



**Kenya Marine Fisheries Socioeconomic
Development Project (KEMFSED)
P.O. Box 58187-00200
NAIROBI**



**MINISTRY OF MINING, BLUE ECONOMY AND MARITIME
AFFAIRS**

Request for Bids

CONSTRUCTION OF MWAEPE FISH LANDING SITE

Employer: State Department for Blue Economy & Fisheries
Project: Kenya Marine Fisheries Socio-Economic
Development Project (KEMFSED)
Contract Title: **CONSTRUCTION OF MWAEPE FISH
LANDING SITE**
Country: Republic of Kenya
Loan No./Credit No./Grant No.: 6540-KE
RFBNo.: KE-MOMBE&MA-KWL-2024-003-CW
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VOLUME 2 OF 4

BILLS OF QUANTITIES

TABLE OF CONTENT

A. Preamble.....	1
B. Work Items.....	2
1. Bill No. 1: PARTICULAR PRELIMINARIES	2
2. BILL NO. 2 : GENERAL PRELIMINARIES	2
3. BILL NO. 3: ENVIRONMENTAL SOCIAL MANAGEMENT PLAN.....	2
4. BILL NO. 4 : FISH BANDA	2
5. BILL NO. 5 : FISH GEAR MENDING SHED	2
6. BILL NO. 6: POLYFUNCTIONAL BUILDING AND BOAT YARD	2
7. BILL NO. 7: RESTAURANT BUILDING	2
8. BILL NO. 8: EXECUTIVE ABLUTION BLOCK.....	2
9. BILL NO. 9: STALLS NO.1-4	2
10. BILL NO. 10: STALLS NO.5-6	2
11. BILL NO. 11: GATE HOUSE A	2
12. BILL NO. 12: GATE HOUSE B	2
13. BILL NO. 13: NGOZI AFRICAN THERAPY HUB	2
14. BILL NO. 14: USAID DONATED BUILDING	2
15. BILL NO. 15: SLIPWAY	2
16. BILL NO. 16: EXTERNAL FOUL DRAINAGE.....	2
17. BILL NO. 17:ROAD WORKS AND PARKING.....	2
18. BILL NO. 18:LANDSCAPING.....	2
19. BILL NO. 19:MECHANICAL WORKS.....	2
20. BILL NO. 20:ELECTRICAL WORKS	2
21. BILL NO. 21:BOUNDARY WALL.....	2
22. BILL NO. 22: DAYWORKS	2
23. BILL NO. 23: PROVISIONAL SUMS	2
DAYWORK SCHEDULE.....	3
24. GRAND SUMMARY	24-1

A. PREAMBLE

1. The Bill of Quantities shall be read in conjunction with the Instructions to Bidders, General and Particular Conditions, Technical Specifications, and Drawings.
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 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 prices bid 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 bid in the priced Bill of Quantities shall, except insofar as it is otherwise provided under the Contract, include all Constructional Plant, labour, supervision, materials, erection, maintenance, insurance, profit, taxes, and duties, together with all general risks, liabilities, and obligations set out or implied in the Contract.
4. A rate or price shall be entered against each item in the priced Bill of Quantities, 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 Bill of Quantities.
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 Work.
6. General directions and descriptions of work and materials are not necessarily repeated nor summarized in the Bill of Quantities. References to the relevant sections of the Contract documentation shall be made before entering prices against each item in the priced Bill of Quantities.
7. Provisional Sums included and so designated in the Bill of Quantities shall be expended in whole or in part at the direction and discretion of the Engineer in accordance with Sub-Clauses 13.4 and 13.5 of the General Conditions except with respect to DAAB Fees and Expenses for 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.¹

¹ The method of measurement should be spelled out precisely in the Preamble to the Bill of Quantities, describing for example the allowances (if any) for timbering in excavation, etc. Many national standard reference guides have been prepared on the subject, and one such guide is the Standard Method of Measurement of the U.K. Institution of Civil Engineers.

B. WORK ITEMS

1. The Bill of Quantities contains the following part Bills, which have been grouped according to the nature or timing of the work:
 1. **BILL NO. 1: PARTICULAR PRELIMINARIES**
 2. **BILL NO. 2 : GENERAL PRELIMINARIES**
 3. **BILL NO. 3: ENVIRONMENTAL SOCIAL MANAGEMENT PLAN**
 4. **BILL NO. 4 : FISH BANDA**
 5. **BILL NO. 5 : FISH GEAR MENDING SHED**
 6. **BILL NO. 6: POLYFUNCTIONAL BUILDING AND BOAT YARD**
 7. **BILL NO. 7: RESTAURANT BUILDING**
 8. **BILL NO. 8: EXECUTIVE ABLUTION BLOCK**
 9. **BILL NO. 9: STALLS NO.1-4**
 10. **BILL NO. 10: STALLS NO.5-6**
 11. **BILL NO. 11: GATE HOUSE A**
 12. **BILL NO. 12: GATE HOUSE B**
 13. **BILL NO. 13: NGOZI AFRICAN THERAPY HUB**
 14. **BILL NO. 14: USAID DONATED BUILDING**
 15. **BILL NO. 15: SLIPWAY**
 16. **BILL NO. 16: EXTERNAL FOUL DRAINAGE**
 17. **BILL NO. 17: ROAD WORKS AND PARKING**
 18. **BILL NO. 18: LANDSCAPING**
 19. **BILL NO. 19: MECHANICAL WORKS**
 20. **BILL NO. 20: ELECTRICAL WORKS**
 21. **BILL NO. 21: BOUNDARY WALL**
 22. **BILL NO. 22: DAYWORKS**
 23. **BILL NO. 23: PROVISIONAL SUMS**
2. Bidders shall price the Bill of Quantities in local currency only and shall indicate in the Appendix to Bid the percentage expected for payment in foreign currency or currencies.

DAYWORK SCHEDULE

General

1. Reference should be made to Sub-Clause 13.5 of the General Conditions. Work shall not be executed on a daywork basis except by written order of the Engineer. Bidders shall enter basic rates for daywork items in the Schedules, which rates shall apply to any quantity of daywork ordered by the Engineer. Nominal quantities have been indicated against each item of daywork, and the extended total for Daywork shall be carried forward as a Provisional Sum to the Summary Total Bid Amount. Unless otherwise adjusted, payments for daywork shall be subject to price adjustment in accordance with the provisions in the Conditions of Contract.

Daywork Labour

2. In calculating payments due to the Contractor for the execution of daywork, the hours for labour will be reckoned from the time of arrival of the labour at the job site to execute the particular item of daywork to the time of return to the original place of departure, but excluding meal breaks and rest periods. Only the time of classes of labour directly doing work ordered by the Engineer and for which they are competent to perform will be measured. The time of gangers (charge hands) actually doing work with the gangs will also be measured but not the time of foremen or other supervisory personnel.
3. The Contractor shall be entitled to payment in respect of the total time that labour is employed on daywork, calculated at the basic rates entered by the Contractor in the Schedule of Daywork Rates:
 1. Labour, together with an additional percentage payment on basic rates representing the Contractor's profit, overheads, etc., as described below:
 - a) The basic rates for labour shall cover all direct costs to the Contractor, including (but not limited to) the amount of wages paid to such labour, transportation time, overtime, subsistence allowances, and any sums paid to or on behalf of such labour for social benefits in accordance with [country of Borrower]Kenya law. The basic rates will be payable in local currency only.
 - b) The additional percentage payment to be quoted by the bidder and applied to costs incurred under (a) above shall be deemed to cover the Contractor's profit, overheads, superintendence, liabilities, and insurances and allowances to labour, timekeeping, and clerical and office work, the use of consumable stores, water, lighting, and power; the use and repair of stagings, scaffolding, workshops, and stores, portable power tools, manual plant, and tools; supervision by the Contractor's staff, foremen, and other supervisory personnel; and charges incidental to the foregoing. Payments under this item shall be made in local currency.

Daywork Materials

4. The Contractor shall be entitled to payment in respect of materials used for daywork (except for materials for which the cost is included in the percentage addition to labour costs as detailed heretofore), at the basic rates entered by the Contractor in the Schedule of Daywork Rates: 2. Materials, together with an additional percentage payment on the basic rates to cover overhead charges and profit, as follows:
 - a) the basic rates for materials shall be calculated on the basis of the invoiced price, freight, insurance, handling expenses, damage, losses, etc., and shall provide for delivery to store for stockpiling at the Site. The basic rates shall be stated in local currency, but payment will be made in the currency or currencies expended upon presentation of supporting documentation.
 - b) the additional percentage payment shall be quoted by the bidder and applied to the equivalent local currency payments made under (a) above. Payments under this item will be made in local currency.
 - c) the cost of hauling materials for use on work ordered to be carried out as daywork from the store or stockpile on the Site to the place where it is to be used will be paid in accordance with the terms for Labour and Construction in this schedule.

Daywork Contractor's Equipment

5. The Contractor shall be entitled to payments in respect of Contractor's Equipment already on Site and employed on daywork at the basic rental rates entered by the Contractor in the Schedule of Daywork Rates: **3. Contractor's Equipment.** Said rates shall be deemed to include due and complete allowance for depreciation, interest, indemnity, and insurance, repairs, maintenance, supplies, fuel, lubricants, and other consumables, the cost of drivers, operators, and assistants and all overhead, profit, and administrative costs related to the use of such equipment.
6. In calculating the payment due to the Contractor for Contractor's Equipment employed on daywork, only the actual number of working hours will be eligible for payment, except that where applicable and agreed with the Engineer, the travelling time from the part of the Site where the Contractor's Equipment was located when ordered by the Engineer to be employed on daywork and the time for return journey thereto shall be included for payment.
7. The basic rental rates for Contractor's Equipment employed on daywork shall be stated in local currency, but payments to the Contractor will be made in local currency.

PARTICULAR PRELIMINARIES

BILL NO.1

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	AMOUNT (K.SHS)
	<i>(All rates are V.A.T Inclusive)</i> <u>PARTICULAR PRELIMINARIES</u>	
1.1.1	EMPLOYER The Employer is Ministry of Mining, Blue Economy and Maritime Affairs P.O Box 30009-00100 Nairobi, Kenya The term "Employer" and "Ministry of Mining, Blue Economy and Maritime Affairs" wherever used in the contract document shall be synonymous.	
1.1.2	PROJECT MANAGER The term "PM" wherever used in these Bills of Quantities shall be deemed to imply the project Manager as defined in the Conditions of Contract or such person or persons as may be duly authorised to represent him/her on behalf of the employer.	
1.1.2	ARCHITECT The term "Architect" shall be deemed to mean "The P.M " as defined above whose address unless otherwise notified is Project Engineer	
1.1.3	QUANTITY SURVEYOR The term "Quantity Surveyor" shall be deemed to mean "The P.M " as defined above whose address unless otherwise notified is Project Engineer	
1.1.4	ELECTRICAL ENGINEER The term "Electrical Engineer" shall be deemed to mean "The P.M " as defined above whose address unless otherwise notified is Project Engineer	
1.1.5	MECHANICAL ENGINEER The term "Mechanical Engineer" shall be deemed to mean "The P.M " as defined above whose address unless otherwise notified is Project Engineer	
1.1.6	STRUCTURAL ENGINEER The term "Structural Engineer" shall be deemed to mean "The P.M " as defined above whose address unless otherwise notified is Project Engineer	
1.1.7	PROJECT ENGINEER (PE) (Member of NPCU, State Department of Fisheries) The term "Project Engineer" shall be deemed to mean "The ENGINEER " as defined above whose address unless otherwise notified is National Project Coordination Unit (NPCU), State Department of Fisheries. P.O. Box 58187-00200 NAIROBI	
	<i>Carried to collection</i>	

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	AMOUNT (K.SHS)
1.2.1	LOCATION OF SITE The site of the proposed works is at Mwaepe fish landing site in Kwale County. The Contractor is advised to visit the site, to familiarize with the nature and position of the site. No claims arising from the Contractor's failure to do so will be entertained.	
1.2.2	DESCRIPTION OF THE WORKS The works to be carried out under this contract is the construction of Mwaepe Fish Landing site in Kwale County. The project consists of the following: 1. Excavation & Earthworks including fillings 2. Waterproofing. 3. Concrete works 4. Reinforcement 5. Formwork. 6. Walling. 7. Roofing. 8. Doors 9. Windows 10. Fittings. 11. Finishes. 12. Civil Works 13. Electrical works. 14. Mechanical works	
1.2.3	FORM OF CONTRACT The Form of Contract shall be as stipulated in the World Bank's Standard Procurement Document for Small Works(March 2021 Edition) included herein The Conditions of Contract are also included herein Particulars of insertions to be made in the Appendix to the Contract Agreement will be found in the Particular Preliminaries part of these Bills of Quantities	
1.2.4	BID BOND A bid bond shall be required in the amount stated in the invitation to tender or advertisement. Bid bond shall be from EITHER an insurance or	
1.2.5	CLEARING AWAY The Contractor shall remove all temporary works, rubbish, debris and surplus materials from the site as they accumulate and upon completion of the works, remove and clear away all plant, equipment, rubbish, unused materials and stains and leave in a clean and tidy state to the reasonable satisfaction of the Project Manager. The whole of the works shall be delivered up clean, complete and in perfect condition in every respect to the satisfaction of the Project	
	<i>Carried to collection</i>	

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	AMOUNT (K.SHS)
1.3.1	<p>WORKING CONDITIONS</p> <p>The Contractor shall allow in his rates for any interference that he may encounter in the course of the works for the Client may in some cases ask the Contractor not to proceed with the works until some activities within the site are completed, as the facility will be operating as usual during the course of the contract. The contractor must allow for compliance with all County & Statutory Authorities' laws & regulations.</p>	
1.3.2	<p>CLAIMS</p> <p>It shall be a condition of this contract that upon it becoming reasonably apparent to the Contractor that he has incurred losses and / or expenses due to any of the contract conditions, or by any other reason whatsoever, he shall present such a claim or intent to claim notice to the PROJECT MANAGER within the contract period. No claim shall be entertained upon the expiry of the said contract period.</p>	
1.3.3	<p>LABOUR CAMPS</p> <p>The Contractor shall not be allowed to house labour on site. Allow for transporting workers to and from the site during the tenure of the</p>	
1.3.4	<p>PRICING RATES</p> <p>The tenderer shall fill in rates and prices for all items of the Works described in the Bill of Quantities. Items for which no rate or price is entered by the tenderer will not be paid for when executed and shall be deemed covered by the other rates and prices in the Bill of Quantities.</p> <p>The tenderer shall include for all costs in executing the whole of the works, including transport, replacing damaged items, fixing, all to comply with the said Conditions of Contract.</p> <p>Prices quoted should be net inclusive of all taxes, must be in Kenya shillings</p> <p>Prices shall remain valid for One Hundred and twenty (120) days from the closing date of tender.</p> <p>The rates and prices quoted by the tenderer shall only be subject to adjustment during the performance of the Contract if provided for in the Appendix to Conditions of Contract and provisions made in the Conditions of Contract.</p>	
1.3.5	<p>MATERIALS FROM DEMOLITIONS</p> <p>Any materials arising from demolitions SHALL NOT BE re-used shall become the property of the client unless otherwise advised.</p>	
1.3.6	<p>URGENCY OF THE WORKS</p> <p>The Contractor is notified that these “works are urgent” and should be completed within the period stated in these Particular Preliminaries.</p> <p>The Contractor shall allow in his rates for any costs he/ she deems that he/she may incur by having to complete these works within the stipulated contract period.</p>	
	<i>Carried to collection</i>	

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	AMOUNT (K.SHS)
1.4.1	PAYMENTS GENERALLY The tenderer's attention is drawn to the fact that the CLIENT WILL NOT MAKE ADVANCE PAYMENTS but pays for work done and materials delivered to sit: all in accordance with the Conditions of Contract Agreement. In order to facilitate this, a list of the general component elements for the works is given at the summary page of these specifications and the tenderer is requested to break down his tender sum commensurate to the said elements. The contractor is advised to deliver & concur on his claim for payment with the PM before the following site visit to enable approval of the same by the Acceptance & Approval Committee. The claim shall be prepared in the same format as these bills clearly showing quantities & rates (both work & materials). Both the PM & contractor should be able to locate & identify the items claimed from the main bill.	
1.4.2	PAYMENT FOR MATERIALS ON SITE All materials for incorporation in the works must be stored on site before payment is effected, unless specifically exempted by the Project Manager. This is to include materials of the Contractor, nominated sub-Contractors and nominated suppliers.	
1.4.3	ADVANCE PAYMENTS The tenderer's attention is drawn to the fact that the Client does not make any advance payments	
1.4.4	EXISTING SERVICES Prior to the commencement of any work, the Contractor is to ascertain from the relevant authority the exact position, depth and level of all existing services in the area and he/she shall make whatever provisions may be required by the authorities concerned for the support, maintenance and protection of such services.	
1.4.5	TENDER DOCUMENTS Tender documents are as listed in Clause 2.1 of the Instruction to Tenderer's Page 8	
1.4.6	DELIVERY OF TENDER Tenders and all documents in connection therewith, as specified above must be delivered in the addressed envelope which should be properly sealed and deposited at the offices as specified in the letter accompanying these documents or as indicated in the advertisement. Tenders will be opened at the time specified in the letter accompanying these Tender Documents or as indicated in the advertisement. Tenders delivered/received later than the above time will not be opened.	
1.4.7	SIGNING OF THE TENDER DOCUMENTS The bidder shall append his / her signature and / or company's rubberstamp on each and every page of tender document.	
	<i>Carried to collection</i>	

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	AMOUNT (K.SHS)
1.5.1	<p>MEASUREMENTS</p> <p>In the event of any discrepancies arising between the Bills of Quantities and the actual works, the site measurements shall generally take precedence. However, such discrepancies between any contract documents shall immediately be referred to the PROJECT MANAGER in accordance with Clause 22 of the Conditions of Contract. The discrepancies shall then be treated as a variation and be dealt with in accordance with Clause 22 of the said Conditions.</p>	
1.5.2	<p>VALUE ADDED TAX</p> <p>The Contractor's attention is drawn to the Legal Notice in the Finance Act part 3 Section 21(b) operative from 1st September, 1993 which requires payment of VAT on all contracts. The Contractor should therefore include allowance in his rates and prices for prices for VAT and any other Government taxes currently in force.</p> <p>NB: The Contractor should therefore include the tax within the rates.</p>	
1.5.3	<p>CONTRACT COMPLETION PERIOD</p> <p>The contract completion period in accordance with conditions of the Conditions of contract must be adhered to.</p> <p>The 'PROJECT MANAGER' shall strictly monitor the Contractors progress in relation to the progress chart and should it be found necessary the 'PROJECT MANAGER' shall inform the Contractor in writing that his actual performance on site is not satisfactory. In all such cases the Contractor shall accelerate his rate of performance production and progress by all means such as additional labour, plant, e.t.c and working overtime all at his cost.</p>	
	<i>Carried to collection</i>	

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	AMOUNT (K.SHS)
1.6.1	<p><u>PARTICULARS OF INSERTIONS TO BE MADE IN APPENDIX TO CONTRACT AGREEMENT</u></p> <p>The following are the insertions to be made in the appendix to the Contract Agreement: -</p> <p>Period of Final Measurement - 3 Months From Practical completion</p> <p>Defects Liability Period - 6 Months from Practical completion</p> <p>Date for Possession - To be agreed with the Project Manager</p> <p>Date for Completion - 52 Weeks from date of Possession</p> <p>Liquidated and Ascertained -0.04 % of the Accepted Contract Amount, less provisional sum</p> <p>Period of Interim Certificates - Monthly</p> <p>Period of Honouring Certificates - 56 days</p> <p>Percentage of Certified Value Retained - 10%</p> <p>Limit of Retention Fund - 5%</p>	
	<i>Carried to collection</i>	

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	AMOUNT (K.SHS)
	<p align="center"><u>COLLECTION</u></p> <p>Brought forward from page PP/1</p> <p>Brought forward from page PP/2</p> <p>Brought forward from page PP/3</p> <p>Brought forward from page PP/4</p> <p>Brought forward from page PP/5</p> <p>Brought forward from page PP/6</p>	
	TOTAL FOR PARTICULAR PRELIMINARIES CARRIED TO GRAND SUMMARY	

GENERAL PRELIMINARIES

BILL NO.2

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	AMOUNT (KSHS)
	<i>(All rates are V.A.T Inclusive)</i> <u>GENERAL PRELIMINARIES</u>	
2.1.1	<p>PRICING OF ITEMS OF PRELIMINARIES AND PREAMBLES</p> <p>Prices will be inserted against items of Preliminaries in the Contractor's priced Bills of Quantities and Specification.</p> <p>The Contractor shall be deemed to have included in his prices or rates for the various items in the Bills of Quantities or Specification for all costs involved in complying with all the requirements for the proper execution of the whole of the works in the Contract.</p> <p>Failure to price an item shall not exempt the contractor from carrying out works described therein. Should the contractor fail to carry out works which he/she did not price and after having received a written instruction from the PM, then the value of such works shall be deducted from the very immediate certificate issued to the contractor.</p> <p>MoPW current rates, JBC, IQSK, manufacturers or fair rates shall be used by the PM in valuation of unpriced items which the contractor shall fail to execute.</p> <p>The contractor is advised to read and understand all preliminary items. The Contractor is advised to visit the site, to familiarize with the nature and position of the site. No claims arising from the Contractor's failure to do so will be entertained.</p>	
2.1.2	<p>VISIT SITE AND EXAMINE DRAWINGS</p> <p>The Contractor is recommended to examine the drawings and visit the site the location of which is described in the Particular Preliminaries hereof. He shall be deemed to have acquainted himself therewith as to its nature, position, means of access or any other matter which, may affect his tender. No claim arising from his failure to comply with this recommendation will be considered.</p>	
2.1.3	<p>SUFFICIENCY OF TENDER</p> <p>The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of this tender for the works and of the rates and prices stated in the Priced Bills of Quantities, which rates and prices shall cover all his obligations under the Contract and all matters that are necessary for the proper completion and maintenance of the works.</p>	
	<i>Carried to collection</i>	

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	AMOUNT (KSHS)
2.2.1	BONDS The Contractor shall find and submit with the Form of Tender a guarantor and who will be willing to be bound the Government in the amount of the bond. The amount of the bond is SPECIFIED IN THE PARTICULAR PRELIMINARIES. The guarantor shall be an approved institution as specified in the particular preliminaries or invitation to tender and who will when and if called upon, sign a Bond to that effect on the relevant standard form included herein. (without the addition of any limitations) on the same day as the Contract Agreement is signed, by the Government, the Contractor shall furnish within seven days another Surety to the approval of the Government.	
2.2.2	PERFORMANCE BOND 10% bond shall be required from the specified institution. The period for supplying the bond shall be 14 days. No contract shall be signed, NOR shall any payment be made before the bidder has complied with the bond requirements Failure to deliver the bond within the specified period shall automatically disqualify the bidder and the tender shall be awarded to next most responsive bidder without reference to the defaulting bidder. Should the bidder commence works and subsequently fail to provide the bond, he shall be evicted from site without any reimbursement notwithstanding the site having been handed over by the PM and client. The handing over only kick-starts the process and is not a waiver to bond conditions. The bond for the due performances of the Contract shall be valid up to the date of completion as certified by the PROJECT MANAGER. Any bond which provides otherwise or attempts to vary the duration of validity shall be invalid. The bond shall comply in all respects with the PPOA copy enclosed in the instructions to tender. A bond that does not match the PPOA copy shall be	
2.2.3	EXCEPTION TO THE STANDARD METHOD OF MEASUREMENT Attendance ; Clause B19(a) of the Standard Method of Measurement is deleted and the following clause is substituted:- Attendance on nominated Sub-Contractors shall be given as an item in each case shall be deemed to include: allowing use of standing scaffolding, mess rooms, sanitary accommodation and welfare facilities; provision of special scaffolding where necessary; providing space for office accommodation and for storage of plant and materials; providing light and water for their work; clearing away rubbish; unloading checking and hoisting; providing electric power and removing and replacing duct covers, pipe casings and the like necessary for the execution and testing of Sub- Contractors' work and being responsible for the accuracy of the same. Fix Only:- "Fix Only" shall mean take delivery at nearest railway station (Unless otherwise stated), pay all demurrage charges, load and transport to site where necessary, unload, store, unpack, assemble as necessary, distribute to position, hoist and fix only.	
	<i>Carried to collection</i>	

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	AMOUNT (KSHS)
2.3.1	<p>Throughout these Bills, units of measurement and terms are abbreviated</p> <p>C.M. Shall mean cubic metre</p> <p>S.M. Shall mean square metre</p> <p>L.M. Shall mean linear metre</p> <p>MM Shall mean Millimetre</p> <p>Kg. Shall mean Kilogramme</p> <p>No. Shall mean Number</p> <p>Prs. Shall mean Pairs</p> <p>B.S. Shall mean the British Standard Specification Published by the British Standards Institution, 2 Park Street, London W.I., England.</p> <p>"K.S" Shall mean the current Kenya Standard specification published by the Kenya Bureau of Standards, P.O. Box 54974, NAIROBI, Kenya.</p> <p>Ditto Shall mean the whole of the preceding description except as qualified in the description in which it occurs.</p> <p>m.s. Shall mean measured separately.</p> <p>a.b.d Shall mean as before described.</p> <p>"Approved" Shall mean approved by the Project Manager and the Employer in writing.</p> <p>"As directed" Shall mean as directed by the Project Manager and the Employer in writing.</p> <p>"Demolish" Shall be deemed to mean cutting away, breaking up, demolishing, pulling down, taking down, removing, etc., as the context requires and shall include in all cases temporarily strutting and supporting and making good remaining work as necessary, and clearing away and removing from Site all debris, etc.</p> <p>"Remove" Shall mean taking down, hacking up, breaking down, removing etc., and clearing away from Site and all other expenses thereby entailed.</p> <p>"Make good" Shall be deemed to mean all making good, fitting, facing up, plastering, paving, repairing and painting to match and jointing to remaining existing work.</p> <p>To "match" Shall mean to be equal to relevant existing work in design, workmanship and all other respects.</p> <p>"Re-fix" Shall apply to existing materials arising from the Works and shall mean take from store and fix in new position, including making good, repairing and adjusting as necessary.</p>	
	<i>Carried to collection</i>	

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	AMOUNT (KSHS)
2.4.1	PLANT, TOOLS AND VEHICLES Allow for providing all scaffolding, plant, tools and vehicles required for the works except in so far as may be stated otherwise herein and except for such items specifically and only required for the use of nominated Sub-Contractors as described herein. No timber used for scaffolding, formwork or temporary works of any kind shall be used afterwards in the permanent work.	
2.4.2	TRANSPORT. Allow for transport of workmen, materials, etc., to and from the site at such hours and by such routes as may be permitted by the competent authorities.	
2.4.3	MATERIALS AND WORKMANSHIP. All materials and workmanship used in the execution of the work shall be of the best quality and description unless otherwise stated. The Contractor shall order all materials to be obtained from overseas immediately after the Contract is signed and shall also order materials to be obtained from local sources as early as necessary to ensure that they are onsite when required for use in the works. The Bills of Quantities shall not be used for the purpose of ordering materials.	
2.4.4	SIGN FOR MATERIALS SUPPLIED. The Contractor will be required to sign a receipt for all articles and materials supplied by the PROJECT MANAGER at the time of taking deliver thereof, as having received them in good order and condition, and will thereafter be responsible for any loss or damage and for replacements of any such loss or damage with articles and/or materials which will be supplied by the PROJECT MANAGER at the current market prices including Customs Duty and V.A.T., all at the Contractor's own cost and expense, to the satisfaction of the PROJECT MANAGER	
2.4.5	STORAGE OF MATERIALS The Contractor shall provide at his own risk and cost where directed on the site weather proof lock-up sheds and make good damaged or disturbed surfaces upon completion to the satisfaction of the PROJECT MANAGER Nominated Sub-Contractors are to be made liable for the cost of any storage accommodation provided especially for their use.	
2.4.6	ORDERING OF MATERIALS The Contractor must assist in alleviating the effects of possible shortages of materials by advance ordering of materials in order to maintain a continuous supply. Early delivery of materials will be permitted and included in interim certificates and upon request by the Project Manager, the Contractor will be required to produce copies of order forms and invoices to establish that materials have been ordered in sufficient time and to check on material deliveries.	
	<i>Carried to collection</i>	

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	AMOUNT (KSHS)
2.5.1	<p>SAMPLES</p> <p>The Contractor shall furnish at his own cost any samples of materials or workmanship required for the works that may be called for by the PROJECT MANAGER for his approval until such samples are approved by the PROJECT MANAGER and the PROJECT MANAGER, may reject any materials or workmanship not in his opinion to be up to approved samples. The PROJECT MANAGER shall arrange for the testing of such materials as he may at his discretion deem desirable, but the testing shall be made at the expense of the Contractor and not at the expense of the PROJECT MANAGER. The Contractor shall pay for the testing in accordance with the current scale of testing charges laid down by the Ministry of Public Works.</p> <p>The procedure for submitting samples of materials for testing and the method of marking for identification shall be as laid down by the PROJECT MANAGER The Contractor shall allow in his tender for such samples and tests except those in connection with nominated sub-contractors' work.</p> <p>samples of paint, carpets, curtains & covers, tiles & timber shall be required for approval by the PM together with the employer.</p> <p>No alternate rate shall be offered on account that the employer has chosen a superior finish unless the bidder had attached the sample he priced.</p>	
2.5.2	<p>PUBLIC AND PRIVATE ROADS.</p> <p>Maintain as required throughout the execution of the works and make good any damage to public or private roads arising from or consequent upon the execution of the works to the satisfaction of the local and other competent authority and the PROJECT MANAGER.</p>	
2.5.3	<p>EXISTING PROPERTY.</p> <p>The Contractor shall take every precaution to avoid damage to all existing property including roads, cables, drains and other services and he will be held responsible for and shall make good all such damage arising from the execution of this contract at his own expense to the satisfaction of the PROJECT MANAGER.</p>	
2.5.4	<p>ACCESS TO SITE AND TEMPORARY ROADS.</p> <p>Means of access to the Site shall be agreed with the PROJECT MANAGER prior to commencement of the work and Contractor must allow for building any necessary temporary access roads for the transport of the materials, plant and workmen as may be required for the complete execution of the works including the provision of temporary culverts, crossings, bridges, or any other means of gaining access to the Site. Upon completion of the works, the Contractor shall remove such temporary access roads; temporary culverts, bridges, etc., and make good and reinstate all works and surfaces disturbed to the satisfaction of the PROJECT MANAGER.</p>	
	<i>Carried to collection</i>	

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	AMOUNT (KSHS)
2.6.1	AREA TO BE OCCUPIED BY THE CONTRACTOR The area of the site which may be occupied by the Contractor for use of storage and for the purpose of erecting workshops, etc., shall be defined on site by the PROJECT MANAGER.	
2.6.2	SECURITY OF WORKS ETC. The Contractor shall be entirely responsible for the security of all the works stores, materials, plant, personnel, etc., both his own and sub-contractors' and must provide all necessary watching, lighting and other precautions as necessary to ensure security against theft, loss or damage and the protection of the public.	
2.6.3	PROGRESS CHART. The Contractor shall provide within two weeks of Possession of Site and in agreement with the PROJECT MANAGER a Progress Chart for the whole of the works including the works of Nominated Sub-Contractors ; one copy to be handed to the PROJECT MANAGER and a further copy to be retained on Site. Progress to be recorded and chart to be amended as necessary as the work proceeds.	
2.6.4	INSURANCE The Contractor shall insure as required in Conditions No 30 of the Conditions of Contract. No payment on account of the work executed will be made to the Contractor until he has satisfied the PROJECT MANAGER either by production of an Insurance Policy or and Insurance Certificate that the provision of the foregoing Insurance Clauses have been complied with in all respects. Thereafter the PROJECT MANAGER shall from time to time ascertain that premiums are duly paid up by the Contractor who shall if called upon to do so, produce the receipted premium renewals for the PROJECT MANAGER's inspection.	
2.6.5	CONTRACTOR'S SUPERINTENDENCE/SITE AGENT The Contractor shall constantly keep on the works a literate English speaking Agent or Representative, competent and experienced in the kind of work involved who shall give his whole experience in the kind of work involved and shall give his whole time to the superintendence of the works. Such Agent or Representative shall receive on behalf of the Contractor all directions and instructions from the Project Manager and such directions shall be deemed to have been given to the Contractor in accordance with the Conditions of Contract.	
	<i>Carried to collection</i>	

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	AMOUNT (KSHS)
2.7.1	<p>PROVISIONAL WORK</p> <p>All work described as "Provisional" in these Bills of Quantities is subject to remeasurement in order to ascertain the actual quantity executed for which payment will be made. All "Provisional" and other work liable to adjustment under this Contract shall left uncovered for a reasonable time to allow all measurements needed for such adjustment to be taken by the PROJECT MANAGER Immediately the work is ready for measuring, the Contractor shall give notice to the PROJECT MANAGER. If the Contractor makes default in these respects he shall if the PROJECT MANAGER so directs uncover the work to enable all measurements to be taken and afterwards reinstate at his own expense.</p>	
2.7.2	<p>PROVISIONAL SUMS.</p> <p>The term "Provisional Sum" wherever used in these Bills of Quantities shall have the meaning stated in Section A item A7(i) of the Standard Method of Measurement. Such sums are net and no addition shall be made to them for profit.</p>	
2.7.3	<p>ADJUSTMENT OF PROVISIONAL SUMS.</p> <p>In the final account all Provisional Sums shall be deducted and the value of the work properly executed in respect of them upon the PROJECT MANAGER's order added to the Contract Sum. Such work shall be valued , but should any part of the work be executed by a Nominated Sub-Contractor, the value of such work or articles for the work to be supplied by a Nominated Supplier, the value of such work or articles shall be treated as a P.C. Sum and profit and attendance comparable to that contained in the priced Bills of Quantities for similar items added.</p>	
2.7.4	<p>PRIME COST (OR P.C.) SUMS.</p> <p>The term "Prime Cost Sum" or "P.C. Sum" wherever used in these Bills of Quantities shall have the meaning stated in Section A item A7 (ii) of the Standard Method of Measurement . Persons or firms nominated by the PROJECT MANAGER to execute work or to provide and fix materials or goods are described herein as Nominated Sub Contractors. Persons or firms so nominated to supply goods or materials are described herein as Nominated Suppliers.</p>	
	<i>Carried to collection</i>	

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	AMOUNT (KSHS)
2.8.1	<p>ADJUSTMENT OF P.C. SUMS.</p> <p>In the final account all P.C. Sums shall be deducted and the amount properly expended upon the PROJECT MANAGER'S order in respect of each of them added to the Contract sum. The Contractor shall produce to the PROJECT MANAGER such quotations, invoices or bills, properly receipted, as may be necessary to show the actual details of the sums paid by the Contractor. Items of profit upon P.C. Sums shall be adjusted in the final account pro-rata to the amount paid. Items of "attendance" (as previously described) following P.C. Sums shall be adjusted pro-rata to the physical extent of the work executed (not pro-rata to the amount paid) and this shall apply even though the Contractor's priced Bill shows a percentage in the rate column in respect of them. Should the Contractor be permitted to tender and his tender be accepted of any work for which a P.C. Sum is included in these Bill of Quantities profit and attendance will be allowed at the same rate as it would be if the work were executed by a Nominated Sub-Contractor.</p>	
2.8.2	<p>NOMINATED SUB-CONTRACTORS</p> <p>When any work is ordered by the PROJECT MANAGER to be executed by nominated sub-contractors, the Contractor shall enter into sub-contracts and shall thereafter be responsible for such sub-contractors in every respect. Unless otherwise described the Contractor is to provide for such Sub-Contractors any or all of the facilities described in these Preliminaries. The Contractor should price for these with the nominated Sub contract Contractor's work concerned in the P.C. Sums under the description "add for Attendance".</p>	
2.8.3	<p>DIRECT CONTRACTS</p> <p>Notwithstanding the foregoing conditions, the Client reserves the right to place a "Direct Contract" for any goods or services required in the works which are covered by a P.C. Sum in the Bills of Quantities and to pay for the same direct. In any such instances, profit relative to the P.C. Sum the priced Bills of Quantities will be adjusted as described for P.C. Sums and allowed.</p>	
2.8.4	<p>ATTENDANCE UPON OTHER TRADESMEN, ETC.</p> <p>The Contractor shall allow for the attendance of trade upon trade and shall afford any tradesmen or other persons employed for the execution of any work not included in this Contract every facility for carrying out their work and also for use of his ordinary scaffolding. The Contractor, however, shall not be required to erect any special scaffolding for them. The Contractor shall perform such cutting away for and making good after the work of such tradesmen or persons as may be ordered by the PROJECT MANAGER and the work will be measured and paid for to the extent executed at rates provided in these Bills.</p>	
	<i>Carried to collection</i>	

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	AMOUNT (KSHS)
2.9.1	OFFICE ETC. FOR THE PROJECT MANAGER The Contractor shall provide, erect and maintain where directed on site a properly ventilated lockable office for the consultants, having a minimum floor area of 100 Square Metres complete with furniture (Tables, chairs e.t.c). Provision shall be made for artificial lighting and cleaning facilities for the duration of the works. Upon completion the Contractor shall dismantle and clear away the office. He shall also provide a strong metal trunk complete with strong hasp and staple fastening and two keys. He shall provide, erect and maintain a lock-up type water or bucket closet for the sole use of the PROJECT MANAGER including making temporary connections to the drain where applicable to the satisfaction of Government and Medical Officer of Health and shall provide services of cleaner and pay all conservancy charges and keep both office and closet in a clean and sanitary condition from commencement to the completion of the works and dismantle and make good disturbed surfaces. The office and closet shall be completed before the Contractor is permitted to commence the works. The Contractor shall make available on the Site as and when required by the "PROJECT MANAGER" a modern and accurate level together with levelling staff, ranging rods and 50 metre metallic or linen	
2.9.2	WATER AND ELECTRICITY SUPPLY FOR THE WORKS electric lightling and power required for use in the works. The Contractor must make his own arrangements for connection to the nearest suitable water main and for metering the water used. He must also provide temporary tanks and meters as required at his own cost and clear away when no longer required and make good on completion to the entire satisfaction of the PROJECT MANAGER . The Contractor shall pay all charges in connection herewith. No guarantee is given or implied that sufficient water will be available from mains and the Contractor must make his own arrangements for augmenting this supply at his own cost. Nominated Sub--contractors are to be made liable for the cost of any water or electric current used and for any installation provided especially for their own use.	
2.9.3	SANITATION OF THE WORKS The Sanitation of the works shall be arranged and maintained by the Contractor to the satisfaction of the Government and/or Local Authorities, Labour Department and the PROJECT MANAGER.	
2.9.4	SUPERVISION AND WORKING HOURS I he works shall be executed under the direction and to the entire satisfaction in all respects of the PROJECT MANAGER who shall at all times during normal working hours have access to the works and to the yards and workshops of the Contractor and sub-Contractors or other places where work is being prepared for the contract.	
	<i>Carried to collection</i>	

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	AMOUNT (KSHS)
2.10.1	PROTECTION OF THE WORKS. Provide protection of the whole of the works contained in the Bills of Quantities, existing property, finishes, workmen employed on the site, employer's agents and the public; including casing , casing up, covering or such other means as may be necessary to avoid damage to the satisfaction of the PROJECT MANAGER and remove such protection when no longer required and make good any damage which may nevertheless have been done at completion free of cost to the Client. Any damage or loss incurred due to the insufficiency of such protection must be made good by the Contractor	
2.10.2	WORKS TO BE DELIVERED UP CLEAN Clean and flush all gutters, rainwater and waste pipes, manholes and drains, wash (except where such treatment might cause damage) and clean all floors, sanitary fittings, glass inside and outside and any other parts of the works and remove all marks, blemishes, stains and defects from joinery, fittings and decorated surfaces generally, polish door furniture and bright parts of metalwork and leave the whole of the buildings watertight, clean, perfect and fit for occupation to the approval of the PROJECT MANAGER.	
2.10.3	GENERAL SPECIFICATION. For the full description of materials and workmanship, method of execution of the work and notes for pricing, the Contractor is referred to the Ministry of Roads and Public Works and Housing General Specification dated 1976 or any subsequent revision thereof which is issued as a separate document, and which shall be allowed in all respects unless it conflicts with the General Preliminaries, Trade Preambles or other items in these Bills of Quantities.	
2.10.4	TRAINING LEVY The Contractor's attention is drawn to the legal notice which requires payment by the Contractor of a Training Levy at the rate of 1/4 % of the Contract sum on all contracts of more than KShs. 50,000.00 in value.	
2.10.5	MATERIALS ON SITE All materials for incorporation in the works must be stored on or adjacent to the site before payment is effected unless specifically exempted by the PROJECT MANAGER. This includes the materials of the Main Contractor, Nominated Sub-Contractors and Nominated Suppliers.	
2.10.6	HOARDING The Contractor shall enclose the site or part of the works under construction with a hoarding 2400 mm high consisting of iron sheets on 100 x 50 mm timber posts firmly secured at 1800 mm centres with two 75 x 50 mm timber rails. The Contractor is in addition required to take all precautions necessary for the safe custody of the works, materials, plant, public and Employer's property on the site.	
	<i>Carried to collection</i>	

