Republic of Kenya

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 NAMARET RESOURCE CENTRE

Employer: State Department for Blue Economy & Fisheries
Project: Kenya Marine Fisheries Socio-Economic Development Project (KEMFSED)
Contract Title: **CONSTRUCTION OF NAMARET RESOURCE CENTRE**
Country: Republic of Kenya
Loan No./Credit No/Grant No.: 6540-KE
RFBNo.: KE-MOMBE&MA-KWL-2024-006-CW
Issued on: **13TH FEBRUARY 2024**

VOLUME 2 OF 4

BILLS OF QUANTITIES

TABLE OF CONTENT

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: BUILDING WORKS**
4. **BILL NO.4 : MECHANICAL WORKS**
5. **BILL NO.5: ELECTRICAL WORKS**
6. **BILL NO.6: LANDSCAPING**
7. **BILL NO.7: CIVIL WORKS**
8. **BILL NO.8: GATE HOUSE**
9. **BILL NO.9: DAYWORKS**
10. **BILL NO.10: ESMP**
11. **BILL NO.11: FURNISHING**

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.

ITEM	DESCRIPTION	AMOUNT (KSHS)
	BILL NO 1: PARTICULAR PRELIMINARIES	
	(All Rates are V.A.T Inclusive)	
	PARTICULAR PRELIMINARIES	
1.0.1	**EMPLOYER** The Employer is **MINISTRY OF MINING, BLUE ECONOMY AND MARITIME AFFAIRS** The term "Employer" and "MINISTRY OF MINING, BLUE ECONOMY AND MARITIME AFFAIRS" wherever used in the contract document shall be synonymous.	
1.0.2	**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.	
1.0.3	**ARCHITECT** The term "Architect" shall be deemed to mean "The P.M. " as defined above whose address unless otherwise notified is Project Engineer.	
1.0.4	**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.	
1.0.5	**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.	
1.0.6	**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.	
1.0.7	**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.	
1.0.8	**PROJECT ENGINEER (PE) (Member of NPCU, State Department for Blue Economy & 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	
1.0.9	**EMPLOYER'S REPRESENTATIVE** Wherever the term "Architect, Quantity Surveyor and Engineer" as defined above are used in all Contract Documents they shall be deemed to imply the "Employer's Representatives" and shall include such other persons as they may duly authorize to represent them on behalf of the Employer or the Successor in Office of such persons as may be deputed by such representatives to act on their behalf for the purpose of this Contract.	
1.0.10	**CONTRACTOR** The term "the Contractor" wherever used hereinafter and in all Contract Documents shall mean the person or persons, partnership firm or Company whose Tender for the works hereinafter defined has been accepted by the Employer and who has, or have signed this Contract and shall include his or their heirs, executors, administrators, assignees, successors and duly appointed.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT (KSHS)
1.0.11	**LOCATION OF SITE** The site of the proposed works is at Shimoni 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.	
1.0.12	**DESCRIPTION OF THE WORKS** The works to be carried out under this contract is the Construction of NATIONAL MARICULTURE RESEARCH AND TRAINING CENTRE. 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. Mechanical works 13. Electrical Installations. 14. Landscaping works 15. Civil works	
1.0.13	**FORM OF CONTRACT** The Form of Contract shall be as stipulated in the Tender documents	
1.0.14	**BID BOND** A bid bond shall be required in the amount stated in the invitation to tender or advertisement.	
1.0.15	**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 Manager.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT (KSHS)
1.0.16	**WORKING CONDITIONS** 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.	
1.0.17	**CLAIMS** 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 contact period.	
1.0.18	**LABOUR CAMPS** 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 contract.	
1.0.19	**PRICING RATES** 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.** 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. Prices quoted should be net inclusive of all taxes. Prices shall remain valid for One Hundred and twenty (120) days from the closing date of tender. 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.	
1.0.20	**MATERIALS FROM DEMOLITIONS** Any materials arising from demolitions SHALL NOT BE re-used shall become the property of the client unless otherwise advised.	
1.0.21	**URGENCY OF THE WORKS** The Contractor is notified that these **" works are urgent"** and should be completed within the period stated in these Particular Preliminaries. 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.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT (KSHS)
1.0.22	**PAYMENTS GENERALLY** The tenderer's attention is drawn to the fact that the client will only make advance payments and pay for work done and materials delivered to site: 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 PE 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	
1.0.23	**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 Engineer. This is to include materials of the Contractor, nominated sub-Contractors and nominated suppliers.	
1.0.24	**ADVANCE PAYMENTS** The tenderer's attention if drawn to the fact that the Client does not make any advance payments	
1.0.25	**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.	
1.0.26	**TENDER DOCUMENTS** Tender documents are as listed in the Instruction to Tenderers	
1.0.27	**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.	
1.0.28	**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.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT (KSHS)
1.0.29	**MEASUREMENTS** 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 ENGINEER in accordance with the Conditions of Contract. The discrepancies shall then be treated as a variation and be dealt with in accordance with the said Conditions.	
1.0.30	**VALUE ADDED TAX** 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. **NB**: The Contractor should therefore include the tax within the rates.	
