 3 of 4	3 months	

ATTACHMENTS

Vol 2 of 4: DETAILED BILL OF QUANTITIES

Vol 3 of 4: DETAILED TECHNICAL SPECIFICATIONS

Vol 4 of 4: BOOK OF DRAWINGS

NOTE: THE TENDERER TO CONFIRM BY SIGNING AND STAMPING HERE BELOW THAT THE REQUIREMENTS MEETS THE TECHNICAL SPECIFICATION AS PROVIDED.

Name:.....

Sign:.....

Date:.....

TECHNICAL SPECIFICATIONS FOR WORKS/SERVICES

- (a) A preliminary description of the proposed works/services and work method and schedule, including drawings and charts, as necessary, containing all required information by which the proposed works may be evaluated (e.g. technical characteristics, operational capacities, maintenance, environmental effect, etc.) together with manuals or instructions for use or any other relevant information and documentation, delivery/installation schedules, etc.;
- (b) A detailed statement of how the tenderer will carry out the works/services that will form an integral part of the Contract.

Detailed specifications are provided in attachment Vol. 3 of 4

- (c) DRAWINGS

Detailed drawings are provided in attachment Vol.4 of 4

TABLE B. SCHEDULE OF REQUIREMENTS TABLE

(Procuring Entity will complete the list of items to be same as those on Table A. Schedule of Requirements and Technical Specifications and tenderer should complete columns d-e)

Item	Description of Goods/works/services <i>(Procuring Entity to select one)</i>	Quantity	Unit price	Total Price
1	B	C	D	E
2	REHABILITATION OF MAIN LINES, INTRODUCTION OF SUBMAINS AND ADDITIONAL HYDRANTS, REPAIR OF AUXILLARY STRUCTURES & ESTABLISHMENT OF DEMO-PLOTS TO FACILITATE TECHNOLOGY TRANSFER AND OFFER TRAINING TO THE FARMERS	AS PER attached BOQ VOL.2 of 4		
		TOTAL PRICE		

Tender Sum in Words: _____

Signature:
And seal/Stamp
Name:

Position:

Authorised for and on behalf of *(specify name of tenderer)*

Date _____

PART 3: CONTRACT

CONTRACT AGREEMENT

(1) THIS CONTRACT AGREEMENT is made _____ (specify date).

Between _____
[Insert complete name of Procuring Entity], and having its principal place of
Business at _____

_____ and _____
[Insert address of Procuring Entity] and _____
[Insert name of Supplier, or contractor or service provider], and having its principal place of business at _____
[Insert address of Supplier, contractor or service provider].

(2) WHEREAS the Procuring Entity invited quotations for the Supply of Goods/works/services (select one) described in Table B, i.e. _____ [insert brief description of Goods, works and Services] and has accepted a Quotation by the Tenderer in the sum of _____ [insert Contract Price in words and figures] (hereinafter called “the Contract Price”).

(3) NOW THIS AGREEMENT WITNESSED AS FOLLOWS:

1. This Contract Agreement includes the following documents:

- (a) Table A. SCHEDULE OF REQUIREMENTS AND TECHNICAL SPECIFICATIONS
- (b) Table B. QUOTATIONSUBMISSION TABLE
- (c) FORM OF QUOTATION
- (d) Conditions of Contract

2. In consideration of the payments to be made by the Procuring Entity to the Supplier/contractor/service provider as hereinafter mentioned, the Supplier/contractor/service provider hereby covenants with the Procuring Entity to provide the Goods/works/services and to remedy defects therein in conformity in all respects with the provisions of the Contract.

3. The Procuring Entity hereby covenants to pay the Supplier/Contractor/service provider (select one) in consideration of the provision of the Goods/works/services (select one) 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.

(4) In WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of Kenya.

For and on behalf of the Procuring Entity

Signed: [insert signature]
in the capacity of [insert title or other appropriate designation]

in the presence of [insert identification of official witness]

For and on behalf of the Supplier/Contractor/Service Provider (select one)

Signed: [insert signature of authorized representative(s) of the Supplier]
in the capacity of [insert title or other appropriate designation]
in the presence of [insert identification of official witness]

CONDITIONS OF CONTRACT

1. Language

The Contract as well as all correspondence and documents relating to the Contract exchanged by the Contractor and the Procuring Entity, shall be written in the English Language.

2. Eligibility

The works shall have the nationality of an eligible country. All Works and Related Services to be supplied under the Contract shall have their origin in Eligible Countries.

3. Notices

Any notice given by one party to the other pursuant to the Contract shall be in writing.

4. Governing Law

The Contract shall be governed by and interpreted in accordance with the Laws of Kenya, unless otherwise specified hereunder.

5. Settlement of Disputes

The Procuring Entity and the Contractor shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract. If the parties have failed to resolve their dispute or difference by such mutual consultation, either the Procuring Entity or the Contractor may give notice to the other party of its intention to commence arbitration. The dispute shall be referred to adjudication or arbitration in accordance with the laws of Kenya.

6. Contractor Responsibilities

The Contractor shall perform all the works included in the Schedule of Requirements.

7. Contract Price

Prices charged by the Contractor under the Contract shall not vary from the prices quoted by the Contractor in its quotation.

8. Terms of Payment

The Contract Price shall be paid One hundred (100) percent of the Contract Price as follows:

(i) For Works, upon valuation by the Contractor of the portion of the works completed, such valuation to be accepted by the Procuring Entity, payments up to final completion certificate.

9. Inspections and Tests

The Contractor shall at its own expense and at no cost to the Procuring Entity carry out all such tests and inspections of the works to confirm their conformity to technical specifications.

10. Warranty

The contractor warrants that all the Works are new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided otherwise in the contract.