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	AMOUNT (KSHS)
2.11.1	<p>ALTERATIONS TO BILLS, PRICING, ETC.</p> <p>Any unauthorised alteration or qualification made to the text of the Bills of Quantities may cause the Tender to be disqualified and will in any case be ignored. The Contractor shall be deemed to have made allowance in his prices generally to cover any items against which no price has been inserted in the priced Bills of Quantities. All items of measured work shall be priced in detail and the Tenders containing Lump Sums to cover trades or groups of work must be broken down to show the price of each item before they will be accepted.</p>	
2.11.2	<p>MATERIALS ARISING FROM EXCAVATIONS</p> <p>Materials of any kind obtained from the excavations shall be the property of the client. Unless the PROJECT MANAGER directs otherwise such materials shall be dealt with as provided in the Contract. Such materials shall only be used in the works, in substitution of materials which the Contractor would otherwise have had to supply with the written permission of the PROJECT MANAGER Should such permission be given, the Contractor shall make due allowance for the value of the materials so used at a price to be agreed.</p>	
2.11.3	<p>PREVENTION OF ACCIDENT, DAMAGE OR LOSS</p> <p>The Contractor is notified that these works are to be carried out on a restricted site where the client is going on with other normal activities. The Contractor is thus instructed to take reasonable care in the execution of the works as to prevent accidents, damage or loss and disruption of activities being carried out by the Client. The Contractor shall allow in his rates any expense he deemed necessary by taking such care within the site.</p>	
2.11.4	<p>GOVERNMENT ACTS REGARDING WORK, PEOPLE ETC.</p> <p>Allow for complying with all Government Acts, Orders and Regulations in connection with the employment of Labour and other matters related to the execution of the works. In particular the Contractor's attention is drawn to the provisions of the Factory Act 1950 and his tender must include for all costs arising or resulting from compliance with any Act, Order or Regulation relating to Insurances, pensions and holidays for workpeople or so the safety, health and welfare of the workpeople. The Contractor must make himself fully acquainted with current Acts and Regulations, including Police Regulations regarding the movement, housing, security and control of labour, labour camps, passes for transport, etc. It is most important that the Contractor, before tendering, shall obtain from the relevant Authority the fullest information regarding all such regulations and/or restrictions which may affect the organisation of the works, supply and control of labour, etc., and allow accordingly in his tender. No claim in respect of want of knowledge in this connection will be entertained.</p>	
	<i>Carried to collection</i>	

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	AMOUNT (KSHS)
2.12.1	BLASTING OPERATIONS Blasting will only be allowed with the express permission of the PROJECT MANAGER in writing. All blasting operations shall be carried out at the Contractor's sole risk and cost in accordance with any Government regulations in force for the time being, and any special regulations laid down by the PROJECT MANAGER governing the use and storage of explosives.	
2.12.2	SIGNBOARD Allow for providing, erecting, maintaining throughout the course of the Contract and afterwards clearing away a signboard as designed, specified and approved by the Project Manager.	
2.12.3	NUISANCE The Contractor must take such steps and exercise such care and diligence so as to minimize nuisance from dust, noise or any other cause, to the occupiers of adjacent properties	
2.12.4	PROTECTION OF TREES The Contractor shall in the course of construction take all necessary precautions to preserve any existing trees. The contractor will not cut down any tree(s) without express authority or written instruction by the Project Manager and relevant authorities. He must at all times liaise with the Project Manager in this regard. The cost of obtaining any necessary permits will be borne by the Contractor.	
2.12.5	EXTENDED PRELIMINARIES In case the Contractor suffers costs due to extended preliminaries as a result of excusable delays. Then the Employer shall compensate the Contractor the ACTUAL COST of such extended preliminaries plus 10% administrative costs. Such costs will be proven with payment receipts, payroll etc. No further claims shall be allowed with respect to the same.	
2.12.6	TIMELY PAYMENT FOR LABOURERS The Contractor shall ensure that his workers are paid their wages promptly and on time. If such payments are effected weekly the Contractor shall ensure that workers are paid on the appointed day to avoid any disruption of work occasioned by the failure of the Contractor to pay workers on time and shall be required to furnish proof to that effect,	
	<i>Carried to collection</i>	

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	AMOUNT (KSHS)
	<p style="text-align: center;">COLLECTION</p> <p>Brought Forward From Page GP/1</p> <p>Brought Forward From Page GP/2</p> <p>Brought Forward From Page GP/3</p> <p>Brought Forward From Page GP/4</p> <p>Brought Forward From Page GP/5</p> <p>Brought Forward From Page GP/6</p> <p>Brought Forward From Page GP/7</p> <p>Brought Forward From Page GP/8</p> <p>Brought Forward From Page GP/9</p> <p>Brought Forward From Page GP/10</p> <p>Brought Forward From Page GP/11</p> <p>Brought Forward From Page GP/12</p>	
	<p>TOTAL FOR GENERAL PRELIMINARIES CARRIED TO GRAND SUMMARY</p>	-

ESMP

BILL NO.3

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
3.1.1	<p>ELEMENT NO.1</p> <p><u>PRELIMINARIES FOR HEALTH AND SAFETY, AIR AND NOISE MONITORING & CONTROL, WASTE MANAGEMENT</u></p> <p><u>The Tenderer's attention is drawn to the fact that the Employer reserves the right to hold back the amount priced against below items either in full or in part due to any non-performance on the Contractor's part of his obligations.</u></p> <p><u>The Contractor will be required to monitor, keep records and report on the following environmental and social issues for the project in manner acceptable to the World Bank and Government of Kenya:</u></p> <p><u>SAFETY, HEALTH AND WELFARE OF WORKERS</u></p> <p>The Contractor shall allow for providing for the safety, health and welfare of work people and for complying with any relevant Ordinances, Regulations or Union Agreement</p> <p>In addition to complying with the requirements of the Occupational Safety & Health Act 2007 and the Factories Act, the Contractor and Sub-Contractors shall be required to comply in all respects with the Factories (Building Operations and Work of Engineering Construction) rules together with the Construction Safety Plan in compliance with International Labour Organizations (ILO) Regulations.</p> <p>The Contractor will further be required to identify a Site Environment Health and Safety Officer in accordance with the above Rules who will be responsible for the health and safety of workers on the site. This includes awareness and sensitization on environmental protection, occupational and community health and safety, code of conduct for contractors personnel, risk of spread of communicable diseases including sexually transmitted diseases such as HIV/AIDS, Gender Equity, Sexual Harassment and abuse amongst workers in the workplace, Spread of COVID-19 amongst community members during the consultation processes and Grievance redress mechanism.</p>				
		Item	1	1,500,000	1,500,000
	Total Carried to Collection			Ksh	1,500,000

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<p>The Contractor will also be required to provide approved personal protective equipment such as good quality hard hats, gumboots, safety boots and other necessary protective gear for all workers on site including Sub-Contractors' workers and also for the exclusive use by the Clerk of Works and representatives of the Employer and Consultants.</p> <p>The tenderer's attention is further drawn to the fact that he is required to submit with his tender a detailed write-up on how he intends to implement the above Construction Safety Plan. It should be noted that this write-up will form a heavily weighted criteria in the evaluation of the tenders.</p> <p>The contractor will be required to provide adequate temporary Notices and Signs shall be posted to indicate e.g. that "construction is in progress" and "entry is at ones own risk" or "trespassers are liable to be prosecuted" or such other Notices and Signs as the Architect may consider necessary from time to time. The design and location of such signs will be to the approval of the Architect.</p> <p>The Contractor is expected to also come up with an Emergency Response plan</p> <p><u>SANITATION OF THE WORKS</u></p> <p>The sanitation of the works shall be provided, maintained and removed on completion of works by the Contractor to the satisfaction of the Architects, health department and local Authorities.</p> <p>The sanitation facilities should be gender sensitive (separate for male and female)shall be for the use by Contractors and sub- Contractors workmen etc without charge.</p> <p>The Latrine/toilet shall be enclosed plastered and painted masonry wall, corrugated sheets roofs ,with concrete tiled floors to facilitate washing. Their location shall be agreed with the Architects and the works shall not be commenced before the sanitary accommodation has been approved by the above mentioned authorities.</p>				
3.2.1		Item	1	500,000	500,000
	Total Carried to Collection			Ksh	500,000

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
3.3.1	<p>The Contractor will be required to pay all conservancy charges and shall ensure clean daily maintenance and disinfecting of the latrines/toilet, and not less than once per week, the whole area shall be sprayed with disinfectant and insecticides and any temporary drains shall be removed and all works and surfaces disturbed made good and then the whole area disinfected and left clean and free from pollution to the satisfaction of the Architect and local authorities.</p> <p><u>PREVENTION OF DISTURBANCE AND NUISANCE</u></p> <p>Tenderers should note that normal activities shall be continuing in the surrounding buildings during the construction period.</p> <p>Minimum disturbance by noise, dust, water or movement of vehicles, materials, labour or plant must be caused to the function of the existing adjacent buildings in the vicinity and the occupants and staff therein. The Contractor shall comply with all instructions issued by the Employer or Architect with regard to minimizing such disturbances.</p> <p>The Contractor shall not directly or indirectly or otherwise by himself or through his agents cause nuisance. Should he do so he shall be directly responsible for such acts.</p> <p>The works and such sections of the site necessary shall be under the entire care and control of the contractor during the whole period of the contract and shall take all possible precautions to prevent any nuisance, inconvenience or injury to the holder or occupiers of the existing or surrounding properties and to the public generally, and shall at all times keep all paths and roads affected by the works in a safe and clear state, and shall use proper precautions to ensure the safety of all wheeled traffic and pedestrians.</p>	Item	1	500,000	500,000
	<p><u>GRIEVANCE REDRESS MECHANISM (GRM) WORKER</u></p> <p>The Contractor shall employ, maintain and equip throughout the project duration staff assigned the functions for GRM and the implementation of social safeguard issues.</p>				
	Total Carried to Collection			Ksh	1,520,000

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
3.4.1	<u>CLEANING, REMOVAL OF PLANT AND RUBBISH ETC</u>				
	The Contractor shall upon completion of the works remove and clear away all temporary buildings, scaffolding, plant, rubbish and unused materials, surplus excavated materials and shall leave the whole of the site of the works in a clean and tidy state to the satisfaction of the Architect, including clearing away and making good all traces of dirt.				
	The contractor will come up with a Solid and liquid Waste Management and handling Plan to guide and manage the collection and disposal of solid/liquid waste at the site.				
	Particular care shall be taken in leaving windows, floors and fittings clean and the removal of all paint and cement stains therefrom.				
	He shall also remove all rubbish and dirt from the site as it accumulates or as directed by the Architect. The Contractor is to find his own dump and shall pay all charges in connection therewith.	Item	1	400,000	400,000
3.4.2	<u>AMBIENT AIR QUALITY AND NOISE MONITORING</u>				
	The Contractor to carry out continuous monitoring of the ambient air quality and Noise measurements as well as vibration monitoring on quarterly basis during the construction phase and this should be done at different weather and seasons to ensure that all the weather patterns are taken into consideration during the monitoring process.				
		Item	1	300,000	300,000
3.4.3	<u>TRAFFIC CONTROL AND MANAGEMENT</u>				
	It will be necessary for the Contractor to provide safety road signage on busy roads around the construction site, temporarily during the construction period. The contractor should arrange diversions for providing alternative route for transport. After breaking up, closing or otherwise interfering with any street or footpath to which the public has access, the Contractor shall make such arrangements as may be reasonably necessary so as to cause as little interference with the traffic in that entrance road or footpath during construction as shall be reasonably practicable.				
		Item	1	300,000	300,000
	Total Carried to Collection			Ksh	1,000,000

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<p>The Contractor will also come up with a Traffic Management Plan to ensure safety of local communities from construction traffic</p> <p><u>MOVEMENT OF TRUCKS OR MACHINERY</u></p> <p>The Contractor moving solid or liquid construction materials and waste shall take strict measures to minimize littering of roads by ensuring that vehicles are licensed and loaded in such a manner as to prevent falling off or spilling of construction materials and by sheeting the sides and tops of all vehicles carrying mud, sand, other materials and debris. Construction materials should be brought from registered/approved sources in the city or from the city and debris should be transferred to assigned places in the landfill with documented confirmation.</p>				
3.5.1		Item	1	300,000	300,000
	<p><u>PROTECTION OF EXISTING INSTALLATION</u></p> <p>The Contractor shall take all necessary measures required for the support and protect structures, pipes, cables, sewers and other apparatus during the construction period, and to repair any damage occurs in coordination with local resident association, Government and any concerned authorities.</p>				
3.5.2		Item	1	100,000	100,000
	<p><u>PHYSICAL CULTURAL RESOURCES</u></p> <p>The contractor will train construction crews and supervisors to spot potential archaeological finds. In the event of a potential find, the contractor will inform the implementing partner who will in turn liaise with the archaeological department at the Ministry of Culture, and Social Services or a local university for quick assessment and action. Clear record keeping and expert verification procedures, criteria for temporary work stoppages that may be required to allow for rapid resolution of issues in the field and the chain of custody must be clear from the onset.</p>				
3.5.3		Item	1	100,000	100,000
	<p>The Contractor will come up with a Water Resource Protection Plan to prevent contamination of drinking water</p>				
	Total Carried to Collection below			Ksh	500,000

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>SECTION SUMMARY- ESMP</u>				
	Total Brought Forward from Page ESMP/1				1,500,000
	Total Brought Forward from Page ESMP/2				500,000
	Total Brought Forward from Page ESMP/3				1,520,000
	Total Brought Forward from Page ESMP/4				1,000,000
	Total Brought Forward from Page 5 above				500,000
	TOTAL FOR DAY WORKS CARRIED TO GRAND SUMMARY				5,020,000

FISH BANDA

BILL NO.4

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>(All rates are V.A.T Inclusive)</u>				
	<u>BUILDING WORKS</u>				
	<u>ELEMENT NO 1.</u>				
	<u>SUBSTRUCTURE WORKS (All Provisional)</u>				
4.1.1	Carefully demolish existing structure, including its substructure, walls, concrete structure, doors, windows, roof structure, electrical and mechanical works and cart away debris as directed by the project manager. Approximate gross floor area of 180m2	1	SUM		
4.1.2	Cut down existing trees between 600 - 900mm girth, grub up their roots and cart away arisings	10	NO		
4.1.3	Clear site of all bushes, tufts and any small or large trees, including grubbing out roots and burn on site where directed	280	SM		
	<u>EXCAVATION AND EARTHWORKS</u>				
4.1.4	Excavate oversite average 250mm deep and cart away	280	SM		
4.1.5	Excavate trench for strip foundation: not exceeding 1.5m deep	159	CM		
4.1.6	Excavate for column pits: not exceeding 1.5m	91	CM		
4.1.7	Ditto 1.5m to 3.0m deep	31	CM		
4.1.8	Extra over excavation from rock of any class in any position	281	CM		
	<u>Disposal of excavated material</u>				
4.1.9	Return fill in and ram in excavations	172	CM		
4.1.10	Load and cart away surplus material	109	CM		
	<u>Disposal of Water</u>				
4.1.11	Allow for keeping the whole of the excavation free from mud, water and fallen materials	1	Item		
	<u>Planking and strutting</u>				
4.1.12	Allow for planking and strutting sides of	1	Item		
	<u>Filling</u>				
4.1.13	300mm thick (minimum) approved hardcore handpacked in layers not exceeding 150mm	221	SM		
	TOTAL SUBSTRUCTURE WORKS FORWARD TO ELEMENT COLLECTION				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>SUBSTRUCTURES CONTINUED</u>				
4.2.1	50mm thick murrum dust or any other equal and approved material in blinding surface of hardcore	221	SM		
	<u>Insecticide Treatment</u>				
4.2.2	Treat hardcore surface with approved antitermite applied in accordance with the manufacturer's instructions and subject to a TEN YEAR guarantee	221	SM		
	<u>WATERPROOFING</u>				
4.2.3	1000 gauge polythene sheet damp proof membrane including 300mm laps	255	SM		
	<u>CONCRETE WORKS</u>				
	<u>Insitu concrete class 15/20: in</u>				
4.2.4	50mm thick concrete blinding to surfaces of strip footing	103	SM		
4.2.5	Ditto column bases	61	SM		
	<u>Vibrated reinforced concrete class 25/20</u>				
4.2.6	Strip footing	21	CM		
4.2.7	Columns Bases	25	CM		
4.2.8	Columns	3	CM		
4.2.9	150mm thick floor slab	248	SM		
4.2.10	Ditto ramp to details	7	SM		
	Extra over in slab to forming or leaving 300mm wide shallow drainage channels;average 300mm deep 'U' channel in hardcore and floor slab; including hand packing to sides of channel;150mm thick concrete class 25/20 to sides and bed of channel including 50mm blinding class 15/20 and all necessary formwork and reinforcement, all to detail and approval	70	LM		
	<u>High Tensile Reinforcement Bars to B. S. 4449 including cutting, bending and all necessary spacer blocks : (Provisional) :-</u>				
	<u>Ribbed bars to KS ISO 6935-2:2007</u>				
4.2.12	8mm dia reinforcement bars	110	KG		
4.2.13	10mm dia reinforcement bars	870	KG		
4.2.14	12mm dia reinforcement bars	940	KG		
4.2.15	16mm dia reinforcement bars	400	KG		
	BRC Fabric mesh reinforcement Ref. A142; weighing 2.22kg per square metre(measured net no allowances made for laps) including bends tying wire and spacer blocks.	255	SM		
	<u>Marineply formwork as Described. Allow for setting to special steel propping, strutting, fillets, nails, etc to:</u>				
4.2.17	Edges of strip footing	69	SM		
	TOTAL SUBSTRUCTURE WORKS FORWARD TO ELEMENT COLLECTION				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>SUBSTRUCTURES CONTINUED</u>				
4.3.1	Ditto but to column bases	58	SM		
4.3.2	Ditto but to sides of columns	43	SM		
4.3.3	Ditto but to edges of floor slabs 75-150mm girth	76	LM		
	<u>FOUNDATION WALLING</u>				
4.3.4	200mm solid coral block foundation wall in cement:sand (1:3) reinforced with hoop iron at every to alternative course	258	SM		
	<u>PLINTH FINISHES</u>				
4.3.5	15mm cement and sand (1:4) render trowelled smooth and comprising 12mm thick backing and 3mm finishing coat.	38	SM		
	<u>Painting and Decoration</u>				
4.3.6	Prepare and apply 3 coats of first quality bituminous paint or equal and approved to rendered surfaces	38	SM		
	<u>Carried to collection</u>				
	<u>ELEMENT NO. 1 (SUBSTRUCTURE WORKS) COLLECTION</u>				
A	Total Substructure Works brought forward from page FB/1				
B	Total Substructure Works brought forward from page FB/2				
C	Total Substructure Works brought forward from page FB/3 ABOVE				
	TOTAL ELEMENT NO. 1 (SUBSTRUCTURE WORKS), CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO 2.</u>				
	<u>SUPERSTRUCTURE REINFORCED CONCRETE WORKS</u>				
	<u>Vibrated reinforced concrete class 25/20</u>				
4.4.1	Beams	12	CM		
4.4.2	Gutters	19	CM		
4.4.3	Columns	8	CM		
4.4.4	150mm thick roof slab	278	SM		
	<u>Stairs</u>				
4.4.5	Stairs (steps and waist)	3	CM		
4.4.6	150mm thick landing	3	SM		
	<u>High Tensile Reinforcement Bars to B. S. 4449 including cutting, bending and all necessary spacer blocks : (Provisional) :-</u>				
	<u>Ribbed bars to KS ISO 6935-2:2007</u>				
4.4.7	Assorted Bars	12,705	KG		
	<u>Sawn Treated cypress formwork to: -</u>				
4.4.8	Sides of Ring Beams	151	SM		
4.4.9	Sides and soffits of gutter beams	166	SM		
4.4.10	Soffits of columns	110	SM		
4.4.11	To soffits of roof slab	278	SM		
4.4.12	To Edges of roof slab 75-150mm	113	LM		
	<u>Stairs</u>				
4.4.13	Sloping soffites of staircases	8	SM		
4.4.14	Surfaces of risers 75-150mm high	24	SM		
4.4.15	Soffits of landing	3	SM		
4.4.16	Edges of ditto 75-150mm high	5	LM		
4.4.17	Raking edges of staircase; average girth of 350mm	7	LM		
	<u>Creation of Arches</u>				
4.4.18	Construction and formation of decorative arches around windows and the main door externally and main arches at terrace finished same as external walls; 1000 - 3000 mm diameter; including all necessary formworks and reinforcements; all to Architect's details	15	No		
	TOTAL FOR ELEMENT NO. 2 (SUPERSTRUCTURE REINFORCED CONCRETE WORKS), CARRIED FORWARD TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 3</u>				
	<u>WALLING</u>				
	<u>External walling</u>				
	<u>Machine cut natural stone or machine cut coral stone or hollow concrete block walling ; load bearing 7.0 N/mm2: reinforced with 20 gauge 25mm hoop iron strips laid horizontally every alternate course: bedded and jointed in cement and sand (1:3) mortar</u>				
4.5.1	200mm mm thick	222	SM		
4.5.2	200mm thick at parapet wall; including allowing for crenellation to architect's detail	111	SM		
	<u>Internal walling</u>				
	<u>Machine cut natural stone or machine cut coral stone or hollow concrete block walling ; load bearing 7.0 N/mm2: reinforced with 20 gauge 25mm hoop iron strips laid horizontally every alternate course: bedded and jointed in cement and sand (1:3) mortar</u>				
4.5.3	200mm mm thick	147	SM		
4.5.4	100mm thick	53	SM		
	<u>WATERPROOFING</u>				
4.5.5	Hessian based bituminous felt damp proof course 200mm wide	102	LM		
4.5.6	Ditto 100mm	21	LM		
	<u>Pre-cast concrete class 20/20 precast ventilation blocks</u>				
4.5.7	600x600x150mm thick vents block with floral motifs; bedded and jointed in cement and sand (1:3) mortar and reinforced every alternate course with hoop iron.:To architect's details	14	SM		
	<u>Pre-cast concrete class 20/20 concrete coping</u>				
4.5.8	250 x 50 mm high precast concrete coping weathered and throated on both sides and jointed to wall in cement sand mortar 1:3 all to approval	202	LM		
	TOTAL FOR ELEMENT NO. 3 (WALLING), CARRIED FORWARD TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 4				
	ROOFING				
	FLAT ROOF FINISHES				
4.6.1	50 mm cement sand 1:3 water proof screed to flat roof slab,gutters,water tank area and sides of parapet walls; laid to fall and crossfalls	240	SM		
4.6.2	Apply one coat bituminous primer to surface of screed.	240	SM		
	Supply and apply 4mm thick bituminous felt membrane heat welded in 200mm overlaps and all necessary surface preparations; applied strictly in accordance with printed manufacturer's instructions; provide a 10 year guarantee				
4.6.3	To roof slabs and water tank area	205	SM		
4.6.4	Ditto sides of wall 200mm high	172	LM		
4.6.5	50 x 50mm internal angle fillet	172	LM		
	Floor Finishes				
	Cement and sand (1:4) screeding smooth trowelled				
4.6.6	32mm Thick floor screed to receive concrete interlocking tiles	205	SM		
4.6.7	200 x 200 x 25mm thick concrete interlocking tiles at roof slab; bedding and jointing in cement mortar mix 1:4(m/s)	205	SM		
4.6.8	100mm high matching skirting	172	LM		
	Unplasticized PVC downpipes and fittings: solvent welded joints				
	Rainwater goods				
4.6.9	150mm dia PVC down pipes fixed to wall with holding clips at 1200mm centres	15	LM		
4.6.10	Extra over for running outlet	5	NO		
4.6.11	Extra over for swan neck 1000mm long	5	NO		
4.6.12	Extra over for shoe 1000mm long	5	NO		
4.6.13	Extra over 150mm fulbora outlets including galvanised expanded metal mesh	5	NO		
	TOTAL FOR ELEMENT NO. 4 (ROOFING) CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 5</u>				
	<u>DOORS</u>				
	<u>Louvred Doors</u>				
	<u>50mm thick mvule louvred door comprising of 50x3mm louvres set at 45 degrees at 50mm centres;solid blocking for iron mongery (m/s) to door : all in accordance with Architect's details</u>				
4.7.1	Double leaf door overall size 1500 x 2400; complete with timber louvred fanlight size 1500x300mm high as D005	2	NO		
4.7.2	Single leaf door overall size 1100 x 2400; complete with timber louvred fanlight size 1100x300mm high as D006	1	NO		
4.7.3	Single leaf door overall size 1100 x 2400; complete with timber louvred fanlight size 1100x300mm high as D009	2	NO		
4.7.4	Single leaf door overall size 1100 x 2400; complete with timber louvred fanlight size 1000x300mm high as D001	2	NO		
4.7.5	Single leaf door overall size 900 x 2400; complete with timber louvred fanlight size 900x300mm high as D004	2	NO		
4.7.6	Single leaf door overall size 900 x 2100 as D002	4	NO		
	<u>Panel Doors</u>				
	<u>50mm thick mvule panelled door: comprised of 200 x 50mm thick stiles, top and middle rail: 200 x 50mm thick bottom rail ; complete with moulded grooves to door leaf on both sides ;solid blocking to iron mongery (m/s) to door</u>				
4.7.7	Single leaf door overall size 900 x 2400mm high; complete with and including 6mm thick laminated glass at fanlight size 900x300mm high as D003	6	NO		
	<u>FRAMES (Wrot Mvule)</u>				
4.7.8	150x50mm.rebated frame plugged	108	LM		
4.7.9	Ditto transome	16	LM		
4.7.10	50 x 25mm. Splayed architrave.	108	LM		
4.7.11	25mm quadrant moulds	108	LM		
	TOTAL CARRIED FORWARD				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	DOORS CONTINUED... <u>BROUGHT FORWARD FROM PAGE FB/7</u>				
	Ironmongery Supply and fix the following ironmongery from an approved manufacturer including all necessary matching screws;all ironmongery to be stainless steel grade 3.1.6 marine grade				
4.8.1	3 - Lever mortice lock; complete with lockcase and handle	13	NO		
4.8.2	2 - Lever mortice lock; ditto with indicator	6	NO		
4.8.3	100mm. Pressed butt hinges	19.5	PRS		
4.8.4	150mm heavy duty double action spring hinges	12.0	PRS		
4.8.5	38mm. Diameter door stop on floor / wall to approval	25	NO		
4.8.6	Heavy duty Door closer to an approved sample	13	NO		
4.8.7	Ditto double action door closer	8	NO		
4.8.8	800 x 200mm high stainless steel kick plate onto both sides to approval	12	NO		
4.8.9	150 x 150mm sex indicator plate	4	NO		
4.8.10	500 x 150mm signage plate	7	NO		
4.8.11	Coat and hat hook	6	NO		
	Painting and Decoration Prepare and apply three coats of premium quality marine grade clear varnish; Matt quality to:-				
4.8.12	General surfaces of wood exceeding 200mm but not exceeding 300mm girth	232	LM		
4.8.13	Ditto; girth not exceeding 100mm	108	LM		
4.8.14	Doors both internally and externally	89	SM		
	Prepare and apply one coat aluminium primer before fixing: to backing of wood				
4.8.15	Surfaces over 200 but not exceeding 300mm	216	LM		
4.8.16	Surfaces not exceeding 100mm	108	LM		
	TOTAL FOR ELEMENT NO. 5 (DOORS), CARRIED FORWARD TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 6				
	FINISHES				
	EXTERNAL FINISHES				
	Walls				
4.9.1	25mm thick cement and sand (1:3) render to:- 25mm thick cement and sand Rendering to walls, beams and columns, finished with a wood float	496	SM		
4.9.2	Prepare and apply one undercoat and two finishing coats marine grade weatherguard(silicone based) exterior paint as approved to: Fair faced surfaces of walls,beams,gutters and columns	496	SM		
4.9.3	Floor Finishes Cement and sand (1:4) screeding smooth trowelled 32mm Thick floor screed to receive terrazzo	78	SM		
4.9.4	Polished Terrazzo paving 25mm thick insitu polished terrazzo laid on concrete in approved coloured aggregate finished smooth including sanding and polishing	78	SM		
4.9.5	20 x 100mm ditto skirting	44	LM		
4.9.6	25 mm wide Slip-resistant Carborandum inserts on Terrazzo treads bonded with an approved adhesive	79	LM		
4.9.7	Plastic dividing strips 32 x 3mm thick plastic dividing strips	114	LM		
4.9.8	Ceiling finishes Concrete Finishes 15mm thick two coat gauged cement lime and sand (1:2:9) plaster steel trowelled smooth to concrete surfaces	78	SM		
4.9.9	Prepare surface, apply undercoat and apply three coats PVA based premium quality marine grade silk vinyl emulsion paint or other equal and approved to plastered surfaces	78	SM		
	TOTAL CARRIED FORWARD				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	FINISHES CONTINUED... <u>BROUGHT FORWARD FROM PAGE FB/9</u>				
	<u>INTERNAL FINISHES</u>				
	<u>Wall and Concrete Finishes</u>				
4.10.1	15mm thick two coat gauged cement lime and sand (1:2:9) plaster steel trowelled smooth to walls and concrete surfaces.	534	SM		
4.10.2	Prepare surface, apply undercoat and apply three coats PVA based premium quality marine grade silk vinyl emulsion paint or other equal and approved to plastered surfaces.	534	SM		
4.10.3	12mm cement and sand (1:3) plaster to walls and concrete surfaces trowelled smooth; to receive wall tiles (m/s).	223	SM		
	<u>Wall Tiles</u>				
4.10.4	330 x 330 x 6mm Thick glazed ceramic wall tiles bedding and jointing in cement and sand (1:3) mortar and flush pointed with white cement;including matching grouting, waterproof adhesive,spacers and edge protectors where required	223	SM		
4.10.5	12mm girth PVC Edgings	124	LM		
	<u>Floor Finishes</u>				
	<u>Cement and sand (1:4) screeding smooth trowelled</u>				
4.10.6	32mm Thick floor screed to receive tiles	21	SM		
4.10.7	Ditto to receive terrazzo	162	SM		
4.10.8	Ditto to receive terrazzo staircase landing	3	SM		
4.10.9	Ditto to treads 300mm wide	24	LM		
4.10.10	Ditto to risers 150mm high	24	LM		
	<u>Ceramic floor tiles</u>				
4.10.11	Supply and fix 10 mm thick non-slip ceramic floor tiles on prepared backing including matching grouting, waterproof adhesive,spacers and edge protectors where required; overall size 330mm x 330mm.	21	SM		
4.10.12	Ditto 100mm high skirting	42	LM		
	<u>Polished Terrazzo paving</u>				
4.10.13	25mm thick insitu polished terrazzo laid on concrete in approved coloured aggregate finished smooth including sanding and polishing	165	SM		
4.10.14	Ditto to treads 300mm wide	24	LM		
4.10.15	Ditto to risers 150mm high	24	LM		
4.10.16	20 x 100mm ditto skirting	134	LM		
4.10.17	25 mm wide Slip-resistant Carborandum inserts on Terrazzo treads bonded with an approved adhesive	100	LM		
	TOTAL CARRIED FORWARD				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	FINISHES CONTINUED...				
	<u>BROUGHT FORWARD FROM PAGE FB/10</u>				
4.11.1	Plastic dividing strips 32 x 3mm thick plastic dividing strips	248	LM		
	<u>Ceiling finishes</u>				
	<u>Concrete Finishes</u>				
4.11.2	15mm thick two coat gauged cement lime and sand (1:2:9) plaster steel trowelled smooth to concrete surfaces	183	SM		
4.11.3	Prepare surface, apply undercoat and apply three coats PVA based premium quality marine grade silk vinyl emulsion paint or other equal and approved to plastered surfaces	183	SM		
	<u>Staircase soffits finish</u>				
4.11.4	15mm thick two coat gauged cement lime and sand (1:2:9) plaster steel trowelled smooth to concrete surfaces	13	SM		
4.11.5	Ditto to raking edges of staircase average girth of 350mm	7	LM		
4.11.6	Prepare surface, apply undercoat and apply three coats PVA based premium quality marine grade silk vinyl emulsion paint or other equal and approved to plastered surfaces	13	SM		
4.11.7	Ditto to raking edges of staircase average girth of 350mm	7	LM		
	TOTAL FOR ELEMENT NO. 6 (FINISHES) CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 8</u>				
	<u>FIXTURES AND FITTINGS</u>				
	Worktop				
4.12.1	100mm thick plain concrete class 15/20 in plinth	34	SM		
4.12.2	Reinforced concrete class 25/20 in 100mm worktops	34	SM		
	Formwork to:-				
4.12.3	Soffites of worktops	34	SM		
4.12.4	Edges of worktops and plinths 75-150mm high	124	LM		
4.12.5	10mm diameter high yield reinforcement bars as described before	340	KG		
4.12.6	100mm thick coral block walling in cement/sand 1:3 mortar	40	SM		
4.12.7	15mm thick cement sand (1:3) plaster of worktop	34	SM		
4.12.8	Ditto walls	80	SM		
	Polished Terrazzo paving				
4.12.9	25mm thick insitu polished terrazzo laid on concrete in approved coloured aggregate finished smooth including sanding and polishing	114	SM		
	Plastic dividing strips				
4.12.10	32 x 3mm thick plastic dividing strips	171	LM		
	Stainless steel grating				
4.12.11	300mm wide stainless steel channel grating grade 3.1:6 marine grade: comprising 40 x 40 x 6mm edge frame : infilled with 40 x 6mm flats at 50mm centres : 40 x 40 x 6mm frame set in concrete with 150mm long stainless stel end split lugs : smooth weld joints	70	LM		
	TOTAL CARRIED FORWARD				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	FIXTURES AND FITTINGS CONTINUED...				
	<u>BROUGHT FORWARD FROM PAGE FB/12</u>				
	Foot bath				
4.13.1	1000 x 600 x 550mm deep foot bath comprising of 30x30x3mm thick aluminium frame anchored in reinforced concrete slab; 22mm thick entrance matting with 5mm spacing between profiles. Colour: black; All to Architect's detail and approval	4	No		
	Handrail -Stainless Steel				
4.13.2	Supply, assemble and fix 1000mm high purpose made stainless steel (grade 3.1.6) comprising of 50mm diameter x 3mm thick stainless steel tube handrail welded to 50mm diameter x 3mm thick stainless steel balusters at fixed to concrete floor at 1000mm centres; balusters fixed to and including 200mm x 150mm x 15mm thick stainless steel base plate fixed to concrete; complete with 4no. 25mm diameter x 3mm thick horizontal middle rails ; including all necessary cleats, brackets,lugs stiffeners and the like; all to Architect's instructions and approval	8	LM		
	TOTAL FOR ELEMENT NO. 8 (FIXTURES AND FITTINGS) CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
4.14.1	<u>ELEMENT NO. 9</u>				
	<u>BUILDERS WORK IN CONNECTION WITH SERVICES (BWICS)</u> Builder's Work incidental to sanitary fittings, ventilation, plumbing, drainage, reticulation, fire fighting, electrical installations, concealed fixings Allow for making holes, chasing walls, floors, inclusion of sleeves and other items necessary for the proper carrying out of the installations including making good all surfaces	1	ITEM		
	TOTAL FOR ELEMENT NO. 9 (BWICS) CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

[illegible]

GEAR MENDING SHED

BILL NO.5

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>(All rates are V.A.T Inclusive)</u> BUILDING WORKS ELEMENT NO 1. INTERNAL FINISHINGS Chipboard Ceiling 12mm Chipboard ceiling : fixed to and including 50 x 50mm sawn cypress brandering at 600 centre to centre; secrete nailed.	39	SM		
5.1.1					
5.1.2	100mm girth polyutherane cornice	25	LM		
5.1.3	Prepare surface, apply undercoat and apply three coats PVA based premium quality marine grade silk vinyl emulsion paint or other equal and approved to chipboard ceiling	39	SM		
	EXTERNAL FINISHES Rubbing down exisiting finish with a wirebrush; fill holes and dents : skimming with external wall filler ; rubbing down to smooth finish				
5.1.4	To surfaces of columns and beams	50	SM		
5.1.5	<u>Prepare and apply one undercoat and two</u> <u>finishing coats marine grade</u> <u>weatherguard(silicone based) exterior paint as</u> <u>approved to:</u> Fair faced surfaces of columns and beams	50	SM		
5.1.6	<u>Prepare surface, apply one coat of wood</u> <u>primer; apply three coats of marine grade gloss</u> <u>paint</u> To Fascia boards 200-300mm girth	32	LM		
5.1.7	<u>Prepare and apply 3 coats of first quality</u> <u>bituminous paint or equal and approved</u> To plinth surfaces	10	SM		
	TOTAL FOR FISH GEAR MENDING SHED CARRIED TO GRAND SUMMARY				