1.0.31	**CONTRACT COMPLETION PERIOD** The contract completion period in accordance with conditions of the Conditions of contract must be adhered to. The 'ENGINEER' shall strictly monitor the Contractors progress in relation to the progress chart and should it be found necessary the 'PE' 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, etc. and working overtime all at his cost.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT (KSHS)
1.0.34	**PARTICULARS OF INSERTIONS TO BE MADE IN APPENDIX TO CONTRACT AGREEMENT** The following are the insertions to be made in the appendix to the Contract Agreement: - **Period of Final Measurement** - **3** Months From Practical completion **Defects Liability Period - 6** Months from Practical completion **Date for Possession -** To be agreed with the Engineer **Date for Completion - 12 months** from date of Possession **Liquidated and Ascertained -** At the rate of Ksh.. **100,000**… per week or part thereof: **Prime cost** sums for which the Contractor desires to tender ……. **Period of Interim Certificates - After 2 Months** **Period of Honouring Certificates - 60** days **Percentage of Certified Value Retained -** 10% **Limit of Retention Fund -** 5%	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT (KSHS)
	COLLECTION	
	Brought forward from page PP/1	
	Brought forward from page PP/2	
	Brought forward from page PP/3	
	Brought forward from page PP/4	
	Brought forward from page PP/5	
	Brought forward from page PP/6	
	TOTAL FOR PARTICULAR PRELIMINARIES CARRIED TO GRAND SUMMARY	

ITEM	DESCRIPTION	AMOUNT (KSHS)
	(All Rates are V.A.T Inclusive) BILL NO 2; GENERAL PRELIMINARIES	
2.0.1	PRICING OF ITEMS OF PRELIMINARIES AND PREAMBLES Prices will be inserted against items of Preliminaries in the Contractor's priced Bills of Quantities and Specification. The Contractor shall be deemed to have included in his prices or rates (V.A.T Inclusive) 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. Failure to price an item shall not exempt the contractor form 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. 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. 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.	
2.0.2	FIRM PRICE CONTRACT Unless otherwise specifically stated in the Contract Data and/or Particular preliminaries this is a firm price contract and the contractor must allow in his tender rates for any increase in the cost of labour and/or materials during the currency of the contract.	
2.0.3	VISIT SITE AND EXAMINE DRAWINGS 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.	
2.0.4	SUFFICIENCY OF TENDER 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.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT (KSHS)
2.0.5	**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 INVITATION TO TENDER The guarantor shall be an approved institution as specified in the 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.	
2.0.6	**PERFORMANCE BOND** Specified amount of bond in the tender documents shall be required from the specified institution. The period for supplying the bond shall be specified in the tender documents. 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 not withstanding 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 ENGINEER. Any bond which provides otherwise or attempts to vary the duration of validity shall be invalid	
2..07	**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.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT (KSHS)
2.0.8	**ABBREVIATIONS** Throughout these Bills, units of measurement and terms are abbreviated and shall be interpreted as follows:- **C.M.** Shall mean cubic metre **S.M.** Shall mean square metre **L.M.** Shall mean linear metre **MM** Shall mean Millimetre **Kg.** Shall mean Kilogramme **No.** Shall mean Number **Prs.** Shall mean Pairs **B.S.** Shall mean the British Standard Specification Published by the British Standards Institution, 2 Park Street, London W.I., England. **"K.S"** Shall mean the current Kenya Standard specification published by the Kenya Bureau of Standards, P.O. Box 54974, NAIROBI, Kenya. **Ditto** Shall mean the whole of the preceding description except as qualified in the description in which it occurs. **m.s.** Shall mean measured separately. **a.b.d** Shall mean as before described. **"Approved"** Shall mean approved by the Project Manager and the Employer in writing. **"As directed"** Shall mean as directed by the Project Manager and the Employer in writing. **"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. **"Remove"** Shall mean taking down, hacking up, breaking down, removing etc., and clearing away from Site and all other expenses thereby entailed. **"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. **To "match"** Shall mean to be equal to relevant existing work in design, workmanship and all other respects. **"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.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT (KSHS)
2.0.9	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.	
2.0.10	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.	
2.0.11	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.	
2.0.12	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	
2.0.13	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.	
2.0.14	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.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT (KSHS)
2.0.15	**SAMPLES** 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. 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. Samples of paint, carpets, curtains & covers, tiles & timber shall be required for approval by the PM together with the employer. 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.	
2.0.16	**PUBLIC AND PRIVATE ROADS.** 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.	
2.0.17	**EXISTING PROPERTY.** 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.	
2.0.18	**ACCESS TO SITE AND TEMPORARY ROADS.** 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.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT (KSHS)
2.0.19	**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.	
2.0.20	**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.	
2.0.21	**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.	
2.0.22	**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.	
2.0.23	**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.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT (KSHS)
2.0.24	**PROVISIONAL WORK** 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.	
2.0.25	**PROVISIONAL SUMS.** 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.	
2.0.26	**ADJUSTMENT OF PROVISIONAL SUMS.** 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.	
2.0.27	**PRIME COST (OR P.C.) SUMS.** 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.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT (KSHS)
2.0.28	**ADJUSTMENT OF P.C. SUMS.** 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	
2.0.29	**NOMINATED SUB-CONTRACTORS** 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".	
2.0.30	**DIRECT CONTRACTS** 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.	