COUNTY GOVERNMENT OF BUSIA

**NATIONAL AGRICULTURAL VALUE CHAIN DEVELOPMENT PROJECT
(NAVCDP)**

DEPARTMENT OF SMART AGRICULTURE,LIVESTOCK, FISHERIES, BLUE ECONOMY AND AGRIBUSINESS

BUSIA (KENYA)

Procurement of:

**REHABILITATION AND EXPANSION OF CHANGARA IRRIGATION SCHEME LOCATED AT ANGURAI EAST WARD, TESO NORTH
SUB COUNTY, BUSIA COUNTY**

Bill of Quantities

Irrigation Works

VOL. 2 of 4

RFQ No : KE-Busia County-531857-CW-RFQ

Project : NATIONAL AGRICULTURAL VALUE CHAIN DEVELOPMENT PROJECT

Employer : COUNTY GOVERNMENT OF BUSIA

Credit No. : 70640

Project ID: P176758

Issued on : 15th April, 2026

December, 2025

PREAMBLE

1	The Bill Of Quantities shall be read in conjunction with the instructions to bidders, General and particular conditions of technical specifications and drawings
2	The quantities given in the BOQ are estimated and provisional and are given to provide a common basis for bidding. The basis for payment will be the actual quantities of work ordered and carried out, as measured by the contractor and verified by the engineer and valued at the rates and process bid in the priced in the priced BOQ, 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 bid in the priced BOQ shall except, insofar as it is otherwise provided under the contract, include all ESMP, constructional plant, labour, supervision, materials, erection, maintenance, insurance, profit, taxes, and duties, together with general risks, liabilities, and obligations set out or implied in the contract.
4	A rate of price shall be entered against each item in the priced BOQ, whether quantities are stated or not. The cost of items against which the contractor has failed to enter a rate or price shall be deemed to be covered by other rates and prices entered in the BOQ.
5	The whole cost of complying with the provisions of the contract shall be included in the items provided in the priced BOQ, and where no items are provided, the costs shall be deemed to be distributed among the rates and prices entered for the related item of work
6	General directions and descriptions of work and materials are neither necessarily repeated nor summarized in the BOQ. References to the relevant sections of the contract documentation shall be made before entering prices against each item in the priced BOQ.
7	Provisional sums included and so designated in the BOQ shall be expended in whole or in part at the direction and discretion of the engineer in accordance with subclauses 13.4 and 13.5 of the general conditions except with respect to DAAB fees and expenses from which no instruction will be required from the engineer
8	The method of measurement of completed work for payment shall be Admeasurement in accordance with ICE conditions of contract measurement clauses.

GRAND SUMMARY

ITEM	DESCRIPTION	AMOUNT (KShs)
1	Preliminaries and Generals	-
2	Mainline A	-
3	Mainline B	-
4	Infield System	-
5	Auxilliary Structures & SLM	-
	TOTAL	-
	GRAND TOTAL	-

Bill No.1: PRELIMINARIES AND GENERAL

Item	Description	Unit	Qty	Rate (Ksh)	Amount (Ksh)	Spec. Ref
	GENERAL CONDITIONS					
	The bidder is advised to visit the site in connection with this tender, study the contract documents, examine the site and familiarize themselves with the local conditions and the access roads likely to influence the works and the ultimate cost thereof. All rates quoted will be inclusive of the taxes, duties, labor, overhead %, profit, transport and storage costs.					
1	GENERAL ITEMS					
1.1.	Provide for Mobilization, Demobilization and Security of Materials.	Item	1		-	
1.2	Provide a provisional sum for erection and maintenance of project sign post as directed by the Project Engineer	No	2		-	
	SUB-TOTAL CARRIED TO COLLECTION				-	

Bill No. 2:MAINLINE A

Item	Item description	Unit	Quantity	Rate(Ksh)	Amount (Ksh)	Spec. Ref
2.1	Excavation and backfilling					
	Rates for excavation and backfilling in trench shall include for trimming trench bottom and for providing selected bedding and surround materials from the excavations with the specifications. Depth of excavation not exceeding 0.75 m unless otherwise specified.					
2.1.1	Excavation and backfilling in normal material for 110 mm pipeline for depth n.e 0.75 m	CM	585		-	Spec 7.5
2.2	Pipeworks					
	Supply, transport to site, store ready for installation including jointing materials, Fittings bolts, gaskets as applicale. Lay and joint the pipeline using , include for pressure testing as directed by the Site Engineer.					
2.2.1	Mainline					
2.2.1.1	OD 110 mm PN 10 HDPE pipe.	m	630		-	Spec 7.6
2.2.1.2	DN 100mm PN 10 GI pipe	m	12		-	Spec 7.6
2.3	Submains and Feeders					
2.3.1	Excavation and backfilling					
	Rates for excavation and backfilling in trench shall include for trimming trench bottom and for providing selected bedding and surround materials from the excavations with the specifications. Depth of excavation not exceeding 0.75 m unless otherwise specified.					
2.3.1.1	Excavation and backfilling in normal material for 50 mm pipeline for depth n.e 0.75 m	CM	253.125		-	Spec 7.5
2.3.2	Pipeworks					
	Supply, transport to site, store ready for installation, install and test including jointing materials, Fittings, gaskets as directed by the Site Engineer.					
2.3.2.1	SMA1					
2.3.2.1.1	OD 50 mm PN 10 HDPE pipe.	m	35		-	Spec 7.6
2.3.2.2	SMA2					
2.3.2.2.1	OD 50 mm PN 10 HDPE pipe.	m	115		-	Spec 7.6
2.3.2.3	SMA3					
2.3.2.3.1	OD 50 mm PN 10 HDPE pipe.	m	100		-	Spec 7.6
2.3.2.4	SMA4					
2.3.2.4.1	OD 50 mm PN 10 HDPE pipe.	m	115		-	Spec 7.6
2.3.2.5	SMA5					
2.3.2.5.1	OD 50 mm PN 10 HDPE pipe.	m	70		-	Spec 7.6
2.3.2.6	SMA6					
2.3.2.6.1	OD 50 mm PN 10 HDPE pipe.	m	190		-	Spec 7.6
2.3.2.7	SMA7					
2.3.2.7.1	OD 50 mm PN 10 HDPE pipe.	m	190		-	Spec 7.6
2.3.2.8	SMA8					
2.3.2.8.1	OD 50 mm PN 10 HDPE pipe.	m	110		-	Spec 7.6

	Item description	Unit	Quantity	Rate(Ksh)	Amount (Ksh)	Spec. Ref
2.4	Valve Chambers (Meters, Offtakes, WO and ARVs)					
2.4.1	Excavate for, provide all materials and using dressed stones, construct complete inspection valve chambers at the pipe junctions. Internal dimensions 600 x 600 x 1200 mm. Rates to include for, concrete lockable inspection covers,as detailed in the drawings.	No.	10		-	Spec 7.10
2.5	Road Crossings for Pipes					
	Provide for road crossings as per drawings and in accordance with specifications. Rates to include for excavation and backfilling, concrete surround and all jointing materials and other fittings as per the specifications.					
2.5.1	Minor road crossings along the mainline as per drawing (refer) and as instructed by the P.M.	LS	1			Spec 7.12
2.6	Gulley Crossings at Chainage 527m					
2.6.1	Provide anchor blocks to support the GI pipes as directed by the Site Engineer.	No.	2		-	Spec 7.11
2.7	Concrete Surround				-	
2.7.1	Mass concrete C10/40 along the pipe section as directed by the P.M.	CM	0.9		-	Spec 7.11
2.8	Marker Posts					
2.8.1	Supply and install reinforced precast marker posts 100mm x 100mm x 800mm inscribed with ' PL', ' WO' and ' AV' in black colour as instructed by the R.E.	No.	13		-	Spec 7.11
	Total carried to summary sheet				-	