POLYFUNCTIONAL BUILDING

BILL NO.6

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>BUILDING WORKS</u>				
	<u>ELEMENT NO 1.</u>				
	<u>SUBSTRUCTURE WORKS (All Provisional)</u>				
	<u>SITE CLEARANCE</u>				
6.1.1	Carefully demolish existing structure, including its substructure, walls, concrete structure, doors, windows, roof structure, electrical and mechanical works and cart away debris as directed by the project manager. Approximate gross floor area of 50m2	1	SUM		
6.1.2	Carefully demolish existing structure, including its substructure, walls, concrete structure, doors, windows, roof structure, electrical and mechanical works and cart away debris as directed by the project manager. Approximate gross floor area of 20m2	1	SUM		
6.1.3	Cut down tree between 1500 - 1800mm girth, grub up their roots and cart away arisings	2	NO		
6.1.4	Clear site of all bushes, tufts and any small or large trees, including grubbing out roots and burn on site where directed	400	SM		
	<u>EXCAVATION AND EARTHWORKS</u>				
6.1.5	Excavate oversite average 250mm deep and cart away	400	SM		
6.1.6	Excavate trench for strip foundation: not exceeding 1.5m deep	190	CM		
6.1.7	Excavate for column pits: not exceeding 1.5m deep	279	CM		
6.1.8	Ditto exceeding 1.5m deep but not exceeding 3.0m deep	93	CM		
6.1.9	Excavate for lift pit: not exceeding 1.5m deep	30	CM		
6.1.10	Ditto exceeding 1.5m deep but not exceeding 3.0m deep	26	CM		
6.1.11	Excavate for water tank: not exceeding 1.5m deep	56	CM		
6.1.12	Ditto exceeding 1.5m deep but not exceeding 3.0m deep	56	CM		
	TOTAL SUBSTRUCTURE WORKS FORWARD TO ELEMENT COLLECTION				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
6.2.1	Ditto exceeding 3.0m deep but not exceeding 4.5m deep	47	CM		
6.2.2	Extra over excavation from rock of any class in any position	777	CM		
	<u>Disposal of excavated material</u>				
6.2.3	Return fill in and ram in excavations	534	CM		
6.2.4	Load and cart away surplus material	196	CM		
	<u>Disposal of Water</u>				
6.2.5	Allow for keeping the whole of the excavation free from mud, water and fallen materials	1	Item		
	<u>Planking and strutting</u>				
6.2.6	Allow for planking and strutting sides of excavation	1	Item		
	<u>Filling</u>				
6.2.7	300mm thick (minimum) approved hardcore handpacked in layers not exceeding 150mm	314	SM		
6.2.8	50mm thick murrum dust or any other equal and approved material in blinding surface of hardcore	314	SM		
	<u>Insecticide Treatment</u>				
6.2.9	Treat hardcore surface with approved antitermite applied in accordance with the manufacturer's instructions and subject to a TEN	314	SM		
	<u>WATERPROOFING</u>				
6.2.10	1000 gauge polythene sheet damp proof membrane including 300mm laps	356	SM		
	<u>CONCRETE WORKS</u>				
	<u>In situ concrete class 15/20: in</u>				
6.2.11	50mm thick concrete blinding to surfaces of strip footing	127	SM		
6.2.12	Ditto column bases	186	SM		
6.2.13	Ditto lift bases	20	SM		
6.2.14	Ditto to water tank	37	SM		
	<u>Vibrated reinforced concrete class 25/20</u>				
6.2.15	Strip footing	26	CM		
6.2.16	Columns bases	75	CM		
6.2.17	Lift base	20	CM		
6.2.18	Columns	7	CM		
6.2.19	400mm thick lift walls	9	CM		
6.2.20	300mm thick rc water tank walls	71	SM		
	TOTAL SUBSTRUCTURE WORKS FORWARD TO ELEMENT COLLECTION				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>SUBSTRUCTURES CONTINUED</u>				
6.3.1	Beams at water tank	1	CM		
6.3.2	200mm thick suspended floor slab	27	SM		
6.3.3	200mm thick floor slab	341	SM		
6.3.4	250mm thick water tank base slab	37	SM		
6.3.5	200mm thick ramp floor slab to details	15	SM		
6.3.6	Extra over in slab to forming or leaving 300mm wide shallow drainage channels;average 300mm deep 'U' channel in hardcore and floor slab; including hand packing to sides of channel;150mm thick concrete class 25/20 to sides and bed of channel including 50mm blinding class 15/20 and all necessary formwork and reinforcement, all to detail and approval	17	LM		
	<u>High Tensile Reinforcement Bars to B. S. 4449 including cutting, bending and all necessary spacer blocks : (Provisional) :-</u>				
	<u>Ribbed bars to KS ISO 6935-2:2007</u>				
6.3.7	Assorted sizes BRC Fabric mesh reinforcement Ref. A142; weighing 2.22kg per square metre(measured net no allowances made for laps) including bends tying wire and spacer blocks.	26458	KG		
6.3.8		356	SM		
	<u>Marineply formwork as Described. Allow for setting to special steel propping, strutting, fillets, nails, etc to:</u>				
6.3.9	Edges of strip footing	85	SM		
6.3.10	Ditto but to column bases	107	SM		
6.3.11	Ditto but to lift bases	18	SM		
6.3.12	Ditto but to sides of columns	71	SM		
6.3.13	Ditto but to sides of lift walls	45	SM		
6.3.14	Ditto to rc water tank walls	142	SM		
6.3.15	Ditto to beams	10	SM		
6.3.16	To soffits of suspended slab	27	SM		
6.3.17	To edges of floor slabs 150-225mm girth	158	LM		
	<u>FOUNDATION WALLING</u>				
6.3.18	200mm solid coral block foundation wall in cement:sand (1:3) reinforced with hoop iron at every to alternative course	317	SM		
	<u>EXPANSION JOINT</u>				
	<u>Joint Filler</u>				
6.3.19	25 mm thick approved expansion joint filler	4	SM		
6.3.20	15mm x 25mm approved expansion joint sealer : raking out groove in concrete	18	LM		
	TOTAL SUBSTRUCTURE WORKS FORWARD TO ELEMENT COLLECTION				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>SUBSTRUCTURES CONTINUED</u>				
	<u>Water bars</u>				
6.4.1	400 x1.5mm upvc water bar, set vertically in concrete wall at construction or expansion joint	20	LM		
	<u>Waterproofing</u>				
	<u>Lift pit waterproofing</u>				
6.4.2	50 mm cement sand 1:3 water proof screed to lift bases and sides of lift walls; laid to fall and crossfalls	42	SM		
6.4.3	Apply one coat bituminous primer to surface of screed.	42	SM		
6.4.4	Supply and apply 4mm thick bituminous felt membrane heat welded in 200mm overlaps and all necessary surface preparations; applied strictly in accordance with printed manufacturer's instructions; provide a 10 year guarantee To lift base and sides of lift walls	42	SM		
6.4.5	<u>Watertank waterproofing</u> 15mm thick cement/sand (1:3) waterproof plaster to walls and soffit of cover slab	92	SM		
6.4.6	30mm thick cement/sand (1:3) waterproof screed to surface bed of internal floor	21	SM		
6.4.7	Supply and apply cystalline waterproofing treatment to concrete surfaces; suitable for portable water; applied strictly to manufacturer's instructions; provide a 10 year Gurantee Waterproofing to concrete base slab	21	SM		
6.4.8	Waterproofing to concrete walls and cover slab	92	SM		
6.4.9	<u>Sumps</u> Extra over reinforced concrete floor slab;overall size 500 mm long x 500 mm wide; average depth of 500 mm (internal dimensions) including for all necessary excavations, earthworks, formwork and concrete work	1	NO		
6.4.10	600x450mm heavy duty double air seal cast iron cover and frame	2	NO		
	TOTAL SUBSTRUCTURE WORKS FORWARD TO ELEMENT COLLECTION				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
6.5.1	<u>Soil Vent Pipe</u> 110mm diameter weathering apron medium grade grade soil vent pipe and fitting-2000mm long	2	NO		
6.5.2	<u>Accessories</u> 3 Metre Heavy duty Aluminium cat ladder from the top to bottom of the tank base complete with fixing to detail;	2	NO		
6.5.3	Making holes through 200mm thick concrete wall for sleeves	2	NO		
6.5.4	<u>Plinth finishes</u> 15mm cement and sand (1:4) render trowelled smooth and comprising 12mm thick backing and 3mm finishing coat.	56	SM		
6.5.5	<u>Painting and Decoration</u> Prepare and apply 3 coats of first quality bituminous paint or equal and approved to rendered surfaces	56	SM		
	TOTAL SUBSTRUCTURE WORKS FORWARD TO ELEMENT COLLECTION				
	<u>ELEMENT NO. 1 (SUBSTRUCTURE WORKS) COLLECTION</u>				
A	Total Substructure Works brought forward from page PB/1				
B	Total Substructure Works brought forward from page PB/2				
C	Total Substructure Works brought forward from page PB/3				
D	Total Substructure Works brought forward from page PB/4				
E	Total Substructure Works brought forward from page PB/5				
	TOTAL ELEMENT NO. 1 (SUBSTRUCTURE WORKS), CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO 2.				
	<u>SUPERSTRUCTURE REINFORCED CONCRETE WORKS</u>				
	<u>Vibrated reinforced concrete class 25/20</u>				
6.6.1	Beams	44	CM		
6.6.2	lintel intermediate beams	28	CM		
6.6.3	Gutters	22	CM		
6.6.4	Columns	38	CM		
6.6.5	400mm thick lift shaft walls	68	CM		
6.6.6	200mm thick suspended slab	568	SM		
6.6.7	200mm thick lift roof slab	11	SM		
6.6.8	200mm thick roof slab	181	SM		
	<u>Stairs</u>				
6.6.9	Stairs (steps and waist)	11	CM		
6.6.10	200mm thick landing	15	SM		
	<u>High Tensile Reinforcement Bars to B. S. 4449 including cutting, bending and all necessary spacer blocks : (Provisional) :-</u>				
	<u>Ribbed bars to KS ISO 6935-2:2007</u>				
6.6.11	Assorted Bars	56851	KG		
	<u>Sawn Treated cypress formwork to: -</u>				
6.6.12	Sides of Ring Beams	501	SM		
6.6.13	Sides of lintel intermediate beams	275	SM		
6.6.14	Sides and soffits of gutter beams	204	SM		
6.6.15	Soffits of columns	395	SM		
6.6.16	Sides and edges of lift walls	357	SM		
6.6.17	To soffits of suspended slabs	749	SM		
6.6.18	To Edges of roof slab 150-225mm	329	LM		
	<u>Stairs</u>				
6.6.19	Sloping soffites of staircases	34	SM		
6.6.20	Surfaces of risers 75-150mm high	101	SM		
6.6.21	Soffits of landing	15	SM		
6.6.22	Edges of ditto 150-225mm high	20	LM		
6.6.23	Raking edges of staircase; average girth of 350mm	29	LM		
	<u>Creation of Arches</u>				
6.6.24	Construction and formation of decorative arches around windows and the main door externally and main arches at terrace finished same as external walls;1000 - 3000 mm diameter;including all necessary formworks and reinforcements; all to Architect's details	17	No		
	TOTAL FOR ELEMENT NO. 2 (SUPERSTRUCTURE REINFORCED CONCRETE WORKS), CARRIED FORWARD TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 3</u>				
	<u>WALLING</u>				
	<u>External walling</u>				
	<u>Machine cut natural stone or machine cut coral stone or hollow concrete block walling ; load bearing 7.0 N/mm2: reinforced with 20 gauge 25mm hoop iron strips laid horizontally every alternate course: bedded and jointed in cement and sand (1:3) mortar</u>				
6.7.1	200mm mm thick	475	SM		
6.7.2	200mm thick at parapet wall; including allowing for crenellation to architect's detail	126	SM		
	<u>Internal walling</u>				
	<u>Machine cut natural stone or machine cut coral stone or hollow concrete block walling ; load bearing 7.0 N/mm2: reinforced with 20 gauge 25mm hoop iron strips laid horizontally every alternate course: bedded and jointed in cement and sand (1:3) mortar</u>				
6.7.3	200mm mm thick	493	SM		
6.7.4	150mm thick	23	SM		
	<u>WATERPROOFING</u>				
6.7.5	Hessian based bituminous felt damp proof course 200mm wide	153	LM		
	<u>Pre-cast concrete class 20/20 precast ventilation blocks</u>				
6.7.6	600x600x150mm thick vents block with floral motifs; bedded and jointed in cement and sand (1:3) mortar and reinforced every alternate course with hoop iron.:To architect's details	620	SM		
	<u>Pre-cast concrete class 20/20 concrete coping</u>				
6.7.7	250 x 50 mm high precast concrete coping weathered and throated on both sides and jointed to wall in cement sand mortar 1:3 all to approval	162	LM		
	<u>EXPANSION JOINT</u>				
	<u>Joint Filler</u>				
6.7.8	25 mm thick approved expansion joint filler	76	SM		
6.7.9	15mm x 25mm approved expansion joint sealer : raking out groove in concrete	17	LM		
	TOTAL FOR ELEMENT NO. 3 (WALLING), CARRIED FORWARD TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 4</u>				
	<u>ROOFING</u>				
	<u>Roof covering</u> Supply and fix 26 gauge approved Prepainted box profile Aluminium roofing sheets to timber Purlins including 12mm diameter x 150mm raw bolts and all necessary accessories; fixing in accordance with manufacturers specification Roof covering : to slopes not exceeding 6 degrees to horizontal	200	SM		
6.8.1					
6.8.2	Extra over for flashing; 600mm girth	40	LM		
	<u>Sawn Cypress Timber roof structure: pressure impregnated: obtained from an approved source: with and including bolted connections : in</u>				
6.8.3	150 x 50mm thick truss rafters	208	LM		
6.8.4	150 x 50mm thick tie beams	207	LM		
6.8.5	100 x 50mm thick internal truss member	230	LM		
6.8.6	100 x 50mm thick purlins	340	LM		
6.8.7	100 x 50mm thick wallplate secured to concrete with hoop iron and raw bolts	96	LM		
	<u>FLAT ROOF FINISHES</u> 50 mm cement sand 1:3 water proof screed to flat roof slab,gutters,water tank area and sides of parapet walls; laid to fall and crossfalls Apply one coat bituminous primer to surface of screed.	443	SM		
6.8.8					
6.8.9		443	SM		
	Supply and apply 4mm thick bituminous felt membrane heat welded in 200mm overlaps and all necessary surface preparations; applied strictly in accordance with printed manufacturer's instructions; provide a 10 year guarantee				
6.8.10	To roof slabs and water tank area	221	SM		
6.8.11	To gutters	184	SM		
6.8.12	Ditto sides of wall 200mm high	188	LM		
6.8.13	50 x 50mm internal angle fillet	188	LM		
	TOTAL CARRIED FORWARD				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ROOFING CONTINUED...				
	<u>BROUGHT FORWARD FROM PAGE PB/8</u>				
	Floor Finishes				
	<u>Cement and sand (1:4) screeding smooth trowelled</u>				
6.9.1	32mm Thick floor screed to receive concrete interlocking tiles at roof slab	221	SM		
6.9.2	200 x 200 x 25mm thick concrete interlocking tiles; bedding and jointing in cement mortar mix 1:4(m/s)	221	SM		
6.9.3	100mm high matching skirting	188	LM		
	Unplasticized PVC downpipes and fittings: solvent welded joints				
	<u>Rainwater goods</u>				
6.9.4	150mm dia PVC down pipes fixed to wall with holding clips at 1200mm centres	61	LM		
6.9.5	Extra over for running outlet	5	NO		
6.9.6	Extra over for swan neck 1000mm long	5	NO		
6.9.7	Extra over for shoe 1000mm long	5	NO		
6.9.8	Extra over 150mm fulbora outlets including galvanised expanded metal mesh	5	NO		
	TOTAL FOR ELEMENT NO. 4 (ROOFING) CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 5				
	WINDOWS				
	<u>The following in Heavy Duty Powder Coated Aluminium windows from approved manufacturer(s) complete with 80x55x3 mm frames mullions trasomes railing and necessary intermediate reinforcement elements including all weather strips, rubber glazing strips, couplings, ironmongery including hinges, fasteners and stays, sliding rails(where necessary) bars; all ironmongery to be of stainless steel grade 316 marine grade; panes left open for glazing to Architects detail</u>				
6.10.1	Overall size 2100 x 600mm high as W001	9	NO.		
6.10.2	Overall size 2400 x 1800mm high as W002	6	NO.		
6.10.3	Overall size 3000 x 1800mm high as W003	4	NO.		
	Window cills 200x50mm pre-cast concrete window sill bedded and pointed in cement sand(1:3) mortar, weathred and throated all to Architects detail and approval	50	LM		
	Glazing <u>laminated oneway glass fixed with and including beadings.</u> 6mm thick glass in panes (0.50-1.00m ²)	59	SM		
	Burglar Proofing <u>Mild steel grille framed with 50 x 25 x 3mm thick RHS sections, 25x3mm MS bars welded to frame at 150 mm centres both sides; including assembly and fixing to opening cutting and pinning lugs to concrete and bedding frame in cement and sand mortar (1:3);prepare surface by Sand blasting; apply one coat of 2 pack epoxy zinc phosphate primer; apply three coats of marine grade gloss paint to the whole grille</u>				
6.10.6	Overall size 2100 x 600mm high as W001	9	NO.		
6.10.7	Overall size 2400 x 1800mm high as W002	6	NO.		
6.10.8	Overall size 3000 x 1800mm high as W003	4	NO.		
	TOTAL FOR ELEMENT NO. 5 (WINDOWS), CARRIED FORWARD TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 6				
	<u>DOORS</u>				
	Roller Shutter Doors supply and fix manually operated slatted aluminium roller shutter with and including 100 x 100 x 6mm galvanised steel frame; Door infilled with 10mm thick aluminium shutter slats complete with all necessary sliding channels, hood for shutter, pull chain, galvanised ironmongery including locking devices with key access and other necessary accessories. Roller shutter fixed to walls slab or columns including cutting or forming holes and making good; Upward sliding door; All welding ground smooth and shoped prime with two pack epoxy zinc phosphate primer before fixing; apply three coats of marine grade gloss paint finish				
6.11.1	Overall size 3500 x 3000mm high as D005	4	No		
6.11.2	Overall size 3000 x 3000mm high as D006	2	No		
	<u>Louvred Doors</u>				
	<u>50mm thick mvule louvred door comprising of 50x3mm louvres set at 45 degrees at 50mm centres; solid blocking for iron mongery (m/s) to door : all in accordance with Architect's details</u>				
6.11.3	Double leaf door overall size 1800 x 2400; complete with timber louvred fanlight size 1800x300mm high as D007	3	NO		
6.11.4	Single leaf door overall size 1100 x 2400; complete with timber louvred fanlight size 1100x300mm high as D001	6	NO		
6.11.5	Ditto size 900 x 2100mm high as D003	2	NO		
	<u>Panel Doors</u> <u>50mm thick mvule panelled door: comprised of 200 x 50mm thick stiles, top and middle rail; 200 x 50mm thick bottom rail ; complete with moulded grooves to door leaf on both sides ;solid blocking to iron mongery (m/s) to door</u>				
6.11.6	Single leaf door overall size 1000 x 2400mm high; complete with and including 6mm thick laminated glass at fanlight size 1000x300mm high as D002	4	NO		
	TOTAL CARRIED FORWARD				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	DOORS CONTINUED...				
	<u>BROUGHT FORWARD FROM PAGE PB/11</u>				
6.12.1	Double leaf door overall size 1500 x 2400mm high; complete with and including 6mm thick laminated glass at fanlight size 1500x300mm high as D004	2	NO		
	<u>FRAMES (Wrot Mvule)</u>				
6.12.2	150x50mm.rebated frame plugged	101	LM		
6.12.3	Ditto transome	19	LM		
6.12.4	50 x 25mm. Splayed architrave.	101	LM		
6.12.5	25mm quadrant moulds	101	LM		
	Ironmongery Supply and fix the following ironmongery from an approved manufacturer including all necessary matching screws;all ironmongery to be stainless steel grade 3.1.6 marine grade				
6.12.6	3 - Lever mortice lock; complete with lockcase and handle	15	NO		
6.12.7	2 - Lever mortice lock; ditto with indicator	4	NO		
6.12.8	100mm. Pressed butt hinges	24	PRS		
6.12.9	150mm heavy duty double action spring hinges	9	PRS		
6.12.10	38mm. Diameter door stop on floor / wall to approval	22	NO		
6.12.11	Heavy duty Door closer to an approved sample	16	NO		
6.12.12	Ditto double action door closer	6	NO		
6.12.13	800 x 200mm high stainless steel kick plate onto both sides to approval	12	NO		
6.12.14	150 x 150mm sex indicator plate	2	NO		
6.12.15	500 x 150mm signage plate	7	NO		
6.12.16	Coat and hat hook	4	NO		
	TOTAL CARRIED FORWARD				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	DOORS CONTINUED...				
	<u>BROUGHT FORWARD FROM PAGE PB/12</u>				
	Painting and Decoration				
	Prepare and apply three coats of premium quality marine grade clear varnish; Matt quality to:-				
6.13.1	General surfaces of wood exceeding 200mm but not exceeding 300mm girth	221	LM		
6.13.2	Ditto; girth not exceeding 100mm	101	LM		
6.13.3	Doors both internally and externally	98	SM		
	Prepare and apply one coat aluminium primer before fixing: to backing of wood				
6.13.4	Surfaces over 200 but not exceeding 300mm	202	LM		
6.13.5	Surfaces not exceeding 100mm	101	LM		
	TOTAL FOR ELEMENT NO. 6 (DOORS), CARRIED FORWARD TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 7</u>				
	<u>FINISHES</u>				
	<u>EXTERNAL FINISHES</u>				
	<u>Walls</u>				
6.14.1	<u>25mm thick cement and sand (1:3) render to:-</u> 25mm thick cement and sand Rendering to walls, beams, gutters and columns, finished with a wood float, <u>Prepare and apply one undercoat and two finishing coats marine grade</u> <u>weatherguard(silicone based) exterior paint as approved to:</u>	998	SM		
6.14.2	Fair faced surfaces of walls,beams,gutters and columns	998	SM		
	<u>Floor Finishes</u>				
	<u>Cement and sand (1:4) screeding smooth trowelled</u>				
6.14.3	32mm Thick floor screed to receive terrazzo	30	SM		
	<u>Polished Terrazzo paving</u>				
6.14.4	25mm thick insitu polished terrazzo laid on concrete in approved coloured aggregate finished smooth including sanding and polishing	30	SM		
6.14.5	20 x 100mm ditto skirting	41	LM		
6.14.6	25 mm wide Slip-resistant Carborandum inserts on Terrazzo treads bonded with an approved adhesive	30	LM		
	<u>Plastic dividing strips</u>				
6.14.7	32 x 3mm thick plastic dividing strips	45	LM		
	<u>Ceiling finishes</u>				
	<u>Concrete Finishes</u>				
6.14.8	15mm thick two coat gauged cement lime and sand (1:2:9) plaster steel trowelled smooth to concrete surfaces Prepare surface, apply undercoat and apply	30	SM		
6.14.9	three coats PVA based premium quality marine grade silk vinyl emulsion paint or other equal and approved to plastered surfaces	30	SM		
	TOTAL CARRIED FORWARD				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	FINISHES CONTINUED...				
	<u>BROUGHT FORWARD FROM PAGE PB/14</u>				
	<u>INTERNAL FINISHES</u>				
	<u>Wall and Concrete Finishes</u>				
6.15.1	15mm thick two coat gauged cement lime and sand (1:2:9) plaster steel trowelled smooth to walls and concrete surfaces	1939	SM		
6.15.2	Prepare surface, apply undercoat and apply three coats PVA based premium quality marine grade silk vinyl emulsion paint or other equal and approved to plastered surfaces	1939	SM		
6.15.3	12mm cement and sand (1:3) plaster to walls and concrete surfaces trowelled smooth; to receive wall tiles (m/s)	294	SM		
	<u>Wall Tiles</u>				
6.15.4	300 x 300 x 6mm Thick glazed ceramic wall tiles bedding and jointing in cement and sand (1:3) mortar and flush pointed with white cement;including matching grouting, waterproof adhesive,spacers and edge protectors where required	116	SM		
6.15.5	12mm girth PVC Edgings	48	LM		
6.15.6	600 x 600 x 10mm Thick glazed granito wall tiles bedding and jointing in cement and sand (1:3) mortar and flush pointed with white cement: at lift walls	178	SM		
	<u>Floor Finishes</u>				
	<u>Cement and sand (1:4) screeding smooth trowelled</u>				
6.15.7	32mm Thick floor screed to receive non slip ceramic tiles size 300mmx300mmx10mm thick	48	SM		
6.15.8	Ditto size 600mmx600mmx10mm thick	250	SM		
6.15.9	Ditto at staircase landing	3	SM		
6.15.10	Ditto to treads 300mm wide	101	LM		
6.15.11	Ditto to risers 150mm high	101	LM		
6.15.12	Ditto to receive terrazzo	321	SM		
6.15.13	Ditto to receive clay tiles	117	SM		
	TOTAL CARRIED FORWARD				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	FINISHES CONTINUED...				
	<u>BROUGHT FORWARD FROM PAGE PB/15</u>				
	<u>Ceramic floor tiles</u>				
6.16.1	Supply and fix 10 mm thick non-slip ceramic floor tiles on prepared backing including matching grouting, waterproof adhesive, spacers and edge protectors where required; overall size 300mm x 300mm.	48	SM		
6.16.2	100mm high skirting	33	LM		
6.16.3	Supply and fix 10 mm thick non-slip ceramic floor tiles on prepared backing including matching grouting, waterproof adhesive, spacers and edge protectors where required; overall size 600mm x 600mm.	250	SM		
6.16.4	Ditto at staircase landing	3	SM		
6.16.5	Ditto to treads 300mm wide; with non-slip grooves and rounded nose	101	LM		
6.16.6	Ditto to risers 150mm high	101	LM		
6.16.7	Ditto 100mm high skirting	260	LM		
	<u>Polished Terrazzo paving</u>				
6.16.8	25mm thick insitu polished terrazzo laid on concrete in approved coloured aggregate finished smooth including sanding and polishing	321	SM		
6.16.9	20 x 100mm ditto skirting	137	LM		
6.16.10	25 mm wide Slip-resistant Carborandum inserts on Terrazzo treads bonded with an approved adhesive	250	LM		
6.16.11	<u>Plastic dividing strips</u> 32 x 3mm thick plastic dividing strips	482	LM		
6.16.12	<u>Clay tiles</u> 200 x 200 x 25mm thick concrete interlocking tiles; bedding and jointing in cement mortar mix 1:4(m/s)	117	SM		
6.16.13	100mm high matching skirting	63	LM		
	TOTAL CARRIED FORWARD				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	FINISHES CONTINUED...				
	<u>BROUGHT FORWARD FROM PAGE PB/16</u>				
	<u>Ceiling finishes</u>				
	<u>Concrete Finishes</u>				
6.17.1	15mm thick two coat gauged cement lime and sand (1:2:9) plaster steel trowelled smooth to concrete surfaces	587	SM		
	<u>Chipboard Ceiling</u>				
6.17.2	12mm thick chipboard ceiling : fixed to and including 50 x 50mm sawn cypress bandering at 600 centre to centre; secrete nailed	164	SM		
6.17.3	100mm girth polyutherane cornice	142	LM		
6.17.4	Prepare surface, apply undercoat and apply three coats PVA based premium quality marine grade silk vinyl emulsion paint or other equal and approved to plastered surfaces	587	SM		
6.17.5	Ditto to chipboard ceilings	164	SM		
	<u>Staircase soffits finish</u>				
6.17.6	15mm thick two coat gauged cement lime and sand (1:2:9) plaster steel trowelled smooth to concrete surfaces	42	SM		
6.17.7	Ditto to raking edges of staircase average girth of 350mm	29	LM		
6.17.8	Prepare surface, apply undercoat and apply three coats PVA based premium quality marine grade silk vinyl emulsion paint or other equal and approved to plastered surfaces	42	SM		
6.17.9	Ditto to raking edges of staircase average girth of 350mm	29	LM		
	TOTAL FOR ELEMENT NO. 7 (FINISHES) CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 8</u>				
	<u>FIXTURES AND FITTINGS</u>				
	Worktop				
6.18.1	100mm thick plain concrete class 15/20 in plinth	6	SM		
6.18.2	Reinforced concrete class 25/20 in 100mm worktops	6	SM		
	Formwork to:-				
6.18.3	Soffites of worktops	6	SM		
6.18.4	Edges of worktops and plinths 75-150mm high	19	LM		
6.18.5	10mm diameter high yield reinforcement bars as described before	60	KG		
6.18.6	100mm thick coral block walling in cement/sand 1:3 mortar	10	SM		
6.18.7	15mm thick cement sand (1:3) plaster of worktop	6	SM		
6.18.8	Ditto walls	20	SM		
	Granito tiles at worktop				
6.18.9	600 x 600 x 10mm Thick glazed granito tiles bedding and jointing in cement and sand (1:3) mortar and flush pointed with white cement: at lift walls	26	SM		
6.18.10	12mm girth aluminium edgings	50	LM		
	Stainless steel grating				
6.18.11	300mm wide stainless steel channel grating grade 3.1:6 marine grade: comprising 40 x 40 x 6mm edge frame : infilled with 40 x 6mm flats at 50mm centres : 40 x 40 x 6mm frame set in concrete with 150mm long stainless stel end split lugs : smooth weld joints	17	LM		
	TOTAL CARRIED FORWARD				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	FIXTURES AND FITTINGS CONTINUED...				
	<u>BROUGHT FORWARD FROM PAGE PB/18</u>				
	Handrail -Stainless Steel				
6.19.1	Supply, assemble and fix 1000mm high purpose made stainless steel (grade 3.1.6) comprising of 50mm diameter x 3mm thick stainless steel tube handrail welded to 50mm diameter x 3mm thick stainless steel balusters at fixed to concrete floor at 1000mm centres; balusters fixed to and including 200mm x 150mm x 15mm thick stainless steel base plate fixed to concrete; complete with 4no. 25mm diameter x 3mm thick horizontal middle rails ; including all necessary cleats, brackets,lugs stiffeners and the like; all to Architect's instructions and approval	30	LM		
	Low level cabinets: comprising of 20mm thick PVC celuka foam board in internal shelvings, doors, sides and partitions; including 20 x 50mm mvule timber runners ; including matching lipping to edges; secret nailing/screwing on prime timber substructures; All exposed surfaces in 20mm thick PVC celuka foam board as before described; complete with drawers in 20mm thick PVC celuka foam board as before described ; complete with doors in 20mm thick PVC celuka foam board as before described; including malpa hinges, stainless steel D handle, magnetic ball catches and all other necessary ironmongery;all ironmongery to be of stainless steel grade 316 marine grade. Including making hole for kitchen sink all as per Architect's details				
6.19.2	Low level cabinet overall size :overall length 5000mm x 600mm wide x 900mm high at kitchenette	1	No		
	TOTAL CARRIED FORWARD				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<p>FIXTURES AND FITTINGS CONTINUED...</p> <p><u>BROUGHT FORWARD FROM PAGE BW/19</u></p> <p>High level cabinets: comprising of 20mm thick PVC celuka foam board in sides,doors, divisions and shelves; 20mm thick PVC celuka foam board as before described top on 20 x50mm mvule timber framing; including matching lipping to edges; secret nailing/screwing on prime timber substructures; complete with doors on malpa hinges; with stainless steel D handle and magnetic ball catches and all other necessary iron mongery;all ironmongery to be of stainless steel grade 316 marine grade</p>				
6.20.1	<p>High level kitchen cabinet : overall size: length 2500mm x 300mm wide x 800mm high</p>	1	No		
	TOTAL FOR ELEMENT NO. 8 (FIXTURES AND FITTINGS) CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
6.21.1	ELEMENT NO. 9	1	ITEM		
	<u>BUILDERS WORK IN CONNECTION WITH SERVICES (BWICS)</u> Builder's Work incidental to sanitary fittings, ventilation, plumbing, drainage, reticulation, fire fighting, electrical installations, concealed fixings Allow for making holes, chasing walls, floors, inclusion of sleeves and other items necessary for the proper carrying out of the installations including making good all surfaces				
	TOTAL FOR ELEMENT NO. 9 (BWICS) CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

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RESTAURANT

BILL NO.7

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE
COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>BUILDING WORKS</u>				
	<u>ELEMENT NO 1.</u>				
	<u>SUBSTRUCTURE WORKS (All Provisional)</u>				
	<u>SITE CLEARANCE</u>				
7.1.1	Carefully demolish existing Restaurant Structure, washrooms and open air meeting hall including its substructure, walls, concrete structure, doors, windows, roof structure, electrical and mechanical works and cart away debris as directed by the project manager. Approximate gross floor area of 200m ²	1	SUM		
7.1.2	Clear site of all bushes, tufts and any small or large trees, including grubbing out roots and burn on site where directed	550	SM		
	<u>EXCAVATION AND EARTHWORKS</u>				
7.1.3	Excavate oversite average 250mm deep and cart away	550	SM		
7.1.4	Excavate trench for strip foundation: not exceeding 1.5m deep	226	CM		
7.1.5	Excavate for column pits: not exceeding 1.5m deep	117	CM		
7.1.6	Ditto 1.5m to 3.0m deep	39	CM		
7.1.7	Extra over excavation from rock of any class in any position	382	CM		
	<u>Disposal of excavated material</u>				
7.1.8	Return fill in and ram in excavations	229	CM		
7.1.9	Load and cart away surplus material	153	CM		
	<u>Disposal of Water</u>				
7.1.10	Allow for keeping the whole of the excavation free from mud, water and fallen materials	1	Item		
	<u>Planking and strutting</u>				
7.1.11	Allow for planking and strutting sides of excavation	1	Item		
	<u>Filling</u>				
7.1.12	300mm thick (minimum) approved hardcore handpacked in layers not exceeding 150mm	497	SM		
7.1.13	50mm thick murram dust or any other equal and approved material in blinding surface of hardcore	497	SM		
	TOTAL SUBSTRUCTURE WORKS CARRIED FORWARD TO ELEMENT COLLECTION				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE
COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>SUBSTRUCTURES CONTINUED</u>				
	<u>Insecticide Treatment</u>				
7.2.1	Treat hardcore surface with approved antitermite applied in accordance with the manufacturer's instructions and subject to a TEN YEAR guarantee	497	SM		
	<u>WATERPROOFING</u>				
7.2.2	1000 gauge polythene sheet damp proof membrane including 300mm laps	547	SM		
	<u>CONCRETE WORKS</u>				
	<u>Insitu concrete class 15/20: in</u>				
7.2.3	50mm thick concrete blinding to surfaces of strip footing	151	SM		
7.2.4	Ditto column bases	78	SM		
	<u>Vibrated reinforced concrete class 25/20</u>				
7.2.5	Strip footing	30	CM		
7.2.6	Columns Bases	32	CM		
7.2.7	Columns	4	CM		
7.2.8	150mm thick floor slab	516	SM		
7.2.9	Ditto ramp to details	31	SM		
7.2.10	Extra over in slab to forming or leaving 300mm wide shallow drainage channels;average 300mm deep 'U' channel in hardcore and floor slab; including hand packing to sides of channel;150mm thick concrete class 25/20 to sides and bed of channel including 50mm blinding class 15/20 and all necessary formwork and reinforcement, all to detail and approval	50	LM		
	<u>High Tensile Reinforcement Bars to B. S. 4449 including cutting, bending and all necessary spacer blocks : (Provisional) :-</u>				
	<u>Ribbed bars to KS ISO 6935-2:2007</u>				
7.2.11	8mm dia reinforcement bars	205	KG		
7.2.12	10mm dia reinforcement bars	1,300	KG		
7.2.13	12mm dia reinforcement bars	1,500	KG		
7.2.14	16mm dia reinforcement bars	600	KG		
7.2.15	BRC Fabric mesh reinforcement Ref. A142; weighing 2.22kg per square metre(measured net no allowances made for laps) including bends tying wire and spacer blocks.	547	SM		
	<u>Marineply formwork as Described. Allow for setting to special steel propping, strutting, fillets, nails, etc to:</u>				
7.2.16	Edges of strip footing	100	SM		
7.2.17	Ditto but to column bases	74	SM		
7.2.18	Ditto but to sides of columns	55	SM		
7.2.19	Ditto but to edges of floor slabs 75-150mm girth	126	LM		
	TOTAL SUBSTRUCTURE WORKS CARRIED FORWARD TO ELEMENT COLLECTION				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
7.3.1	<u>FOUNDATION WALLING</u> 200mm solid coral block foundation wall in cement:sand (1:3) reinforced with hoop iron at every to alternative course	376	SM		
7.3.2	<u>PLINTH FINISHES</u> 15mm cement and sand (1:4) render trowelled smooth and comprising 12mm thick backing and 3mm finishing coat.	63	SM		
7.3.3	<u>Painting and Decoration</u> Prepare and apply 3 coats of first quality bituminous paint or equal and approved to rendered surfaces	63	SM		
	Carried to collection				
A	<u>ELEMENT NO. 1 (SUBSTRUCTURE WORKS) COLLECTION</u> Total Substructure Works brought forward from page RB/1				
B	Total Substructure Works brought forward from page RB/2				
C	Total Substructure Works brought forward from page RB/3 ABOVE				
	TOTAL ELEMENT NO. 1 (SUBSTRUCTURE WORKS), CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE
COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO 2.</u>				
	<u>SUPERSTRUCTURE REINFORCED CONCRETE WORKS</u>				
	<u>Vibrated reinforced concrete class 25/20</u>				
7.4.1	Beams	15	CM		
7.4.2	Gutters	21	CM		
7.4.3	Columns	7	CM		
7.4.4	200mm thick roof slab	447	SM		
	<u>High Tensile Reinforcement Bars to B. S. 4449 including cutting, bending and all necessary spacer blocks : (Provisional) :-</u>				
	<u>Ribbed bars to KS ISO 6935-2:2007</u>				
7.4.5	Assorted Bars	20,520	KG		
	<u>Sawn Treated cypress formwork to: -</u>				
7.5.6	Sides of Ring Beams	192	SM		
7.5.7	Sides and soffits of gutter beams	186	SM		
7.5.8	Soffits of columns	93	SM		
7.5.9	To soffits of roof slab	447	SM		
7.5.10	To Edges of roof slab 150-225mm	90	LM		
	<u>Creation of Arches</u>				
	Construction and formation of decorative arches around windows and the main door externally and main arches at terrace finished same as external walls;1000 - 3000 mm diameter;including all necessary formworks and reinforcements; all to Architect's details				
7.5.11		12	No		
	TOTAL FOR ELEMENT NO. 2 (SUPERSTRUCTURE REINFORCED CONCRETE WORKS), CARRIED FORWARD TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE
COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 3</u>				
	<u>WALLING</u>				
	<u>External walling</u>				
	<u>Machine cut natural stone or machine cut coral stone or hollow concrete block walling ; load bearing 7.0 N/mm2: reinforced with 20 gauge 25mm hoop iron strips laid horizontally every alternate course: bedded and jointed in cement and sand (1:3) mortar</u>				
7.5.1	200mm mm thick	198	SM		
7.5.2	200mm thick at parapet wall; including allowing for crenellation to architect's detail	90	SM		
	<u>Internal walling</u>				
	<u>Machine cut natural stone or machine cut coral stone or hollow concrete block walling ; load bearing 7.0 N/mm2: reinforced with 20 gauge 25mm hoop iron strips laid horizontally every alternate course: bedded and jointed in cement and sand (1:3) mortar</u>				
7.5.3	200mm mm thick	210	SM		
7.5.4	100mm thick	24	SM		
	<u>WATERPROOFING</u>				
7.5.5	Hessian based bituminous felt damp proof course 200mm wide	166	LM		
7.5.6	Ditto 100mm	12	LM		
	<u>Pre-cast concrete class 20/20 precast ventilation blocks</u>				
7.5.7	600x600x150mm thick vents block with floral motifs; bedded and jointed in cement and sand (1:3) mortar and reinforced every alternate course with hoop iron.:To architect's details	19	SM		
	<u>Pre-cast concrete class 20/20 concrete coping</u>				
7.5.8	250 x 50 mm high precast concrete coping weathered and throated on both sides and jointed to wall in cement sand mortar 1:3 all to approval	183	LM		
	TOTAL FOR ELEMENT NO. 3 (WALLING), CARRIED FORWARD TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE
COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 4</u>				
	<u>ROOFING</u>				
	<u>FLAT ROOF FINISHES</u>				
7.6.1	50 mm cement sand 1:3 water proof screed to flat roof slab,gutters and sides of parapet walls; laid to fall and crossfalls	633	SM		
7.6.2	Apply one coat bituminous primer to surface of screed.	633	SM		
	Supply and apply 4mm thick bituminous felt membrane heat welded in 200mm overlaps and all necessary surface preparations; applied strictly in accordance with printed manufacturer's instructions; provide a 10 year guarantee				
7.6.3	To roof slabs	447	SM		
7.6.4	To gutters	168	SM		
7.6.5	Ditto sides of wall 200mm high	90	LM		
7.6.6	50 x 50mm internal angle fillet	90	LM		
	<u>Floor Finishes</u>				
	<u>Cement and sand (1:4) screeding smooth trowelled</u>				
7.6.7	32mm Thick floor screed to receive concrete interlocking tiles	109	SM		
7.6.8	200 x 200 x 25mm thick concrete interlocking tiles at roof slab; bedding and jointing in cement mortar mix 1:4(m/s)	447	SM		
7.6.9	100mm high matching skirting	90	LM		
	<u>Unplasticized PVC downpipes and fittings: solvent welded joints</u>				
	<u>Rainwater goods</u>				
7.6.11	150mm dia PVC down pipes fixed to wall with holding clips at 1200mm centres	9	LM		
7.6.10	Extra over for running outlet	3	NO		
7.6.12	Extra over for swan neck 1000mm long	3	NO		
7.6.13	Extra over for shoe 1000mm long	3	NO		
7.6.14	Extra over 150mm fulbora outlets including galvanised expanded metal mesh	3	NO		
	TOTAL FOR ELEMENT NO. 4 (ROOFING) CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE
COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 5</u>				
	<u>WINDOWS</u>				
	<u>The following in Heavy Duty Powder Coated Aluminium windows from approved manufacturer(s) complete with 80x55x3 mm frames mullions trasomes railing and necessary intermidiate reinforcement elements including all weather strips, rubber glazing strips, couplings, ironmongery including hinges, fasteners and stays, sliding rails(where necessary) bars; all ironmongery to be of stainless steel grade 316 marine grade; panes left open for glazing to Architects detail</u>				
7.7.1	Overall size 4000 x 600mm high as W001	4	NO.		
7.7.2	Overall size 2100 x 600mm high as W002	8	NO.		
	<u>Window cills</u>				
7.7.3	200x50mm pre-cast concrete window sill bedded and pointed in cement sand(1:3) mortar, weathred and throated all to Architects detail and approval	36	LM		
	<u>Glazing</u> <u>laminated oneway glass fixed with and including beadings.</u>				
7.7.4	6mm thick glass in panes (0.50-1.00m ²)	20	SM		
	<u>Burglar Proofing</u>				
	<u>Mild steel grille framed with 50 x 25 x 3mm thick RHS sections, 25x3mm MS bars welded to frame at 150 mm centres both sides; including assembly and fixing to opening cutting and pinning lugs to concrete and bedding frame in cement and sand mortar (1:3);prepare surface by Sand blasting; apply one coat of 2 pack epoxy zinc phosphate primer; apply three coats of marine grade gloss paint to the whole grille</u>				
7.7.5	1 Overall size 4000 x 600mm high.	4	NO.		
7.7.6	Overall size 2100 x 600mm high.	8	NO.		
	TOTAL FOR ELEMENT NO. 5 (WINDOWS), CARRIED FORWARD TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE
COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 6</u>				
	<u>DOORS</u>				
	<u>Louvred Doors</u>				
	<u>50mm thick mvule louvred door comprising of 50x3mm louvres set at 45 degrees at 50mm centres;solid blocking for iron mongery (m/s) to door : all in accordance with Architect's details</u>				
7.8.1	Single leaf door overall size 900 x 2400; complete with timber louvred fanlight size 900x300mm high as D001	6	NO		
7.8.2	Ditto size 900 x 2100mm high as D003	6	NO		
7.8.3	Double leaf door overall size 1500 x 2400mm high; complete with and including timber louvred at fanlight size 1500x300mm high as D004	4	NO		
7.8.4	Double leaf door overall size 1500 x 2400mm high; complete with and including timber louvred at fanlight size 1500x300mm high as D005	4	NO		
	<u>Panel Doors</u>				
	<u>50mm thick mvule panelled door: comprised of 200 x 50mm thick stiles, top and middle rail: 200 x 50mm thick bottom rail ; complete with moulded grooves to door leaf on both sides ;solid blocking to iron mongery (m/s) to door</u>				
7.8.5	Single leaf door overall size 1000 x 2400mm high; complete with and including 6mm thick laminated glass at fanlight size 1000x300mm high as D002	2	NO		
	<u>FRAMES (Wrot Mvule)</u>				
7.8.6	150x50mm.rebated frame plugged	127	LM		
7.8.7	Ditto transome	20	LM		
7.8.8	50 x 25mm. Splayed architrave.	127	LM		
7.8.9	25mm quadrant moulds	127	LM		
	TOTAL CARRIED FORWARD				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE
COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	DOORS CONTINUED...				
	<u>BROUGHT FORWARD FROM PAGE RB/8</u>				
	Ironmongery Supply and fix the following ironmongery from an approved manufacturer including all necessary matching screws;all ironmongery to be stainless steel grade 3.1.6 marine grade				
7.9.1	3 - Lever mortice lock; complete with lockcase and handle	16	NO		
7.9.2	2 - Lever mortice lock; ditto with indicator	6	NO		
7.9.3	100mm. Pressed butt hinges	30	PRS		
7.9.4	150mm heavy duty double action spring hinges	15.0	PRS		
7.9.5	38mm. Diameter door stop on floor / wall to approval	32	NO		
7.9.6	Heavy duty Door closer to an approved sample	10	NO		
7.9.7	Ditto double action door closer	10	NO		
7.9.8	800 x 200mm high stainless steel kick plate onto both sides to approval	20	NO		
7.9.9	150 x 150mm sex indicator plate	4	NO		
7.9.10	500 x 150mm signage plate	6	NO		
7.9.11	Coat and hat hook	6	NO		
	Painting and Decoration				
	Prepare and apply three coats of premium quality marine grade clear varnish; Matt quality to:-				
7.9.12	General surfaces of wood exceeding 200mm but not exceeding 300mm girth	274	LM		
7.9.13	Ditto; girth not exceeding 100mm	127	LM		
7.9.14	Doors both internally and externally	116	SM		
	Prepare and apply one coat aluminium primer before fixing: to backing of wood				
7.9.15	Surfaces over 200 but not exceeding 300mm	254	LM		
7.9.16	Surfaces not exceeding 100mm	127	LM		
	TOTAL FOR ELEMENT NO. 6 (DOORS), CARRIED FORWARD TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE
COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 7</u>				
	<u>FINISHES</u>				
	<u>EXTERNAL FINISHES</u>				
	<u>Walls</u>				
7.10.1	<u>25mm thick cement and sand (1:3) render to:-</u> 25mm thick cement and sand Rendering to walls, beams, gutters and columns, finished with a wood float,	525	SM		
7.10.2	<u>Prepare and apply one undercoat and two finishing coats marine grade weatherguard(silicone based) exterior paint as approved to:</u> Fair faced surfaces of walls,beams,gutters and columns	525	SM		
7.10.3	<u>Floor Finishes</u> <u>Cement and sand (1:4) screeding smooth trowelled</u> 32mm Thick floor screed to receive terrazzo	179	SM		
7.10.4	<u>Polished Terrazzo paving</u> 25mm thick insitu polished terrazzo laid on concrete in approved coloured aggregate finished smooth including sanding and polishing	179	SM		
7.10.5	20 x 100mm ditto skirting	78	LM		
7.10.6	25 mm wide Slip-resistant Carborandum inserts on Terrazzo treads bonded with an approved adhesive	80	LM		
7.10.7	<u>Plastic dividing strips</u> 32 x 3mm thick plastic dividing strips	269	LM		
7.10.8	<u>Ceiling finishes</u> <u>Concrete Finishes</u> 15mm thick two coat gauged cement lime and sand (1:2:9) plaster steel trowelled smooth to concrete surfaces	119	SM		
7.10.9	Prepare surface, apply undercoat and apply three coats PVA based premium quality marine grade silk vinyl emulsion paint or other equal and approved to plastered surfaces	119	SM		
	TOTAL CARRIED FORWARD				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE
COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	FINISHES CONTINUED...				
	<u>BROUGHT FORWARD FROM PAGE RB/10</u>				
	<u>INTERNAL FINISHES</u>				
	<u>Wall and Concrete Finishes</u>				
7.11.1	15mm thick two coat gauged cement lime and sand (1:2:9) plaster steel trowelled smooth to walls and concrete surfaces.	593	SM		
7.11.2	Prepare surface, apply undercoat and apply three coats PVA based premium quality marine grade silk vinyl emulsion paint or other equal and approved to plastered surfaces.	593	SM		
7.11.3	12mm cement and sand (1:3) plaster to walls and concrete surfaces trowelled smooth; to receive wall tiles (m/s).	248	SM		
	<u>Wall Tiles</u>				
7.11.4	300 x 300 x 6mm Thick glazed ceramic wall tiles bedding and jointing in cement and sand (1:3) mortar and flush pointed with white cement;including matching grouting, waterproof adhesive,spacers and edge protectors where required	248	SM		
7.11.5	12mm girth PVC Edgings	145	LM		
	<u>Floor Finishes</u>				
	<u>Cement and sand (1:4) screeding smooth trowelled</u>				
7.11.6	32mm Thick floor screed to receive tiles	152	SM		
7.11.7	32mm Thick floor screed to receive terrazzo	202	SM		
	<u>Ceramic floor tiles</u>				
7.11.8	Supply and fix 10 mm thick non-slip ceramic floor tiles on prepared backing including matching grouting, waterproof adhesive,spacers and edge protectors where required; overall size 330mm x 330mm.	152	SM		
7.11.9	Ditto 100mm high skirting	162	LM		
	<u>Polished Terrazzo paving</u>				
7.11.10	25mm thick insitu polished terrazzo laid on concrete in approved coloured aggregate finished smooth including sanding and polishing	202	SM		
7.11.11	20 x 100mm ditto skirting	107	LM		
7.11.12	25 mm wide Slip-resistant Carborandum inserts on Terrazzo treads bonded with an approved adhesive	130	LM		
	<u>Plastic dividing strips</u>				
7.11.13	32 x 3mm thick plastic dividing strips	303	LM		
	TOTAL CARRIED FORWARD				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	FINISHES CONTINUED...				
	<u>BROUGHT FORWARD FROM PAGE RB/11</u>				
	Ceiling finishes				
	Concrete Finishes				
7.12.1	15mm thick two coat gauged cement lime and sand (1:2:9) plaster steel trowelled smooth to concrete surfaces	354	SM		
7.12.2	Prepare surface, apply undercoat and apply three coats PVA based premium quality marine grade silk vinyl emulsion paint or other equal and approved to plastered surfaces	354	SM		
	TOTAL FOR ELEMENT NO. 7 (FINISHES) CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE
COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 8</u>				
	<u>FIXTURES AND FITTINGS</u>				
	Worktop				
7.13.1	100mm thick plain concrete class 15/20 in plinth	41	SM		
7.13.2	Reinforced concrete class 25/20 in 100mm worktops	41	SM		
	Formwork to:-				
7.13.3	Soffites of worktops	41	SM		
7.13.4	Edges of worktops and plinths 75-150mm high	76	LM		
7.13.5	10mm diameter high yield reinforcement bars as described before	410	KG		
7.13.6	100mm thick coral block walling in cement/sand 1:3 mortar	25	SM		
7.13.7	15mm thick cement sand (1:3) plaster of worktop	41	SM		
7.13.8	Ditto walls	50	SM		
	Polished Terrazzo paving				
7.13.9	25mm thick insitu polished terrazzo laid on concrete in approved coloured aggregate finished smooth including sanding and polishing	91	SM		
	Plastic dividing strips				
7.13.10	32 x 3mm thick plastic dividing strips	137	LM		
	Stainless steel grating				
7.13.11	300mm wide stainless steel channel grating grade 3.1:6 marine grade: comprising 40 x 40 x 6mm edge frame : infilled with 40 x 6mm flats at 50mm centres : 40 x 40 x 6mm frame set in concrete with 150mm long stainless stel end split lugs : smooth weld joints	50	LM		
	TOTAL FOR ELEMENT NO. 8 (FIXTURES AND FITTINGS) CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE
COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
7.14.1	<u>ELEMENT NO. 9</u>				
	<u>BUILDERS WORK IN CONNECTION WITH SERVICES (BWICS)</u> Builder's Work incidental to sanitary fittings, ventilation, plumbing, drainage, reticulation, fire fighting, electrical, concealed fixings Allow for making holes, chasing walls, floors, inclusion of sleeves and other items necessary for the proper carrying out of the installations including making good all surfaces	1	ITEM		
	TOTAL FOR ELEMENT NO. 9 (BWICS) CARRIED TO SUMMARY				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