2.0.31	**ATTENDANCE UPON OTHER TRADESMEN, ETC.** 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.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT (KSHS)
2.0.32	**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 40 Square Metres complete with furniture (Tables, chairs etc.). 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 tape	
2.0.33	**WATER AND ELECTRICITY SUPPLY FOR THE WORKS** The Contractor shall provide at his own risk and cost all necessary water, electric lighting 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.	
2.0.34	**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.	
2.0.35	**SUPERVISION AND WORKING HOURS** The 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.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT (KSHS)
2.0.36	**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	
2.0.37	**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.	
2.0.38	**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.	
2.0.39	**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.	
2.0.40	**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.	
2.0.41	**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.	
2.0.42	**ALTERATIONS TO BILLS, PRICING, ETC.** 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.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT (KSHS)
2.0.43	MATERIALS ARISING FROM EXCAVATIONS 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.	
2.0.44	PREVENTION OF ACCIDENT, DAMAGE OR LOSS 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.	
2.0.45	GOVERNMENT ACTS REGARDING WORK, PEOPLE ETC. 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.	
2.0.46	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.	
2.0.47	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.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT (KSHS)
2.0.48	**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	
2.0.49	**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.	
2.0.50	**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.	
2.0.51	**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,	
2.0.52	**Record (As Built) Drawings** Prepare and submit three sets of record (as built) plan and isometric layout drawings to easily readable scale, A1 or A0 paper size format as follows: i) general arrangement drawings of all **Architectural, Structural and Civil Works** Works ii) any other details as per specifications Drawings are to be submitted in soft copy (CAD Files) and hard copy to the client, the architect and the engineer. The soft copies to be stored in 1TB SSD Drive. Allow for preparation and submitting of drawings to Engineers approvals.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT (KSHS)
	COLLECTION	
A	Brought Forward From Page GP/1	
B	Brought Forward From Page GP/2	
C	Brought Forward From Page GP/3	
D	Brought Forward From Page GP/4	
E	Brought Forward From Page GP/5	
F	Brought Forward From Page GP/6	
G	Brought Forward From Page GP/7	
H	Brought Forward From Page GP/8	
J	Brought Forward From Page GP/9	
K	Brought Forward From Page GP/10	
L	Brought Forward From Page GP/11	
M	Brought Forward From Page GP/12	
	TOTAL FOR GENERAL PRELIMINARIES CARRIED TO GRAND SUMMARY	

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	(All Rates are V.A.T Inclusive) **BILL NO. 3; BUILDING WORKS** **ELEMNET NO 3.1** **SUBSTRUCTURE WORKS (All Provisional)** **Please note that ALL substructure works are Measured Provisionally. The contractor must ensure that the actual measurements are taken by the Project Quantity Surveyor before any works are covered. Failure to do so will necessatate works to be open up for verificatation at your (contractors) cost.** NOTE: Classes of Rock **(1) Class 1 :** Soft rock of the type known locally as "CORAL" which in the opinion of the Engineer cannot be considered as hard rock shall be known as Class 1 rock. Soft Rock shall be rock with compressive strength not exceeding 15N/mm2. Murram and Kunker is specifically excluded and will be reckoned as normal/common excavation. Extremely weathered and weak Tuff shall also be considered as normal excavation. **(2) Class 2 :** Class 2 Rock shall be with compressive strength exceeding 15N/mm2. This type of rock contains stones and boulders of unweathered or incompletely weathered Tuff, trachyte, black trap or lava with compressive strength exceeding 15N/mm2 in a formation which is massive and geologically homogeneous. A boulder or outcrop with such compressive strength will be deemed to be Class 2 rock or Hard Rock The opinion of the Engineer in classifying rock shall be final and binding. Explosives must not be used without the prior approval of the Engineer. Blasting operations are carried out at the Contractor's sole risk, and all blasting must be carried out in accordance with government regulations and approval				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	EXCAVATION AND EARTHWORKS Excavation including maintaining and supporting sides and keeping free from water, mud and falling materials; No allowance is made in the excavations for working space; contractor to factor in working space in his rates:				
3.1.1	Clear site of all bushes, tufts and any small or large trees, including grubbing out roots and burn on site where directed	SM	2,500		