	A	B	C	D	E	F	G
1	Bill No. 3:MAIN LINE B						
2	Item	Item description	Unit	Quantity	Rate(Ksh)	Amount (Ksh)	Spec. Ref
3							
4	3.1	Excavation and backfilling					
5		Rates for excavation and backfilling in trench shall include for trimming trench bottom and for providing selected bedding and surround materials from the excavations with the specifications. Depth of excavation not exceeding 0.75 m unless otherwise specified.					
6	3.1.1	Excavation and backfilling in normal material for 110 mm pipeline for depth n.e 0.75 m	CM	621		-	Spec 7.5
7							
8	3.2	Pipeworks					
9		Supply, transport to site, store ready for installation, install and test including jointing materials, Fittings, gaskets as directed by the Site Engineer.					
10							
11	3.2.1	Mainline					
12	3.2.1.1	OD 110 mm PN 10 HDPE pipe.	m	300		-	Spec 7.6
13							
14	3.2.1.2	DN 100 mm PN 10 GI pipe	m	18		-	Spec 7.6
15							
16							
17	3.3	Submains and Feeders					
18							
19	3.3.1	Excavation and backfilling					
20		Rates for excavation and backfilling in trench shall include for trimming trench bottom and for providing selected bedding and surround materials from the excavations with the specifications. Depth of excavation not exceeding 0.75 m unless otherwise specified.					
21	3.3.1.1	Excavation and backfilling in normal material for 50 mm pipeline for depth n.e 0.75 m	CM	113.625		-	Spec 7.5
22							
23	3.3.2	Pipeworks					
24		Supply, transport to site, store ready for installation including jointing materials, Fittings bolts, gaskets as applicale. Lay and joint the pipeline using Butt Fusion machine, include for pressure testing as specified.					
25							
26	3.3.2.1	SMB1					
27	3.3.2.1.1	OD 50 mm PN 10 HDPE pipe.	m	100		-	Spec 7.6
28							
29	3.3.2.2	SMB2					
30	3.3.2.2.1	OD 50 mm PN 10 HDPE pipe.	m	125		-	Spec 7.6
31							
32	3.3.2.3	SMB3					
33	3.3.2.3.1	OD 50 mm PN 10 HDPE pipe.	m	95		-	Spec 7.6
34							
35	3.3.2.4	SMB4					
36	3.3.2.4.1	OD 50 mm PN 10 HDPE pipe.	m	170		-	Spec 7.6
37							
38	3.3.2.5	SMB5					
39	3.3.2.5.1	OD 50 mm PN 10 HDPE pipe.	m	80		-	Spec 7.6
40							
41							
42	3.4	Valve Chambers (Meters, Offtakes, WO and ARVs)				-	
43	3.4.1	Excavate for, provide all materials and using dressed stones, construct complete inspection valve chambers at the pipe junctions. Internal dimensions 600 x 600 x 1200 mm. Rates to include for, concrete lockable inspection covers,as detailed in the drawings.	No.	8		-	Spec 7.9
44							
45	3.5	Road Crossings for Pipes					
46							
47		Provide for road crossings as per drawings and in accordance with specifications. Rates to include for excavation and backfilling, culvert, concrete surround and all jointing materials and other fittings as per the specifications.					
48							
49	3.5.1	Four Minor road crossings along the pipeline as per Drawings and as directed by the Project Manager	m	4		-	Spec 7.12
50							
51	3.6	River Crossings					
52	3.6.1	Provide anchor blocks to support the GI pipes as directed by the Project Manager	No.	4		-	Spec 7.11

	A	B	C	D	E	F	G
53							
54	3.7	Concrete Surround				-	
55	3.7.1	Mass concrete C15/40 along the pipe section as directed by the Site Engineer.	CM	0.9		-	Spec 7.11
56							
57	3.8	Marker Posts					
58	3.8.1	Supply and install reinforced precast marker posts 100mm x 100mm x 800mm painted blue and inscribed with 'MAJI', 'WO' and 'AV' in white colour as instructed by the Site Engineer.	No.	14		-	Spec 7.11
59		Total carried to summary sheet				-	

Bill No.4 -INFIELDS

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT	Spec. Ref
4.1	Hydrants: Plots (60 Nos.)					
4.1.1	Supply, install and test the following infield sytem as directed by the Project Manager. Cost to include but not limited to excavations, HDPE spigots and appropriate fittings as shown in the drawing.	No.	60			Spec 7.6
4.2	Drip Irrigation Infield System (2No-Half acre demo plots)					
4.2.1	Supply, install and test a drip system to irrigate two pieces of half acre each demo plots as directed by the Site Engineer.Rates to include but not limited to 3000 litres Roto tank mounted on a 2m high steel tower, disc filter, burried mainlines, submains, 16mm diameter laterals. The laterals should be installed on 1m wide rasied bed and provided with appropriate hooked endcap and anchored into the soil appropriately. Supply, plant and maintain the 2 plots with High Value Horticultural crops until completion of first cropping season.	No.	2			Spec 7.6
4.3	Sprinkler Irrigation Infield System (2No-Half acre demo plots)					
4.3.1	Supply, install and test a sprinkler irrigation system to irrigate two pieces of half acre each demo plots as directed by the Site Engineer.Rates to include but not limited to mainlines, submain, and sprinklers. Supply, plant and maintain the 2 plots with High Value Horticultural crops until completion of first cropping season.	No.	2			Spec 7.6
	TOTAL CARRIED TO SUMMARY					