[illegible]

EXECUTIVE ABLUTION BLOCK

BILL NO.8

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>BUILDING WORKS</u>				
	<u>ELEMENT NO 1.</u>				
	<u>SUBSTRUCTURE WORKS (All Provisional)</u>				
	<u>EXCAVATION AND EARTHWORKS</u>				
8.1.1	Clear site of all bushes, tufts and any small or large trees, including grubbing out roots and burn on site where directed	150	SM		
8.1.2	Excavate oversite average 250mm deep and cart away	150	SM		
8.1.3	Excavate trench for strip foundation: not exceeding 1.5m deep	88	CM		
8.1.4	Excavate for column pits: not exceeding 1.5m deep	31	CM		
8.1.5	Ditto 1.5m to 3.0m deep	10	CM		
8.1.6	Extra over excavation from rock of any class in any position	129	CM		
	<u>Disposal of excavated material</u>				
8.1.7	Return fill in and ram in excavations	77	CM		
8.1.8	Load and cart away surplus material	52	CM		
	<u>Disposal of Water</u>				
8.1.9	Allow for keeping the whole of the excavation free from mud, water and fallen materials	1	Item		
	<u>Planking and strutting</u>				
8.1.10	Allow for planking and strutting sides of excavation	1	Item		
	<u>Filling</u>				
8.1.11	300mm thick (minimum) approved hardcore handpacked in layers not exceeding 150mm	105	SM		
8.1.12	50mm thick murram dust or any other equal and approved material in blinding surface of hardcore	105	SM		
	<u>Insecticide Treatment</u>				
8.1.13	Treat hardcore surface with approved antitermite applied in accordance with the manufacturer's instructions and subject to a TEN YEAR guarantee	105	SM		
	<u>WATERPROOFING</u>				
8.1.14	1000 gauge polythene sheet damp proof membrane including 300mm laps	124	SM		
	TOTAL SUBSTRUCTURE WORKS CARRIED FORWARD TO ELEMENT COLLECTION				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>SUBSTRUCTURES CONTINUED</u>				
	<u>CONCRETE WORKS</u>				
	<u>Insitu concrete class 15/20: in</u>				
8.2.1	50mm thick concrete blinding to surfaces of strip footing	59	SM		
8.2.2	Ditto column bases	21	SM		
	<u>Vibrated reinforced concrete class 25/20</u>				
8.2.3	Strip footing	12	CM		
8.2.4	Columns Bases	8	CM		
8.2.5	Columns	1	CM		
8.2.6	150mm thick floor slab	116	SM		
8.2.7	Ditto ramp to details	8	SM		
	<u>High Tensile Reinforcement Bars to B. S. 4449 including cutting, bending and all necessary spacer blocks : (Provisional) :-</u>				
	<u>Ribbed bars to KS ISO 6935-2:2007</u>				
8.2.8	10mm dia reinforcement bars	600	KG		
8.2.9	12mm dia reinforcement bars	300	KG		
8.2.10	16mm dia reinforcement bars	200	KG		
8.2.11	BRC Fabric mesh reinforcement Ref. A142; weighing 2.22kg per square metre(measured net no allowances made for laps) including bends tying wire and spacer blocks.	124	SM		
	<u>Marineply formwork as Described. Allow for setting to special steel propping, strutting, fillets, nails, etc to:</u>				
8.2.12	Edges of strip footing	39	SM		
8.2.13	Ditto but to column bases	22	SM		
8.2.14	Ditto but to sides of columns	16	SM		
8.2.15	Ditto but to edges of floor slabs 75-150mm girth	62	LM		
	<u>FOUNDATION WALLING</u>				
8.2.16	200mm solid coral block foundation wall in cement:sand (1:3) reinforced with hoop iron at every to alternative course	134	SM		
	<u>PLINTH FINISHES</u>				
8.2.17	15mm cement and sand (1:4) render trowelled smooth and comprising 12mm thick backing and 3mm finishing coat.	31	SM		
	<u>Painting and Decoration</u>				
8.2.18	Prepare and apply 3 coats of first quality bituminous paint or equal and approved to rendered surfaces	31	SM		
	TOTAL SUBSTRUCTURE WORKS CARRIED FORWARD TO ELEMENT COLLECTION				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY

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**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO 2.</u>				
	<u>SUPERSTRUCTURE REINFORCED CONCRETE WORKS</u>				
	<u>Vibrated reinforced concrete class 25/20</u>				
8.4.1	Beams	4	CM		
8.4.2	Gutters	10	CM		
8.4.3	Columns	2	CM		
8.4.4	150mm thick roof slab	108	SM		
	<u>High Tensile Reinforcement Bars to B. S. 4449 including cutting, bending and all necessary spacer blocks : (Provisional) :-</u>				
	<u>Ribbed bars to KS ISO 6935-2:2007</u>				
8.4.5	Assorted Bars	5,010	KG		
	<u>Sawn Treated cypress formwork to: -</u>				
8.4.6	Sides of Ring Beams	52	SM		
8.4.7	Sides and soffits of gutter beams	90	SM		
8.4.8	Soffits of columns	26	SM		
8.4.9	To soffits of roof slab	108	SM		
8.4.10	To Edges of roof slab 150-225mm	43	LM		
	TOTAL FOR ELEMENT NO. 2 (SUPERSTRUCTURE REINFORCED CONCRETE WORKS), CARRIED FORWARD TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 3</u>				
	<u>WALLING</u>				
	<u>External walling</u>				
	<u>Machine cut natural stone or machine cut coral stone or hollow concrete block walling ; load bearing 7.0 N/mm2: reinforced with 20 gauge 25mm hoop iron strips laid horizontally every alternate course: bedded and jointed in cement and sand (1:3) mortar</u>				
8.5.1	200mm mm thick	88	SM		
8.5.2	200mm thick at parapet wall; including allowing for crenellation to architect's detail	43	SM		
	<u>Internal walling</u>				
	<u>Machine cut natural stone or machine cut coral stone or hollow concrete block walling ; load bearing 7.0 N/mm2: reinforced with 20 gauge 25mm hoop iron strips laid horizontally every alternate course: bedded and jointed in cement and sand (1:3) mortar</u>				
8.5.3	200mm mm thick	54	SM		
8.5.4	150mm thick	34	SM		
	<u>WATERPROOFING</u>				
8.5.5	Hessian based bituminous felt damp proof course 200mm wide	60	LM		
8.5.6	Ditto 150mm	16	LM		
	<u>Pre-cast concrete class 20/20 precast ventilation blocks</u>				
8.5.7	600x600x150mm thick vents block with floral motifs; bedded and jointed in cement and sand (1:3) mortar and reinforced every alternate course with hoop iron.:To architect's details	21	SM		
	<u>Pre-cast concrete class 20/20 concrete coping</u>				
8.5.8	250 x 50 mm high precast concrete coping weathered and throated on both sides and jointed to wall in cement sand mortar 1:3 all to approval	88	LM		
	TOTAL FOR ELEMENT NO. 3 (WALLING), CARRIED FORWARD TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 4				
	ROOFING				
	FLAT ROOF FINISHES				
8.6.1	50 mm cement sand 1:3 water proof screed to flat roof slab,gutters and sides of parapet walls; laid to fall and crossfalls	198	SM		
8.6.2	Apply one coat bituminous primer to surface of screed.	198	SM		
	Supply and apply 4mm thick bituminous felt membrane heat welded in 200mm overlaps and all necessary surface preparations; applied strictly in accordance with printed manufacturer's instructions; provide a 10 year guarantee				
8.6.2	To roof slabs	108	SM		
8.6.3	To gutters	81	SM		
8.6.4	Ditto sides of wall 200mm high	43	LM		
8.6.5	50 x 50mm internal angle fillet	43	LM		
	Floor Finishes				
	Cement and sand (1:4) screeding smooth trowelled				
8.6.6	32mm Thick floor screed to receive clay tiles	108	SM		
8.6.7	200 x 200 x 25mm thick clay tiles at roof slab; bedding and jointing in cement mortar mix 1:4(m/s)	108	SM		
8.6.8	100mm high matching skirting	43	LM		
	Unplasticized PVC downpipes and fittings: solvent welded joints				
	Rainwater goods				
8.6.9	150mm dia PVC down pipes fixed to wall with holding clips at 1200mm centres	12	LM		
8.6.10	Extra over for running outlet	4	NO		
8.6.11	Extra over for swan neck 1000mm long	4	NO		
8.6.12	Extra over for shoe 1000mm long	4	NO		
8.6.13	Extra over 150mm fulbora outlets including galvanised expanded metal mesh	4	NO		
	TOTAL FOR ELEMENT NO. 4 (ROOFING) CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 5</u>				
	<u>WINDOWS</u>				
	<u>The following in Heavy Duty Powder Coated Aluminium windows from approved manufacturer(s) complete with 80x55x3 mm frames mullions trasomes railing and necessary intermediate reinforcement elements including all weather strips, rubber glazing strips, couplings, ironmongery including hinges, fasteners and stays, sliding rails(where necessary) bars; all ironmongery to be of stainless steel grade 316 marine grade; panes left open for glazing to Architects detail</u>				
8.7.1	Overall size 6000 x 600mm high as W005	2	NO.		
8.7.2	Overall size 2400 x 600mm high as W001	4	NO.		
8.7.3	<u>Window cills</u> 200x50mm pre-cast concrete window sill bedded and pointed in cement sand(1:3) mortar, weathred and throated all to Architects detail and approval	23	LM		
8.7.4	<u>Glazing</u> <u>laminated oneway glass fixed with and including beadings.</u> 6mm thick glass in panes (0.50-1.00m²)	13	SM		
	<u>Burglar Proofing</u>				
	<u>Mild steel grille framed with 50 x 25 x 3mm thick RHS sections, 25x3mm MS bars welded to frame at 150 mm centres both sides; including assembly and fixing to opening cutting and pinning lugs to concrete and bedding frame in cement and sand mortar (1:3);prepare surface by Sand blasting; apply one coat of 2 pack epoxy zinc phosphate primer; apply three coats of marine grade gloss paint to the whole grille</u>				
8.7.5	Overall size 6000 x 600mm high.	2	NO.		
8.7.6	Overall size 2400 x 600mm high.	4	NO.		
	TOTAL FOR ELEMENT NO. 5 (WINDOWS), CARRIED FORWARD TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 6</u>				
	<u>DOORS</u>				
	<u>Louvred Doors</u>				
	<u>50mm thick mvule louvred door comprising of 50x3mm louvres set at 45 degrees at 50mm centres;solid blocking for iron mongery (m/s) to door : all in accordance with Architect's details</u>				
8.8.1	Single leaf door overall size 1200 x 2400; complete with timber louvred fanlight size 1200x300mm high as D004A	4	NO		
8.8.2	Ditto size 900 x 2400mm high as D004B	2	NO		
8.8.3	Ditto size 900mm x 2100mm high as D005	6	NO		
	<u>FRAMES (Wrot Mvule)</u>				
8.8.4	150x50mm.rebated frame plugged	66	LM		
8.8.5	Ditto transome	7	LM		
8.8.6	50 x 25mm. Splayed architrave.	66	LM		
8.8.7	25mm quadrant moulds	66	LM		
	<u>Ironmongery</u> Supply and fix the following ironmongery from an approved manufacturer including all necessary matching screws;all ironmongery to be stainless steel grade 3.1.6 marine grade				
8.8.8	3 - Lever mortice lock; complete with lockcase and handle	6	NO		
8.8.9	2 - Lever mortice lock; ditto with indicator	6	NO		
8.8.10	100mm. Pressed butt hinges	11	PRS		
8.8.11	150mm heavy duty double action spring hinges	6	PRS		
8.8.12	38mm. Diameter door stop on floor / wall to approval	16	NO		
8.8.13	Heavy duty Door closer to an approved sample	2	NO		
8.8.14	Ditto double action door closer	4	NO		
8.8.15	150 x 150mm sex indicator plate	4	NO		
	TOTAL CARRIED FORWARD				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	DOORS CONTINUED...				
	<u>BROUGHT FORWARD FROM PAGE AB/8</u>				
8.9.1	800 x 200mm high stainless steel kick plate onto both sides to approval	8	NO		
8.9.2	Coat and hat hook	8	NO		
	Painting and Decoration				
	Prepare and apply three coats of premium quality marine grade clear varnish; Matt quality				
8.9.3	General surfaces of wood exceeding 200mm but not exceeding 300mm girth	139	LM		
8.9.4	Ditto; girth not exceeding 100mm	66	LM		
8.9.5	Doors both internally and externally	55	SM		
	Prepare and apply one coat aluminium primer before fixing: to backing of wood				
8.9.6	Surfaces over 200 but not exceeding 300mm	132	LM		
8.9.7	Surfaces not exceeding 100mm	66	LM		
	TOTAL FOR ELEMENT NO. 6 (DOORS), CARRIED FORWARD TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 7</u>				
	<u>FINISHES</u>				
	<u>EXTERNAL FINISHES</u>				
	<u>Walls</u>				
8.10.1	25mm thick cement and sand (1:3) render to:- 25mm thick cement and sand Rendering to walls, beams, gutters and columns, finished with a wood float	227	SM		
8.10.2	<u>Prepare and apply one undercoat and two</u> <u>finishing coats marine grade</u> <u>weatherguard(silicone based) exterior paint as</u> <u>approved to:</u> Fair faced surfaces of walls,beams,gutters and columns	227	SM		
8.10.3	<u>Floor Finishes</u> <u>Cement and sand (1:4) screeding smooth</u> <u>trowelled</u> 32mm Thick floor screed to receive terrazzo	44	SM		
8.10.4	Polished Terrazzo paving 25mm thick insitu polished terrazzo laid on concrete in approved coloured aggregate finished smooth including sanding and polishing	44	SM		
8.10.5	20 x 100mm ditto skirting	37	LM		
8.10.6	25 mm wide Slip-resistant Carborandum inserts on Terrazzo treads bonded with an approved adhesive	50	LM		
8.10.7	Plastic dividing strips 32 x 3mm thick plastic dividing strips	66	LM		
8.10.8	<u>Ceiling finishes</u> <u>Concrete Finishes</u> 15mm thick two coat gauged cement lime and sand (1:2:9) plaster steel trowelled smooth to concrete surfaces	44	SM		
8.10.9	Prepare surface, apply undercoat and apply three coats PVA based premium quality marine grade silk vinyl emulsion paint or other equal and approved to plastered surfaces	44	SM		
	TOTAL CARRIED FORWARD				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	FINISHES CONTINUED...				
	<u>BROUGHT FORWARD FROM PAGE AB/10</u>				
	<u>INTERNAL FINISHES</u>				
	<u>Wall and Concrete Finishes</u>				
8.11.1	15mm thick two coat gauged cement lime and sand (1:2:9) plaster steel trowelled smooth to walls and concrete surfaces.	114	SM		
8.11.2	Prepare surface, apply undercoat and apply three coats PVA based premium quality marine grade silk vinyl emulsion paint or other equal and approved to plastered surfaces.	114	SM		
8.11.3	12mm cement and sand (1:3) plaster to walls and concrete surfaces trowelled smooth; to receive wall tiles (m/s)	193	SM		
	<u>Wall Tiles</u>				
8.11.4	600 x 300 x 6mm thick glazed ceramic wall tiles bedding and jointing in cement and sand (1:3) mortar and flush pointed with white cement;including matching grouting, waterproof adhesive,spacers and edge protectors where required	193	SM		
8.11.5	12mm girth PVC Edgings	81	LM		
	<u>Floor Finishes</u>				
	<u>Cement and sand (1:4) screeding smooth trowelled</u>				
8.11.6	32mm Thick floor screed to receive tiles	72	SM		
	<u>Ceramic floor tiles</u>				
8.11.7	Supply and fix 10 mm thick non-slip ceramic floor tiles on prepared backing including matching grouting, waterproof adhesive,spacers and edge protectors where required; overall size 300mm x 600mm.	72	SM		
8.11.8	Ditto 100mm high skirting	95	LM		
	<u>Ceiling finishes</u>				
	<u>Concrete Finishes</u>				
8.11.9	15mm thick two coat gauged cement lime and sand (1:2:9) plaster steel trowelled smooth to concrete surfaces	72	SM		
8.11.10	Prepare surface, apply undercoat and apply three coats PVA based premium quality marine grade silk vinyl emulsion paint or other equal and approved to plastered surfaces	72	SM		
	TOTAL FOR ELEMENT NO. 7 (FINISHES) CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 8				
	FIXTURES AND FITTINGS				
	Worktop				
8.12.1	100mm thick plain concrete class 15/20 in plinth	5	SM		
8.12.2	Reinforced concrete class 25/20 in 100mm worktops	5	SM		
	Formwork to:-				
8.12.3	Soffites of worktops	5	SM		
8.12.4	Edges of worktops and plinths 75-150mm high	20	LM		
8.12.5	10mm diameter high yield reinforcement bars as described before	50	KG		
8.12.6	100mm thick coral block walling in cement/sand 1:3 mortar	10	SM		
8.12.7	15mm thick cement sand (1:3) plaster of worktop	5	SM		
8.12.8	Ditto walls	20	SM		
	Polished Terrazzo paving				
8.12.9	25mm thick insitu polished terrazzo laid on concrete in approved coloured aggregate finished smooth including sanding and polishing	25	SM		
	Plastic dividing strips				
8.12.10	32 x 3mm thick plastic dividing strips	38	LM		
	TOTAL FOR ELEMENT NO. 8 (FIXTURES AND FITTINGS) CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
8.13.1	<u>ELEMENT NO. 9</u>				
	<u>BUILDERS WORK IN CONNECTION WITH SERVICES (BWICS)</u> Builder's Work incidental to sanitary fittings, ventilation, plumbing, drainage, reticulation, electrical, concealed fixings Allow for making holes, chasing walls, floors, inclusion of sleeves and other items necessary for the proper carrying out of the installations including making good all surfaces	1	ITEM		
	TOTAL FOR ELEMENT NO. 9 (BWICS) CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

[illegible]

STALLS NO. 01-04

BILL NO.9

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>BUILDING WORKS</u>				
	<u>ELEMENT NO 1.</u>				
	<u>SUBSTRUCTURE WORKS (All Provisional)</u>				
9.1.1	Carefully demolish existing stall structure, including its substructure, walls, doors, windows, roof structure, electrical and mechanical works and cart away debris as directed by the project manager. Approximate gross floor area of 200m ²	1	SUM		
9.1.2	Clear site of all bushes, tufts and any small or large trees, including grubbing out roots and burn on site where directed	200	SM		
	<u>EXCAVATION AND EARTHWORKS</u>				
9.1.3	Excavate oversite average 250mm deep and cart away	200	SM		
9.1.4	Excavate trench for strip foundation: not exceeding 1.5m deep	130	CM		
9.1.5	Excavate for column pits: not exceeding 1.5m deep	73	CM		
9.1.6	Ditto 1.5m to 3.0m deep	17	CM		
9.1.7	Extra over excavation from rock of any class in any position	220	CM		
9.1.8	<u>Disposal of excavated material</u> Return fill in and ram in excavations	132	CM		
9.1.9	Load and cart away surplus material	88	CM		
9.1.10	<u>Disposal of Water</u> Allow for keeping the whole of the excavation free from mud, water and fallen materials	1	Item		
9.1.11	<u>Planking and strutting</u> Allow for planking and strutting sides of excavation	1	Item		
9.1.12	<u>Filling</u> 300mm thick (minimum) approved hardcore handpacked in layers not exceeding 150mm	172	SM		
9.1.13	50mm thick murram dust or any other equal and approved material in blinding surface of hardcore	172	SM		
	TOTAL SUBSTRUCTURE WORKS CARRIED FORWARD TO ELEMENT COLLECTION				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>SUBSTRUCTURES CONTINUED</u>				
	<u>Insecticide Treatment</u>				
9.2.1	Treat hardcore surface with approved antitermite applied in accordance with the manufacturer's instructions and subject to a TEN YEAR guarantee	172	SM		
	<u>WATERPROOFING</u>				
9.2.2	1000 gauge polythene sheet damp proof membrane including 300mm laps	198	SM		
	<u>Insitu concrete class 15/20: in</u>				
9.2.3	50mm thick concrete blinding to surfaces of strip footing	87	SM		
9.2.4	Ditto column bases	49	SM		
	<u>Vibrated reinforced concrete class 25/20</u>				
9.2.5	Strip footing	18	CM		
9.2.6	Columns Bases	20	CM		
9.2.7	Columns	3	CM		
9.2.8	150mm thick floor slab	188	SM		
9.2.9	Ditto ramp to details	12	SM		
	<u>High Tensile Reinforcement Bars to B. S. 4449 including cutting, bending and all necessary spacer blocks : (Provisional) :-</u>				
	<u>Ribbed bars to KS ISO 6935-2:2007</u>				
9.2.10	8mm dia reinforcement bars	80	KG		
9.2.11	10mm dia reinforcement bars	750	KG		
9.2.12	12mm dia reinforcement bars	720	KG		
9.2.13	16mm dia reinforcement bars	300	KG		
9.2.14	BRC Fabric mesh reinforcement Ref. A142; weighing 2.22kg per square metre(measured net no allowances made for laps) including bends tying wire and spacer blocks.	200	SM		
	<u>Marineply formwork as Described. Allow for setting to special steel proping, strutting, fillets, nails, etc to:</u>				
9.2.15	Edges of strip footing	58	SM		
9.2.16	Ditto but to column bases	44	SM		
9.2.17	Ditto but to sides of columns	31	SM		
9.2.18	Ditto but to edges of floor slabs 75-150mm girth	74	LM		
	<u>FOUNDATION WALLING</u>				
9.2.19	200mm solid coral block foundation wall in cement:sand (1:3) reinforced with hoop iron at every to alternative course	200	SM		
	TOTAL SUBSTRUCTURE WORKS CARRIED FORWARD TO ELEMENT COLLECTION				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>SUBSTRUCTURES CONTINUED</u>				
9.3.1	<u>PLINTH FINISHES</u> 15mm cement and sand (1:4) render trowelled smooth and comprising 12mm thick backing and 3mm finishing coat.	37	SM		
9.3.2	<u>Painting and Decoration</u> Prepare and apply 3 coats of first quality bituminous paint or equal and approved to rendered surfaces	37	SM		
	TOTAL SUBSTRUCTURE WORKS CARRIED FORWARD TO ELEMENT COLLECTION				
ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 1 (SUBSTRUCTURE WORKS) COLLECTION</u>				
A	Total Substructure Works brought forward from page ST/1				
B	Total Substructure Works brought forward from page ST/2				
C	Total Substructure Works brought forward from page ST/3				
	TOTAL ELEMENT NO. 1 (SUBSTRUCTURE WORKS), CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO 2.</u>				
	<u>SUPERSTRUCTURE REINFORCED CONCRETE WORKS</u>				
	<u>Vibrated reinforced concrete class 25/20</u>				
9.4.1	Beams	8	CM		
9.4.2	Gutters	14	CM		
9.4.3	Columns	6	CM		
9.4.4	150mm thick roof slab	186	SM		
	<u>High Tensile Reinforcement Bars to B. S. 4449 including cutting, bending and all necessary spacer blocks : (Provisional) :-</u>				
	<u>Ribbed bars to KS ISO 6935-2:2007</u>				
9.4.5	Assorted Bars	8,805	KG		
	<u>Sawn Treated cypress formwork to: -</u>				
9.4.6	Sides of Ring Beams	102	SM		
9.4.7	Sides and soffits of gutter beams	120	SM		
9.4.8	Soffits of columns	52	SM		
9.4.9	To soffits of roof slab	186	SM		
9.4.10	To Edges of roof slab 75-150mm	57	LM		
	<u>Creation of Arches</u>				
9.4.11	Construction and formation of decorative arches around windows and the main door externally and main arches at terrace finished same as external walls;1000 - 3000 mm diameter;including all necessary formworks and reinforcements; all to Architect's details	2	No		
	TOTAL FOR ELEMENT NO. 2 (SUPERSTRUCTURE REINFORCED CONCRETE WORKS), CARRIED FORWARD TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 3</u>				
	<u>WALLING</u>				
	<u>External walling</u>				
	<u>Machine cut natural stone or machine cut coral stone or hollow concrete block walling ; load bearing 7.0 N/mm2: reinforced with 20 gauge 25mm hoop iron strips laid horizontally every alternate course: bedded and jointed in cement and sand (1:3) mortar</u>				
9.5.1	200mm mm thick	125	SM		
9.5.2	200mm thick at parapet wall; including allowing for crenellation to architect's detail	56	SM		
	<u>Internal walling</u>				
	<u>Machine cut natural stone or machine cut coral stone or hollow concrete block walling ; load bearing 7.0 N/mm2: reinforced with 20 gauge 25mm hoop iron strips laid horizontally every alternate course: bedded and jointed in cement and sand (1:3) mortar</u>				
9.5.3	200mm mm thick	93	SM		-
	<u>WATERPROOFING</u>				
9.5.4	Hessian based bituminous felt damp proof course 200mm wide	86	LM		
	<u>Pre-cast concrete class 20/20 precast ventilation blocks</u>				
9.5.5	600x600x150mm thick vents block with floral motifs; bedded and jointed in cement and sand (1:3) mortar and reinforced every alternate course with hoop iron.:To architect's details	12	SM		
	<u>Pre-cast concrete class 20/20 concrete coping</u>				
9.5.6	250 x 50 mm high precast concrete coping weathered and throated on both sides and jointed to wall in cement sand mortar 1:3 all to approval	114	LM		
	TOTAL FOR ELEMENT NO. 3 (WALLING), CARRIED FORWARD TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 4</u>				
	<u>ROOFING</u>				
	<u>FLAT ROOF FINISHES</u>				
9.6.1	50 mm cement sand 1:3 water proof screed to flat roof slab,gutters and sides of parapet walls; laid to fall and crossfalls	306	SM		
9.6.2	Apply one coat bituminous primer to surface of screed.	306	SM		
	Supply and apply 4mm thick bituminous felt membrane heat welded in 200mm overlaps and all necessary surface preparations; applied strictly in accordance with printed manufacturer's instructions; provide a 10 year guarantee				
9.6.3	To roof slabs	186	SM		
9.6.4	To gutters	108	SM		
9.6.5	Ditto sides of wall 200mm high	57	LM		
9.6.6	50 x 50mm internal angle fillet	57	LM		
	<u>Floor Finishes</u>				
	<u>Cement and sand (1:4) screeding smooth trowelled</u>				
9.6.7	32mm Thick floor screed to receive concrete interlocking tiles	186	SM		
9.6.8	200 x 200 x 25mm thick concrete interlocking tiles at roof slab; bedding and jointing in cement mortar mix 1:4(m/s)	186	SM		
9.6.9	100mm high matching skirting	57	LM		
	<u>Unplasticized PVC downpipes and fittings: solvent welded joints</u>				
	<u>Rainwater goods</u>				
9.6.10	150mm dia PVC down pipes fixed to wall with holding clips at 1200mm centres	12	LM		
9.6.11	Extra over for running outlet	4	NO		
9.6.12	Extra over for swan neck 1000mm long	4	NO		
9.6.13	Extra over for shoe 1000mm long	4	NO		
9.6.14	Extra over 150mm fulbora outlets including galvanised expanded metal mesh	4	NO		
	TOTAL FOR ELEMENT NO. 4 (ROOFING) CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 5</u>				
	<u>WINDOWS</u>				
	<u>The following in Heavy Duty Powder Coated Aluminium windows from approved manufacturer(s) complete with 80x55x3 mm frames mullions trasomes railing and necessary intermediate reinforcement elements including all weather strips, rubber glazing strips, couplings, ironmongery including hinges, fasteners and stays, sliding rails(where necessary) bars; all ironmongery to be of stainless steel grade 316 marine grade; panes left open for glazing to Architects detail</u>				
9.7.1	Overall size 1000 x 600mm high as W001	12	NO.		
	<u>Window cills</u>				
9.7.2	200x50mm pre-cast concrete window sill bedded and pointed in cement sand(1:3) mortar, weathred and throated all to Architects detail and approval	15	LM		
	<u>Glazing</u> <u>laminated oneway glass fixed with and including beadings.</u>				
9.7.3	6mm thick glass in panes (0.50-1.00m ²)	8	SM		
	<u>Burglar Proofing</u>				
	<u>Mild steel grille framed with 50 x 25 x 3mm thick RHS sections, 25x3mm MS bars welded to frame at 150 mm centres both sides; including assembly and fixing to opening cutting and pinning lugs to concrete and bedding frame in cement and sand mortar (1:3);prepare surface by Sand blasting; apply one coat of 2 pack epoxy zinc phosphate primer; apply three coats of marine grade gloss paint to the whole grille</u>				
9.7.4	Overall size 1000 x 600mm high.	12	NO.		
	TOTAL FOR ELEMENT NO. 5 (WINDOWS), CARRIED FORWARD TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 6				
	<u>DOORS</u>				
	<u>Supply and fix aluminium framed doors with approved powder coated aluminium in framing in sections of size 75mm x 50 x 3mm thick fixed to wall/beam/column around openings, including glazing with 6mm thick laminated glass; secured to the framing using approved glazing strips and glazing beading including waterproofing all joints using approved silicon sealing compounds with all the necessary ironmongery and fittings; all ironmongery to be of stainless steel grade 316 marine grade; all to Architect's door schedules' details and approval</u>				
9.8.1	Double leaf door overall size 1200 x 2400mm high as DOO1 <u>Panel Doors</u> <u>50mm thick mvule panelled door: comprised of 200 x 50mm thick stiles, top and middle rail: 200 x 50mm thick bottom rail ; complete with moulded grooves to door leaf on both sides ;solid blocking to iron mongery (m/s) to door</u>	4	NO		
9.8.2	Single leaf door overall size 900 x 2400mm high; complete with timber louvred fanlight size 900x300mm high as DOO2	4	NO		
9.8.3	Single leaf door size 900mm x 2100mm as D003	4	NO		
	<u>FRAMES (Wrot Mvule)</u>				
9.8.4	150x50mm.rebated frame plugged	44	LM		
9.8.5	Ditto transome	4	LM		
9.8.6	50 x 25mm. Splayed architrave.	44	LM		
9.8.7	25mm quadrant moulds	44	LM		
	TOTAL CARRIED FORWARD				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	DOORS CONTINUED...				
	<u>BROUGHT FORWARD FROM PAGE BW/8</u>				
	Ironmongery				
	Supply and fix the following ironmongery from an approved manufacturer including all necessary matching screws;all ironmongery to be stainless steel grade 3.1.6 marine grade				
9.9.1	3 - Lever mortice lock; complete with lockcase and handle	4	NO		
9.9.2	2-Lever mortice lock; ditto	4	NO		
9.9.3	100mm. Pressed butt hinges	12	PRS		
9.9.4	38mm. Diameter door stop on floor / wall to approval	16	NO		
9.9.5	Heavy duty Door closer to an approved sample	16	NO		
9.9.6	150 x 150mm signage plate	4	NO		
9.9.7	Coat and hat hook	4	NO		
	Painting and Decoration				
	Prepare and apply three coats of premium quality marine grade clear varnish; Matt quality				
9.9.8	General surfaces of wood exceeding 200mm but not exceeding 300mm girth	92	LM		
9.9.9	Ditto; girth not exceeding 100mm	44	LM		
9.9.10	Doors both internally and externally	33	SM		
	Prepare and apply one coat aluminium primer before fixing: to backing of wood				
9.9.11	Surfaces over 200 but not exceeding 300mm	88	LM		
9.9.12	Surfaces not exceeding 100mm	44	LM		
	TOTAL FOR ELEMENT NO. 6 (DOORS), CARRIED FORWARD TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 7</u>				
	<u>FINISHES</u>				
	<u>EXTERNAL FINISHES</u>				
	<u>Walls</u>				
9.10.1	25mm thick cement and sand (1:3) render to:- 25mm thick cement and sand Rendering to walls, beams, gutters and columns, finished with a wood float,	309	SM		
9.10.2	<u>Prepare and apply one undercoat and two finishing coats marine grade weatherguard(silicone based) exterior paint as approved to:</u> Fair faced surfaces of walls,beams,gutters and columns	309	SM		
9.10.3	<u>Floor Finishes</u> <u>Cement and sand (1:4) screeding smooth trowelled</u> 32mm Thick floor screed to receive terrazzo	68	SM		
9.10.4	<u>Polished Terrazzo paving</u> 25mm thick insitu polished terrazzo laid on concrete in approved coloured aggregate finished smooth including sanding and polishing	68	SM		
9.10.5	20 x 100mm ditto skirting	51	LM		
9.10.6	25 mm wide Slip-resistant Carborandum inserts on Terrazzo treads bonded with an approved adhesive	50	LM		
9.10.7	<u>Plastic dividing strips</u> 32 x 3mm thick plastic dividing strips	102	LM		
	<u>Ceiling finishes</u>				
	<u>Concrete Finishes</u>				
9.10.8	15mm thick two coat gauged cement lime and sand (1:2:9) plaster steel trowelled smooth to concrete surfaces	50	SM		
9.10.9	Prepare surface, apply undercoat and apply three coats PVA based premium quality marine grade silk vinyl emulsion paint or other equal and approved to plastered surfaces	50	SM		
9.10.10	<u>INTERNAL FINISHES</u> <u>Wall and Concrete Finishes</u> 15mm thick two coat gauged cement lime and sand (1:2:9) plaster steel trowelled smooth to walls and concrete surfaces	313	SM		
	TOTAL CARRIED FORWARD				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	FINISHES CONTINUED...				
	<u>BROUGHT FORWARD FROM PAGE ST/10</u>				
9.11.1	Prepare surface, apply undercoat and apply three coats PVA based premium quality marine grade silk vinyl emulsion paint or other equal and approved to plastered surfaces.	315	SM		
9.11.2	12mm cement and sand (1:3) plaster to walls and concrete surfaces trowelled smooth; to receive wall tiles (m/s).	78	SM		
	<u>Wall Tiles</u>				
9.11.3	300 x 300 x 6mm Thick glazed ceramic wall tiles bedding and jointing in cement and sand (1:3) mortar and flush pointed with white cement;including matching grouting, waterproof adhesive,spacers and edge protectors	78	SM		
9.11.4	12mm girth PVC Edgings	150	LM		
	<u>Floor Finishes</u>				
	<u>Cement and sand (1:4) screeding smooth trowelled</u>				
9.11.5	32mm Thick floor screed to receive non slip ceramic tiles	88	SM		
	<u>Ceramic floor tiles</u>				
9.11.6	Supply and fix 10 mm thick non-slip ceramic floor tiles on prepared backing including matching grouting, waterproof adhesive and edge protectors where required; overall size 300mm x 300mm.	88	SM		
9.11.7	Ditto 100mm high skirting	100	LM		
	<u>Ceiling finishes</u>				
	<u>Concrete Finishes</u>				
9.11.8	15mm thick two coat gauged cement lime and sand (1:2:9) plaster steel trowelled smooth to concrete surfaces.	88	SM		
9.11.9	Prepare surface, apply undercoat and apply three coats PVA based premium quality marine grade silk vinyl emulsion paint or other equal and approved to plastered surfaces.	88	SM		
	TOTAL FOR ELEMENT NO. 7 (FINISHES) CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 8				
	FIXTURES AND FITTINGS				
	Worktop				
9.12.1	100mm thick plain concrete class 15/20 in plinth	3	SM		
9.12.2	Reinforced concrete class 25/20 in 100mm worktops	3	SM		
	Formwork to:-				
9.12.3	Soffites of worktops	3	SM		
9.12.4	Edges of worktops and plinths 75-150mm high	11	LM		
9.12.5	10mm diameter high yield reinforcement bars as described before	30	KG		
9.12.6	100mm thick coral block walling in cement/sand 1:3 mortar	5	SM		
9.12.7	15mm thick cement sand (1:3) plaster of worktop	3	SM		
9.12.8	Ditto walls	10	SM		
	Polished Terrazzo paving				
9.12.9	25mm thick insitu polished terrazzo laid on concrete in approved coloured aggregate finished smooth including sanding and polishing	13	SM		
	Plastic dividing strips				
9.12.10	32 x 3mm thick plastic dividing strips	20	LM		
	TOTAL FOR ELEMENT NO. 8 (FIXTURES AND FITTINGS) CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
9.13.1	<u>ELEMENT NO. 9</u>				
	<u>BUILDERS WORK IN CONNECTION WITH SERVICES (BWICS)</u> Builder's Work incidental to sanitary fittings, ventilation, plumbing, drainage, reticulation, fire fighting, electrical installations, concealed fixings Allow for making holes, chasing walls, floors, inclusion of sleeves and other items necessary for the proper carrying out of the installations including making good all surfaces	1	ITEM		
	TOTAL FOR ELEMENT NO. 9 (BWICS) CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