3.1.2	Excavate oversite average 150mm deep and cart away	SM	2,500		
3.1.3	Excavate trench for strip foundation: not exceeding 1.5m deep	CM	695		
3.1.4	Excavate for column bases: not exceeding 1.5m deep	CM	439		
3.1.5	Extra over excavation from rock in any position	CM	907		
	Disposal of excavated material				
3.1.6	Return, fill and ram extra excavation materials around foundation	CM	645		
3.1.7	Load and cart away surplus material	CM	489		
	Disposal of Water				
3.1.8	Allow for keeping the whole of the excavation free from mud, water and fallen materials	Item	1		
	Planking and strutting				
3.1.9	Allow for planking and strutting sides of excavation	Item	1		
	Filling				
3.1.10	300mm thick (minimum) approved hardcore handpacked in layers not exceeding 150mm	CM	1,630		
3.1.11	50mm thick murram dust or any other equal and approved material in blinding surface of hardcore	SM	2,500		
	Insecticide Treatment				
3.1.12	Treat hardcore surface with approved antitermite applied in accordance with the manufacturer's instructions and subject to a TEN YEAR guarantee	SM	2,500		
	TOTAL CARRIED FORWARD				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	SUBSTRUCTURES CONTINUED				
	BROUGHT FORWARD				
	CONCRETE WORKS				
3.1.13	50mm thick concrete blinding to surfaces of strip footing & column bases (concrete class 15)	SM	841		
	Vibrated reinforced concrete class 25/20 to:-				
3.1.14	Strip footing	CM	93		
3.1.15	Columns, lift and R.C walls Bases	CM	181		
3.1.16	Foundation Columns	CM	34		
3.1.17	200mm thick floor slab	SM	2,500		
3.1.18	175mm Thick sloping ramp slab	SM	48		
3.1.19	200mm thick R.C Lift Shaft Wall and shear walls	SM	46		
3.1.20	Entrance steps and stairs	CM	24		
	High Tensile Ribbed Reinforcement Bars to B. S. 4461 including cutting, bending and all necessary spacer blocks : (Provisional) :-				
3.1.21	Assorted bars	KG	51,180		
3.1.22	BRC mesh type A142	SM	2,500		
	Marineply formwork as Described. Allow for setting to special steel proping, strutting, fillets, nails, etc to:				
3.1.23	Sides of strip footing	SM	309		
3.1.24	Ditto but to column bases	SM	342		
3.1.25	Ditto but to sides of foundation columns	SM	265		
3.1.26	Ditto but to edges of floor slab 75mm - 150mm high	LM	204		
3.1.27	Sides of R.C Wall, Lift	SM	92		
3.1.28	Edges of steps, ramps 75mm - 150mm high.	LM	61		
	FOUNDATION WALLING				
3.1.29	200mm solid coral block foundation wall in cement:sand (1:3) reinforced with hoop iron at every to alternative course	SM	695		
	WATERPROOFING				
3.1.30	1000 gauge polythene DPM	SM	2,500		
	PLINTH FINISHES				
3.1.31	15mm cement and sand (1:4) render trowelled smooth and comprising 12mm thick backing and 3mm finishing coat.	SM	102		
	Mazeras cladding				
3.1.32	25 mm Thick machine cut stone cladding of approved size and pattern on backing including hoop iron hooks installed to architect's details.	SM	102		
	TOTAL CARRIED FORWARD				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	SUBSTRUCTURES CONTINUED				
	BROUGHT FORWARD FROM				
	Expansion joint				
3.1.33	Form or leave 25 mm thick joint in slabs and columns including all necessary formwork and forming holes	LM	40		
3.1.34	25mm Thick superior-grade polyethylene joint filler material.	SM	24		
3.1.35	25 mm x 25 mm deep bituminous joint sealer.	LM	40		
	Drainage				
3.1.36	Form or leave in concrete slab 300mm wide x 200mm average deep channel including all necessary forwork; horizontal all to approval	LM	70		
3.1.37	50 x 50 x 4mm thick mild steel angle embedded into concrete.	LM	70		
3.1.38	300 mm wide channel grating cover fabricated from 50 x 50 x 4 mm thick angle framing with 40 x 4 mm blades welded at 20 mm centres including painting in three coats of gloss oil paint on zinc chromate primed surfaces.	LM	70		
	TOTAL ELEMENT NO. 3.1 (SUBSTRUCTURE WORKS), CARRIED TO SUMMARY				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	SUPERSTRUCTURES				
	ELEMENT NO 3.2				
	SUPERSTRUCTURE REINFORCED CONCRETE WORKS				
	Vibrated Reinforced Concrete Class - 25/20 to:-				
	Beams				
3.2.1	First Floor Suspended beams	CM	77		
3.2.2	Auditorium Ring & Suspended beams	CM	33		
3.2.3	Second Floor Suspended beams	CM	77		
3.2.4	Third floor Suspended beams	CM	157		
3.2.5	Roof floor Suspended beams	CM	73		
	Columns				
3.2.6	Ground, first, second, third and roof Floor Columns	CM	256		
	Slabs				
3.2.7	200mm thick suspended first floor slabs	SM	1,300		
3.2.8	200mm thick suspended Second floor slabs	SM	1,264		
3.2.9	200mm thick suspended Third Floor slabs	SM	1,264		
3.2.10	200mm thick Roof floor suspended slabs	SM	2,500		
	Ground, First, Second, Third and Roof				
3.2.11	200mm thick R.C Wall	SM	452		
	Auditorium Terraces				
3.2.12	Terraces & Stairs (steps and waist)	CM	305		
3.2.13	landing	CM	5		
	Ground, First, Second, Third and Roof Stairs				
3.2.14	Stairs (steps and waist)	CM	29		
3.2.15	150mm thick landing	SM	61		
	Ground, First, Second, Third Roof & Ramps				
3.2.16	175mm thick Ramp	SM	288		
3.2.17	175mm thick landing	SM	32		
	High Tensile Reinforcement Bars to B. S. 4461 including cutting, bending and all necessary spacer blocks : (Provisional) :-				
3.2.18	Asorted bars	KG	367,462		