Bill No.5 -AUXILLIARY STRUCTURES

Item	Item Description	Unit	Qty	Rate	Amount(kshs)	Spec. Ref
5.1	Repair of the Fence					
5.1.1	Allow for repair of existng chainlink fence as directed by the Site Engineer. Rates to include not limited to 100mm x 100mm cranked concrete posts, pitting, 6 stands of G14 galvanized barbed wire, G14 chainlink and concrete works.	LM	20			Spec 7.11
5.2	Water Flow Meter					
5.2.1	Supply and install 100mm water flow meters as directed by the Project Manager. Rates to include but not limited to all fittings.	No	2			Spec 7.9
5.3	Sustainable Land Management					
	Provide for Sustainable Land Management practises including but not limited to supplying and planting of vertivar grass, bamboo and other water friendly trees, and gabions as directed by the Project Manager. Rates to include management of the plants until they establish.					Spec 7.1
	Vetiva Grass or as approved	No	300			
	Bamboo or as approved	No	300			
	Galvanized Gabions (1×1×2 m)	No.	12			
5.4	Main Chamber					
5.4.1	Construct a masonry sectional valve chamber measuring 1200mm by 1200mm by 1200mm using dressed stones and plaster the internal and external walls as directed by the Project Manager. The chamber should be covered by a lockable concrete cover.	No	1			Spec 7.10
5.5	Cattle trough repair					
5.5.1	Allow for repair of existing cattle trough as directed by the Project manager. Rates to include but not limited to float valve, masonry works, pipeworks and associated fittings.	No.	1.00			Spec 7.9;7.11
	TOTAL CARRIED TO SUMMARY					



REPUBLIC OF KENYA



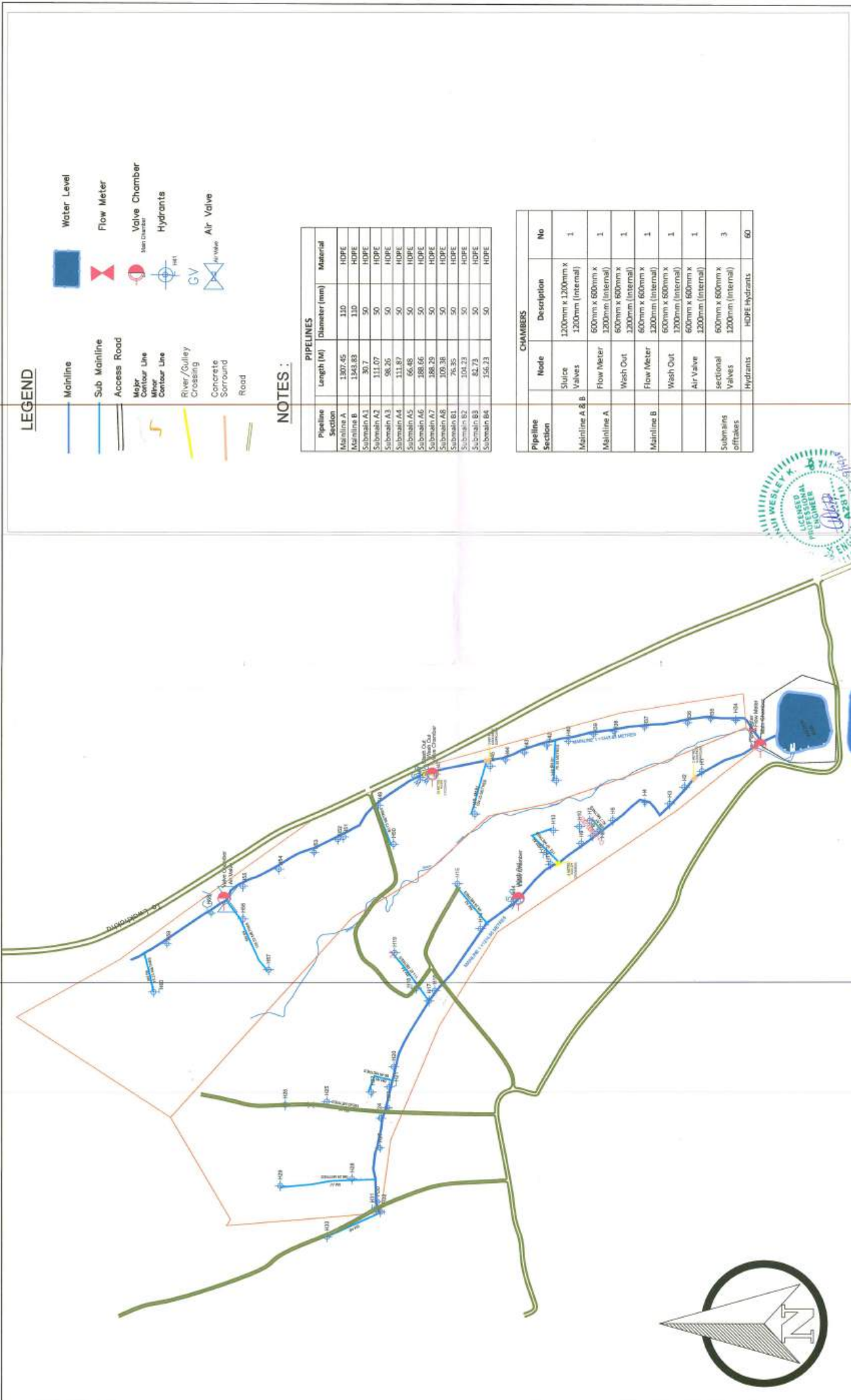
COUNTY GOVERNMENT OF BUSIA
DEPARTMENT OF SMART AGRICULTURE, LIVESTOCK, FISHERIES AND BLUE ECONOMY AND
AGRIBUSINESS

BOOK OF DRAWINGS
Vol. 3 of 4

REHABILITATION AND EXPANSION OF CHANGARA IRRIGATION SCHEME
LOCATED AT ANGURAI EAST WARD, TESO NORTH SUB COUNTY, BUSIA
COUNTY

JUNE , 2025





LEGEND

- Mainline
- Sub Mainline
- Access Road
- Major Contour Line
- Minor Contour Line
- River/Gully Crossing
- Concrete Surround
- Road
- Water Level
- Flow Meter
- Valve Chamber
- Hydrants
- CV
- Air Valve