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STALLS NO. 05-06

BILL NO.10

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>BUILDING WORKS</u>				
	<u>ELEMENT NO 1.</u>				
	<u>SUBSTRUCTURE WORKS (All Provisional)</u>				
	<u>EXCAVATION AND EARTHWORKS</u>				
10.1.1	Clear site of all bushes, tufts and any small or large trees, including grubbing out roots and burn on site where directed	120	SM		
10.1.2	Excavate oversite average 250mm deep and cart away	120	SM		
10.1.3	Excavate trench for strip foundation: not exceeding 1.5m deep	87	CM		
10.1.4	Excavate for column pits: not exceeding 1.5m deep	27	CM		
10.1.5	Ditto 1.5m to 3.0m deep	9	CM		
10.1.6	Extra over excavation from rock of any class in any position	123	CM		
	<u>Disposal of excavated material</u>				
10.1.7	Return fill in and ram in excavations	82	CM		
10.1.8	Load and cart away surplus material	41	CM		
	<u>Disposal of Water</u>				
10.1.9	Allow for keeping the whole of the excavation free from mud, water and fallen materials	1	Item		
	<u>Planking and strutting</u>				
10.1.10	Allow for planking and strutting sides of excavation	1	Item		
	<u>Filling</u>				
10.1.11	300mm thick (minimum) approved hardcore handpacked in layers not exceeding 150mm	74	SM		
10.1.12	50mm thick murram dust or any other equal and approved material in blinding surface of hardcore	74	SM		
	<u>Insecticide Treatment</u>				
10.1.13	Treat hardcore surface with approved antitermite applied in accordance with the manufacturer's instructions and subject to a TEN YEAR guarantee	79	SM		
	<u>WATERPROOFING</u>				
10.1.14	1000 gauge polythene sheet damp proof membrane including 300mm laps	98	SM		
	TOTAL SUBSTRUCTURE WORKS CARRIED FORWARD TO ELEMENT COLLECTION				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>SUBSTRUCTURES CONTINUED</u>				
	<u>CONCRETE WORKS</u>				
	<u>Insitu concrete class 15/20: in</u>				
10.2.1	50mm thick concrete blinding to surfaces of strip footing	58	SM		
10.2.2	Ditto column bases	18	SM		
	<u>Vibrated reinforced concrete class 25/20</u>				
10.2.3	Strip footing	12	CM		
10.2.4	Columns Bases	8	CM		
10.2.5	Columns	1	CM		
10.2.6	150mm thick floor slab	91	SM		
10.2.7	Ditto ramp to details	7	SM		
	<u>High Tensile Reinforcement Bars to B. S. 4449</u>				
	<u>including cutting, bending and all necessary</u>				
	<u>spacer blocks : (Provisional) :-</u>				
	<u>Ribbed bars to KS ISO 6935-2:2007</u>				
10.2.8	10mm dia reinforcement bars	600	KG		
10.2.9	12mm dia reinforcement bars	300	KG		
10.2.10	16mm dia reinforcement bars	200	KG		
10.2.11	BRC Fabric mesh reinforcement Ref. A142; weighing 2.22kg per square metre(measured net no allowances made for laps) including bends tying wire and spacer blocks.	98	SM		
	<u>Marineply formwork as Described. Allow for setting to special steel propping, strutting, fillets, nails, etc to:</u>				
10.2.12	Edges of strip footing	39	SM		
10.2.13	Ditto but to column bases	20	SM		
10.2.14	Ditto but to sides of columns	17	SM		
10.2.15	Ditto but to edges of floor slabs 75-150mm girth	46	LM		
	<u>FOUNDATION WALLING</u>				
10.2.16	200mm solid coral block foundation wall in cement:sand (1:3) reinforced with hoop iron at every to alternative course	82	SM		
	<u>PLINTH FINISHES</u>				
10.2.17	15mm cement and sand (1:4) render trowelled smooth and comprising 12mm thick backing and 3mm finishing coat.	23	SM		
	<u>Painting and Decoration</u>				
10.2.18	Prepare and apply 3 coats of first quality bituminous paint or equal and approved to rendered surfaces	23	SM		
	TOTAL SUBSTRUCTURE WORKS CARRIED FORWARD TO ELEMENT COLLECTION				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

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**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO 2.				
	<u>SUPERSTRUCTURE REINFORCED CONCRETE WORKS</u>				
	<u>Vibrated reinforced concrete class 25/20</u>				
10.4.1	Beams	3	CM		
10.4.2	Gutters	9	CM		
10.4.3	Columns	2	CM		
10.4.4	150mm thick roof slab	90	SM		
	<u>High Tensile Reinforcement Bars to B. S. 4449 including cutting, bending and all necessary spacer blocks : (Provisional) :-</u>				
	<u>Ribbed bars to KS ISO 6935-2:2007</u>				
10.4.5	Assorted Bars	4,275	KG		
	<u>Sawn Treated cypress formwork to: -</u>				
10.4.6	Sides of Ring Beams	29	SM		
10.4.7	Sides and soffits of gutter beams	78	SM		
10.4.8	Soffits of columns	28	SM		
10.4.9	To soffits of roof slab	90	SM		
10.4.10	To Edges of roof slab 75-150mm	38	LM		
	<u>Creation of Arches</u>				
	Construction and formation of decorative arches around windows and the main door externally and main arches at terrace finished same as external walls;1000 - 3000 mm diameter;including all necessary formworks and reinforcements; all to Architect's details	6	No		
	TOTAL FOR ELEMENT NO. 2 (SUPERSTRUCTURE REINFORCED CONCRETE WORKS), CARRIED FORWARD TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 3</u>				
	<u>WALLING</u>				
	<u>External walling</u>				
	<u>Machine cut natural stone or machine cut coral stone or hollow concrete block walling ; load bearing 7.0 N/mm2: reinforced with 20 gauge 25mm hoop iron strips laid horizontally every alternate course: bedded and jointed in cement and sand (1:3) mortar</u>				
10.5.1	200mm mm thick	85	SM		
10.5.2	200mm thick at parapet wall; including allowing for crenellation to architect's detail	38	SM		
	<u>Internal walling</u>				
	<u>Machine cut natural stone or machine cut coral stone or hollow concrete block walling ; load bearing 7.0 N/mm2: reinforced with 20 gauge 25mm hoop iron strips laid horizontally every alternate course: bedded and jointed in cement and sand (1:3) mortar</u>				
10.5.3	200mm mm thick	31	SM		
	<u>WATERPROOFING</u>				
10.5.4	Hessian based bituminous felt damp proof course 200mm wide	46	LM		
	<u>Pre-cast concrete class 20/20 precast ventilation blocks</u>				
10.5.5	600x600x150mm thick vents block with floral motifs; bedded and jointed in cement and sand (1:3) mortar and reinforced every alternate course with hoop iron.:To architect's details	4	SM		
	<u>Pre-cast concrete class 20/20 concrete coping</u>				
10.5.6	250 x 50 mm high precast concrete coping weathered and throated on both sides and jointed to wall in cement sand mortar 1:3 all to approval	77	LM		
	TOTAL FOR ELEMENT NO. 3 (WALLING), CARRIED FORWARD TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 4				
	ROOFING				
	FLAT ROOF FINISHES				
10.6.1	50 mm cement sand 1:3 water proof screed to flat roof slab,gutters and sides of parapet walls; laid to fall and crossfalls	168	SM		
10.6.2	Apply one coat bituminous primer to surface of screed.	168	SM		
	Supply and apply 4mm thick bituminous felt membrane heat welded in 200mm overlaps and all necessary surface preparations; applied strictly in accordance with printed manufacturer's instructions; provide a 10 year guarantee				
10.6.3	To roof slabs	90	SM		
10.6.4	To gutters	70	SM		
10.6.5	Ditto sides of wall 200mm high	38	LM		
10.6.6	50 x 50mm internal angle fillet	38	LM		
	Floor Finishes				
	Cement and sand (1:4) screeding smooth trowelled				
10.6.7	32mm Thick floor screed to receive clay tiles	90	SM		
10.6.8	200 x 200 x 25mm thick clay tiles at roof slab; bedding and jointing in cement mortar mix 1:4(m/s)	90	SM		
10.6.9	100mm high matching skirting	38	LM		
	Unplasticized PVC downpipes and fittings: solvent welded joints				
	Rainwater goods				
10.6.10	150mm dia PVC down pipes fixed to wall with holding clips at 1200mm centres	6	LM		
10.6.11	Extra over for running outlet	2	NO		
10.6.12	Extra over for swan neck 1000mm long	2	NO		
10.6.13	Extra over for shoe 1000mm long	2	NO		
10.6.14	Extra over 150mm fulbora outlets including galvanised expanded metal mesh	2	NO		
	TOTAL FOR ELEMENT NO. 4 (ROOFING) CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 5</u>				
	<u>WINDOWS</u>				
	<u>The following in Heavy Duty Powder Coated Aluminium windows from approved manufacturer(s) complete with 80x55x3 mm frames mullions trasomes railing and necessary intermediate reinforcement elements including all weather strips, rubber glazing strips, couplings, ironmongery including hinges, fasteners and stays, sliding rails(where necessary) bars; all ironmongery to be of stainless steel grade 316 marine grade; panes left open for glazing to Architects detail</u>				
10.7.1	Overall size 1000 x 600mm high as W001	6	NO.		
	<u>Window cills</u>				
10.7.2	200x50mm pre-cast concrete window sill bedded and pointed in cement sand(1:3) mortar, weathred and throated all to Architects detail and approval	7	LM		
	<u>Glazing</u>				
	<u>laminated oneway glass fixed with and including beadings.</u>				
10.7.3	6mm thick glass in panes (0.50-1.00m ²)	4	SM		
	<u>Burglar Proofing</u>				
	<u>Mild steel grille framed with 50 x 25 x 3mm thick RHS sections, 25x3mm MS bars welded to frame at 150 mm centres both sides; including assembly and fixing to opening cutting and pinning lugs to concrete and bedding frame in cement and sand mortar (1:3);prepare surface by Sand blasting; apply one coat of 2 pack epoxy zinc phosphate primer; apply three coats of marine grade gloss paint to the whole grille</u>				
10.7.4	Overall size 1000 x 600mm high.	6	NO.		
	TOTAL FOR ELEMENT NO. 5 (WINDOWS), CARRIED FORWARD TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 6				
	<u>DOORS</u>				
	<u>Supply and fix aluminium framed doors with approved powder coated aluminium in framing in sections of size 75mm x 50 x 3mm thick fixed to wall/beam/column around openings, including glazing with 6mm thick laminated glass; secured to the framing using approved glazing strips and glazing beading including waterproofing all joints using approved silicon sealing compounds with all the necessary ironmongery and fittings; all ironmongery to be of stainless steel grade 316 marine grade; all to Architect's door schedules' details and approval</u>				
10.8.1	Double leaf door overall size 1200 x 2400mm high as DOO1	2	NO		
	<u>Panel Doors</u>				
	<u>50mm thick mvule panelled door: comprised of 200 x 50mm thick stiles, top and middle rail: 200 x 50mm thick bottom rail ; complete with moulded grooves to door leaf on both sides ;solid blocking to iron mongery (m/s) to door</u>				
10.8.2	Single leaf door overall size 900 x 2400mm high; complete with timber louvred fanlight size 900x300mm high as DOO2	2	NO		
10.8.3	Single leaf door size 900mm x 2100mm as D003	2	NO		
	<u>FRAMES (Wrot Mvule)</u>				
10.8.4	150x50mm.rebated frame plugged	22	LM		
10.8.5	Ditto transome	2	LM		
10.8.6	50 x 25mm. Splayed architrave.	22	LM		
10.8.7	25mm quadrant moulds	22	LM		
	TOTAL CARRIED FORWARD				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	DOORS CONTINUED...				
	<u>BROUGHT FORWARD FROM PAGE ST/8</u>				
	Ironmongery				
	Supply and fix the following ironmongery from an approved manufacturer including all necessary matching screws;all ironmongery to be stainless steel grade 3.1.6 marine grade				
10.9.1	3 - Lever mortice lock; complete with lockcase and handle	2	NO		
10.9.2	2-Lever mortice lock; ditto	2	NO		
10.9.3	100mm. Pressed butt hinges	6	PRS		
10.9.4	38mm. Diameter door stop on floor / wall to approval	8	NO		
10.9.5	Heavy duty Door closer to an approved sample	8	NO		
10.9.6	150 x 150mm signage plate	2	NO		
10.9.7	Coat and hat hook	2	NO		
	Painting and Decoration				
	Prepare and apply three coats of premium quality marine grade clear varnish; Matt quality				
10.9.8	General surfaces of wood exceeding 200mm but not exceeding 300mm girth	46	LM		
10.9.9	Ditto; girth not exceeding 100mm	22	LM		
10.9.10	Doors both internally and externally	17	SM		
	Prepare and apply one coat aluminium primer before fixing: to backing of wood				
10.9.11	Surfaces over 200 but not exceeding 300mm	44	LM		
10.9.12	Surfaces not exceeding 100mm	22	LM		
	TOTAL FOR ELEMENT NO. 6 (DOORS), CARRIED FORWARD TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 7</u>				
	<u>FINISHES</u>				
	<u>EXTERNAL FINISHES</u>				
	<u>Walls</u>				
10.10.1	25mm thick cement and sand (1:3) render to:- 25mm thick cement and sand Rendering to walls, beams, gutters and columns, finished with a wood float,	210	SM		
10.10.2	<u>Prepare and apply one undercoat and two</u> <u>finishing coats marine grade</u> <u>weatherguard(silicone based) exterior paint as</u> <u>approved to:</u> Fair faced surfaces of walls,beams,gutters and columns	210	SM		
10.10.3	<u>Floor Finishes</u> <u>Cement and sand (1:4) screeding smooth</u> <u>trowelled</u> 32mm Thick floor screed to receive terrazzo	29	SM		
10.10.4	Polished Terrazzo paving 25mm thick insitu polished terrazzo laid on concrete in approved coloured aggregate finished smooth including sanding and polishing	29	SM		
10.10.5	20 x 100mm ditto skirting	26	LM		
10.10.6	25 mm wide Slip-resistant Carborandum inserts on Terrazzo treads bonded with an approved adhesive	30	LM		
10.10.7	Plastic dividing strips 32 x 3mm thick plastic dividing strips	44	LM		
	<u>Ceiling finishes</u>				
	<u>Concrete Finishes</u>				
10.10.8	15mm thick two coat gauged cement lime and sand (1:2:9) plaster steel trowelled smooth to concrete surfaces	29	SM		
10.10.9	Prepare surface, apply undercoat and apply three coats PVA based premium quality marine grade silk vinyl emulsion paint or other equal and approved to plastered surfaces	29	SM		
10.10.10	<u>INTERNAL FINISHES</u> <u>Wall and Concrete Finishes</u> 15mm thick two coat gauged cement lime and sand (1:2:9) plaster steel trowelled smooth to walls and concrete surfaces	165	SM		
	TOTAL CARRIED FORWARD				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	FINISHES CONTINUED...				
	<u>BROUGHT FORWARD FROM PAGE ST/10</u>				
10.11.1	Prepare surface, apply undercoat and apply three coats PVA based premium quality marine grade silk vinyl emulsion paint or other equal and approved to plastered surfaces	165	SM		
10.11.2	12mm cement and sand (1:3) plaster to walls and concrete surfaces trowelled smooth; to receive wall tiles (m/s)	39	SM		
	<u>Wall Tiles</u>				
10.11.3	300 x 300 x 6mm Thick glazed ceramic wall tiles bedding and jointing in cement and sand (1:3) mortar and flush pointed with white cement;including matching grouting, waterproof adhesive,spacers and edge protectors	39	SM		
10.11.4	12mm girth PVC Edgings	50	LM		
	<u>Floor Finishes</u>				
	<u>Cement and sand (1:4) screeding smooth trowelled</u>				
10.11.1	32mm Thick floor screed to receive non slip ceramic tiles	46	SM		
	<u>Ceramic floor tiles</u>				
10.11.5	Supply and fix 10 mm thick non-slip ceramic floor tiles on prepared backing including matching grouting, waterproof adhesive and edge protectors where required; overall size 300mm x 300mm.	46	SM		
10.11.6	Ditto 100mm high skirting	40	LM		
	<u>Ceiling finishes</u>				
	<u>Concrete Finishes</u>				
10.11.7	15mm thick two coat gauged cement lime and sand (1:2:9) plaster steel trowelled smooth to concrete surfaces	46	SM		
10.11.8	Prepare surface, apply undercoat and apply three coats PVA based premium quality marine grade silk vinyl emulsion paint or other equal and approved to plastered surfaces	46	SM		
	TOTAL FOR ELEMENT NO. 7 (FINISHES) CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 8				
	FIXTURES AND FITTINGS				
	Worktop				
10.12.1	100mm thick plain concrete class 15/20 in plinth	2	SM		
10.12.2	Reinforced concrete class 25/20 in 100mm worktops	2	SM		
	Formwork to:-				
10.12.3	Soffites of worktops	2	SM		
10.12.4	Edges of worktops and plinths 75-150mm high	6	LM		
10.12.5	10mm diameter high yield reinforcement bars as described before	20	KG		
10.12.6	100mm thick coral block walling in cement/sand 1:3 mortar	3	SM		
10.12.7	15mm thick cement sand (1:3) plaster of worktop	2	SM		
10.12.8	Ditto walls	6	SM		
	Polished Terrazzo paving				
10.12.9	25mm thick insitu polished terrazzo laid on concrete in approved coloured aggregate finished smooth including sanding and polishing	8	SM		
	Plastic dividing strips				
10.12.10	32 x 3mm thick plastic dividing strips	12	LM		
	TOTAL FOR ELEMENT NO. 8 (FIXTURES AND FITTINGS) CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
10.13.1	<u>ELEMENT NO. 9</u>				
	<u>BUILDERS WORK IN CONNECTION WITH SERVICES (BWICS)</u> Builder's Work incidental to sanitary fittings, ventilation, plumbing, drainage, reticulation, fire fighting, electrical installations, concealed fixings Allow for making holes, chasing walls, floors, inclusion of sleeves and other items necessary for the proper carrying out of the installations including making good all surfaces	1	ITEM		
	TOTAL FOR ELEMENT NO. 9 (BWICS) CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	SUMMARY				
A	Total for Element No. 1 (Substructure Works), brought forward from page ST/3				
B	Total for Element No. 2 (Superstructure Reinforced Concrete Works), brought forward from page ST/4				
C	Total for Element No. 3 (Walling), brought forward from page ST/5				
D	Total for Element No. 4 (Roofing) brought forward from page ST/6				
E	Total for Element No. 5 (Windows) brought forward from page ST/7				
F	Total for Element No. 6 (Doors) brought forward from page ST/9				
G	Total for Element No. 7 (Finishes) brought forward from page ST/11				
H	Total for Element No. 8 (Fixtures and fittings) brought forward from page ST/12				
I	Total for Element No. 9 (BWICS) brought forward from page ST/13				
	TOTAL FOR STALLS (5-6) CARRIED TO GRAND SUMMARY				

GATE HOUSE A

BILL NO.11

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>BUILDING WORKS</u>				
	<u>ELEMENT NO 1.</u>				
	<u>SUBSTRUCTURE WORKS (All Provisional)</u>				
	<u>EXCAVATION AND EARTHWORKS</u>				
11.1.1	Clear site of all bushes, tufts and any small or large trees, including grubbing out roots and burn on site where directed	20	SM		
11.1.2	Excavate oversite average 250mm deep and cart away	20	SM		
11.1.3	Excavate trench for strip foundation: not exceeding 1.5m deep	13	CM		
11.1.4	Excavate for column pits: not exceeding 1.5m deep	13	CM		
11.1.5	Ditto 1.5m to 3.0m deep	4	CM		
11.1.6	Extra over excavation from rock of any class in any position	30	CM		
	<u>Disposal of excavated material</u>				
11.1.7	Return fill in and ram in excavations	19	CM		
11.1.8	Load and cart away surplus material	11	CM		
	<u>Disposal of Water</u>				
11.1.9	Allow for keeping the whole of the excavation free from mud, water and fallen materials	1	Item		
	<u>Planking and strutting</u>				
11.1.10	Allow for planking and strutting sides of excavation	1	Item		
	<u>Filling</u>				
11.1.11	300mm thick (minimum) approved hardcore handpacked in layers not exceeding 150mm	12	SM		
11.1.12	50mm thick murram dust or any other equal and approved material in blinding surface of hardcore	12	SM		
	<u>Insecticide Treatment</u>				
11.1.13	Treat hardcore surface with approved antitermite applied in accordance with the manufacturer's instructions and subject to a TEN YEAR guarantee	12	SM		
	<u>WATERPROOFING</u>				
11.1.14	1000 gauge polythene sheet damp proof membrane including 300mm laps	14	SM		
	TOTAL SUBSTRUCTURE WORKS CARRIED FORWARD TO ELEMENT COLLECTION				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>SUBSTRUCTURES CONTINUED</u>				
	<u>CONCRETE WORKS</u>				
	<u>Insitu concrete class 15/20: in</u>				
11.2.1	50mm thick concrete blinding to surfaces of strip footing	9	SM		
11.2.2	Ditto column bases	9	SM		
	<u>Vibrated reinforced concrete class 25/20</u>				
11.2.3	Strip footing	2	CM		
11.2.4	Columns Bases	3	CM		
11.2.5	Columns	1	CM		
11.2.6	150mm thick floor slab	14	SM		
	<u>High Tensile Reinforcement Bars to B. S. 4449</u>				
	<u>including cutting, bending and all necessary</u>				
	<u>spacer blocks : (Provisional) :-</u>				
	<u>Ribbed bars to KS ISO 6935-2:2007</u>				
11.2.7	8mm dia reinforcement bars	50	KG		
11.2.8	10mm dia reinforcement bars	100	KG		
11.2.9	12mm dia reinforcement bars	150	KG		
11.2.10	16mm dia reinforcement bars	130	KG		
11.2.11	BRC Fabric mesh reinforcement Ref. A142; weighing 2.22kg per square metre(measured net no allowances made for laps) including bends tying wire and spacer blocks.	14	SM		
	<u>Marineply formwork as Described. Allow for setting to special steel propping, strutting, fillets, nails, etc to:</u>				
11.2.12	Edges of strip footing	6	SM		
11.2.13	Ditto but to column bases	12	SM		
11.2.14	Ditto but to sides of columns	13	SM		
11.2.15	Ditto but to edges of floor slabs 75-150mm girth	15	LM		
	<u>FOUNDATION WALLING</u>				
11.2.16	200mm solid coral block foundation wall in cement:sand (1:3) reinforced with hoop iron at every to alternative course	21	SM		
	<u>PLINTH FINISHES</u>				
11.2.17	15mm cement and sand (1:4) render trowelled smooth and comprising 12mm thick backing and 3mm finishing coat.	8	SM		
	<u>Painting and Decoration</u>				
11.2.18	Prepare and apply 3 coats of first quality bituminous paint or equal and approved to rendered surfaces	8	SM		
	TOTAL SUBSTRUCTURE WORKS CARRIED FORWARD TO ELEMENT COLLECTION				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
A	ELEMENT NO. 1 (SUBSTRUCTURE WORKS) COLLECTION Total Substructure Works brought forward from page GHA/1				
B	Total Substructure Works brought forward from page GHA/2				
	TOTAL ELEMENT NO. 1 (SUBSTRUCTURE WORKS), CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO 2.				
	<u>SUPERSTRUCTURE REINFORCED CONCRETE WORKS</u>				
	<u>Vibrated reinforced concrete class 25/20</u>				
11.4.1	Beams	1	CM		
11.4.2	Feature fins/beams	7	CM		
11.4.3	Gutters	1	CM		
11.4.4	Columns	3	CM		
	<u>High Tensile Reinforcement Bars to B. S. 4449 including cutting, bending and all necessary spacer blocks : (Provisional) :-</u>				
	<u>Ribbed bars to KS ISO 6935-2:2007</u>				
11.4.5	Assorted Bars	2,160	KG		
	<u>Sawn Treated cypress formwork to: -</u>				
11.4.6	Sides of Ring Beams	8	SM		
11.4.7	Sides of feature fins/beams	92	SM		
11.4.8	Sides and soffits of gutter beams	16	SM		
11.4.9	Soffits of columns	32	SM		
	TOTAL FOR ELEMENT NO. 2 (SUPERSTRUCTURE REINFORCED CONCRETE WORKS), CARRIED FORWARD TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 3</u>				
	<u>WALLING</u>				
	<u>External walling</u>				
	<u>Machine cut natural stone or machine cut coral stone or hollow concrete block walling ; load bearing 7.0 N/mm2: reinforced with 20 gauge 25mm hoop iron strips laid horizontally every alternate course: bedded and jointed in cement and sand (1:3) mortar</u>				
11.5.1	200mm mm thick	30	SM		
11.5.2	200mm thick at parapet wall; including allowing for crenellation to architect's detail	9	SM		
	<u>Internal walling</u>				
	<u>Machine cut natural stone or machine cut coral stone or hollow concrete block walling ; load bearing 7.0 N/mm2: reinforced with 20 gauge 25mm hoop iron strips laid horizontally every alternate course: bedded and jointed in cement and sand (1:3) mortar</u>				
11.5.3	150mm mm thick	13	SM		
	<u>WATERPROOFING</u>				
11.5.4	Hessian based bituminous felt damp proof course 200mm wide	14	LM		
11.5.5	Ditto 150mm	5	LM		
	<u>Pre-cast concrete class 20/20 concrete coping</u>				
11.5.6	250 x 50 mm high precast concrete coping weathered and throated on both sides and jointed to wall in cement sand mortar 1:3 all to approval	14	LM		
	TOTAL FOR ELEMENT NO. 3 (WALLING), CARRIED FORWARD TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 4				
	ROOFING				
	Roof covering				
	Supply and fix 26 gauge approved Prepainted box profile Aluminium roofing sheets to timber Purlins including 12mm diameter x 150mm raw bolts and all necessary accessories; fixing in accordance with manufacturers specification.				
11.6.1	Roof covering : to slopes not exceeding 15 degrees to horizontal	10	SM		
11.6.2	Extra over for ridge capping	3	LM		
	Sawn Cypress Timber roof structure: pressure impregnated: obtained from an approved source: with and including bolted connections : in				
11.6.3	150 x 50mm thick ridge	3	LM		
11.6.4	150 x 50mm thick truss rafters	10	LM		
11.6.5	150 x 50mm thick tie beams	9	LM		
11.6.6	100 x 50mm thick internal truss member	8	LM		
11.6.7	100 x 50mm thick purlins	18	LM		
11.6.8	150 x 50mm thick wallplate secured to concrete with hoop iron and raw bolts	5	LM		
	FLAT ROOF FINISHES				
11.6.9	50 mm cement sand 1:3 water proof screed to gutters	11	SM		
11.6.10	Apply one coat bituminous primer to surface of screed.	11	SM		
	Supply and apply 4mm thick bituminous felt membrane heat welded in 200mm overlaps and all necessary surface preparations; applied strictly in accordance with printed manufacturer's instructions; provide a 10 year guarantee				
11.6.11	To gutters	11	SM		
	Unplasticized PVC downpipes and fittings: solvent welded joints				
	Rainwater goods				
11.6.12	150mm dia PVC down pipes fixed to wall with holding clips at 1200mm centres	6	LM		
11.6.13	Extra over for running outlet	2	NO		
11.6.14	Extra over for swan neck 1000mm long	2	NO		
11.6.15	Extra over for shoe 1000mm long	2	NO		
11.6.16	Extra over 150mm fulbora outlets including galvanised expanded metal mesh	2	NO		
	TOTAL FOR ELEMENT NO. 4 (ROOFING) CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 5</u>				
	<u>WINDOWS</u>				
	<u>The following in Heavy Duty Powder Coated Aluminium windows from approved manufacturer(s) complete with 80x55x3 mm frames mullions trasomes railing and necessary intermediate reinforcement elements including all weather strips, rubber glazing strips, couplings, ironmongery including hinges, fasteners and stays, sliding rails(where necessary) bars; all ironmongery to be of stainless steel grade 316 marine grade; panes left open for glazing to Architects detail</u>				
11.7.1	Overall size 750 x 1500mm high as W001	3	NO.		
11.7.2	Overall size 600 x 900mm high as W002	2	NO.		
	<u>Window cills</u>				
11.7.3	200x50mm pre-cast concrete window sill bedded and pointed in cement sand(1:3) mortar, weathred and throated all to Architects detail and approval	5	LM		
	<u>Glazing</u> <u>laminated oneway glass fixed with and including beadings.</u>				
11.7.4	6mm thick glass in panes (0.50-1.00m ²)	5	SM		
	<u>Burglar Proofing</u>				
	<u>Mild steel grille framed with 50 x 25 x 3mm thick RHS sections, 25x3mm MS bars welded to frame at 150 mm centres both sides; including assembly and fixing to opening cutting and pinning lugs to concrete and bedding frame in cement and sand mortar (1:3);prepare surface by Sand blasting; apply one coat of 2 pack epoxy zinc phosphate primer; apply three coats of marine grade gloss paint to the whole grille</u>				
11.7.5	Overall size 1500 x 750mm high	3	NO.		
11.7.6	Overall size 600 x 90mm high	2	NO.		
	TOTAL FOR ELEMENT NO. 5 (WINDOWS), CARRIED FORWARD TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 6				
	<u>DOORS</u>				
	<u>Louvred Doors</u>				
	<u>50mm thick mvule louvred door comprising of 50x3mm louvres set at 45 degrees at 50mm centres;solid blocking for iron mongery (m/s) to door : all in accordance with Architect's details</u>				
11.8.1	Single leaf door overall size 900 x 2400mm high;complete with timber louvred fanlight size 900x300mm high as DOO1	2	NO		
	<u>Panel Doors</u>				
	<u>50mm thick mvule panelled door: comprised of 200 x 50mm thick stiles, top and middle rail: 200 x 50mm thick bottom rail ; complete with moulded grooves to door leaf on both sides ;solid blocking to iron mongery (m/s) to door</u>				
11.8.2	Single leaf door overall size 900 x 2400mm high; complete with timber louvred fanlight size 900x300mm high as DOO2	1	NO		
	<u>FRAMES (Wrot Mvule)</u>				
11.8.3	150x50mm.rebated frame plugged	17	LM		
11.8.4	Ditto transome	3	LM		
11.8.5	50 x 25mm. Splayed architrave.	17	LM		
11.8.6	25mm quadrant moulds	17	LM		
	<u>Ironmongery</u> Supply and fix the following ironmongery from an approved manufacturer including all necessary matching screws;all ironmongery to be stainless steel grade 3.1.6 marine grade				
11.8.7	3 - Lever mortice lock; complete with lockcase and handle	1	NO		
11.8.9	2-Lever mortice lock; ditto	2	NO		
11.8.10	100mm. Pressed butt hinges	5	PRS		
	TOTAL CARRIED FORWARD				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	DOORS CONTINUED...				
	<u>BROUGHT FORWARD FROM PAGE GHA/8</u>				
11.9.1	38mm. Diameter door stop on floor / wall to approval	3	NO		
11.9.2	Heavy duty Door closer to an approved sample	3	NO		
11.9.3	800 x 200mm high stainless steel kick plate onto both sides to approval	2	NO		
11.9.4	150 x 150mm sex indicator plate	2	NO		
11.9.5	Coat and hat hook	2	NO		
	Painting and Decoration				
	Prepare and apply three coats of premium quality marine grade clear varnish; Matt quality				
11.9.6	General surfaces of wood exceeding 200mm but not exceeding 300mm girth	37	LM		
11.9.7	Ditto; girth not exceeding 100mm	17	LM		
11.9.8	Doors both internally and externally	13	SM		
	Prepare and apply one coat aluminium primer before fixing: to backing of wood				
11.9.9	Surfaces over 200 but not exceeding 300mm	34	LM		
11.9.10	Surfaces not exceeding 100mm	17	LM		
	TOTAL FOR ELEMENT NO. 6 (DOORS), CARRIED FORWARD TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 7				
	FINISHES				
	EXTERNAL FINISHES				
	Walls				
11.10.1	25mm thick cement and sand (1:3) render to:- 25mm thick cement and sand Rendering to feature fins and walls finished with a wood float,	103	SM		
11.10.2	Ditto to receive natural stone cladding	40	SM		
11.10.3	<u>Prepare surface and apply specialist applied textured finish ; 3mm thick (minimum) finish including primer coat before application; applied with a trowel or roller as per manufacturer's recommendation : All to Architect's approval</u> Fair faced surfaces of featured fins and walls	103	SM		
11.10.4	Stone Cladding 25mm thick polished mazeras stone cladding or other equal and approved to columns in cement and sand (1:3) mortar (m/s) with and including galvanised wire reinforcement;pattern to architect's approval	40	SM		
11.10.5	INTERNAL FINISHES Wall and Concrete Finishes 15mm thick two coat gauged cement lime and sand (1:2:9) plaster steel trowelled smooth to walls and concrete surfaces	36	SM		
11.10.6	Prepare surface, apply undercoat and apply three coats PVA based premium quality marine grade silk vinyl emulsion paint or other equal and approved to plastered surfaces	36	SM		
11.10.7	12mm cement and sand (1:3) plaster to walls and concrete surfaces trowelled smooth; to receive wall tiles (m/s)	24	SM		
11.10.8	Wall Tiles 300 x 300 x 6mm Thick glazed ceramic wall tiles bedding and jointing in cement and sand (1:3) mortar and flush pointed with white cement;including matching grouting, waterproof adhesive.spacers and edge protectors where	24	SM		
11.10.9	12mm girth PVC Edgings	21	LM		
	TOTAL CARRIED FORWARD				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	FINISHES CONTINUED...				
	<u>BROUGHT FORWARD FROM PAGE GH/10</u>				
	<u>Floor Finishes</u>				
	<u>Cement and sand (1:4) screeding smooth trowelled</u>				
11.11.1	32mm Thick floor screed to receive non slip ceramic tiles	10	SM		
	<u>Ceramic floor tiles</u>				
11.11.2	Supply and fix 10 mm thick non-slip ceramic floor tiles on prepared backing including matching grouting, waterproof adhesive and edge protectors where required; overall size 330mm x 330mm.	10	SM		
11.11.3	Ditto 100mm high skirting	21	LM		
	<u>Ceiling finishes</u>				
	<u>Chipboard Ceiling</u>				
11.11.4	12mm thick chipboard ceiling : fixed to and including 50 x 50mm sawn cypress bandering at 600 centre to centre; secrete nailed	10	SM		
11.11.5	100mm girth polyutherane cornice	23	LM		
11.11.6	Prepare surface, apply undercoat and apply three coats PVA based premium quality marine grade silk vinyl emulsion paint or other equal and approved to chipboard ceiling	10	SM		
	TOTAL FOR ELEMENT NO. 7 (FINISHES) CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
11.12.1	<u>ELEMENT NO. 8</u>				
	<u>BUILDERS WORK IN CONNECTION WITH SERVICES (BWICS)</u> Builder's Work incidental to sanitary fittings, ventilation, plumbing, drainage, electrical installations, concealed fixings Allow for making holes, chasing walls, floors, inclusion of sleeves and other items necessary for the proper carrying out of the installations including making good all surfaces	1	ITEM		
	TOTAL FOR ELEMENT NO. 8 (BWICS) CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