	Marineply formwork as Described. Allow for setting to special steel proping, strutting, fillets, nails, etc to:				
3.2.19	Sides of Suspended Beams	SM	2,172		
3.2.20	Sides of columns	SM	2,346		
3.2.21	To soffits of suspended slabs	SM	6,328		
3.2.22	To Edges of suspended slabs 75-150mm high	LM	1,330		
3.2.23	Sides of R.C Wall	SM	904		
	TOTAL CARRIED FORWARD				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	SUPERSTRUCTURE REINFORCED CONCRETE WORKS CONTINUED…				
	BROUGHT FORWARD				
	Expansion joint				
3.2.24	Form or leave 25 mm thick joint in slabs and columns including all necessary formwork and forming holes	LM	150		
3.2.25	25mm Thick superior-grade polyethylene joint filler material.	SM	90		
3.2.26	25 mm x 25 mm deep bituminous joint sealer.	LM	150		
	Auditorium Terraces				
3.2.27	Sloping soffites of Terraces, staircases & Landings	SM	2,519		
3.2.28	Surfaces of risers 0-75mm high	LM	87		
3.2.29	Surfaces of risers 75-150mm high	LM	44		
3.2.30	Surfaces of risers 225-300mm high	LM	163		
3.2.31	Raking string edge to staircases 300mm high cut and fitted to profile of treads and risers	LM	90		
	Ground, First, Second, Third and Roof Stairs				
3.2.32	Sloping soffites of staircases	SM	177		
3.2.33	Surfaces of risers 150-225mm high	LM	400		
3.2.34	Raking string edge to staircases 300mm high cut and fitted to profile of treads and risers	LM	68		
3.2.35	Soffits of landing	SM	61		
3.2.36	Edges of Ditto 150-225mm high	LM	108		
	Ground, First, Second, Third and Roof Ramps				
3.2.37	Sloping soffites of ramp	SM	288		
3.2.38	Soffits of landing	SM	32		
3.2.39	Edges of Ditto 150-225mm high	LM	240		
3.2.40	Raking string 300mm high	LM	80		
	TOTAL FOR ELEMENT NO. 3.2 (SUPERSTRUCTURE REINFORCED CONCRETE WORKS), CARRIED FORWARD TO SUMMARY				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	ELEMENT NO. 3.3				
	WALLING				
3.3.1	200mm machine cut coral stone wall in cement:sand (1:3) reinforced with hoop iron at every to alternative course externally	SM	2,668		
3.3.2	200mm machine cut coral stone wall in cement:sand (1:3) reinforced with hoop iron at every to alternative course internally.	SM	1,179		
3.3.3	Ditto but 200 mm thick parapet walling ditto	SM	450		
	Arches				
3.3.4	Extra over 200 mm for forming curved arches 1000 - 3000 mm diameter including all necessary formwork and materials.	NO	8		
	WATERPROOFING				
3.3.5	Hessian based bituminous felt damp proof course 200mm wide	LM	282		
	Precast concrete coping				
3.3.6	300 x 75 mm thick insitu concrete coping reinforced in 4No. 10mm diameter bars and 8mm diameter rings; weathered and throated saddled-back on both sides for handling finished fair and jointed to 200 thick dwarf and parapet walls in cement sand mortar 1:3 all to approval	LM	433		
3.3.7	Ditto 550 x 350mm pier cap ditto to columns	NO	140		
	Flexible partitions				
3.3.8	125 mm Thick movable cavity partition top hung in single carrier; made in 12mm thick MDF board surface panels, standard construction grade aluminum alloy wall panel frames; infilled with approved soundproof material including all necessary ironmongery to approval.	SM	94		
	TOTAL FOR ELEMENT NO. 3.3 (WALLING), CARRIED FORWARD TO SUMMARY				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	ELEMENT NO. 3.4 **ROOFING** **FLAT ROOF FINISHES**				
3.4.1	50 mm cement sand 1:3 water proof screed to flat roof slab laid to fall and crossfalls	SM	2,500		
3.4.2	Apply one coat bituminous primer to surface of screed.	SM	2,500		
3.4.3	Supply, torch and apply bituminous membrane as per 'high quality' or equal and approved to primed screed surfaces	SM	2,500		
3.4.4	Ditto sides of wall 200mm high	LM	376		
3.4.5	50 x 50mm internal angle fillet	LM	376		
3.4.6	200 x 200 x 25mm thick high quality interlocking concrete tiles or equal approved on roof slab bedded and jointed in cement mortar 1:3 and 25mm joint pointed with red cement slurry	SM	2,500		
3.4.7	Ditto sides of wall 200mm high	LM	376		
	Rainwater goods				
3.4.8	Extra over for running outlet	NO	10		
3.4.9	100mm x 75 x 0.6mm PVC down pipes fixed to wall with holding clips at 1200mm centres	LM	240		
3.4.10	Extra over for swan neck 1000mm long	NO	10		
3.4.11	Extra over for shoe 1000mm long	NO	10		
	Supply and fix the following approved uPVC Cylindrical Water Storage Tanks, (Diameter x Ht).				
3.4.29	10,000Litres 2400mm x 2800mm. The tank has screwed connections for inlet, outlet and overflow, 25mm medium pressure ball valve. A 500mm thick x 3000mm dia R.C tank base should be constructed on which the tank will be mounted.	NO	4		
	TOTAL FOR ELEMENT NO. 3.4 (ROOFING) CARRIED TO SUMMARY				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	ELEMENT NO. 3.5 WINDOWS ALUMINIUM WINDOWS Ground Floor Supply, assemble and fix the following purpose made powder coated aluminium framed sliding windows to B.S 3987, 1984 from approved manufacturer(s) in 75 x 50 x 2 mm thick aluminium transomes and mullions at 600 mm C/C; railing and necessary intermediate reinforcement elements complete with and including all necessary bolts, nuts, rubber nosing and; necessary fixing gaskets including all weather strips, rubber glazing strips,couplings, sliding rails bars, window boards; panes fixed with 6mm thick one way glass fixed with beadings.				