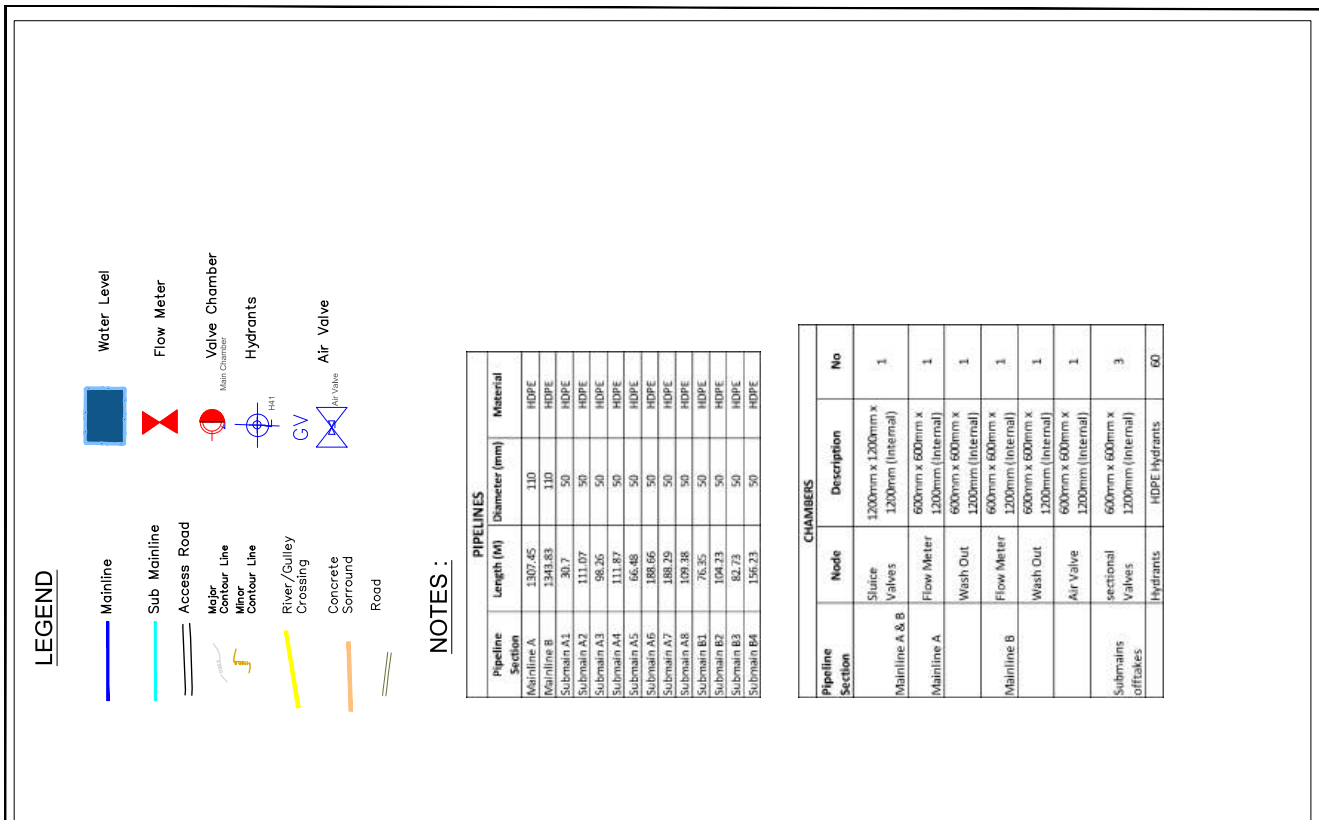
NOTES :

PIPELINES			
Pipeline Section	Length (M)	Diameter (mm)	Material
Mainline A	1307.45	110	HDPE
Mainline B	1348.83	110	HDPE
Submain A1	30.7	50	HDPE
Submain A2	111.07	50	HDPE
Submain A3	98.26	50	HDPE
Submain A4	111.87	50	HDPE
Submain A5	66.48	50	HDPE
Submain A6	188.66	50	HDPE
Submain A7	188.29	50	HDPE
Submain A8	108.38	50	HDPE
Submain B1	76.35	50	HDPE
Submain B2	104.23	50	HDPE
Submain B3	82.73	50	HDPE
Submain B4	156.23	50	HDPE

CHAMBERS			
Pipeline Section	Note	Description	No
Mainline A & B	Sluice	1200mm x 1200mm x 1200mm (Internal)	1
	Flow Meter	600mm x 600mm x 3200mm (Internal)	1
Mainline A	Wash Out	600mm x 600mm x 3200mm (Internal)	1
	Flow Meter	600mm x 600mm x 3200mm (Internal)	1
Mainline B	Wash Out	600mm x 600mm x 3200mm (Internal)	1
	Air Valve	600mm x 600mm x 3200mm (Internal)	1
Submain offtakes	sectional Valves	600mm x 600mm x 3200mm (Internal)	3
	Hydrants	HDPE Hydrants	60



Revision Description Date		Client COUNTY GOVERNMENT OF BUNIA DEPARTMENT OF SMART AGRICULTURE, STOCK, FISHERIES, BLUE ECONOMY AND AGRIBUSINESS	Funding 	Prepared M. CUCU & P. WARD Drawn M. CUCU Checked Eng. R. S. MUKHALI Approved Eng. V. K. JONIAL	Stage: DETAILED DESIGN Date: JUNE 2024 Drawing No.: 2 Scale: V-1:1000 H-1:1000 Sheet No.: 1 of 1 Sheet Size: A1
	LAYOUT				



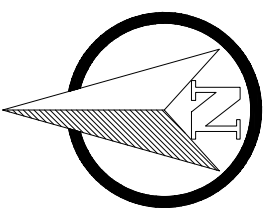
LEGEND

- Mainline
- Sub Mainline
- Access Road
- Major Valve Chamber
- Minor Valve Chamber
- River/Gully Crossing
- Concrete Serround
- Road
- Water Level
- Flow Meter
- Valve Chamber
- Hydrants
- Air Valve