[illegible]

GATE HOUSE B

BILL NO.12

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>BUILDING WORKS</u>				
	<u>ELEMENT NO 1.</u>				
	<u>SUBSTRUCTURE WORKS (All Provisional)</u>				
	<u>EXCAVATION AND EARTHWORKS</u>				
12.1.1	Clear site of all bushes, tufts and any small or large trees, including grubbing out roots and burn on site where directed	18	SM		
12.1.2	Excavate oversite average 250mm deep and cart away	18	SM		
12.1.3	Excavate trench for strip foundation: not exceeding 1.5m deep	12	CM		
12.1.4	Excavate for column pits: not exceeding 1.5m deep	9	CM		
12.1.5	Ditto 1.5m to 3.0m deep	3	CM		
12.1.6	Extra over excavation from rock of any class in any position	24	CM		
	<u>Disposal of excavated material</u>				
12.1.7	Return fill in and ram in excavations	13	CM		
12.1.8	Load and cart away surplus material	11	CM		
	<u>Disposal of Water</u>				
12.1.9	Allow for keeping the whole of the excavation free from mud, water and fallen materials	1	Item		
	<u>Planking and strutting</u>				
12.1.10	Allow for planking and strutting sides of excavation	1	Item		
	<u>Filling</u>				
12.1.11	300mm thick (minimum) approved hardcore handpacked in layers not exceeding 150mm	13	SM		
12.1.12	50mm thick murram dust or any other equal and approved material in blinding surface of hardcore	13	SM		
	<u>Insecticide Treatment</u>				
12.1.13	Treat hardcore surface with approved antitermite applied in accordance with the manufacturer's instructions and subject to a TEN YEAR guarantee	13	SM		
	<u>WATERPROOFING</u>				
12.1.14	1000 gauge polythene sheet damp proof membrane including 300mm laps	12	SM		
	TOTAL SUBSTRUCTURE WORKS CARRIED FORWARD TO ELEMENT COLLECTION				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>SUBSTRUCTURES CONTINUED</u>				
	<u>CONCRETE WORKS</u>				
	<u>Insitu concrete class 15/20: in</u>				
12.2.1	50mm thick concrete blinding to surfaces of strip footing	8	SM		
12.2.2	Ditto column bases	6	SM		
	<u>Vibrated reinforced concrete class 25/20</u>				
12.2.3	Strip footing	2	CM		
12.2.4	Columns Bases	3	CM		
12.2.5	Columns	1	CM		
12.2.6	150mm thick floor slab	12	SM		
	<u>High Tensile Reinforcement Bars to B. S. 4449 including cutting, bending and all necessary spacer blocks : (Provisional) :-</u>				
	<u>Ribbed bars to KS ISO 6935-2:2007</u>				
12.2.7	8mm dia reinforcement bars	30	KG		
12.2.8	10mm dia reinforcement bars	100	KG		
12.2.9	12mm dia reinforcement bars	180	KG		
12.2.10	16mm dia reinforcement bars	100	KG		
12.2.11	BRC Fabric mesh reinforcement Ref. A142; weighing 2.22kg per square metre(measured net no allowances made for laps) including bends tying wire and spacer blocks.	12	SM		
	<u>Marineply formwork as Described. Allow for setting to special steel propping, strutting, fillets, nails, etc to:</u>				
12.2.12	Edges of strip footing	5	SM	600	3,000.00
12.2.13	Ditto but to column bases	8	SM		
12.2.14	Ditto but to sides of columns	11	SM		
12.2.15	Ditto but to edges of floor slabs 75-150mm girth	14	LM		
	<u>FOUNDATION WALLING</u>				
12.2.16	200mm solid coral block foundation wall in cement:sand (1:3) reinforced with hoop iron at every to alternative course	20	SM		
	<u>PLINTH FINISHES</u>				
12.2.17	15mm cement and sand (1:4) render trowelled smooth and comprising 12mm thick backing and 3mm finishing coat.	8	SM		
	<u>Painting and Decoration</u>				
12.2.18	Prepare and apply 3 coats of first quality bituminous paint or equal and approved to rendered surfaces	8	SM		
	TOTAL SUBSTRUCTURE WORKS CARRIED FORWARD TO ELEMENT COLLECTION				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

[illegible]

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO 2.				
	<u>SUPERSTRUCTURE REINFORCED CONCRETE WORKS</u>				
	<u>Vibrated reinforced concrete class 25/20</u>				
12.4.1	Beams	2	CM		
12.4.2	Gutters	1	CM		
12.4.3	Columns	3	CM		
	<u>High Tensile Reinforcement Bars to B. S. 4449 including cutting, bending and all necessary spacer blocks : (Provisional) :-</u>				
	<u>Ribbed bars to KS ISO 6935-2:2007</u>				
12.4.4	Assorted Bars	1,080	KG		
	<u>Sawn Treated cypress formwork to: -</u>				
12.4.5	Sides of Ring Beams	16	SM		
12.4.6	Sides and soffits of gutter beams	10	SM		
12.4.7	Soffits of columns	28	SM		
	<u>Creation of Arches</u>				
	Construction and formation of decorative arches around windows and the main door externally and main arches at terrace finished same as external walls;1000 - 3000 mm diameter;including all necessary formworks and reinforcements; all to Architect's details	3	No		
	<u>Decorative moulding; class 25/20</u>				
	200mm girth decorative concrete moulding surrounds;2 no steps 2no chamfer; including all necessary formwork and reinforcement; all to Architect's details	50	LM		
12.4.9					
	TOTAL FOR ELEMENT NO. 2 (SUPERSTRUCTURE REINFORCED CONCRETE WORKS), CARRIED FORWARD TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 3</u>				
	<u>WALLING</u>				
	<u>External walling</u>				
	<u>Machine cut natural stone or machine cut coral stone or hollow concrete block walling ; load bearing 7.0 N/mm2: reinforced with 20 gauge 25mm hoop iron strips laid horizontally every alternate course: bedded and jointed in cement and sand (1:3) mortar</u>				
12.5.1	200mm mm thick	46	SM		
12.5.2	200mm thick at parapet wall; including allowing for crenellation to architect's detail	9	SM		
	<u>WATERPROOFING</u>				
12.5.3	Hessian based bituminous felt damp proof course 200mm wide	14	LM		
	<u>Pre-cast concrete class 20/20 concrete coping</u>				
12.5.4	250 x 50 mm high precast concrete coping weathered and throated on both sides and jointed to wall in cement sand mortar 1:3 all to approval	14	LM		
	<u>Pre-cast concrete class 20/20 precast ventilation blocks</u>				
12.5.5	600x600x150mm thick vents block with floral motifs; bedded and jointed in cement and sand (1:3) mortar and reinforced every alternate course with hoop iron.:To architect's details	10	SM		
	TOTAL FOR ELEMENT NO. 3 (WALLING), CARRIED FORWARD TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 4</u>				
	<u>Roof covering</u>				
	Supply and fix 26 gauge approved Prepainted box profile Aluminium roofing sheets to timber Purlins including 12mm diameter x 150mm raw bolts and all necessary accessories; fixing in accordance with manufacturers specification				
12.6.1	Roof covering : to slopes not exceeding 22.5 degrees to horizontal	10	SM		
	<u>Sawn Cypress Timber roof structure: pressure impregnated: obtained from an approved source: with and including bolted connections : in</u>				
12.6.2	150 x 50mm thick truss rafters	12	LM		
12.6.3	150 x 50mm thick tie beams	11	LM		
12.6.4	100 x 50mm thick internal truss member	12	LM		
12.6.5	100 x 50mm thick purlins	24	LM		
12.6.6	150 x 50mm thick wallplate secured to concrete with hoop iron and raw bolts	8	LM		
	<u>ROOFING</u>				
	<u>FLAT ROOF FINISHES</u>				
12.6.7	50 mm cement sand 1:3 water proof screed to gutters	7	SM		
12.6.8	Apply one coat bituminous primer to surface of screed.	7	SM		
	Supply and apply 4mm thick bituminous felt membrane heat welded in 200mm overlaps and all necessary surface preparations; applied strictly in accordance with printed manufacturer's instructions; provide a 10 year guarantee				
12.6.9	To gutters	7	SM		
	<u>Unplasticized PVC downpipes and fittings: solvent welded joints</u>				
	<u>Rainwater goods</u>				
12.6.11	150mm dia PVC down pipes fixed to wall with holding clips at 1200mm centres	6	LM		
12.6.10	Extra over for running outlet	2	NO		
12.6.12	Extra over for swan neck 1000mm long	2	NO		
12.6.13	Extra over for shoe 1000mm long	2	NO		
12.6.14	Extra over 150mm fulbora outlets including galvanised expanded metal mesh	2	NO		
	TOTAL FOR ELEMENT NO. 4 (ROOFING) CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 5				
	GATES				
	<u>Vehicular Gate</u> <u>Vehicular gate of purpose made mild steel in 75 x 50 x 3mm thick RHS framing, bottom, top and middle rail; 50 x 50 x 3mm thick SHS internal members at 400 mm centres; 200mm wide x 3mm mild steel plate welded over framing and middle rails on both sides;with and including purpose made heavy duty hinges, lock bolt and other necessary ironmongery; prime before fixing; to architect's detail</u>				
12.7.1	Overall size 6000 x 2400mm high	1	NO		
	<u>Pedestrian Gate</u> <u>Pedestrian gate of purpose made mild steel in 75 x 50 x 3mm thick RHS framing, bottom, top and middle rail; 50 x 50 x 3mm thick SHS internal members at 400 mm centres; 200mm wide x 3mm mild steel plate welded over framing and middle rails on both sides; with and including purpose made heavy duty hinges, lock bolt and other necessary ironmongery; prime before fixing; to architect's detail</u>				
12.7.2	Overall size 1000 x 1950mm high as D003	1	NO		
	<u>Pedestrian gate of purpose made mild steel in 75 x 50 x 3mm thick RHS framing, bottom, top and middle rail; 50 x 50 x 3mm thick SHS internal members at 400 mm centres;with and including purpose made heavy duty hinges, lock bolt and other necessary ironmongery; prime before fixing; to architect's detail</u>				
12.7.3	Overall size 2500 x 1700mm high as D004	2	NO		
	<u>Prepare surface of steel by sand blasting; apply one coat of 2 pack epoxy zinc phosphate primer; apply three coats of marine grade gloss paint</u>				
12.7.4	To steel gates	40	SM		
	TOTAL FOR ELEMENT NO. 6 (GATES), CARRIED FORWARD TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 6				
	FINISHES				
	EXTERNAL FINISHES				
	Walls				
12.8.1	25mm thick cement and sand (1:3) render to:- 25mm thick cement and sand Rendering to walls,columns and beams, finished with a wood float,	76	SM		
12.8.2	Prepare surface and apply specialist applied textured finish ; 3mm thick (minimum) finish including primer coat before application; applied with a trowel or roller as per manufacturer's recommendation : All to Architect's approval Fair faced surfaces of walls,columns and beams	76	SM		
12.8.3	INTERNAL FINISHES Wall and Concrete Finishes 15mm thick two coat gauged cement lime and sand (1:2:9) plaster steel trowelled smooth to walls and concrete surfaces	69	SM		
12.8.4	Prepare surface, apply undercoat and apply three coats PVA based premium quality marine grade silk vinyl emulsion paint or other equal and approved to plastered surfaces	69	SM		
12.8.5	Floor Finishes Cement and sand (1:4) screeding smooth trowelled 32mm Thick floor screed to receive non slip ceramic tiles	10	SM		
12.8.6	Ceramic floor tiles Supply and fix 10 mm thick non-slip ceramic floor tiles on prepared backing including matching grouting, waterproof adhesive and edge protectors where required; overall size 330mm x 330mm.	10	SM		
12.8.7	Ditto 100mm high skirting	20	LM		
12.8.8	Ceiling finishes Chipboard Ceiling 12mm thick chipboard ceiling : fixed to and including 50 x 50mm sawn cypress bandering at 600 centre to centre; secrete nailed	10	SM		
12.8.9	100mm girth polyutherane cornice	25	LM		
	TOTAL CARRIED FORWARD				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	FINISHES CONTINUED...				
	BROUGHT FORWARD FROM PAGE GHB/8				
12.9.1	Prepare surface, apply undercoat and apply three coats PVA based premium quality marine grade silk vinyl emulsion paint or other equal and approved to chipboard ceiling	10	SM		
	TOTAL FOR ELEMENT NO. 6 (FINISHES) CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 7				
	FIXTURES AND FITTINGS				
	Concrete bench				
12.10.1	100mm thick plain concrete class 15/20 in plinth	3	SM		
12.10.2	Reinforced concrete class 25/20 in 100mm worktops	3	SM		
	Formwork to:-				
12.10.3	Soffites of worktops	3	SM		
12.10.4	Edges of worktops and plinths 75-150mm high	10	LM		
12.10.5	10mm diameter high yield reinforcement bars as described before	30	KG		
12.10.6	100mm thick coral block walling in cement/sand 1:3 mortar	3	SM		
12.10.7	15mm thick cement sand (1:3) plaster of worktop	3	SM		
12.10.8	Ditto walls	6	SM		
	Polished Terrazzo paving				
12.10.9	25mm thick insitu polished terrazzo laid on concrete in approved coloured aggregate finished smooth including sanding and polishing	9	SM		
	Plastic dividing strips				
12.10.10	32 x 3mm thick plastic dividing strips	13	LM		
	TOTAL FOR ELEMENT NO. 7 (FIXTURES AND FITTINGS) CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
12.11.1	ELEMENT NO. 8				
	<u>BUILDERS WORK IN CONNECTION WITH SERVICES (BWICS)</u> Builder's Work incidental to ventilation, electrical installations and concealed fixings Allow for making holes, chasing walls, floors, inclusion of sleeves and other items necessary for the proper carrying out of the installations including making good all surfaces	1	ITEM		
	TOTAL FOR ELEMENT NO. 8 (BWICS) CARRIED TO SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

[illegible]

NGOZI AFRICAN THERAPY HUB

BILL NO.13

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>(All rates are V.A.T Inclusive)</u> BUILDING WORKS				
	ELEMNET NO 1.				
	FINISHES				
	EXTERNAL FINISHES				
	Walls				
	<u>Rubbing down exisiting finish with a wirebrush; fill holes and dents : skimming with external wall filler ; rubbing down to smooth finish</u>				
13.1.1	To surfaces of walls, columns and beams	200	SM		
	<u>Prepare and apply one undercoat and two finishing coats marine grade weatherguard(silicone based) exterior paint as approved to:</u>				
13.1.2	Fair faced surfaces of walls,columns and beams	200	SM		
	<u>Prepare surface, apply one coat of wood primer; apply three coats of marine grade gloss paint</u>				
13.1.3	To Fascia boards 200-300mm girth	60	LM		
	<u>Prepare and apply 3 coats of first quality bituminous paint or equal and approved</u>				
13.1.4	To plinth surfaces	20	SM		
	INTERNAL FINISHES				
	Wall Finishes				
	<u>Rubbing down exisiting finish with a wirebrush; fill holes and dents : skimming with approved gypsum based filler ; rubbing down to smooth finish</u>				
13.1.5		400	SM		
	<u>Prepare surface, apply undercoat and apply three coats PVA based premium quality marine grade silk vinyl emulsion paint or other equal and approved to plastered surfaces</u>				
13.1.6		400	SM		
	Ceiling Finishes				
	<u>Prepare surface, apply undercoat and apply three coats PVA based premium quality marine grade silk vinyl emulsion paint or other equal and approved to ceiling finishes</u>				
13.1.7		126	SM		
	TOTAL FOR NGOZI AFRICAN THERAPY HUB CARRIED TO GRAND SUMMARY				

USAID DONATED BUILDING

BILL NO.14

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>(All rates are V.A.T Inclusive)</u> <u>BUILDING WORKS</u>				
	<u>ELEMNET NO 1.</u> <u>FINISHES</u> <u>EXTERNAL FINISHES</u> <u>Walls</u>				
14.1.1	<u>25mm thick cement and sand (1:3) render to:-</u> 25mm thick cement and sand Rendering to walls and columns, finished with a wood float,	50	SM		
14.1.2	<u>Rubbing down exisiting finish with a wirebrush;</u> <u>fill holes and dents : skimming with external</u> <u>wall filler ; rubbing down to smooth finish</u> To surfaces of walls and columns	100	SM		
14.1.3	<u>Prepare and apply one undercoat and two</u> <u>finishing coats marine grade</u> <u>weatherguard(silicone based) exterior paint as</u> <u>approved to:</u> Fair faced surfaces of walls,columns and beams	150	SM		
14.1.4	<u>Prepare surface, apply one coat of wood</u> <u>primer; apply three coats of marine grade gloss</u> <u>paint</u> To Fascia boards 200-300mm girth	40	LM		
14.1.5	<u>Prepare and apply 3 coats of first quality</u> <u>bituminous paint or equal and approved</u> To plinth surfaces	10	SM		
	<u>INTERNAL FINISHES</u> <u>Wall Finishes</u>				
14.1.6	Rubbing down exisiting finish with a wirebrush; fill holes and dents : skimming with approved gypsum based filler ; rubbing down to smooth finish	300	SM		
14.1.7	Prepare surface, apply undercoat and apply three coats PVA based premium quality marine grade silk vinyl emulsion paint or other equal and approved to plastered surfaces	300	SM		
14.1.8	<u>Ceiling Finishes</u> Prepare surface, apply undercoat and apply three coats PVA based premium quality marine grade silk vinyl emulsion paint or other equal and approved to ceiling finishes	45	SM		
	TOTAL FOR USAID DONATED BUILDING CARRIED TO GRAND SUMMARY				

SUMMARY BUILDERS WORK

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE
COUNTY**

BILL NO	DESCRIPTION	AMOUNT
	<u>SUMMARY OF BUILDERS WORKS</u>	KSHS
4	FISH BANDA	
5	FISH GEAR MENDING SHED	
6	EXECUTIVE ABLUTION BLOCK	
7	POLYFUNCTION BUILDING AND BOAT BUILDING YARD	
8	RESTAURANT BUILDING	
9	STALLS 01-05	
10	STALLS 05-06	
11	GATE HOUSE A	
12	GATE HOUSE B	
13	NGOZI AFRICAN THERAPY HUB	
14	USAID DONATED BUILDING	
	TOTAL FOR BUILDERS WORKS CARRIED TO GRAND SUMMARY	

CIVIL WORKS

SLIPWAY

BILL NO.15

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>(All rates are V.A.T Inclusive)</u>				
	<u>SLIP WAY</u>				
	<u>SUBSTRUCTURE WORKS (ALL PROVISIONAL)</u>				
15.1.1	Clear the site off grass, small trees not exceeding 600mm girth and cart away for burn arising.	51	SM		
	<u>Excavations</u>				
15.1.2	Excavate oversite top soil average 200mm deep; remove from site.	51	SM		
15.1.3	Bulk excavation starting from stripped level not exceeding 1.50 Metres deep.	51	CM		
15.1.4	Extra over excavation from rock of any class in any position	51	CM		
	<u>Disposal of excavated material</u>				
15.1.5	Return fill in and ram in excavations	51	CM		
15.1.6	Remove surplus soil and cart away from site.	56	CM		
	<u>Disposal of Water</u>				
15.1.7	Allow for keeping the whole of the excavation free from mud, water and fallen materials	1	Item		
	<u>Planking and strutting</u>				
15.1.8	Allow for planking and strutting sides of excavation	1	Item		
	<u>Filling</u>				
15.1.9	Provide and lay Imported and approved murram backfill or other approved materials to make up levels, well watered, rolled and compacted to 98% MDD at optimum moisture content in 150mm thick Layers to Engineer's approval	32	CM		
15.1.10	300mm thick hardcore filling; levelled and compacted in 150mm layers; hand packed.	32	SM		
15.1.11	50mm thick murram dust or any other equal and approved material in blinding surface of hardcore	32	SM		
	<u>CONCRETE WORKS</u>				
15.1.12	50mm thick concrete blinding to retaining wall footing class 15/20	20	SM		
	TOTAL CARRIED FORWARD				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>SLIPWAY CONTINUED</u>				
	<u>BROUGHT FORWARD FROM PAGE SW/1</u>				
	<u>Vibrated reinforced concrete class 25/20</u>				
15.2.1	Retaining Wall footing	7	CM		
15.2.2	450mm thick ramp; tamped to approved pattern	18	CM		
15.2.3	200mm thick retaining walls	48	SM		
	<u>High Tensile Reinforcement Bars to B. S. 4449 including cutting, bending and all necessary spacer blocks : (Provisional) :-</u>				
	<u>Ribbed bars to KS ISO 6935-2:2007</u>				
15.2.4	Assorted bars	5,768	KG		
	<u>Sawn treated Cypress formwork to: -</u>				
15.2.5	Edges of retaining Wall footing	17	SM		
15.2.6	Ditto but to retaining wall	96	SM		
15.2.7	Ditto but to sides of ramp	3	SM		
	<u>RAMP WALL FINISHES</u>				
	<u>25mm thick cement and sand (1:3) render to:-</u>				
15.2.8	25mm thick cement and sand Rendering to ramp walls	53	SM		
	TOTAL FOR SLIPWAY CARRIED FORWARD TO GRAND SUMMARY				

EXTERNAL DRAINAGE

BILL NO.16

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

[illegible]

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Brought forward from page FD/1				
	Gulley traps				
16.2.1	Supply and lay 730 x 730 x 500mm deep gulley traps complete with 400 x 400 x 10mm thick mild steel grating welded to 10mm thick mild steel frame at 30mm centres, hot galvanized and painted to approval [Rate to include excavation, 150mm thick plastered masonry walls, class 25/20 concrete base, concrete cover too receive grating and all surface finishes];prepare surface of steel by Sand blasting; prime with 2 pack epoxy zinc phosphate primer ; apply three coats of marine grade gloss oil paint; to Eng details	15	NO		
	Grease Trap				
	The following gulley trap to be executed in accordance with the Engineer's drawings, average depths as stated complete and including filling; 100mm thick concrete class 25/20 to external and internal walling; 150mm thick concrete floor slab Class 25/20, concrete blinding and benching Class 15/20, complete with and including heavy duty double air seal cast iron cover and frame, all to Engineer's details. (Rate to include cost of all excavations, concrete, formwork, reinforcement, lifting key hole and associated works); prepare surface of steel by Sand blasting; prime with 2 pack epoxy zinc phosphate primer ; apply three coats of marine grade gloss oil paint				
16.2.3	Internal dimensions size 1300x 500x 950mm deep	3	NO		
16.2.4	Extra over for back filling with selected imported material all to Project managers approval	100	CM		
	TOTAL OF EXTERNAL SOIL WATER DRAINAGE CARRIED TO ELEMENT SUMMARY				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 2				
	3NO. BIODIGESTER AND 1NO.BIOREACTOR-AS PER ENG DETAILS				
16.3.1	Clear site of shrubs,grass and carting away the arisings	102	SM		
16.3.2	Excavate pit for biodigester not exceeding 1.5m deep	153	CM		
16.3.3	Ditto 1.5 - 3.0M deep	153	CM		
16.3.4	Ditto 3 - 4.5M deep	26	CM		
16.3.5	Extra over excavation in rock of any class	100	CM		
16.3.6	Return fill and ram selected excavated soil around walling	50	CM		
16.3.7	Cart away surplus excavated material	282	CM		
16.3.8	50mm thick blinding class 15/20	102	SM		
16.3.9	200mm thick reinforced concrete class 25/20 slab in surface bed	102	SM		
16.3.10	200mm thick ditto to external walls	114	SM		
16.3.11	Ditto in baffle wall	106	SM		
16.3.12	200mm thick reinforced concrete class 25/20 in cover slab	102	SM		
	Marineply formwork to:				
16.3.13	Sides of Rc external walling	228	SM		
16.3.14	Soffits of suspended slap	102	SM		
16.3.15	Sides of scum baffle wall	212	SM		
16.3.16	Edges of base slab 150-225mm girth	41	LM		
16.3.17	Edges of base slab 150-225mm girth	41	LM		
16.3.18	Box out formwork to opening size 600x450mm	10	NO		
	<u>High Tensile Reinforcement Bars to B. S. 4449</u>				
	<u>including cutting, bending and all necessary spacer</u>				
	<u>blocks : (Provisional) :-</u>				
	<u>Ribbed bars to KS ISO 6935-2:2007</u>				
16.3.19	Assorted sizes	12720	KG		
16.3.20	Form or leave hole in 200mm concrete walling for 100mm pipe including making good disturbed surfaces	8	NO		
	Carried to collection				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
16.4.1	15mm thick cement/sand (1:3) waterproof plaster to walls and soffit of cover slab	404	SM		
16.4.2	30mm thick cement/sand (1:3) waterproof screed to surface bed of internal floor	84	SM		
16.4.3	600x450mm heavy duty double air seal cast iron cover and frame	10	NO		
16.4.4	Soak Pit Provide materials and erect soak pit 1.2m internal diameter with 150mm thick perforated stone walling and 100mm thick concrete base class 25/20 and 150mm thick RC slab class 25/20 ; including 600 x 450mm heavy duty manhole cover and frame and 200mm dia crushed stone chips filling; allow for inlet; and all necessary excavations, reinforcement and formwork; to Eng details	1	NO		
	Carried to collection				
	Collection <u>BIODIGESTER/BIOREACTOR</u> Brought forward from page FD/3 Brought down from page FD/4 above				
	SUB-TOTAL				
	NO (THREE BIODIGESTER AND ONE BIOREACTOR)				4
	TOTAL OF BIODIGESTERS/BIOREACTOR CARRIED TO ELEMENT SUMMARY				
	<u>SUMMARY</u> <u>ELEMENT</u>				
1	External soil water drainage				
2	3NO.Biodigester/1No.Bioreactor				
	TOTAL FOR EXTERNAL FOUL WATER DRAINAGE CARRIED TO MAIN SUMMARY				

ROAD WORKS AND PARKING

BILL NO.17

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>(All rates are V.A.T Inclusive)</u>				
	<u>ROAD WORKS AND PARKING</u>				
	<u>Excavation and Earthworks</u>				
17.1.1	Clear site of all bushes, tufts and any small or large trees, including grubbing out roots and burn on site where directed by the project manager	1225	SM		
17.1.2	Excavate oversite average 500mm deep and cart away or stock pile for re-use as directed by the project manager	613	CM		
	<u>Disposal of excavated material</u>				
17.1.3	Load and cart away surplus material from the site as directed by the project manager.	613	CM		
	<u>Road formation and subbase</u>				
17.1.4	Trim and compact formation to correct levels, cross-falls and longitudinal falls	1225	SM		
17.1.5	Provide and lay Imported and approved murram backfill or other approved materials to make up levels, well watered, rolled and compacted to 98% MDD at optimum moisture content in 150mm thick Layers to Engineer's approval	613	CM		
17.1.6	Provide, lay and compact 300mm thick approved handpacked stone base blinded to Engineer's specifications or as directed by the Engineer.	1225	SM		
17.1.7	50mm thick murram dust or any other equal and approved material in blinding surface of hardcore	1225	SM		
	<u>Herbicide Treatment</u>				
17.1.8	Herbicides to approval applied to the manufacturer's written instructions and subject to a TEN YEAR guarantee	1,225	SM		
	<u>Concrete Paving blocks</u>				
17.1.9	Provide, lay and compact 60mm thick heavy duty paving blocks min strength 49N/mm2	1080	SM		
17.1.10	Provide, lay and compact 60mm thick heavy duty paving blocks min strength 49N/mm2 at walkway	145	SM		
	TOTAL CARRIED TO COLLECTION				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ROAD AND PARKING WORKS CONTINUED...				
	Precast Concrete Channels class 20/20				
17.2.1	Provide, lay and joint 200x100mm channel in and including concrete Class 20/20 bed and haunch. Include for all necessary excavation and formwork to Eng details	482	LM		
17.2.2	Ditto curved to plan	20	LM		
	Precast Concrete Kerbs class 20/20				
17.2.3	Provide, lay and joint 250x125mm precast concrete half battered kerb including Class 20/20 bed and haunch. Include for all necessary excavation and formwork to Eng details	482	LM		
17.2.4	Ditto curved to plan	20	LM		
	<u>ROAD AND PARKING MARKING</u>				
	<u>Prepare and apply three coats of approved road marking thermoplastic paint on asphalt to surfaces not exceeding 100mm girth</u>				
17.2.5	Yellow in colour	50	SM		
	<u>STORM WATER DRAINAGE</u>				
	<u>Precast Concrete Invert Block Drains Class 20/20</u>				
17.2.6	300mm diameter round precast concrete invert blocks drain manufactured in accordance with BS 340 laid to slope and including 100mm murram bed;including 600 x 225 x 75mm thick side slabs : jointed and pointed in cement and sand 1:3 mortar : on compacted murram : as per Engineer's details jointing in cement and sand mortar;including all necessary excavations, strutting, formwork, reinforcements; all as per Eng details.	140	LM		
	TOTAL CARRIED TO COLLECTION				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
17.3.1	ROAD AND PARKING WORKS CONTINUED... BOX CULVERT 2000 x 2000 x 400mm thick insitu vibrated reinforced concrete class 25/20 box culvert ;including 600mm high x 200 mm thick; laid on and including 50mm concrete class 15/20 blinding on 150mm hardcore filling; including all necessary excavations, strutting, formwork, reinforcements; all as per Eng details.	8	LM		
17.3.2	Headwalls Headwall comprising of 5000mm long x 2000mm high x 350mm thick insitu vibrated reinforced concrete class 25/20 on and including concrete class 25/20 base size 3700 x 950 x 400mm thick on 50mm concrete class 15/20 blinding; with 100mm thick quarry dust blinding on 150mm hardcore filling; including all necessary excavations, strutting, formwork, reinforcements; all as per Eng details.	2	NO		
17.3.3	OPEN DRAINAGE 600mm wide(internal) open "U" drainage in rectangular fair faced insitu vibrated reinforced concrete class 25/20; including 990mm high(internal) x 400 mm thick reinforced concrete walling in T10 and T8 bars, 400 mm thick bottom slab reinforced in T10 and T8 bars; ,50mm concrete class 15/20 blinding on 150mm hardcore filling; including all necessary excavations, strutting, formwork, plaster to all internal surfaces, plaster to all exposed external surfaces all as per Eng details.	26	LM		
17.3.4	600mm wide mild steel channel grating : comprising 40 x 40 x 6mm edge frame : infilled with 40 x 6mm flats at 50mm centres : 40 x 40 x 6mm frame set in concrete with 150mm long mild steel end split lugs : smooth weld joints; Prepare surface by sand blasting, apply one coat of 2 pack epoxy zinc phosphate primer; apply three coats of marine grade gloss paint :	26	LM		
	TOTAL CARRIED TO COLLECTION				
	<u>ROAD AND PARKING WORKS</u> Brought forward from page RW/1 Brought forward from page RW/2 Brought down from above page RW/3 above				
	TOTAL FOR ROAD AND PARKING WORKS CARRIED FORWARD TO GRAND SUMMARY				

LANDSCAPING

BILL NO.18

**BILL OF QUANTITIES FOR PROPOSED AT MWAEPE FISH LANDING SITE IN KWALE COUNTY (ALL
PROVISIONAL)**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>LANDSCAPING WORKS</u>				
	<u>ELEMNET NO 1.</u>				
	<u>GROUND PREPARATION AND GRASSING</u>				
	<u>Clearing and Levelling</u>				
18.1.1	Clear the site of all existing unwanted materials and scarify oversite commencing from main Contractor,s reduced levels, average 150 mm deep to allow for water seepage and retention remove all hardened ground, weeds and any deleterious materials; including carting away all arising wastes, raking and fine levelling of the ground.	1100	SM		
18.1.2	Approved imported red soil filling to receive planters irrespective of size and spread; spread at varying depths as directed by the landscape architect or Project Manager	330	CM		
	<u>Supply and application of Manure.</u>				
18.1.3	Supply and apply prime quality fertilizers or compost manure at designated locations and as directed by the landscape architect or Project Manager	1100	SM		
	<u>Supply and Installation of Grass and Lawns</u>				
	Supply, plant, water, weed and tend well undermentioned grass sprigs untill fully established / to reasonable maturity. Grass should also be rolled with a light weight roller to even out 'bumby' areas. This should be carried out one to two weeks after installation				
18.1.4	Pemba grass springs spaced at 100mm centres both ways	500	SM		
	<u>Planting of ground Covers</u>				
18.1.4	Clear site, level,excavate pits,supply,import red soil with manure,plant,weed,water and tend well assorted species of ground covers till full establishment as per the designs of the landscape architect or as directed by the Project Manager	300	SM		
	<u>Planting of Shrubs</u>				
18.1.5	Clear site, level,excavate pits,supply,import red soil with manure,plant, weed, water and tend well assorted species of Shrubs; till full establishment/reasonable maturity as per the designs of the landscape achitect or as directed by the Project Manager	300	SM		
	TOTAL CARRIED FORWARD				

BILL OF QUANTITIES FOR PROPOSED AT MWAEPE FISH LANDING SITE IN KWALE COUNTY (ALL PROVISIONAL)

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	LANDSCAPING WORKS CONTINUED...				
	BROUGHT FORWARD FROM PAGE LW/1				
	<u>Clear site, excavate pit, supply, import red soil with manure, plant, weed, water and tend well under-mentioned trees/large shrubs till full establishment/reasonable maturity and support the same with strong bamboo stakes, adequate in thickness for each tree.</u>				
18.2.1	Assorted Species of Palm trees and other ornamental trees as per the designs of the landscape architect or as directed by the project manager	40	NO		
18.2.2	Assorted Species of other indegenous trees as per the designs of the landscape architect or as directed by the project manager.	30	NO		
	<u>MAINTENANCE</u>				
18.2.3	Allow for a follow up of all installations and constructions to insure establishment and concept preservation. Mowing, watering, training and trimming all included	6	Months		
	<u>LITTER BINS</u>				
	<u>Supply, deliver and install litter bins to specification</u>				
18.2.4	Standard round swivel litter bin, galvanised steel with detailed pattern perforation, inclusive of installations, fixing to concrete footing or any other approved by project architect	40	NO		
	TOTAL LANDSCAPING WORKS CARRIED FORWARD TO GRAND SUMMARY				

SUMMARY CIVIL WORKS

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

BILL NO	DESCRIPTION	AMOUNT
	<u>SUMMARY OF CIVIL WORKS</u>	KSHS
15	SLIPWAY(RAMP)	
16	FOUL DRAINAGE	
17	ROADWORKS	
18	LANDSCAPING	
	TOTAL FOR CIVIL WORKS CARRIED TO GRAND SUMMARY	