3.5.1	Overall size 800 x 2000mm high.	NO.	16		
3.5.2	Overall size 6800 x 800mm high.	NO.	2		
3.5.3	Overall size 4800 x 800mm high.	NO.	2		
3.5.4	Overall size 2800 x 1600mm high.	NO.	10		
3.5.5	Overall size 4600 x 2000mm high.	NO.	10		
3.5.6	Overall size 3200 x 2000mm high.	NO.	10		
3.5.7	Overall size 2100 x 2000mm high.	NO.	12		
3.5.8	Overall size 1600 x 2000mm high.	NO.	4		
3.5.9	Ditto but window overall size 7600 x 6000 mm high glazed in 10 mm thick toughened and tinted glass.	NO.	1		
	Window cill				
3.5.10	250 x 25 mm Precast concrete window cill bedded and jointed with cement and sand (1:3) mortar all to approval	LM	195		
	First Floor Aluminium windows as before described				
3.5.11	Overall size 800 x 6000mm high.	NO.	16		
3.5.12	Overall size 6800 x 800mm high.	NO.	2		
3.5.13	Overall size 4800 x 800mm high.	NO.	2		
3.5.14	Overall size 2800 x 1600mm high.	NO.	10		
3.5.15	Overall size 4600 x 2000mm high.	NO.	10		
3.5.16	Overall size 3200 x 2000mm high.	NO.	10		
3.5.17	Overall size 2100 x 2000mm high.	NO.	12		
3.5.18	Overall size 1600 x 2000mm high.	NO.	4		
	Window cill				
3.5.19	250 x 25 mm Precast concrete window cill bedded and jointed with cement and sand (1:3) mortar all to approval	LM	187		
	Second Floor Aluminium windows as before described				
3.5.20	Overall size 6800 x 800mm high.	NO.	2		
3.5.21	Overall size 4800 x 800mm high.	NO.	2		
3.5.22	Overall size 2800 x 1600mm high.	NO.	10		
3.5.23	Overall size 4600 x 2000mm high.	NO.	10		
3.5.24	Overall size 3200 x 2000mm high.	NO.	10		
3.5.25	Overall size 2100 x 2000mm high.	NO.	4		
3.5.26	Overall size 1600 x 2000mm high.	NO.	4		
	TOTAL CARRIED FORWARD				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	WINDOWS CONTINUED…				
	BROUGHT FORWARD				
	Window cill				
3.5.27	250 x 25 mm Precast concrete window cill bedded and jointed with cement and sand (1:3) mortar all to approval	LM	153		
	Third Floor				
	Aluminium windows as before described				
3.5.28	Overall size 6800 x 800mm high.	NO.	2		
3.5.29	Overall size 4800 x 800mm high.	NO.	2		
3.5.30	Overall size 2800 x 1600mm high.	NO.	10		
3.5.31	Overall size 4600 x 2000mm high.	NO.	10		
3.5.32	Overall size 3200 x 2000mm high.	NO.	10		
3.5.33	Overall size 2100 x 2000mm high.	NO.	12		
3.5.34	Overall size 1600 x 2000mm high.	NO.	4		
	Window cill				
3.5.35	250 x 25 mm Precast concrete window cill bedded and jointed with cement and sand (1:3) mortar all to approval	LM	171		
	Fourth Floor				
	Aluminium windows as before described				
3.5.36	Overall size 2100 x 2000mm high.	NO.	2		
	Window cill				
3.5.37	250 x 25 mm Precast concrete window cill bedded and jointed with cement and sand (1:3) mortar all to approval	LM	5		
	Fabricate, supply and fix mild steel window grill; constructed with 25 x 25 x 3mm RHS vertical framing; infilled with 12 mm diameter solid bars at 150 mm center in both directions to form diamond shape; fixed with lugs built into concrete or stone walls: all primed with red oxide .(Refer to architect's detail)				
3.5.38	To window openings	SM	126		
	TOTAL FOR ELEMENT NO. 3.5 (WINDOWS), CARRIED FORWARD TO SUMMARY				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	ELEMENT NO. 3.6 DOORS Ground Floor				
	10 mm Thick frameless laminated safety glass with polycarbonate security film; complete with stainless steel anchors, rail track, inclusive all accessories and necessary ironmongery as per manufacturer's instructions and architect's approval as main entrance door				
3.6.1	4 wings Revolving door size 2100mm dia x 2400mm high	NO	1		
	Aluminium Doors				
	Supply, assemble and fix the following purpose made powder coated aluminium framed door to B.S 3987, 1984 in 100 x 50 x 2 mm thick frames; complete panes fixed with 8mm thick One way tinted glass fixed with beadings with a complete set of industrial galvanised ironmongery comprising of 3 lever mortice locks complete with lever furniture, 100mm heavy duty aluminium butt hinges, brass door stops, guardsman pull handle XL003820 and rubber buffers as directed by the project Architect.All exposed aluminium section are to be powder coated. (Ref Architects Detailing)				
3.6.2	Double leaf single swing door size 1200mm x 2400mm high with 300mm high fanlight	NO	18		
3.6.3	Ditto double swing door	NO	1		
3.6.4	Single leaf single swing door size 900mm x 2400mm high with 300mm high fanlight	NO	12		
3.6.5	Ditto but door size 900mm x 2100mm high	NO	15		
	TOTAL CARRIED FORWARD				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	DOORS CONTINUED...				