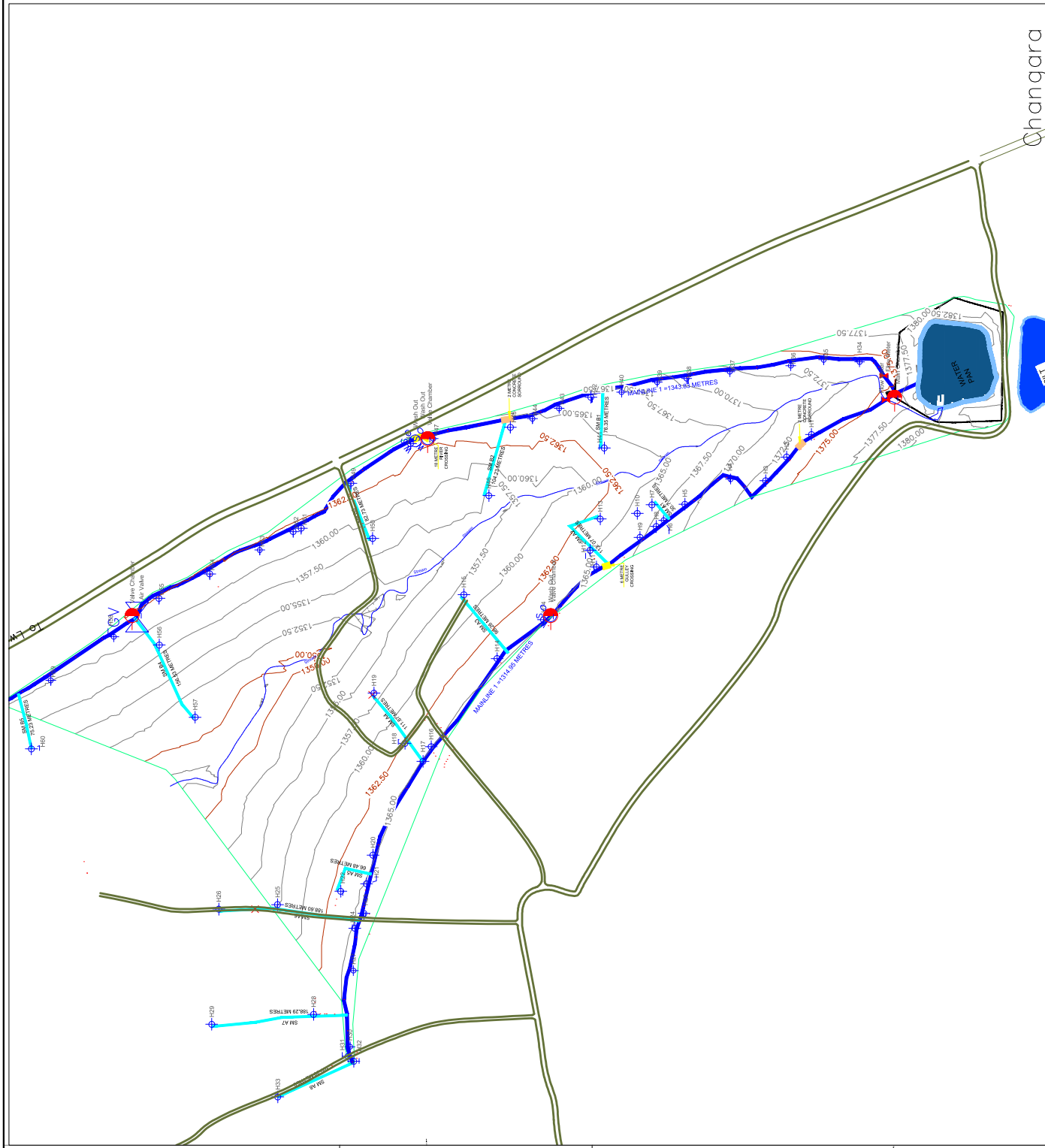
NOTES :

PIPELINES			
Pipeline Section	Length (M)	Diameter (mm)	Material
Mainline A	1307.45	110	HDPE
Mainline B	1343.83	110	HDPE
Submain A1	30.7	50	HDPE
Submain A2	111.07	50	HDPE
Submain A3	98.25	50	HDPE
Submain A4	111.87	50	HDPE
Submain A5	66.48	50	HDPE
Submain A6	188.66	50	HDPE
Submain A7	188.39	50	HDPE
Submain A8	109.38	50	HDPE
Submain B1	76.35	50	HDPE
Submain B2	104.73	50	HDPE
Submain B3	82.73	50	HDPE
Submain B4	156.23	50	HDPE

CHAMBERS			
Pipeline Section	Node	Description	No
Mainline A & B	Sluice Valves	1200mm x 1200mm x 1200mm (Internal)	1
	Flow Meter	600mm x 600mm x 1200mm (Internal)	1
Mainline A	Wash Out	600mm x 600mm x 1200mm (Internal)	1
	Flow Meter	600mm x 600mm x 1200mm (Internal)	1
Mainline B	Wash Out	600mm x 600mm x 1200mm (Internal)	1
	Air Valve	600mm x 600mm x 1200mm (Internal)	1
Submain offtakes	sectional Valves	600mm x 600mm x 1200mm (Internal)	3
	Hydrants	HDPE Hydrants	60



	Project: PROPOSED REHABILITATION OF CHANGARA IRRIGATION PROJECT Drawing Title: LAYOUT Drawing No.: 2 Scale: V-1:1000, H-1:1000 Sheet No.: 1 of 1 Sheet Size: A1 Date: JUNE 2023 Stage: DETAILED DESIGN Page No.:		Client: COUNTY GOVERNMENT OF BUSIA DEPARTMENT OF SMARTER, BLUE AGRICULTURE AND AGRIBUSINESS Economy and Agribusiness	Designer: M. ODUI & P. MUKID Drawn: M. ODUI Checked: ENR. K.S. MUMJALL Approved: Eng. M.K. TONUL



LEGEND

- Mainline
- Sub Mainline
- Access Road
- Major Contour Line
- Minor Contour Line
- River /Gully Crossing
- Concrete Sorround
- Road
- Water Level
- Flow Meter
- Valve Chamber
- Hydrants
- Air Valve

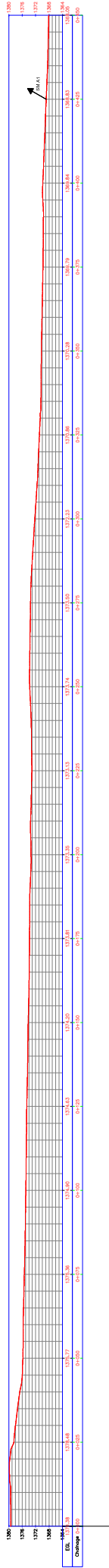
NOTES :

PIPELINES	Length (M)	Diameter (mm)	Material
Mainline A	1307.45	110	HDPE
Mainline B	48.93	110	HDPE
Submain A1	111.07	50	HDPE
Submain A2	111.07	50	HDPE
Submain A3	98.36	50	HDPE
Submain A4	111.87	50	HDPE
Submain A5	66.48	50	HDPE
Submain A6	188.66	50	HDPE
Submain A7	388.29	50	HDPE
Submain A8	576.38	50	HDPE
Submain A9	76.15	50	HDPE
Submain B1	104.73	50	HDPE
Submain B2	82.73	50	HDPE
Submain B3	156.73	50	HDPE
Submain B4	156.73	50	HDPE