MECHANICAL WORKS

BILL NO.19

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<p align="center"><i>(All Rates are V.A.T Inclusive)</i></p> <p align="center"><u>BILL NO. 19: ELECTRICAL WORKS</u></p> <p><i>Supply, deliver and install pipes, tubing and fittings as described and shown on the drawings. The pipes shall be PN 25PPR pipes where exposed to adverse weather conditions and all conforming to the current European standards for PPR installations and to the Engineers Approval. Pipe jointing shall be by polyfusion or use electric coupling, Rates must allow for all metal/plastic threaded adaptors where required for the connection of sanitary fixtures, valves, sockets, sliding and fixed joints support raceways, isolating sheaths, elastic materials, expansion arms and bends cross overs, couplings, clippings, connectors, joints etc. as required in the running legths of pipe work and also where necessary, for pipe fixing clips, holder bats plugged and screwed for the proper and satisfactory functioning of the system. The pipes will be pressure tested before the plastering of wall commences and as per the manufactures recommended testing pressures</i></p>				
	<u>PPR Pipes</u>				
19.1.1	20mm diameter pipework in wall chase	LM	120		
19.1.2	25mm Ditto	LM	300		
19.1.3	32mm ditto	LM	230		
19.1.4	40mm ditto	LM	200		
19.1.5	50mm ditto	LM	140		
19.1.6	63mm ditto	LM	100		
	<u>Sockets:</u>				
19.1.7	20mm diameter socket	No.	75		
19.1.8	25mm ditto	No.	20		
19.1.9	32mm ditto	No.	25		
19.1.10	40mm ditto	No.	30		
19.1.11	50mm ditto	No.	24		
19.1.12	63mm ditto	No.	18		
	<u>Bends</u>				
19.1.13	20mm diameter bends	No.	35		
19.1.14	25mm ditto	No.	80		
19.1.15	32mm ditto	No.	30		
19.1.16	40mm ditto	No.	29		
	TOTAL CARRIED TO NEXT PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
19.1.17	50mm ditto	No.	23		
19.1.18	63mm ditto	No.	25		
	<u>Tees</u>				
19.1.19	20mm diameter equal tees	No.	41		
19.1.20	25mm ditto	No.	60		
19.1.21	32mm ditto	No.	18		
19.1.22	40mm ditto	No.	17		
19.1.23	50mm ditto	No.	28		
19.1.24	63mm ditto	No.	19		
	<u>Reducers</u>				
19.1.25	25 x 20mm diameter Reducer	No.	18		
19.1.26	32 x 25mm ditto	No.	15		
19.1.27	40 x 32mm ditto	No.	6		
19.1.28	40 x 25mm ditto	No.	8		
19.1.29	50 x 32mm ditto	No.	12		
19.1.30	63 x 40mm ditto	No.	8		
	<u>Threaded Fittings</u>				
19.1.19	20mm diameter male/female threaded 90° bend/Elbow	No.	120		
19.1.20	25mm diameter mle/female PPR-M Adapter	No.	75		
19.1.21	32mm ditto	No.	25		
	<u>Nipples</u>				
19.1.22	20mm diameter G.I. nipple	No	42		
19.1.23	25mm ditto	No.	36		
	<u>Valves</u>				
19.1.24	20mm diameter approvded medium pressure screw down full way non-rising stem wedge gate valve to BS 5154 PN 20 for series B rating.with wheel and head jopints to steel tubing and complete with round male threaded transion fittings.	No.	3		
19.1.25	25mm ditto	No.	10		
19.1.26	32mm ditto	No.	5		
19.1.27	40mm ditto	No.	5		
19.1.28	50mm ditto	No.	25		
19.1.29	63mm ditto	No.	10		
	TOTAL INTERNAL PLUMBING CARRIED FORWARD TO MECHANICAL WORKS SUMMARY PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<p><u>ELEMENT NO. 19.2:</u> <u>SANITARY FITTINGS:</u></p> <p>Supply,deliver,install,test and commission the following sanitary appliances complete with all the accessories including all connections to the services,waste,jointing to water supply,overflows,supports and all plugging and screwing to walls and floors.</p> <p><u>Note.</u> (i). All sanitary fittings shall be in approved colour. (ii). The model and Ref. No. Indicated is only a guide to the type and quality of fittings. (iii). Equivalent and Approved models may be acceptable</p> <p><u>Flexible Tubing</u> 15mm diameter x 300mm long flexible connectors complete with Integral chrome plated angle valve for connecting the Sanitary fitting to water supply.</p> <p><u>Robe Hook</u> Robe hook in approved viterous mounted to concealed screw to wall wedges.</p> <p><u>Close Couple Water Closet Suite</u> Close Couple water closet suite in approved colour comprising of W.C. bowl,'p'or's' trap connector,heavy duty matching plastic seat and cover with metal top fixed to (chrome plated) hinges and secured to floor or wall and complete with horizontal outlet to BS 3402 with 6 litre valveless Ceramic cistern and fittings including siphon,15mm diameter side inlet ball valves,20mm diameter side overflow,plastic flush bend,inlet connection,and chrome-plated lever.</p> <p><u>Asian Toilet (squatting pan) complete with concealed flush valve</u> 600X500X300mm Ceramic Asian toilet suite in approved colour comprising of squatting pan,'p'or's' trap connectora, complete with horizontal outlet to BS 3402 with cocealed 32mm (1.25") Brass flush valve soft touch with dual Flow System and square cover push button</p> <p><u>Pedestal wash hand basin</u> Wash Hand Basin with pedestal size 510x420mm with one tap hole and chain stay hole,32 mm diameter chrome-plated pop up chain waste and fittings,approved first quality plastic bottle trap(32mm bottle trap) with 75mm seal.The basin to be supplied and installed complete with 15mm diameter heavy duty chrome plated -Brass Basin Tap</p>				
19.2.1		No.	60		
19.2.2		No.	40		
19.2.3		No	10		
19.2.4		No.	12		
19.2.5		No	2		
	TOTAL CARRIED TO NEXT PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
	<u>Terazzo wash hand basin</u>				
19.2.6	Wash Hand Basin with pedestal size 510x420mm with one tap hole and chain stay hole,32 mm diameter plastic waste grid and fittings,approved first quality plastic bottle trap(32mm bottle trap) with 75mm seal.The basin to be supplied and installed complete with 15mm diameter heavy duty chrome plated -Brass Basin Tap	No	16		
	<u>Counter- top wash hand basin</u>				
19.2.7	Wash Hand Basin 470mm by 470mm by 170mm counter top with one tap hole and chain stay hole,32 mm diameter chrome-plated pop up chain waste and fittings, approved first quality plastic bottle trap(32mm bottle trap) with 75mm seal.The basin to be supplied and installed complete with 15mm diameter heavy duty chrome plated -Brass Basin Tap	No	4		
	<u>Urinal Set</u>				
19.2.8	Urinal system comprising of approved 2No. Ceramic urinal bowls and 3 No. division complete with domed waste fitting, concealed Push Button-Type Brass Urinal Flush Valve for 1/2" and any other accessories for proper functioning of the set	SET	8		
	<u>Toilet Roll Holder</u>				
19.2.9	Semi recessed toilet roll holder in approved Vitreous of size 165 x 165mm in approved colour.	No.	14		
	<u>Mirrors</u>				
19.2.10	610 X 610 X 6mm thick polished plate silver backed with beveled edges mirror fixed with clear silicon to 100 x 25mm thick wrot mahogany molded framing in 4 labors plugged to wall using 4No. Wall plugs with 75mm long stainless steel screws, painted in three coats polyurethane varnish all to approval	No	10		
19.2.11	As above but 1200mmX600mmX25mm	No.	9		
	<u>Shower Fittings</u>				
19.2.12	Concealed shower fitting consisting of 25mm diameter x 2500mm long PPR riser pipe for showers,25mm diameter chrome plated brass cold water swivel/adjustable shower rose, Carina handle and Stop Cock	No.	10		
	<u>Soap Dispenser</u>				
19.2.13	Wall mounted soap dispenser with a capacity of about 1.5 Litre and having a press action soap release mechanism complete with fixing screws.including allowing for initial soap supply.The soap dispenser shall be size125x100x290mm high.	No	24		
	<u>Bib Tap</u>				
19.2.14	15mm diameter heavy duty bib tap or other equal and to approved catalogue	No	20		
	TOTAL CARRIED TO NEXT PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
	<u>Soap dish</u>				
19.2.15	Semi recessed built in soap dish in approved vitreous of size 150x150mm in approved colour.	No.	10		
	<u>Towel Rail</u>				
19.2.16	Chrome plated 20mm diameter x 800mm long approved towel rail and brackets as one piece, plugged and screwed into the wall.	No	10		
	<u>Single bowl, single drainer kitchen sink</u>				
19.2.17	16SWG Single Bowl,single Drainer, stainless steel (Grade 316) kitchen sink suitable for mounting on counter of size 1200x600mm.The bowl size to be 450x420x 300mm deep complete with plastic 40mm diameter waste fittings,plugs,chain stays,overflow including 1No.15mm diameter heavy duty wall mount stainless steel bib tap.	No.	1		
	<u>Double bowl, single drainer kitchen sink</u>				
19.2.18	16SWG Single Bowl,single Drainer, stainless steel (Grade 316) kitchen sink suitable for mounting on counter top.The bowl size to be 450x420x 300mm deep complete with plastic 40mm diameter waste fittings,plugs,chain stays,overflow including 1No.15mm diameter heavy duty wall mount stainless steel bib tap.	No.	1		
	<u>Single bowl, no drainer kitchen sink</u>				
19.2.19	16SWG Single Bowl, no Drainer, stainless steel (Grade 316) kitchen sink suitable for mounting on terazzo countertop.The bowl size to be 450x420x 300mm deep complete with plastic 40mm diameter waste fittings,plugs,chain stays,overflow including 1No.15mm diameter heavy duty wall mount stainless steel bib tap.	No.	3		
	<u>Double bowl, no drainer kitchen sink</u>				
19.2.20	16SWG Double Bowl,no Drainer, stainless steel (Grade 316) kitchen sink suitable for mounting on terazzo counter top.The bowl size to be 450x420x 300mm deep complete with plastic 40mm diameter waste fittings,plugs,chain stays,overflow including 1No.15mm diameter heavy duty wall mount stainless steel bib tap.	No.	4		
	TOTAL CARRIED TO NEXT PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
19.2.21	<p><u>Disabled persons Water Closet and Wash Hand Basin Facility</u></p> <p>Wheel chair accessible W.C facility Comprising of the following:-</p> <p>(i)Close coupled W.C with 7.5 litre cistern with bottom inlet and overflow.The bowl shall e of size 375 x 560 x 420mm high.The bowl and cistern shall be manufactured from approved viterous complying with B.S 3402.The unit shall be complete with valveless cistern fitting including syphon,15mm side inlet ball valve,20mm diameter side overflow,plastic flush bend,inlet connector and reversible metallic chrome plated cistern lever.There shall also be a heavy duty seat(25mm high) and cover with chrome plated metal hinges,toilet roll holder,900 x 450 x 6mm thick mirror and Robe hook</p> <p>(ii)Semi-recessed wall mounted W.H.B of size 600 x 500 x 545mm high with flexible connectors to water taps.The basin shall be manufactured from approved vitreous complying with B.S 3402.It shall have one L/H tap hole with 15mm chrome plated lever action pillar tap,chrome plated waste,first quality bottle trap,pedestal and wall fixing bolts.</p> <p>(iii)Hinged support rail with toilet roll holder 770mm long manufactured in nylon coated aluminium and mounted on a wall fixing plate size 230x100mm,4No. 600mm grab rails with covered wall plates.The Disabled set shall be wheelchair accessible W.C facility.</p>	SET	8		
19.2.22	<p><u>Hand Drier</u></p> <p>Automatic Hand Drier in approved colour operating on infra-red automatic sensing system with heating element,safety cut-out comlete with a 30-seconds safety timer,plastic rawl plugs and fixing screws.The hand drier to have a heating capacity of 3.1Kw and performance flow rate of 3.82 Litres/Min and to be of size270x264x143mm deep.It shall have anoise level of below72.5dBA at 1.5m.</p>	No	24		
19.2.23	<p>Arabic Shattaf Bidet spray c/w tube and head and fixing to wall.</p>	No	30		
19.2.24	<p><u>Pipe Work and Cistern for Slab Urinal</u></p> <p>6 Ltr cistern complete with waste fitting, sparge and spreader pipework for 2200mm long Terazzo slab urinal</p>	No.	1		
	TOTAL SANITARY FITTINGS CARRIED FORWARD TO MECHANICAL WORKS SUMMARY PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>ELEMENT NO. 19.3:</u> <u>FOUL DRAINAGE:</u> Supply,deliver and install the following UpVC,MUpVC,soil and waste systems,respectively to B.S 5255 with fittings fixed Key Terrain High Grade Golden Brown and Grey UPVC soil and waste pipe and jointing in accordance with manufacture's printed instructions and manufactured by reputable manufacturers.Tenderers must allow in their pipework prices for all the couplings,clippingsconnectors,joints,e.t.c as required in the running lengths of pipework and also where necessary,for pipe fixing clips,holder bats plugged and screwed for the proper and satisfactory functioning of the system				
19.3.1	32mm diameter Grey UPVC waste pipe in wall chase.	LM	84		
19.3.2	40mm ditto	LM	90		
19.3.3	50mm ditto	LM	180		
19.3.4	4 way 100x50mm diameter UPVC floor trap,grating and cover	No	68		
19.3.5	100mm WC connector	No	20		
19.3.6	40mm diameter access tee and cap	No	24		
19.3.7	50mm ditto	No	25		
19.3.8	100mm diameter inspection bend and acces cap.	No	30		
19.3.9	100mm diameter vent cowl	No	30		
19.3.10	100mm diameter medium duty UPVC gulley trap,grating cover and waste	NO	30		
19.3.11	100mm diameter Grey UPVC soil vent pipe with expansion coupling and fixing to wall with holder bats ducts	LM	100		
19.3.12	150mm diameter Golden Brown UPVC waste pipe in soil	LM	150		
	TOTAL FOUL DRAINAGE CARRIED FORWARD TO MECHANICAL WORKS SUMMARY PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

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BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>ELEMENT NO. 19.5:</u>				
	<u>BUILDER'S WORK IN CONNECTION WITH PLUMBING AND DRAINAGE:</u>				
	<u>Masonry Gulley Trap</u>				
19.5.1	Construct masonry gulley trap size 200x200mm, approx depth 300mm, complete with seal and concrete cover, including all disposal	No.	15		
	<u>Manholes and Covers</u>				
19.5.2	Construct Manholes size 600 x 450mm and averaging 750mm deep constructed in 100mm thick concrete base class 20/20, approved 150mm block sides rendered all around in cement and sand (1:4).It shall have an approved heavy duty Fibre Reinforced Plastic cover and frame ,Including all necessary excavations, disposal and form work.	No.	18		
	<u>Excavations</u>				
19.5.3	Excavate trench in soil/murram for Water Mains supply pipes not exceeding 1200mm deep ,lay pipe,part return in fill, ram and surplus cart away	LM	120		
	<u>Sleeves</u>				
19.5.4	Make a hole through 150mm thick coral block wall for small pipe and make good disturbed areas	No.	30		
19.5.5	Ditto but 200mm thick and for large	No.	5		
	TOTAL BUILDERS WORK CARRIED FORWARD TO MECHANICAL WORKS SUMMARY PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>ELEMENT NO. 19.7:</u>				
	<u>WATER RETICULATION - ALL PROVISIONAL</u>				
	<u>Roof Top Water Tanks</u>				
19.6.1	Supply, deliver and install deluxe vertical cylindrical close end plastic moulded tank of capacity 1,000 litres and. The tank to be assembled complete with cover and having screwed connections fo inlet, outlet, overflow, 32mm high pressure ball valve, drain pipes and any other item necessary for its proper functioning.. The tank shall be installed on a flat roof base (130mmX79mm)	ITEM	19		
	Ditto but rectangular type for gate house	ITEM	1		
	<u>Excavations</u>				
19.6.2	Excavate trench in soil/murram for Water Mains supply pipe not exceeding 1200mm deep ,lay pipe,part return in,fill ram and surplus cart away	LM	120		
	<u>Pipe Work</u>				
19.6.3	100mm diameter PN 16 HDPE pump suction lines	LM	15		
19.6.4	50mm diameter Ditto but Delivery line	LM	130		
19.6.5	32mm diameter (PN-20) PPR Pipe laid and jointed in trench from water mains	LM	110		
19.6.6	40mm ditto	LM	50		
	<u>Sockets:</u>				
19.6.7	32mm diameter PPR Sockets	No.	20		
19.6.8	40mm ditto	LM	15		
	<u>Bends</u>				
19.6.9	40mm diameter bend/Elbow	No.	10		
	<u>Tees</u>				
19.6.11	40mm diameter (PN-20) PPR equal tee	No.	12		
	<u>Valves</u>				
19.6.12	32mm diameter supply mains full way approved gate valve	No.	14		
19.6.13	40mm ditto	No.	6		
19.6.14	50mm ditto	No.	6		
	<u>Water Connection to Supply mains & Testing</u>				
19.6.15	50mm diameter G.I. equal tee	No	1		
19.6.16	50x40mm diameter G.I. reducer	No	1		
19.6.17	40mm diameter G.I. nipple	No	2		
19.6.18	50mm diameter PPR Adaptor	No	1		
	TOTAL CARRIED TO NEXT PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
19.6.19	BALANCE B/F FROM PREVIOUS PAGE 40mm diameter full Way approved gate valve	No	1		
19.6.20	<u>Meter Connection</u> Allow for 25mm diameter approved Meter Connection from the Local Water Authority including paying for all the necessary charges,if any	ITEM	1		
19.6.21	<u>Stand Pipe</u> 15mm diameter bib tap suitable for connecting to a hose pipe complete with threaded adaptors.The tap to be complete with 5-metre long 20mm diameter pipe,bends,e.t.c.The chrome plated bib tap to be approved by the engineer	ITEM	8		
19.6.22	<u>Mains Valve Chamber</u> Construct Mains Valve Chamber size 600x600x500mm deep with 100mm thick concrete block class 20/20 rendered all round in cement and and sand mortar (1:4) including hinged iron cover amd frame in grease	ITEM	7		
19.6.23	<u>Booster Pump Sets</u> Submersible Booster Pump Sets (2No) for Roof Top water Tanks, each set comprising of, One pump duty, One pump stand by, and each of capacity 5m ³ /hr against a Maximum Head of 15metres. Each pump set shall be complete with control panel, MCBS, Pressure and Float switches, Overload protection, ON/OFF Buttons, Indicator Lights, Non -Return and Gate valves and including all other accessories for proper fuctioning. The pumps shall be connected in that when the Running Duty pump fails the Standby Pump starts up automatically.	ITEM	1		
19.6.24	<u>Testing</u> Allow for connecting the above earlier described Booster pumps to the pump delivery and suction lines, including Test Pumping and testing the whole of the water Reticulation system both during progress and at commissioning to the Engineer's satisfaction and to leave the system in and good sound working condition.	ITEM	1		
19.6.25	<u>Surface Mounted Water Storage Tanks</u> Supply, deliver and install vertical close end plastic moulded water storage tank of capacity 24,000 litres and (size 3220mm diameterx3400mm high). The tank to be assembled complete with cover and having screwed connections fo inlet, outlet, overflow, 32mm high pressure ball valve, drain pipes and any other item necessary for its proper functioning.. The tank shall be installed on a reinforced flat surface platform base approx. 900mm high (M/S).	ITEM	4		
	TOTAL CARRIED TO NEXT PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
19.6.26	<u>Tank Base</u> Allow for the construction of the above mentioned tank base Approx.size 3500mm diameter x 900mm high consisting of 200mm thick coral block wall,100mm thick well compacted hardcore filling,50mm thick blinding,Approved Damp proof membrane,A142 BRC Mesh,100mm thick vibrated class 20/20 concrete floor slab, 15mm thick screed on the general faces of the tank base in (1:3) cement/sand mortar, 600mm wide x 1500mm deep strip foundation class 20/20,including all Excavations and disposal	ITEM	2		
19.6.27	<u>Testing</u> Allow for testing the general water supply and reticulation systems to level in sound working condition and to the Engineer's satisfaction	ITEM	1		
	TOTAL WATER RETICULATION CARRIED FORWARD TO MECHANICAL WORKS SUMMARY PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>ELEMENT NO.19.8:</u>				
	<u>FIRE FIGHTING AND PROTECTION SERVICES</u>				
	<u>Supply,deliver and install the following fire fighting equipment in positions indicated on the contract drawings or as shall be instructed by the Engineer.Tenderers during pricing should allow for all fittings,jointings,couplings,including unions and clamps,where necessary for the proper functioning of the installation.</u>				
	<u>Breaching Inlet /Booster inlets</u>				
19.7.1	Supply and Install Fire service 4" x 2 way breaching inlet connection complete with Drain Valves complying with BS 336:2010, PN16 Rated and non-return valves. The breaching inlets to be manufactured to comply to BS 5041	ITEM	1		
	<u>Breeching Inlet Cabinet</u>				
19.7.2	Supply and install breaching inlet cabinet, recessed type to accommodate 6" x 4 way breaching inlet manufactured to comply to BS5041-5	ITEM	1		
	<u>Valve Chamber</u>				
19.7.3	Construct Mains Valve Chamber size 600x600x500mm deep with 100mm thick concrete block rendered all round in cement and sand mortar (1:4) including hinged iron cover amd frame in grease	ITEM	2		
	<u>External Fire Hydrant</u>				
19.7.4	Suply 2 way pillar type fire hydrant with dia 63 outlet to LCPB/EN 12845 standard	ITEM	2		
	<u>100 mm hydrant isolation valve</u>				
19.7.5	UL Listed/ FM Approved, Connection: Flanged as BS EN 1092-2/ Flanged as ASME B16.1, PN 16	ITEM	2		
	<u>Underground Piping</u>				
	<i>Supply, install below HDPE PN 20 to BS EN 12201, ISO 4427 ground pipe providing, fixing, jointing, testing in position & commisioning, including excavation & backfilling as required.</i>				
	<i>Pipe connection, tees must be electrofusion/butt fussion fittings</i>				
19.7.6	100Ø HDPE	LM	150		
	TOTAL CARRIED TO NEXT PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
	<u>Supply,deliver and install the following</u> <u>Portable Fire extinguishers to positions</u> <u>indicated on the contract drawings and as</u> <u>instructed by the Engineer:-</u>				
19.7.7	<u>Dry Powder Fire Extinguisher</u> 9Kg catridge type general purpose portable dry powder fire extinguisher fully charged or equal and approved.	No.	20		
19.7.8	<u>Carbon dioxide Gas Fire Extinguisher</u> 5kg carbon dioxide gas portale fire extinguisher complete with pressure gauge,initial charge and mounting brackets	No.	20		
19.7.9	<u>Water Carbon Dioxide Fire Extinguisher</u> 9.0Litre Water carbon dioxide (WCo2) portable fire extinguisher complete wth pressure gauge,initial charge and mounting brackets.	No.	20		
19.7.10	<u>Signage</u> Allow for the Signage of fire hose Reel,fire exits and fire instructions all as described in the particular specifications and to the Project Enginneer's Approval.	ITEM	20		
19.7.11	<u>Testing</u> Testing the whole fire fighting equipments to leave in sound working condition and to the Engineer's satisfaction	ITEM	1		
	TOTAL FIRE FIGHTING CARRIED FORWARD TO MECHANICAL WORKS SUMMARY PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>ELEMENT NO.19.8:</u> <u>ON-SITE WASTEWATER TREATMENT PLANT</u> <u>Preliminaries, Drawings, Manuals, Handovers, Training, Regulatory Matters, Operation & Maintenance</u> Allow for Start-Up & Training Programme of Clients designated Site Operators & Maintenance Personnel. A start-up and operator training program enables the operator to learn about the treatment process and the equipment used in the process. Start-up involves pre-commissioning checks of the process mechanical and electrical equipment. After wet-testing procedures, maintenance and servicing requirements are given. When the process has been commissioned, operator training will take place so that the operator/s can learn operational monitoring, process cycle changes, and troubleshooting. Personnel to be full capable of regular and routine maintenance tasks and reporting.				
19.8.1	Allow for Monthly Maintenance visits for period of Twelve (12) Months	SUM	1		
19.8.2	Allow to liaise with the NEMA authorities, assist client with submitting application and obtaining discharge licence for the Waste Water treatment Plant	SUM	1		
19.8.3	On completion of the Waste water treatment plant, take water samples as necessary to Certified Laboratory for testing. Submit tests and results to NEMA along with all necessary application forms and obtain NEMA approval and licence to operate the Waste Water treatment Plant	SUM	1		
19.8.4	Allow for any other item not necessarily mentioned here to provide a complete working system to the Satisfaction of the engineer	SUM	1		
19.8.5	<u>Waste Water Treatment Plant</u> Supply, Install, Test and Commission the Moving Bed Biofilm Reactor (MBBR) Waste Water Treatment System, With a capacity of treating 100PE with an average flow rate of 15,000 lts per day . With a BOD load of 6Kgs per day , Ammonia Nitrogen load of 4Kgs per day . With minimum treated discharge requirement of BOD <30mg/lit, TSS <30mg/lit, Ammonia Nitrogen <20mg/lit . Complete with all Media, Screens, Pumps, Aeration Blowers, Aeration Diffusers, Manifolds, Level sensors, Valves, Piping, Fittings and Accessories to fully conform to the specified discharge requirements.	Item	1		
	TOTAL CARRIED TO NEXT PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
19.8.7	Main control panel (MCP), NEMA 4 free-standing enclosure with forced air ventilation. The MCP is the “intelligence” of the treatment process. Electrical Control Panel with PLC, electrical isolators, overload protection, Equipment running and trip indication lights, automatic and manual override switches. Minimum IP 55 enclosure. Audio-visual alarm indicator to be provided outside the control shed. Allow for PLC complete with Graphical Human Machine Interface (HMI). Alarm, fault and process indicators will be displayed on the process control panel.	NO	1		
19.8.8	Allow for high specification internet based Remote Monitoring & Control using GSM/GPRS/IoT technology with real-time monitoring, control and alerts of the status and alarms of the plant's operations by both supplier and client parties. User access via mobile phone App, web portal, SMS/Email alerts for critical plant condition.	SUM	1		
19.8.9	Allow for MBBR media of High Quality Virgin High Density Polyethylene (HDPE). Quality of media shall have Specific Gravity of 0.96 and bulk density of 125kg/m ³ . Required Surface Area specification shall be 675m ² /m ³ .	SUM	1		
19.8.10	Process Aeration Blowers 1.6 kW / 3 HP positive displacement (PD), one (1) duty, one (1) standby.	NO	2		
19.8.11	Fine bubble aeration system, in-basin pipes and connections to the top of the wall of the basin.	SUM	1		
19.8.12	9" Fine Bubble Disc diffusers. Specification is PTFE coated EPDM membranes. PTFE protective layer is to ensure extended useful lifespan of diffusers over standard EPDM diffuser products.	NO	35		
19.8.13	Allow for Coarse inlet Screen 2" slots for capture of large rags and solids. Fabricated with 50mm polypropylene structure & Stainless Steel.	NO	1		
19.8.14	Allow for PolyLok PL-625 Effluent Filter with 1/32" linear feet filter slot size for capture of smaller fine solids. Effluent Filter shall come with automatic shutoff ball for closing outlet to avoid solids wash through during servicing, as acting as a gas deflector.	NO	3		
19.8.15	1 HP submersible RAS/WAS pumps	NO	1		
19.8.16	Influent pumps, one (1) duty and one (1) standby	NO	2		
19.8.17	Chemical dosing pumps and controls for sodium hypochlorite, plus chemical makeup tank. System for Chlorine Disinfection of Treated Waste Water.	SUM	1		
	TOTAL CARRIED TO NEXT PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
19.8.18	All pipe & fittings as required to complete the interconnecting system and all necessary fittings, valves and accessories.	SUM	1		
19.8.19	All Electrical wiring as required to complete the interconnecting system and all necessary conduits, fittings and accessories.	SUM	1		
19.8.20	Allow for Installation of Wastewater Treatment Plant Equipment, incldue all Labour, Transport & Sundries Costs	SUM	1		
19.8.21	<p><u>Bio- Reactor</u> <u>Supply, install, test and commission the following</u></p> <p>5000lts/ hr Bio- Reactor DAF- Dissolved Air Floatio- system with a bubble size of less than 10um, Dissolved gas efficiency is over 95%, the solid suspended matter content in effluent to be less than 20 mg/L</p>	ITEM	1		
	<u>TOTAL FOR ON-SITE WASTEWATER TREATMENT PLANT CARRIED TO SUMMARY</u>				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>ELEMENT NO. 19.9:</u>				
	<u>ICE FLAKE MACHINE, ROOM INSULATION AND ACCESSORIES:</u>				
	Supply, deliver, install, test and commission the following Ice Flake Machine, Equipment and accessories as herebelow described and to position indicated on mechanical drawings and as instructed by the Engineer:-				
	<u>The works under this category should be done by an approved sub-contractor</u>				
	<u>Ice Flake Machine</u>				
	Modular Ice Flake Machine (Production Capacity 3T/24h, Refrigerating capacity 18Kw, Evaporating temperature -22°C, Power consumption 17.5kW, Approx dimensions 2000 X 1600 X 1490mm) comprising of an air cooled condenser, gear motor, water pump, salt mix pump control box and control panel with PLC , Low water sensor protection, Ice level thermostat, Ice knife and construction made from stainless steel, base frame made from galvanized steel, ice drum/cylinder with stainless steel inner and outer wall fitted with semi-hermetic compressors, stainless steel ball bearings including all other accessories for proper functioning of the unit. The unit shall be as approved and to approved catalogue	1	No		
19.9.1					
	<u>Refrigeration Pipework</u>				
	A set of Refrigeration Pipework complete with flared connections and fittings in approved copper tubing approx.10metres long,including flexible condensate drip line approx.6.0metres long,properly fixed and encased in 20mm diameter black PVC Conduit in conformity with 'APPROVED REFRIGERATION MANUAL'.The suction line shall be insulated with at least 25mm thickness of Armaflex or other equal and approved material	1	ITEM		
19.9.2					
	<u>Testing</u>				
	Allow for testing of the above Ice Flake Machine both during progress of installation and at completion to the Engineers satisfaction,including initial charging of the system with Refrigerant gas R.410A or other equal and approved and to leave the system in good and sound working condition	1	ITEM		
19.9.3					
	Allow for the instruction and training to the client staff (2 no.) on the operation and maintenance of the ice flake production plant for a period of not less than Two (2) weeks. The contractor to allow for structured training on all equipment on content to be agreed upon with the Engineer or his representative.	1	ITEM		
19.9.4					
	TOTAL CARRIED TO NEXT PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
19.9.5	Allow for initial service and maintenance including spare parts for the ice flake production plants during the six months' defects liability period	1	ITEM		
19.9.6	Allow for the preparation of record (as installed) drawings and preparation of 2 No. sets of Maintenance and operation manuals	1	ITEM		
	<u>Ice flakes collection room</u>				
19.9.7	Double rebate type cold room door size 900mm wide x 2100mm high constructed from stainless steel tubes mullions transomes with interior lining to match the walls.	1	No		
19.9.8	Supply and install 100mm thick polystyrene insulation fixed to floor between 100 x 50 x 3mm kitchen grade stainless steel RHS bearers plugged to floor slab to receive 5mm thick Non-slip checkered stainless steel plate on the floor spaced at 1000mm center all to approval	11	sm		
19.9.9	Ditto but on the walls	47	sm		
19.9.10	Ditto but on the roof	10	sm		
19.9.11	Supply and install 0.5mm thick 304 Stainless Steel (grade 304) Sheet fixed firmly on the cold room walls and the ceiling complete with the corner panels. The cost to include any other accessory necessary for the installation.	57	sm		
19.9.12	Supply and install 5mm thick Non-slip checkered stainless steel flooring for the cold room, to be firmly fixed on the floor all to approval. The cost to include any other accessory necessary for the installation.	11	sm		
19.9.13	Allow for application of an approved vapour barrier on the walls and water proofing of the floor to the satisfaction of the Engineer.	1	ITEM		
19.9.14	Supply and install a vapour-sealed bulkhead incandescent lighting fitting with suitably sized door operated switch complete with the associated wiring.	1	No		
19.9.15	Allow for the connection to electrical power supply from a local isolator.	1	ITEM		
19.9.16	Allow for testing, commissioning and leaving it in good working condition.	1	ITEM		
	<u>Chilly Bin</u>				
19.9.17	120L Heavy Duty Ice box chilly bin, Roto moulded, filled with polyurethane foam, freezer style sealing gasket, recessed leak proof drain plug. All to approval	4	No		
	TOTAL ICE FLAKE MACHINE, ROOM INSULATION AND ACCESSORIES CARRIED FORWARD TO				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

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BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>MECHANICAL WORKS SUMMARY PAGE:</u>				
19.1	INTERNAL PLUMBING				
19.2	SANITARY FITTINGS				
19.3	FOUL DRAINAGE				
19.4	TESTING				
19.5	BUILDERS WORK				
19.6	WATER RETICULATION				
19.7	FIRE FIGHTING				
19.8	ON-SITE WASTEWATER TREATMENT PLANT				
19.9	ICE FLAKE MACHINE				
19.10	GENERAL ITEMS				
	TOTAL FOR MECHANICAL WORKS CARRIED FORWARD TO GRAND SUMMARY PAGE				

ELECTRICAL WORKS

BILL NO.20

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<i>(All Rates are V.A.T Inclusive)</i> <u>BILL NO. 20: ELECTRICAL WORKS</u>				
	<u>SCHEDULE 1:</u> <u>POLYFUNCTION BUILDING</u>				
	Supply Install, Test and Commission Following:- <u>LIGHTING POINTS</u> Lighting points wired in 3x4.5mm ² PVC/SC copper cables drawn in concealed 20mm diameter heavy gauge PVC conduit including all boxes, saddles and accessories for				
20.1.1	i)One way switching	No.	68		
	ii)Two Way switching	No.	10		
20.1.2	10A plastic switch plates as follows i)One gang one way	No.	21		
	ii)One gang two way	No.	4		
	iii)Two gang two way	No.	1		
	<u>LIGHTING FITTINGS</u> Light fittings complete with all the necessary fixing accessories and rated energy lamps as follows:-				
20.1.3	i) Exit Light	No.	5		
	ii) Type 4C	No.	25		
	iii) Type N	No.	10		
	iv) Type M	No.	6		
	x) Type X	No.	3		
	xi)Type 2	No.	8		
	xii) Type 2D	No.	6		
	xiii) Type 600X600	No.	15		
20.1.4	Motion Sensors for lighting in washrooms	No.	4		
	<u>POWER OUTLETS</u> Socket outlet point in Ring wiring of 3x2.5 mm ² PVC-SC-Cu cables drawn inside 20mm diameter HG conduits	No.	25		
20.1.5	13A Twin switched moduled socket outlet plate	No.	25		
20.1.6	20A Double Pole outlet point comprising of wiring in 3x4.0 mm ² PVC-SC-Cu cables drawn inside 20mm diameter HG conduits	No.	4		
20.1.7	20A Double pole switch complete with neon light	No.	4		
20.1.8	<u>KITCHENETTE</u> Cooker point comprising wiring in 3x6.0mm ² PVC SC Cu cables drawn inside trunking	No.	1		
20.1.9	45A Cooker Control Unit incorporating a 13A switched socket outlet and neon indicator	No.	1		
20.1.20	<u>ELECTRICAL SWEEP FANS</u> Ceiling fan points wired in 3x2.5mm ² PVC/SC copper cables drawn in concealed 20mm diameter heavy gauge PVC conduit including all boxes, saddles and all accessories	No.	7		
20.1.21					
	TOTAL C/F TO NEXT PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
	<u>CEILING FANS</u>				
20.1.22	49W 1400mm 3-arm 5- speed, Ceiling fan complete with the regulator	No.	7		
20.1.23	Ceiling fan hook (M-10) complete with rawl bolt.	No.	7		
	<u>FIRE DETECTION AND ALARM SYSTEM</u>				
20.1.24	Fire alarm panel/Fire alarm bell/Break glass Unit Points/Smoke detector points comprising iring in 3x1.5mm ² fire risistant cables concealed in PVC conduits concealed in ceiling space but excluding bell and break glass unit	No.	16		
20.1.125	Addressable Call point	No.	3		
20.1.226	Addressable Sounder complete with beacon	No.	3		
20.1.327	Addressable Smoke detectors complete with base	No.	5		
20.1.28	Heat detectors complete with base	No.	4		
20.1.29	Addressable Repeater Panel with atleast 30 characters LCD screen and RS483 Port	No.	1		
	<u>TELEVISION, CCTV AND DATA WORKS</u>				
20.1.30	16 SW/G, (450 x 300 x 100)mm ³ flush mounted galvanised powder coated draw box for telephone & data works	3	No		
20.1.31	Telephone/Data outlet point comprising of concealed 20mm diameter HG PVC conduits plus draw wire	22	No		
20.1.32	RJ45, Single Data outlet plate a) Single	8	No		
	<u>DISTRIBUTION BOARDS</u>				
20.1.33	8-Way TP/N distribution board flush mounted complete 1No. 100A TPN integral isolator.	No.	1		
20.1.34	MCBs for the above boards i)16A SP ii)20ASP iii)32ASP iv)45A SP v)Blanking Plates	No. No. No. No. No.	8 6 4 1 5		
	<u>SUB-MAINS CABLES</u>				
20.1.35	4 core 25mm ² PVC/SWA/PVC (armoured) + 1X16mm ² single Core copper cables drawn inside 50mm diameter HG conduits	LM	20		
20.1.36	Cable glands for the above cable	No.	2		
	TOTAL C/F TO NEXT PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
20.1.37	Cable lugs for the above cable complete with hydraulic crimping	No.	10		
	<u>LIGHTNING PROTECTION</u>				
	Air Termination				
20.1.38	15mm diameter multiple point copper air terminal complete with base	No.	1		
20.1.39	Copper junction clamps for tape.	No.	2		
20.1.40	25 x 3mm turned copper tape	Lm	10		
20.1.41	Copper ridge saddle	No.	3		
20.1.42	D.C. tape clip	No.	5		
	Down Conductors				
20.1.43	25 x 3mm turned copper tape	Lm	6		
20.1.44	D.C. tape clip	No.	3		
20.1.45	Oblong test/junction clamp	No.	1		
20.1.46	Diameter 38mm HG PVC conduits for the down conductors above.	Lm	8		
	Earth Termination				
20.1.47	15mm diameter, 1200mm long solid copper earth rod, complete with driving stud and spike.	No.	1		
20.1.48	Earth rod-to-tape clamp type A.	No.	1		
20.1.49	Concrete inspection earth pit with 5 hole earth bar	No.	1		
20.1.50	1500mm x 1500mm copper earth mat made from 25mm x 3mm copper tape at 300mm spacing, buried at permanent moisture level and complete with all clamps, welding joints and 6m long 25mm x 3mm insulated copper tape clamped to the down conductors.	No.	1		
20.1.51	Soil treatment around the earth pits with marconite to achieve the required conductivity and obtain acceptable reading	Item	1		
20.1.52	Bonding and clamping to all metal work including water pipes, gas pipes, hand-rails, air-conditioning units, window frames, cladding, metal roof etc. and the main earth for the building.	Item	1		
	TOTAL FOR POLYFUNCTION BUILDING C/F TO SUMMARY PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>SCHEDULE 2:</u> <u>ABLUTION BLOCK</u>				
	<u>Supply Install, Test and Commission Following:-</u>				
	<u>LIGHTING POINTS</u>				
20.2.1	Lighting points wired in 3x4.5mm ² PVC/SC copper cables drawn in concealed 20mm diameter heavy gauge PVC conduit including all boxes, saddles and accessories for i)One way switching	No.	20		
20.2.2	10A plastic switch plates as follows i)One gang one way	No.	6		
	<u>LIGHTING FITTINGS</u>				
20.2.3	Light fittings complete with all the necessary fixing accessories and rated energy lamps as follows:- i) Type M ii)Type 2	No. No.	4 16		
20.2.4	Motion Sensors for lighting in washrooms	No.	6		
	<u>CONSUMER UNIT</u>				
20.2.5	4- way SP/N Consumer Unit flush mounted complete 1No. SP/N intergal isolator	No	1		
20.2.6	MCBs for the above boards i)16A SP ii)Blanking Plates	No. No.	2 2		
	<u>SUB-MAINS CABLES</u>				
20.2.7	3 core 10mm ² PVC/SWA/PVC (armoured) copper cable drawn inside HG conduits	LM	100		
20.2.8	Cable glands for the above cable	No.	2		
20.2.9	Cable lugs for the above cable complete with hydraulic crimping	No.	6		
	TOTAL FOR ABLUTION BLOCK C/F TO SUMMARY PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>SCHEDULE 3:</u> <u>RESTAURANT</u>				
	<u>Supply Install, Test and Commission Following:-</u>				
	<u>LIGHTING POINTS</u>				
20.3.1	Lighting points wired in 3x4.5mm ² PVC/SC copper cables drawn in concealed 20mm diameter heavy gauge PVC conduit including all boxes, saddles and accessories for				
	i)One way switching	No.	32		
	ii)Two Way switching	No.	10		
20.3.2	10A plastic switch plates as follows				
	i)One gang one way	No.	8		
	ii)One gang two way	No.	10		
	<u>LIGHTING FITTINGS</u>				
20.3.3	Light fittings complete with all the necessary fixing accessories and rated energy lamps as follows:-				
	i) Exit Light	No.	4		
	ii) Type 4C	No.	12		
	iii) Type N	No.	4		
	iv) Type M	No.	8		
	v)Type 2	No.	14		
	vi) Type 4	No.	8		
20.3.4	Motion Sensors for lighting in washrooms	No.	6		
	<u>POWER OUTLETS</u>				
20.3.5	Socket outlet point in Ring wiring of 3x2.5 mm ² PVC-SC-Cu cables drawn inside 20mm diameter HG conduits	No.	26		
20.3.6	13A Twin switched moduled socket outlet plate	No.	26		
	<u>KITCHEN</u>				
20.3.7	Cooker point comprising wiring in 3x6.0mm ² PVC SC Cu cables drawn inside trunking	No.	1		
20.3.8	45A Cooker Control Unit incorporating a 13A switched socket outlet and neon indicator	No.	1		
	<u>ELECTRICAL SWEEP FANS</u>				
20.3.9	Ceiling fan points wired in 3x2.5mm ² PVC/SC copper cables drawn in concealed 20mm diameter heavy gauge PVC conduit including all boxes, saddles and all accessories	No.	4		
	<u>CEILING FANS</u>				
20.3.10	49W 1400mm 3-arm 5- speed, Ceiling fan complete with the regulator	No.	4		
20.3.11	Ceiling fan hook (M-10) complete with rawl bolt.	No.	4		
	<u>KITCHENETTE</u>				
20.3.12	Cooker point comprising wiring in 3x6.0mm ² PVC SC Cu cables drawn inside trunking	No.	2		
20.3.13	45A Cooker Control Unit incorporating a 13A switched socket outlet and neon indicator	No.	2		
	TOTAL C/F TO NEXT PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
	<u>FIRE DETECTION AND ALARM SYSTEM</u>				
20.3.14	Fire alarm panel/Fire alarm bell/Break glass Unit Points/Smoke detector points comprising iring in 3x1.5mm ² fire risistant cables concealed in PVC conduits concealed in ceiling space but excluding bell and break glass unit	No.	19		
20.3.15	Addressable Call point	No.	4		
20.3.16	Addressable Sounder complete with beacon	No.	4		
20.3.17	Addressable Smoke detectors complete with base	No.	4		
20.3.18	Heat detectors complete with base	No.	6		
20.3.19	Addressable Repeater Panel with atleast 30 characters LCD screen and RS483 Port	No.	1		
	<u>TELEVISION, CCTV AND DATA WORKS</u>				
20.3.20	16 SWG,(450 x 300 x 100)mm ³ flush mounted galvanised powder coated draw box for telephone & data works	2	No		
20.3.21	Telephone/Data outlet point comprising of concealed 20mm diameter HG PVC conduits plus draw wire	8	No		
20.3.22	RJ45, Single Data outlet plate a) Single	2	No		
20.3.23	TV outlet point comprising of 75Ω aerial cable (Co-axial) drawn in 25mm Ø full length heavy gauge plastic conduits cast in floor slab and concealed in the walls but without the outlet plate running from the TV point to the MATV on the roof	2	NO		
20.3.24	Single TV face plate	2	NO		
	<u>CONSUMER UNIT</u>				
20.3.25	9-Way SP/N Consumer Unit flush mounted complete 1No. 100A TPN integral isolator.	No.	1		
20.3.26	MCBs for the above boards i)16A SP ii)20ASP iii)32ASP iv)45A SP	No. No. No. No.	3 1 3 2		
	<u>SUB-MAINS CABLES</u>				
20.3.22	3 core 16mm ² PVC/SWA/PVC (armoured) + 1X16mm ² single Core copper cables drawn inside 50mm diameter HG conduits	LM	60		
20.3.23	Cable glands for the above cable	No.	2		
20.3.24	Cable lugs for the above cable complete with hydraulic crimping	No.	6		
	TOTAL FOR RESTAURANT C/F TO SUMMARY PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>SCHEDULE 4:</u> <u>FISH BANDA</u>				
	<u>Supply Install, Test and Commission Following:-</u>				
	<u>LIGHTING POINTS</u>				
20.4.1	Lighting points wired in 3x4.5mm ² PVC/SC copper cables drawn in concealed 20mm diameter heavy gauge PVC conduit including all boxes, saddles and accessories for				
	i)One way switching	No.	22		
	ii)Two Way switching	No.	10		
20.4.2	10A plastic switch plates as follows				
	i)One gang one way	No.	11		
	ii)One gang two way	No.	6		
	<u>LIGHTING FITTINGS</u>				
20.4.3	Light fittings complete with all the necessary fixing accessories and rated energy lamps as follows:-				
	i) Exit Light	No.	6		
	ii) Type 4C	No.	13		
	iii) Type N	No.	5		
	iv) Type M	No.	7		
	v)Type 2	No.	8		
20.4.4	Motion Sensors for lighting in washrooms	No.	4		
	<u>POWER OUTLETS</u>				
20.4.5	Socket outlet point in Ring wiring of 3x2.5 mm ² PVC-SC-Cu cables drawn inside 20mm diameter HG conduits	No.	8		
20.4.6	13A Twin switched moduled socket outlet plate	No.	8		
20.4.7	20A Double Pole outlet point comprising of wiring in 3x4.0 mm ² PVC-SC-Cu cables drawn inside 20mm diameter HG conduits	No.	4		
20.4.8	20A Double pole switch complete with neon light	No.	4		
20.4.9	Three phase isolator point comprising of wiring in 5x6.0 mm ² PVC-SC-Cu cables drawn inside 20mm diameter HG conduits	No	1		
20.4.10	32A Three phase Isolator complete with 5 pin industrial socket and plug	No	1		
	<u>ELECTRICAL SWEEP FANS</u>				
20.4.11	Ceiling fan points wired in 3x2.5mm ² PVC/SC copper cables drawn in concealed 20mm diameter heavy gauge PVC conduit including all boxes, saddles and all accessories	No.	2		
	<u>CEILING FANS</u>				
20.4.12	49W 1400mm 3-arm 5- speed, Ceiling fan complete with the regulator	No.	2		
20.4.13	Ceiling fan hook (M-10) complete with rawl bolt.	No.	2		
	TOTAL C/F TO NEXT PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
	<u>FIRE DETECTION AND ALARM SYSTEM</u>				
20.4.14	Fire alarm panel/Fire alarm bell/Break glass Unit Points/Smoke detector points comprising iring in 3x1.5mm ² fire risistant cables concealed in PVC conduits concealed in ceiling space but excluding bell and break glass unit	No.	14		
20.4.15	Addressable Call point	No.	4		
20.4.16	Addressable Sounder complete with beacon	No.	4		
20.4.17	Addressable Smoke detectors complete with base	No.	2		
20.4.18	Heat detectors complete with base	No.	3		
20.4.19	Addressable Repeater Panel with atleast 30 characters LCD screen and RS483 Port	No.	1		
	<u>TELEVISION, CCTV AND DATA WORKS</u>				
20.4.20	16 SWG,(450 x 300 x 100)mm ³ flush mounted galvanised powder coated draw box for telephone & data works	2	No		
20.4.21	Telephone/Data outlet point comprising of concealed 20mm diameter HG PVC conduits plus draw wire	7	No		
	<u>DISTRIBUTION BOARDS</u>				
20.4.22	6-Way TP/N distribution board flush mounted complete 1No. 100A TPN integral isolator.	No.	1		
20.4.23	MCBs for the above boards				
	i)16A SP	No.	4		
	ii)20ASP	No.	5		
	iii)32ASP	No.	2		
	iv)32A TP	No.	1		
	v)Blanking Plates	No.	4		
	<u>SUB-MAINS CABLES</u>				
20.4.24	4 core 25mm ² PVC/SWA/PVC (armoured) + 1X16mm ² single Core copper cables drawn inside 50mm diameter HG conduits	LM	45		
20.4.25	Cable glands for the above cable	No.	2		
20.4.26	Cable lugs for the above cable complete with hydraulic crimping	No.	10		
	<u>LIGHTNING PROTECTION</u>				
	<u>Air Termination</u>				
20.4.27	15mm diameter multiple point copper air terminal complete with base	No.	1		
20.4.28	Copper junction clamps for tape.	No.	2		
20.4.29	25 x 3mm turned copper tape	Lm	10		
	TOTAL C/F TO NEXT PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