	BROUGHT FORWARD				
	Wrot Mvule, or equal and approved Hardwood				
3.6.6	50mm Thick(finished) framed Single leaf single swing door size 900 x 2400mm high comprising of 300mm fanlight, 150 x 45mm grooved top rails and stiles, 200 x 45mm grooved bottom and middle rails, 20mm thick panel infills all finished for painting (m.s)	NO	1		
3.6.7	Ditto double swing door	NO	12		
3.6.8	Ditto but door size 900 x 2100mm high ditto	NO	12		
3.6.9	Ditto but Double leaf single swing louvred door size 750 x 2400mm high ditto	NO	8		
	FRAMES				
3.6.10	150 x 50mm once rebated frame with labour: plugged	LM	195		
3.6.11	45 x 38mm architrave	LM	195		
3.6.12	25mm diameter quadrant	LM	195		
	Suply and fix the following ironmongery all to 'industrial galvanised' or equal and approved specification				
3.6.13	100mm heavy duty brass butt hinges	PRS	44		
3.6.14	Ditto but double action hinges.	PRS	18		
3.6.15	Three lever rebated door lock complete with furniture	NO	1		
3.6.16	Two lever rebated door lock complete with furniture	NO	8		
3.6.17	Indicator bolt	NO	12		
3.6.18	Rubber door stop	NO	49		
3.6.19	Kick plate 900 x 450 x 2mm thick	NO	24		
3.6.20	Door closer hold open power 2/3 (with cover)	NO	79		
	Signage				
3.6.21	Supply and fix Stainless steel satin Rectangular signage to offices and washrooms size 150 x 75mm	NO	79		
	Glazing				
3.6.22	5mm clear sheet glass with putty and beadings to detail.	SM	13		
	TOTAL CARRIED FORWARD				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	DOORS CONTINUED...				
	BROUGHT FORWARD				
	First Floor Aluminium Doors				
	Supply, assemble and fix the following purpose made powder coated aluminium framed door to B.S 3987, 1984 in 100 x 50 x 2 mm thick frames; complete panes fixed with 8mm thick One way tinted glass fixed with beadings with a complete set of industrial galvanised ironmongery comprising of 3 lever mortice locks complete with lever furniture, 100mm heavy duty aluminium butt hinges, brass door stops, guardsman pull handle XL003820 and rubber buffers as directed by the project Architect.All exposed aluminium section are to be powder coated. (Ref Architects Detailing)				
3.6.23	Double leaf single swing door size 1200mm x 2400mm high with 300mm high fanlight	NO	16		
3.6.24	Single leaf single swing door size 900mm x 2400mm high with 300mm high fanlight	NO	7		
	Wrot Mvuli, or equal and approved Hardwood				
3.6.25	50mm Thick(finished) framed Single leaf single swing door size 900 x 2400mm high comprising of 300mm fanlight, 150 x 45mm grooved top rails and stiles, 200 x 45mm grooved bottom and middle rails, 20mm thick panel infills all finished for painting (m.s)	NO	2		
3.6.26	Ditto double swing door	NO	12		
3.6.27	Ditto but door size 900 x 2100mm high ditto	NO	12		
3.6.28	Ditto but Double leaf single swing louvred door size 750 x 2400mm high ditto	NO	8		
	FRAMES				
3.6.29	150 x 50mm once rebated frame with labour: plugged	LM	202		
3.6.30	45 x 38mm architrave	LM	202		
3.6.31	25mm diameter quadrant	LM	202		
	Suply and fix the following ironmongery all to 'industrial galvanised' or equal and approved specification				
3.6.32	100mm heavy duty brass butt hinges	PRS	45		
3.6.33	Ditto but double action hinges.	PRS	18		
3.6.34	Three lever rebated door lock complete with furniture	NO	2		
3.6.35	Two lever rebated door lock complete with furniture	NO	8		
3.6.36	Indicator bolt	NO	12		
3.6.37	Rubber door stop	NO	50		
3.6.38	Kick plate 900 x 450 x 2mm thick	NO	24		
3.6.39	Door closer hold open power 2/3 (with cover)	NO	57		
	TOTAL CARRIED FORWARD				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	DOORS CONTINUED...				