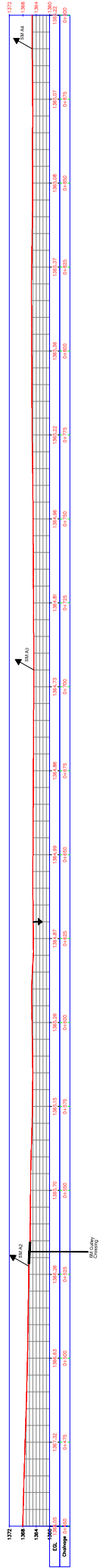
CHAMBERS	Node	Description	No
Mainline A & B	Sluice	300mm x 1200mm x 1200mm (Internal)	1
	Valves	1200mm (Internal)	1
Mainline A	Flow Meter	600mm x 600mm x 600mm (Internal)	1
	Wash Out	600mm x 600mm x 600mm (Internal)	1
Mainline B	Flow Meter	600mm x 600mm x 600mm (Internal)	1
	Wash Out	600mm x 600mm x 600mm (Internal)	1
Submain A	Air Valve	600mm x 600mm x 600mm (Internal)	1
	Sectional Valves	500mm x 600mm x 1200mm (Internal)	3
Submain B	Sectional Valves	500mm x 600mm x 1200mm (Internal)	3
	Hydrants	HDPE Hydrants	60

		PROJECT PROPOSED REHABILITATION OF CHANGARA IRRIGATION PROJECT
CLIENT COUNTY GOVERNMENT OF BUSIA DEPARTMENT OF SMART AGRICULTURE, LIVESTOCK, FISHERIES, BLUE ECONOMY AND AGRIBUSINESS		DRAWING TITLE CONTOUR MAP
REVISIONS Description Date	APPROVALS Surveyed: M. ORODI Drawn: M. ORODI Checked: Eng. K. S. MUHAMMAD Approved: Eng. W. K. TORUJ	PROJECT DETAILS Stage: DETAILED DESIGN Date: JUNE 2025 Drawing No.: 1 Scale: 1:11000 H+V Sheet No.: 1 of 1 Sheet Size: A1 Index No.:

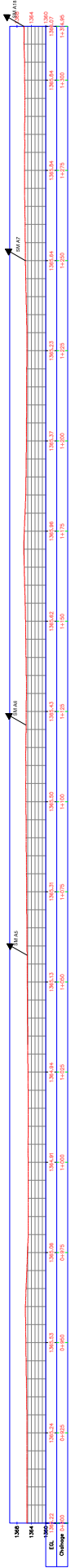
Mainline A 0+000.00 to 0+450.00



Mainline A 0+450.00 to 0+900.00



Mainline A 0+900.00 to 1+314.95

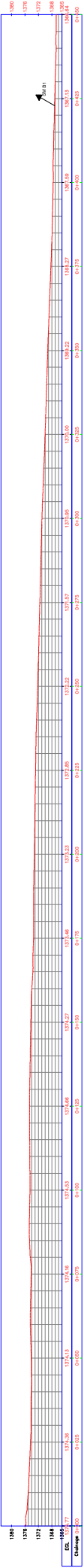


- KEY**
- ↓ Wash Out
 - ↗ Submain Offtake
 - ↑ Air Valve

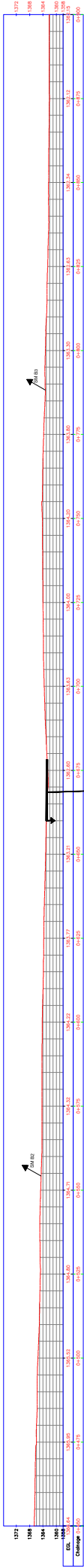
Mainline	Pipeline Section	Offtake Chainage	No of Hydrants	Gulley / River Crossings	
				Pipeline section	Length (M)
Mainline A	Mainline A	-	13	Mainline A	6
	SM A1	425	3	Mainline B	18
	SM A2	526	3		
	SM A3	705	2		
	SM A4	890	3		
	SM A5	1057	2		
	SM A6	1121	3		
	SM A7	1250	2		
Mainline B	SM A8	1314	2		
	Mainline B	-	18		
	SM B1	418	2		
	SM B2	554	2		
	SM B3	786	2		
	SM B4	1130	2		
	SM B5	1315	1		

				Client COUNTY GOVERNMENT OF BUSA DEPARTMENT OF SMART AGRICULTURE, LIVESTOCK, FISHERIES, BLUE ECONOMY AND AGRIBUSINESS	Project PROPOSED REHABILITATION OF CHANGARA IRRIGATION PROJECT	Stage: DETAILED DESIGN Date: JUNE 2025 Drawing No.: 3 Scale: V=1:1000, H=1:1000 Sheet Size: A1 Issue No.: 1 of 2
	Funding 	Designed: M. QUDUS P. MAMO Drawn: M. ORODI Checked: Eng. K.S. MURHALL Approved: Eng. M.K. TONILL	Drawing Title PIPELINE PROFILES			

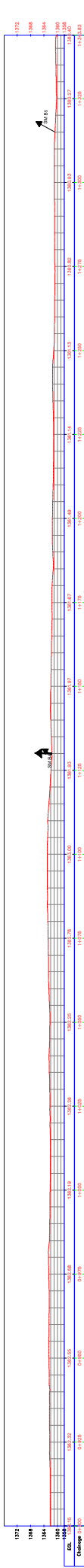
Mainline B 0+000.00 to 0+450.00



Mainline B 0+450.00 to 0+900.00



Mainline B 0+900.00 to 1+343.83



KEY

- ↓ Wash Out
- ↗ Submain Offtake
- ↑ Air Valve

Mainline	Pipeline Section	Offtake Chainage	No of Hydrants	Gully / River Crossings	
				Pipeline section	Length (M)
Mainline A	Mainline A	-	13		
	SMA1	425	3	Mainline A	6
	SMA2	526	3	Mainline B	18
	SMA3	705	2		
	SMA4	890	3		
	SMA5	1057	2		
	SMA6	1121	3		
	SMA7	1250	2		
Mainline B	SMA8	1314	2		
	Mainline B	-	18		
	SM B1	418	2		
	SM B2	554	2		
	SM B3	786	2		
	SM B4	1130	2		
	SM B5	1315	1		

					COUNTY GOVERNMENT OF BUISA DEPARTMENT OF SMART AGRICULTURE, LIVESTOCK, FISHERIES, BLUE ECONOMY AND AGRIBUSINESS
Project: PROPOSED REHABILITATION OF CHANGARA IRRIGATION PROJECT Designed: M. QUDUS MAMUD Drawn: M. ORODI Checked: Eng. K.S. MUHAMMAD Approved: Eng. M.K. TANIL	Drawing No.: 3 Scale: V=1:1000, H=1:1000 Sheet No.: 2 of 2 Sheet Size: A1	Pipeline Profiles	Date: JUNE 2023 Drawing Title: PIPELINE PROFILES	Revisions:	Client:
Description:	Date:				



COUNTY GOVERNMENT OF BUSIA

DEPARTMENT OF SMART AGRICULTURE, FISHERIES,
BLUE ECONOMY AND AGRIBUSINESS

NATIONAL AGRICULTURAL VALUE CHAIN
DEVELOPMENT PROJECT

TECHNICAL SPECIFICATIONS

Irrigation Works

VOL. 3 of 4

Procurement of:

REHABILITATION AND EXPNasion OF CHANGARA
IRRIGATION SCHEME LOCATED AT ANGURAI EAST
WARD, TESO NORTH SUB COUNTY, BUSIA COUNTY.