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BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>SCHEDULE 5: STALLS</u>				
	<u>Supply Install, Test and Commission Following:-</u>				
	<u>LIGHTING POINTS</u>				
20.5.1	Lighting points wired in 3x4.5mm ² PVC/SC copper cables drawn in concealed 20mm diameter heavy gauge PVC conduit including all boxes, saddles and accessories for				
	i)One way switching	No.	6		
	ii)Two Way switching	No.	6		
20.5.2	10A plastic switch plates as follows				
	i)One gang one way	No.	6		
	ii)One gang two way	No.	12		
	<u>LIGHTING FITTINGS</u>				
20.5.3	Light fittings complete with all the necessary fixing accessories and rated energy lamps as follows:-				
	i) Type M	No.	8		
	ii)Type 2	No.	6		
	iii) Type 4	No.	6		
	<u>POWER OUTLETS</u>				
20.5.4	Socket outlet point in Ring wiring of 3x2.5 mm ² PVC-SC-Cu cables drawn inside 20mm diameter HG conduits	No.	12		
	13A Twin switched moduled socket outlet plate	No.	12		
	<u>ELECTRICAL SWEEP FANS</u>				
20.5.5	Ceiling fan points wired in 3x2.5mm ² PVC/SC copper cables drawn in concealed 20mm diameter heavy gauge PVC conduit including all boxes, saddles and all accessories	No.	6		
	<u>CEILING FANS</u>				
20.5.6	49W 1400mm 3-arm 5- speed, Ceiling fan complete with the regulator	No.	6		
20.5.7	Ceiling fan hook (M-10) complete with rawl bolt.	No.	6		
	<u>CONSUMER UNIT</u>				
20.5.8	4- way SP/N Consumer Unit flush mounted complete 1No. SP/N intergal isolator	No	6		
20.5.9	MCBs for the above boards				
	i)16A SP	No.	12		
	ii)32A SP	No.	12		
	iii)Blanking Plates	No.	12		
	<u>SUB-MAINS CABLES</u>				
20.5.10	3 core 10mm ² PVC/SWA/PVC (armoured) copper cable drawn inside HG conduits	LM	480		
20.5.11	Cable glands for the above cable	No.	12		
20.5.12	Cable lugs for the above cable complete with hydraulic crimping	No.	36		
	TOTAL FOR STALLS BLOCK C/F TO SUMMARY PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>SCHEDULE 6: GATE HOUSE</u>				
	<u>Supply Install, Test and Commission Following:-</u>				
	<u>LIGHTING POINTS</u>				
20.6.1	Lighting points wired in 3x4.5mm ² PVC/SC copper cables drawn in concealed 20mm diameter heavy gauge PVC conduit including all boxes, saddles and accessories for				
	i)One way switching	No.	3		
	ii)Two Way switching	No.	1		
20.6.2	10A plastic switch plates as follows				
	i)One gang one way	No.	3		
	ii)One gang two way	No.	2		
	<u>LIGHTING FITTINGS</u>				
20.6.3	Light fittings complete with all the necessary fixing accessories and rated energy lamps as follows:-				
	i) Type M	No.	6		
	ii)Type 2	No.	2		
	iii) Type 4	No.	2		
	<u>POWER OUTLETS</u>				
20.6.4	Socket outlet point in Ring wiring of 3x2.5 mm ² PVC-SC-Cu cables drawn inside 20mm diameter HG conduits	No.	3		
20.6.5	13A Twin switched moduled socket outlet plate	No.	3		
	<u>ELECTRICAL SWEEP FANS</u>				
20.6.6	Ceiling fan points wired in 3x2.5mm ² PVC/SC copper cables drawn in concealed 20mm diameter heavy gauge PVC conduit including all boxes, saddles and all accessories	No.	1		
	<u>CEILING FANS</u>				
20.6.7	49W 1400mm 3-arm 5- speed, Ceiling fan complete with the regulator	No.	1		
20.6.8	Ceiling fan hook (M-10) complete with rawl bolt.	No.	1		
	<u>CONSUMER UNIT</u>				
20.6.9	4- way SP/N Consumer Unit flush mounted complete	No	1		
20.6.10	1No. SP/N integral isolator				
	MCBs for the above boards				
	i)16A SP	No.	1		
	ii)32A SP	No.	1		
	iii)Blanking Plates	No.	2		
	<u>SUB-MAINS CABLES</u>				
20.6.11	3 core 10mm ² PVC/SWA/PVC (armoured) copper cable drawn inside HG conduits	LM	110		
20.6.12	Cable glands for the above cable	No.	2		
20.6.13	Cable lugs for the above cable complete with hydraulic crimping	No.	6		
	TOTAL C/F TO NEXT PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
	FIRE DETECTION AND ALARM SYSTEM				
20.6.14	Fire alarm panel/Fire alarm bell/Break glass Unit Points/Smoke detector points comprising wiring in 3x1.5mm ² fire resistant cables concealed in PVC conduits concealed in ceiling space but excluding bell and break glass unit	No.	4		
20.6.15	Addressable Call point	No.	1		
20.6.16	Addressable Sounder complete with beacon	No.	1		
20.6.17	Addressable Smoke detectors complete with base	No.	1		
20.6.18	Single Loop, Expandable to 8, Intelligent Addressable fire alarm panel with atleast 200 addresses complete with full network capability, stand-by batteries and integral battery charger, touch screen, thermal printer and CAN modules	No.	1		
	TOTAL FOR GATE HOUSE C/F TO SUMMARY PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
20.7.1	<u>SCHEDULE 7 MAIN POWER DISTRIBUTION</u> <u>LOW VOLTAGE BOARD</u> Free-standing purpose made front access sub main switchboard, modular, metal clad, manufactured in 12 SWG galvanised mild steel sheet and finished in cream (or appropriate colour) powder coating as shown on the schematic. The switchboard should consist of a PLC section. The switchboard to be complete with the following:- i) Digital multimeter with CTs and fuse protection capable of measuring voltage in the range 0 – 1000V, 3-phase, current in the range 0-250A, 3-phase, and all power system parameters (KW, KVA, KWHr, KVARs, Frequency, P.F., harmonics and all the parameters). The multimeter should be complete with selector switches for viewing/displaying the various parameters. ii) Set of neon phase presence indicator lamps iii) 100A adjustable TPN MCCB main incomer and having a short-circuit breaking capacity of 100KA at 415Vac, 50Hz. iv) 4 No. 150A TPN copper bus bars v) 4 No. 100A 3 P TPN MCCBs vi) 7 No. 63A SPN MCBs vii) 2 No. 32A SPN MCBs ix) 1 No. 100A SPN MCBs x) Sufficient spare capacity for future development all fitted with 3 No. 63A SP MCBs xi) Sufficient spare capacity for future development all fitted with 2 No. 80A TP MCCBs xii) Sealable studs for all cover plate screws and all necessary accessories xiii) 6mm perspex viewing window xiiii) Heavy duty rubber lining for all the perspex viewing windows xiv) 415V three-phase surge diverter, wired as shown, complete with enclosure with viewing window. xv) 25 KVAR's automatic Power Factor Correction Capacitor Bank comprising the following:- a) 1No 10 KVAR's 415 V,50Hz, 3-Phase b) 3 No 5 KVAR's 415 V,50Hz, 3-Phase c) 4 No Special contactors for capacitor switching d) 4 No Fuse bases and fuses for each capacitor protection e) 4 No Step indicator lamps f) 1 No Control circuit protection fuse/fuse holder g) 1 No. 4-Step automatic control regulator for maintaining power factor at the set level and regulating the switching of capacitor steps h) 1 No 40/5A Current transformer (to be mounted after the mains incoming circuit breaker)	Item	1		
	TOTAL C/F TO NEXT PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
	<i>The bank to be made from low-loss bio-degradable capacitive units, complete with earthed enclosure. All the contactors, controls and indicator lamps, including a digital read-out screen, to be included.</i>				
	<i>xvi) Allow for Fireman's switch connection as indicated in the schematic drawing</i>				
	<i>xvii) Comprehensive protective multiple earthing of the board in 1500mm long 12mm diameter pure electrolytic copper earth rod deep driven to permanent moisture level, copper clamp. 120mm² green earth lead complete with all accessories. (Note: Use parallel rods if effective earthing cannot be achieved with 1 No. rod).</i>				
20.7.2	4C50mm ² PVC/SWA/PVC armoured copper cable + 1X16mm ² single Core copper cables laid in ducts in trench from KPLC intake to the Board in the PolyFunction Building complete with glands and lugs	LM	110		
	UNDERGROUND CABLE DUCTING				
20.7.3	Allow for 300mm deep trenching and back filling for the cable mentioned before.	Lm	220		
20.7.4	Ducting for the above in 150mm HGPVC Pipes complete with haunching	Lm	220		
20.7.5	Allow for cable markers in concrete tiles marked "HATARI" for the item above	No.	22		
	POWER/ TELCOM MANHOLES				
20.7.6	Construct Manholes size 600 x 6000mm and averaging 750mm deep constructed in 100mm thick concrete base class 20/20, approved 150mm block sides rendered all around in cement and sand (1:4).It shall have an approved heavy duty Fibre Reinforced Plastic cover and frame ,Including all necessary excavations, disposal and form work.	No.	24		
	BIO- DIGESTER & BIO- REACTOR PROVISIONS				
20.7.7	4 core 25mm ² PVC/SWA/PVC (armoured) copper cables drawn inside 32mm diameter HG conduits	Lm	60		
20.7.8	Cable glands for the above cable	No.	4		
20.7.9	Cable lugs for the above cable complete with hydraulic crimping	No.	20		
20.7.10	8-Way TP/N distribution board flush mounted complete 1No. 100A TPN integral isolator.	No.	2		
20.7.11	MCBs for the boards above				
	i)16A SP	No.	2		
	ii)20ASP	No.	6		
	iii)32ASP	No.	10		
	iv)32A TP	No.	8		
	v)Blanking Plates	No.	6		
20.7.12	Single phase isolator point comprising of wiring in 3x6.0 mm ² PVC-SC-Cu cables drawn inside 20mm diameter HG conduits	No.	10		
20.7.13	Three phase isolator point comprising of wiring in 5x6.0 mm ² PVC-SC-Cu cables drawn inside 20mm diameter HG conduits	No.	6		
	TOTAL C/F TO NEXT PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
20.7.14	32A Single phase Isolator complete with 3 pin industrial socket and plug	No.	10		
20.7.15	32A Three phase Isolator complete with 3 pin industrial socket and plug	No.	6		
	LIFTS PROVISIONS				
20.7.16	4 core 16mm ² PVC/SWA/PVC (armoured) + 1X16mm ² single Core copper cables drawn inside HG conduits	Lm	40		
20.7.17	63A Three phase Isolator	No.	1		
	PUMPS PROVISIONS				
20.7.18	3 core 6mm ² PVC/SWA/PVC (armoured) copper cables drawn inside HG conduits	Lm	40		
20.7.19	32A Single phase Isolator complete with 3 pin industrial socket and plug	No	2		
	EXTERNAL CCTV POINTS				
20.7.20	Telephone/Data outlet point comprising of concealed 20mm diameter HG PVC conduits plus draw wire	No.	19		
	TOTAL FOR POWER DISTRIBUTION C/F TO SUMMARY PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>SCHEDULE 8</u>				
	<u>40KW GRID- TIED SOLAR SYSTEM</u>				
20.8.1	144 Cell, 585W Mono- Crystalline Solar Modules with durability against extreme environmental conditions like high salt mist and ammonia resistance, Efficiency 80%, Cell Specific Safety - Class II, Application Class A, Life time - 30Years, Guarantee - 10Years	No.	69		
	Rated Current (Im) 13.76A Maximum Power Voltage (Vmp) 42.52v, Cell Efficiency - 22.65%				
20.8.2	40 kWp 415V (3 phase) 50Hz grid tied Smart inverter complete with optimizers and monitoring software	No.	1		
	Rated Output power 40KW MPPT efficiency of upto 98.8% Pure Sinewave output				
20.8.3	Solar MPPT charge controller with the following characteristics; PV open circuit voltage 500V, Max PV power 40KW, PV rated current 55A, MPPT input voltage 100-150vdc LCD display: Solar panel current, Solar panel voltage, Solar panel power, Battery group voltage, charge & current Protection function against solar reverse charge, solar reverse connection, battery reverse connection, battery overcharge , battery overcurrent	Item	1		
20.8.4	Solar Generation smart meter (Smart Power Sensor) with power export limitation control	No.	1		
20.8.5	40 kW DC Isolators as ABB or schneider or an approved equivalent	Item	1		
20.8.6	63A TPN AC isolator as ABB or schneider or an approved equivalent	Item	1		
20.8.7	Irradiance sensor (Pyranometer) with Modbus RTU output as Huawei FusionSolar or an approved equivalent	No.	1		
20.8.8	Aluminium mounting frames, brackets and all accessories required to mount the P.V modules as per the specifications	No.	75		
20.8.9	Solar surge protection device rated for 300VDC or to the Engineers approval	No.	1		
20.8.10	List any other item necessary to complete the installation of the 40KW grid- tied solar system	Lot	1		
	TOTAL FOR GRID- TIED SOLAR POWER C/F TO SUMMARY PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>SCHEDULE 9</u>				
	<u>STANDBY POWER SUPPLY SYSTEM (GENERATOR SET)</u>				
	GENERATING SET				
20.9.1	Supply, deliver to site, install, test and commission a prime rated 66 KVA 3 phase, 415V, 50Hz diesel generating set with a continuous power factor of 0.8 lagging as directed by the Engineer's specifications. The generator set is to be complete with a sound attenuated canopy and an integral base/belly daily service fuel tank with an operational running capacity of 8 hours.	No	1		
20.9.2	Supply, deliver to site and install a steel exhaust pipe of not less than 14 SWG and of adequate diameter running from the generating set to the outside of the generator house	LM	10		
20.9.3	Connect the exhaust pipe above in item 5.7.2 using steel pipes of adequate diameter, and flexible piping off engine exhaust manifold complete with heavy duty silencer	Item	1		
20.9.4	Complete earthing of generating set to electrical engineer's approval	Item	1		
	<u>AMF CONTROL PANEL</u>				
	Supply, deliver to site, install, test and commission the following:				
20.9.5	An electrical control panel complete with suitable rated incoming MCCBs and contactors for automatic change over operation and complete with all other control accessories	No	1		
20.9.6	100A Automatic Transfer Switch with manual by-pass switch with clearly labeled NORMAL-OFF-BYPASS positions, and shall such be wired that when the switch is on either OFF or BYPASS position, the generator shall receive no signal to start	No.	1		
20.9.7	240V AC/12V DC mains power supply trickle battery charger as directed by the Engineer's specifications. The trickle charger shall charge the battery when the set is on IDLE mode , otherwise when the set is RUNNING the battery shall be charged by the generator charger .	No.	1		
20.9.8	12 volts battery as directed by the Engineer's specifications	No.	1		
	<u>RECOMMENDED SPARE PARTS AND LUBRICATORS</u>				
	For the supply to the site of the following spare parts and lubricators:				
20.9.9	Oil Filters	No.	2		
20.9.10	Air Filters	No.	2		
20.9.11	Fuel filters to suit the set	No.	2		
20.9.12	Set of Fan belts to suit the set	No.	1		
20.9.13	10 litres container of sump oil of grade.....*	No.	1		
	TOTAL C/F TO NEXT PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
20.9.14	2 kilogram grease in a tin of grade*	No.	1		
20.9.15	10 litre plastic container of distilled water	No.	1		
20.9.16	20 litre of engine oil in a tin of grade*	No.	1		
20.9.17	Any other spare parts recommended by Tenderer **	Sum	1		
	*The tenderer to fill in the Grade quality to be supplied				
	**The tenderer to fill in the details and price of items but the price not to be included in total carried forward to summary page				
	<u>SCHEDULE 10 -TOOLS TO BE SUPPLIED WITH THE SET</u>				
	For the supply to site of the following tools:				
20.9.18	Metal tool box with lock and two keys	No.	1		
20.9.19	Set of 8 No. Chrome vanadium ring spanners in sizes to suit the set	No.	1		
20.9.20	Set of 3 screwdrivers, 75mm, 200mm and 300mm plus one 200mm Philips type	No.	1		
20.9.21	- ditto -but open ended spanners	No.	1		
20.9.22	Set of feeler gauges	No.	1		
20.9.23	Set of 8 No. Ratchets in sizes to suit the set	No.	1		
20.9.24	Grease gun to suit greasing points complete with compressor	No.	1		
20.9.25	Oil can, trigger type	No.	1		
20.9.26	Any other special tools which the tenderer recommends should be purchased as an optional:*	Item	1		
	<u>NOTE*</u> Tenderer should give detail and prices of item above but the price not to be included in total carried forward.				
	TOTAL FOR 66KVA GENERATOR C/F TO SUMMARY PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

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BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>SCHEDULE 11</u> <u>LIFTS INSTALLATIONS</u> <u>Supply, deliver and install the following Lift and accessories to positions indicated on the Architectural drawings and as instructed by the Engineer:-</u> <u>Elevator</u> Supply, install , test and commission 1050kg/13 passenger capacity elevator to serve 5 floors of 1.5 m/s speed for operation on 415 V, 3 Phase, 50 Hz AC supply, having AC variable voltage and variable frequency type traction control, electro magnetic brake system, simple operation, operating panel with luminous buttons, over load warning indicator, battery operated alarm bell, CFL type emergency light, infrared rays sensing door protection for suitable height, reverse phase relay on controller, fireman's switch at ground floor, digital car position indicator in car and at all positions indicator in car at all floors with UP/DOWN directions, light fixtures, ventilation fan etc. complete with all accessories including automatic rescue device and having following other features Travel Height: 8.4m No. of Stops: 2				
20.11.1		No	1		
20.11.2	<u>Testing</u> Allow for testing the lift to Engineers satisfaction and to leave in sound working condition.	ITEM	1		
20.11.3	415V Surge diverter as Furze ESP 415, or approved equivalent, complete with purpose-made enclosure with viewing window	No.	2		
20.11.4	<u>Training</u> Provide all necessary lift manuals and maintenance contract schedules including four weeks training programme for 4 persons (identified by the project manager) on how to operate.	ITEM	1		
20.11.5	<u>Maintenance Contract schedule</u> Maintenance for 12 months of the 2 lifts after end of defects and liability period	ITEM	1		
20.11.6	Supply and installation of standard lift canvas complete with hooks and mountings to cover the entire lift car interior walls.	No.	2		
	TOTAL FOR LIFT CARRIED FORWARD TO SUMMARY PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	ELEMENT 12: CCTV <u>Supply, install, test, commission and set to work (To the full satisfaction of all parties to the contract) the following: -</u>				
20.12.1	Dome Camera 4MP resolution, Excellent low light performance, Efficient H.265+ compression technology, IP67, 24/7 colourful imaging	No.	22		
20.12.2	Ditto but Bullet Cameras	No.	17		
20.12.3	Network Video Recording System base to be mounted in a 42U data Cabinet with the following features:- <ul style="list-style-type: none"> • Up to 32 channel IP cameras can be connected • Up to 576 Mbps high incoming bandwidth ensures IP cameras can be connected • 2 HDMI (different source) and 1 VGA interfaces 16 HDD can be used for continuous video recording • 16 HDD can be used for continuous video recording • Supports some specialist cameras, including people counting camera/ANPR (automatic number plate recognition) camera/fisheye camera • Advanced streaming technology enables smooth live view in poor network conditions • Supports RAID 0, 1, 5, 6, 10 and N+1 hot spare for even more reliable data storage, effectively avoids data loss risks 	No.	2		
20.12.4	12 Port layer 2 100Mbps POE SFP Switch with Min 30W Power availability per port	No.	6		
20.12.5	GBIC transceiver modules (LC to LC) multimode for the switches above	No.	6		
20.12.6	Fibre Patch Panels for Data cable termination	No.	6		
20.12.7	9 U 600X600 wall mounted data cabinet complete with all accessories including power supply points	No.	6		
20.12.8	10TB Surveillance Hard Disk Drive	No.	16		
20.12.9	STP Cat 6 structured cables	Rolls	10		
20.12.10	STP Cat. 6 patch cord, 3M for the Cameras.	No.	15		
20.12.11	UPT Cat. 6A patch cord, 1M	No.	15		
20.12.12	8 core Loose tube multimode fibre optic cable linking floor edge switches to core switch in the Server room	Lm.	150		
20.12.13	24 Port ST Multimode, sliding Fibre Optic patch panel complete with LC type connectors for Multimode fibre	No.	1		
20.12.14	1M Factory Terminated Fibre optic patch cords complete with LC-LC TYPE connectors to be used inside cabinet	No.	20		
20.12.15	24 port Core network switch	No.	1		
20.12.16	2U Cable managers/organisers	No.	6		
	TOTAL FOR CCTV CARRIED FORWARD TO SUMMARY PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>ELEMENT 13</u>				
	<u>GENERAL ITEMS</u>				
20.13.1	Carry out comprehensive 24-hour power analysis, after installing main switchboard, but before switching on load with a digital power meter (with printer) to:	Item			
	i) Record and print all the power system parameters.				
	ii) Submit 3 copies of the print-outs.				
	<i>(Note: Parameters must be satisfactory before building is switched on).</i>				
20.13.2	Allow for presentation of all the required samples as per specifications, Bills of Quantities and Drawings.	Item			
	Working/ Shop Drawings				
20.13.3	Prepare and submit three sets of record (shop) plan and isometric layout drawings to easily readable scale, A1 or A0 paper size format as follows:				
	i) general arrangement drawings of all mechanical services, equipment, plant etc				
	ii) routes-types and sizes and arrangement of all pipeworks				
	iii) any other details as per specifications				
	Drawings are to be submitted in soft copy (AutoCad/REVIT 2023) and hard copy to the client, the architect and the engineer. The soft copies to be stored in SSD drive. Allow for preparation and submitting draft and three final copies of operation, instruction and maintenance manuals to Engineers approvals.	Item			
	As Installed Drawings				
20.13.4	As above but for as built/ installed drawings	Item			
	Prepare and submit Maintenance Manuals for all items installed.	Item			
20.13.5	All other items of general preliminary to cover, but not limited to:-				
	i) Attendance on all other sub-contractors, such as for Communication Services, Mechanical Installations, Security Installations, Sound Equipment/ Wiring Installations, Generator Installations, Lift Services, Solar Water Heating, V-Sat services etc.	Item			
	ii) Hiring and keeping a Supervisor/Foreman on site				
	iii) Constant supervision of the works.				
	iv) Provision of all the required spares.				
	v) Testing and Inspection of materials/works.				
	vi) Provision of labour camps.				
	vii) Storage of materials.				
	viii) Initial maintenance (During Defects Liability)				
	ix) Providing water/electricity for the works.				
	x) Protection of the works/materials				
	xi) Clearing away on completion.				
	xii) Preparing Final Account.				
	xiii) Providing all Test Certificates, etc.				
20.13.6	Provisional Sum for Contribution to KPLC for power upgrade				
	TOTAL C/F TO NEXT PAGE				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
20.13.7	Allow for sub-contractors charges for liaison with Kenya Power and Lighting comprising the following:- i) Extracting load details from the drawings ii) Calculating total load, together with necessary diversity iii) Verifying the details with the engineer. iv) If need be getting the required documentation and letters from client for the purposes of Additional Load Applications v) Filling all the required forms, and generating correspondences for power application. vi) Presenting application and getting reference number. vii) Making regular follow-ups with Kenya Power viii) Facilitating inspection, approvals and certification by Kenya Power ix) Providing attendance and materials required for power connection. x) Filling out and submitting Commencement and Completion certificates xi) Handing over all approved drawings and certificates to the client. xii) Performing all other services required for power supply to site. xiii) Building/modifying all power manholes to KPLC standards. xiv) All other incidental KPLC requirements/charges.				
	TOTAL FOR GENERAL ITEMS C/F TO SUMMARY PAGE				
	<u>SUMMARY PAGE</u>				
20.1	TOTAT FOR ELEMENT 20.1 POLYFUNCTION BUILDING				
20.2	TOTAT FOR ELEMENT 20.2 ABLUTION BLOCK				
20.3	TOTAT FOR ELEMENT 20.3 RESTAURANT				
20.4	TOTAT FOR ELEMENT 20.4 FISH BANDA				
20.5	TOTAT FOR ELEMENT 20.5 STALLS				
20.6	TOTAT FOR ELEMENT 20.6 GATE HOUSE				
20.7	TOTAT FOR ELEMENT 20.7 POWER DISTRIBUTION				
20.8	TOTAT FOR ELEMENT 20.8 SOLAR POWER				
20.9	TOTAT FOR ELEMENT 20.9 GENERATOR				
20.10	TOTAT FOR ELEMENT 20.10 SOLAR STREET LIGHT				
20.11	TOTAT FOR ELEMENT 20.11 LIFT INSTALLATIONS				
20.12	TOTAT FOR ELEMENT 20.12 CCTV INSTALLATIONS				
20.13	TOTAT FOR ELEMENT 20.13 GENERAL ITEMS				
	TOTAL FOR ELECTRICAL INSTALLATIONS CARRIED TO GRAND SUMMARY				

BOUNDARY WALL

BILL NO.21

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	ELEMENT 01				
	<u>BOUNDARY WALL</u>				
21.1.1.	Clear site of all bushes, tufts and any small or large trees, including grubbing out roots and burn on site where directed	SM	17		
21.1.2.	Excavate oversite average 250mm deep and cart away	SM	17		
21.1.3.	Ditto for foundation trenches from reduced level : not exceeding 1.50 metres deep	CM	9		
21.1.4.	Ditto for column bases from reduced level not exceeding 1.50 metres deep	CM	14		
21.1.5.	Extra over all descriptions of excavations and removal from site for breaking up rocks: irrespective of class	CM	10		
	<u>Disposal of excavated material</u>				
21.1.6.	Fillings around sub- walls: backfill and compact in 150 mm layers: selected excavated materials	CM	11		
21.1.7.	Remove surplus spoil from site and deposit in spoil heaps and later spreadon site as directed	CM	12		
	<u>Planking and strutting</u>				
21.1.8.	Planking and strutting to sides of all excavations: keep excavations free from all fallen materials	ITEM	1		
	<u>Disposal of Water</u>				
21.1.9.	Keep excavations free from all water including spring or running water.	ITEM	1		
	<u>CONCRETE WORK</u>				
	<u>Insitu concrete mix class 15 (20mm Maximum aggregate size): vibrated: reinforced</u>				
21.1.10.	50 mm Blinding to strips	SM	6		
21.1.11.	Ditto to column bases	SM	9		
	<u>Insitu concrete class 25 (20mm Maximum aggregate size): vibrated: reinforced</u>				
21.1.12.	Strip foundation	CM	2		
21.1.13.	Stub columns	CM	1		
21.1.14.	Column bases	CM	3		
21.1.15.	Ground beam	CM	1		
	Carried to collection				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>High Tensile Reinforcement Bars to B. S. 4449 including cutting, bending and all necessary spacer blocks : (Provisional) :- Ribbed bars to KS ISO 6935-2:2007</u>				
21.2.1.	Assorted sizes	KG	610		
	<u>Sawn timber formwork or MS plate formwork: to</u>				
21.2.2.	Vertical: sides of foundations in trenches	SM	4		
21.2.3.	Ditto to stub columns	SM	9		
21.2.4.	Ditto to column bases	SM	9		
21.2.5.	Ditto to ground beams	SM	6		
	<u>WALLING</u>				
	<u>Approved natural stone or coral stone ; load bearing 7.0 N/mm²: reinforced with 20 gauge 25mm hoop iron strips laid horizontally every alternate course: bedded and jointed in cement and sand (1:3) mortar</u>				
21.2.6.	200mm thick walling	SM	24		
	<u>RC SUPERSTRUCTURE</u>				
	<u>Insitu concrete class 25 (20mm Maximum aggregate size): vibrated: reinforced</u>				
21.2.7.	Columns	CM	1		
21.2.8.	Beam	CM	1		
	<u>High Tensile Reinforcement Bars to B. S. 4449 including cutting, bending and all necessary spacer blocks : (Provisional) :- Ribbed bars to KS ISO 6935-2:2007</u>				
21.2.9.	Assorted sizes	KG	250		
	<u>Sawn timber formwork or MS plate formwork: to</u>				
21.2.9.	To columns	SM	15		
21.2.10.	To beams	SM	4		
	Carried to collection				

BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE COUNTY

ITEM.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>NATURAL STONE WALLING</u> <u>Machine cut natural stone or machine cut coral stone or hollow concrete block walling ; load bearing 7.0 N/mm2: reinforced with 20 gauge 25mm hoop iron strips laid horizontally every alternate course: bedded and jointed in cement and sand (1:3) mortar</u>				
21.3.1.	200mm. Thick walling	SM	23		
	<u>Pre-cast concrete class 20/20 concrete coping</u> 250 x 50 mm high precast concrete coping weathered and throated on both sides and jointed to wall in cement sand mortar 1:3 all to approval				
21.3.2.		LM	10		
21.3.3.	Ditto to existing boundary wall	LM	260		
21.3.4.	Ditto 500x500x100mm thick	NO	6		
	<u>FINISHES</u> 25mm Thick cement sand (1:3) rendering to columns to receive stone cladding;				
21.3.5.		SM	9		
21.3.6.	25mm Thick cement sand (1:3) rendering to beams	SM	10		
21.3.7.	30mm Thick cement sand (1:3) rendering to existing boundary wall.	SM	598		
	<u>Stone Cladding</u> 25mm thick polished mazeras stone cladding or other equal and approved to columns in cement and sand (1:3) mortar (m/s) with and including galvanised wire reinforcement;pattern to architect's approval				
21.3.8.		SM	9		
	<u>Key Pointing</u> Extra over dressed stone walling for neat recessed horizontal key pointing in 10mm thick rod in cement mortar (1:3) both internal and external sides of walling: one coat of bituminous paint.				
21.3.9.		SM	46		
	Carried to collection				
	<u>COLLECTION BOUNDARY WALL</u> Brought forward from page BWALL/1 Brought down from page BWALL/2 Brought down from above page BWALL/3				
	TOTAL FOR BOUNDARY WALL CARRIED TO MAIN SUMMARY				

DAY WORKS

BILL NO.22

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE
COUNTY**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	(All Rates are V.A.T Inclusive)				
	<u>The dayworks rates priced below should include all overheads and profits</u>				
22.1	<u>Provision of labour</u>				
22.1.1	Porter	Hrs	10		
22.1.2	Semi-skilled	Hrs	10		
22.1.3	Mason/	Hrs	10		
22.1.4	Steel fixer	Hrs	10		
22.1.5	Carpenter	Hrs	10		
22.1.6	Painter	Hrs	10		
22.1.7	Tile fixer	Hrs	10		
22.1.8	Welder/Electrician	Hrs	10		
22.1.9	Foreman	Hrs	10		
22.1.10	Carpenter for joinery	Hrs	10		
22.1.11	Plumber	Hrs	10		
22.1.12	Electrician	Hrs	10		
22.2	<u>Provision of plant</u>				
	<u>Any plant to be provided must be in good working condition. The day works rate provided must be inclusive of all running costs and overheads</u>				
22.2.1	Lorry (minimum 8 tonne capacity - or similar)	Hrs	5		
22.2.2	Tipper (8 tonne capacity - or similar)	Hrs	5		
22.2.3	Compressor	Hrs	5		
22.2.4	Roller	Hrs	5		
22.2.5	Plate compactor	Hrs	5		
22.2.6	Wheel loader	Hrs	5		
22.2.7	Grader	Hrs	5		
22.2.8	Crawl loader	Hrs	5		
22.2.9	Jack hammer	Hrs	5		
22.2.10	Dewatering pump	Hrs	5		
22.2.11	Concrete mixer	Hrs	5		
22.2.12	Dumper	Hrs	5		
22.2.13	Hand tools (power drills, grinders, torque wrenches, etc.)	Hrs	5		
22.2.14	Excavator	Hrs	5		
22.2.15	Bulldozer	Hrs	5		
22.2.16	Motor grade	Hrs	5		
22.2.17	Portable generator	Hrs	5		
22.2.18	3-Phase power generator	Hrs	5		
22.2.19	Vibrator	Hrs	5		
	Total Carried to Summary				

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN KWALE
COUNTY**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
22.3	<u>Provision of material</u> <u>Any materials to be provided must be of good quality and upto standard for use in permanent works. The rate provided must be inclusive of all delivery costs and overheads</u>				
22.3.1	Ordinary portland cement @ 50kg bags	Bags	10		
22.3.2	Clean river sand	m3	10		
22.3.3	12-20mm graded course aggregate	m3	10		
22.3.4	Manufactured sand / Quarry dust / 0-6mm aggregate	m3	10		
22.3.5	Graded crushed stone (crusher run - 0 to 60mm)	m3	10		
22.3.6	Murram	m3	10		
22.3.7	Hardcore	m3	10		
22.3.8	Redsoil	m3	10		
22.3.9	Reinforcement steel	Kg	100		
22.3.10	Sawn timber formwork	m2	10		
22.3.11	6mm thick clear glass	m2	10		
22.3.12	Water	lts	100		
22.3.13	Diesel fuel	lts	10		
	Total Carried to Summary Below				
	<u>DAYWORKS SUMMARY</u>				
A	Total Brought Forward from page DW/1				
B	Total Brought Forward from DW/2 above				
	TOTAL FOR DAY WORKS CARRIED TO GRAND SUMMARY				

PROVISIONAL SUMS

BILL NO.23

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

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GRAND SUMMARY

**BILL OF QUANTITIES FOR PROPOSED CONSTRUCTION OF MWAEPE FISH LANDING SITE IN
KWALE COUNTY**

ITEM	DESCRIPTION	FOR TENDERER'S USE ONLY	FOR OFFICIAL USE ONLY
	<i><u>(All rates are V.A.T Inclusive)</u></i> <u>GRAND SUMMARY</u>		
A	Total Amount for Particular Preliminaries brought forward from Page PP/7		
B	Total Amount for General Preliminaries brought forward from Page GP/13		
C	Total Amount for ESMP brought forward from Page ESMP/6	5,020,000.00	
D	Total Cost for Building Works brought forward from page BW/1		
E	Total Cost for Civil Works brought forward from page CW/1		
F	Total Cost for Mechanical Works brought forward from page MECH/21		
G	Total Cost for Electrical Works brought forward from page ELEC/23		
H	Total Cost for Boundary Wall brought forward from page BWALL/3		
I	Total Cost for Dayworks brought forward from page DW/2		
J	Total Cost for Provisional Sums brought forward from page PS/1	18,000,000.00	
	TOTAL AMOUNT FOR GRAND SUMMARY CARRIED TO FORM OF TENDER		

Amount in words. Kenya shillings

.....Cents

Tenderer's Signature and stamp.....

Address

Date

Witness Signature

Address

Date

24. GRAND SUMMARY

Contract Name: CONSTRUCTION OF MWAEPE FISH LANDING SITE"

RFBNo.: KE-MOMBE&MA-KWL-2024-003-CW

<i>General Summary</i>	<i>Page</i>	<i>Amount</i>
Bill NO. 1: PARTICULAR PRELIMINARIES	PP/7	
Bill NO. 2: GENERAL PRELIMINARIES	GP/13	
BILL NO.3 ESMP	ESMP/6	
BUILDER'S WORK SUMMARY PAGE	BW/1	
CIVIL WORKS SUMMARY PAGE	CW/1	
BILL NO. 19: MECHANICAL WORKS	MECH/21	
BILL NO. 20 : ELECTRICAL WORKS	ELEC/23	
BILL NO. 21: BOUNDARY WALL	BWALL/3	
BILL NO. 22: DAY WORKS	DW/2	
BILL NO. 23: PROVISIONAL SUMS	PS/1	
<i>Subtotal of Bills</i>	<i>(A)</i>	
<i>Total for Daywork (Provisional Sum)*</i>	<i>(B)</i>	
<i>Provisional Sum of Kenya Shillings Five Million (Kes 5,000,000.00) for fluctuationsⁱⁱ</i>	<i>(C)</i>	<i>5,000,000.00</i>
<i>Total of Bills Plus Provisional Sums (A + B + C)ⁱ</i>	<i>(D)</i>	
<i>Add Provisional Sum of Kenya Shillings Twelve Million, Five Hundred Thousand (Kes 12,500,000.00) for Contingency Allowanceⁱⁱ</i>	<i>(E)</i>	<i>12,500,000.00</i>
<i>Bid Price (D + E) (Carried forward to Letter of Bid)</i>	<i>(F)</i>	

i) All Provisional Sums are to be expended in whole or in part at the direction and discretion of the Engineer in accordance with Sub-Clauses 13.4 and 13.5 of the General Conditions except with respect to DAAB Fees and Expenses for which Sub-Clause 13.4 of the Particular Conditions – Part B shall apply.

ii) To be entered by the Employer.

* For evaluation purposes, Provisional Sum, other than Daywork will be excluded