RFQ No : KE-Busia County-531857-CW-RFQ
Project : NATIONAL AGRICULTURAL VALUE CHAIN DEVELOPMENT
PROJECT
Employer : COUNTY GOVERNMENT OF BUSIA
Credit No. : 70640
Project ID: P176758
Issued on : 15th April, 2026

SECTION VII: WORKS REQUIREMENTS

REHABILITATION AND EXPANSION OF CHANGARA IRRIGATION SCHEME

Technical Specifications

1.1 General

This Section defines the minimum technical requirements for the, construction, testing, commissioning and handover of a rehabilitation and associated works for the Changara irrigation scheme. The Works include rehabilitation of main lines, distribution sub mains, installation of hydrants, establishment of infields in demo plots and all ancillary works required for a complete and operational scheme, all as shown on the Drawings and specified herein.

1.2 Applicable Kenyan Standards, Codes and Reference Documents

The Works shall comply with the latest editions of the following standards, laws and guidelines:

- Constitution of Kenya (2010)
- Water Act, 2016
- Water Resources Authority (WRA) Rules, Guidelines and Permit Conditions
- State Department for Irrigation (SDI) Design Manuals and Standard Drawings
- Kenya Bureau of Standards (KEBS) specifications and Kenya Standards (KS)
- KS ISO 4427 – High Density Polyethylene (HDPE) Pipes for Water Supply
- KS 02-126 – High Yield Steel Reinforcement Bars
- KS EAS / BS EN 206 – Concrete specification, performance and conformity
- Environmental Management and Coordination Act (EMCA)
- Occupational Safety and Health Act (OSHA), 2007
- World Bank Environmental and Social Framework (ESF)
- World Bank Group Environmental, Health and Safety (EHS) Guidelines
- FAO Irrigation and Drainage Papers (as supplementary guidance)

1.3 Relationship Between Specifications and Drawings

All works shall be carried out strictly in accordance with the Specifications and the Drawings. Dimensions, pipe sizes, pressure ratings, alignments, slopes, levels, chamber locations and construction details shall be as shown on the Drawings. In the event of any discrepancy, the more stringent requirement shall apply. No deviation from the Drawings shall be made without written approval of the Engineer.

1.4 Survey, Setting Out and Site Preparation

The Contractor shall carry out setting out using approved benchmarks or GPS coordinates referenced to Arc 1960 / UTM Zone 37N as applicable. Site clearance shall be limited to specified corridors and include removal of vegetation and topsoil stripping to a minimum depth of 150 mm. All disturbed areas shall be reinstated in accordance with ESMP requirements.

1.5 Trench Excavation, Bedding and Pipe Laying

Pipe trenches shall be excavated to the widths, depths and alignments shown on the Drawings. Trench bottoms shall be trimmed and compacted. Pipe bedding shall consist of a minimum 75 mm thick layer of

sand or fine selected material. Pipes shall be laid true to line and level and supported to prevent movement prior to backfilling.

1.6 HDPE Pipelines

All pipelines shall be High Density Polyethylene (HDPE), pressure rated (PN) as shown on the Drawings and BoQ, and shall comply with KS ISO 4427. Jointing shall be by appropriate Compression Fittings by certified technicians. Minimum cover shall be 600 mm in agricultural land and 900 mm at road crossings unless otherwise specified.

1.7 Thrust Restraint and Protection

Thrust blocks, anchor blocks or other restraint systems shall be provided at all bends, tees, valves, hydrants and dead ends as shown on the Drawings. Concrete for thrust blocks shall be cast against undisturbed ground.

1.8 Backfilling and Compaction

Initial backfill around pipes shall be selected fine material free from stones exceeding 40 mm. Final backfill shall be placed in layers not exceeding 200 mm and compacted to at least 95% Modified Proctor Density. Marker Posts shall be installed above pipelines where indicated on the Drawings.

1.9 Valves, Hydrants and Fittings

Air valves, sluice valves, washout valves and hydrants shall be supplied and installed at locations shown on the Drawings. Air valves shall be provided at all high points and washout valves at low points and dead ends. All valves shall comply with relevant KEBS / ISO standards and be accessible for operation and maintenance.

1.10 Irrigation and Pipeline Chambers

Valve chambers, air valve chambers, washout chambers and hydrant chambers shall be constructed to the dimensions and details shown on the Drawings. Chambers shall be masonry, watertight, fitted with heavy-duty lockable covers, and provided with internal pipe supports and drainage where indicated.

1.11 Concrete and Masonry Works

Concrete shall be minimum grade C15/25 unless otherwise specified and shall comply with KS EAS and BS EN 206. Reinforcement shall comply with KS 02-126. Masonry works shall be constructed using sound dressed stone or concrete blocks laid in cement mortar ratio 1:4.

1.12 Pipeline Crossings

Pipeline crossings at roads, streams, and gullies shall be constructed using sleeves, concrete encasement as detailed on the Drawings and in accordance with the Kenya Roads Design Manual. Crossings shall be reinstated to original or better condition.

1.13 Testing, Commissioning and Performance Verification

All pipelines shall be pressure tested in accordance with KS ISO 4427. Flushing and disinfection shall be carried out prior to commissioning. Commissioning shall confirm that flows and pressures meet the design requirements shown on the Drawings.

1.14 Documentation, Training and Handover

The Contractor shall submit as-built drawings, test results, operation and maintenance manuals, and train the Operation and Maintenance Sub Committee of the Changara Irrigation Water User Associations.

1.15 Environmental, Health and Safety

All works shall comply with EMCA, OSHA and World Bank EHS Guidelines. Construction activities shall minimize risks to workers, communities and the environment.

1.16 Defects Liability

The Defects Liability Period shall be Six (6) months. All defects identified during this period shall be rectified by the Contractor at no additional cost to the Employer.

1.17 Project Completion Period

The project completion period shall be three (3) months