	BROUGHT FORWARD				
	Signage				
3.6.40	Supply and fix Stainless steel satin Rectangular signage to offices and washrooms size 150 x 75mm	NO	57		
	Glazing				
3.6.41	5mm clear sheet glass with putty and beadings to detail.	SM	14		
	Second Floor				
	Aluminium Doors				
	Supply, assemble and fix the following purpose made powder coated aluminium framed door to B.S 3987, 1984 in 100 x 50 x 2 mm thick frames; complete panes fixed with 8mm thick One way tinted glass fixed with beadings with a complete set of industrial galvanised ironmongery comprising of 3 lever mortice locks complete with lever furniture, 100mm heavy duty aluminium butt hinges, brass door stops, guardsman pull handle XL003820 and rubber buffers as directed by the project Architect.All exposed aluminium section are to be powder coated. (Ref Architects Detailing)				
3.6.42	Double leaf single swing door size 1200mm x 2400mm high with 300mm high fanlight	NO	16		
3.6.43	Single leaf single swing door size 900mm x 2400mm high with 300mm high fanlight	NO	5		
	Wrot Mvuli, or equal and approved Hardwood				
3.6.44	50mm Thick(finished) framed Single leaf single swing door size 900 x 2400mm high comprising of 300mm fanlight, 150 x 45mm grooved top rails and stiles, 200 x 45mm grooved bottom and middle rails, 20mm thick panel infills all finished for painting (m.s)	NO	6		
3.6.45	Ditto double swing door	NO	12		
3.6.46	Ditto but door size 900 x 2100mm high ditto	NO	12		
3.6.47	Ditto but Double leaf single swing door size 600 x 2400mm high ditto	NO	8		
	FRAMES				
3.6.48	150 x 50mm once rebated frame with labour: plugged	LM	228		
3.6.49	45 x 38mm architrave	LM	228		
3.6.50	25mm diameter quadrant	LM	228		
	TOTAL CARRIED FORWARD				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	DOORS CONTINUED... BROUGHT FORWARD				
	Suply and fix the following ironmongery all to 'industrial galvanised' or equal and approved specification				
3.6.51	100mm heavy duty brass butt hinges	PRS	51		
3.6.52	Ditto but double action hinges.	PRS	18		
3.6.53	Three lever rebated door lock complete with furniture	NO	6		
3.6.54	Two lever rebated door lock complete with furniture	NO	8		
3.6.55	Indicator bolt	NO	12		
3.6.56	Rubber door stop	NO	54		
3.6.57	Kick plate 900 x 450 x 2mm thick	NO	24		
3.6.58	Door closer hold open power 2/3 (with cover)	NO	59		
	Signage				
3.6.59	Supply and fix Stainless steel satin Rectangular signage to offices and washrooms size 150 x 75mm	NO	59		
	Glazing				
3.6.60	5mm clear sheet glass with putty and beadings to detail.	SM	15		
	Third Floor Aluminium Doors				
	Supply, assemble and fix the following purpose made powder coated aluminium framed door to B.S 3987, 1984 in 100 x 50 x 2 mm thick frames; complete panes fixed with 8mm thick One way tinted glass fixed with beadings with a complete set of industrial galvanised ironmongery comprising of 3 lever mortice locks complete with lever furniture, 100mm heavy duty aluminium butt hinges, brass door stops, guardsman pull handle XL003820 and rubber buffers as directed by the project Architect.All exposed aluminium section are to be powder coated. (Ref Architects Detailing)				
3.6.62	Double leaf single swing door size 1200mm x 2400mm high with 300mm high fanlight	NO	14		
3.6.63	Single leaf single swing door size 900mm x 2400mm high with 300mm high fanlight	NO	4		
	Wrot Mvuli, or equal and approved Hardwood				
3.6.64	50mm Thick(finished) framed Single leaf single swing door size 900 x 2400mm high comprising of 300mm fanlight, 150 x 45mm grooved top rails and stiles, 200 x 45mm grooved bottom and middle rails, 20mm thick panel infills all finished for painting (m.s)	NO	4		
3.6.65	Ditto double swing door	NO	12		
3.6.66	Ditto but door size 900 x 2100mm high ditto	NO	12		
3.6.67	Ditto but Double leaf single swing louvred door size 750 x 2400mm high ditto	NO	8		
	TOTAL CARRIED FORWARD				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	DOORS CONTINUED... BROUGHT FORWARD				
	FRAMES				
3.6.68	150 x 50mm once rebated frame with labour: plugged	LM	215		
3.6.69	45 x 38mm architrave	LM	215		
3.6.70	25mm diameter quadrant	LM	215		
	Suply and fix the following ironmongery all to 'industrial galvanised' or equal and approved specification				
3.6.71	100mm heavy duty brass butt hinges	PRS	48		
3.6.72	Ditto but double action hinges.	PRS	18		
3.6.73	Three lever rebated door lock complete with furniture	NO	4		
3.6.74	Two lever rebated door lock complete with furniture	NO	8		
3.6.75	Indicator bolt	NO	12		
3.6.76	Rubber door stop	NO	52		
3.6.77	Kick plate 900 x 450 x 2mm thick	NO	24		
3.6.78	Door closer hold open power 2/3 (with cover)	NO	54		
	Signage				
3.6.79	Supply and fix Stainless steel satin Rectangular signage to offices and washrooms size 150 x 75mm	NO	54		
	Glazing				
3.6.80	5mm clear sheet glass with putty and beadings to detail.	SM	14		
	Fourth Floor Aluminium Doors				
	Supply, assemble and fix the following purpose made powder coated aluminium framed door to B.S 3987, 1984 in 100 x 50 x 2 mm thick frames; complete panes fixed with 8mm thick One way tinted glass fixed with beadings with a complete set of industrial galvanised ironmongery comprising of 3 lever mortice locks complete with lever furniture, 100mm heavy duty aluminium butt hinges, brass door stops, guardsman pull handle XL003820 and rubber buffers as directed by the project Architect.All exposed aluminium section are to be powder coated. (Ref Architects Detailing)				
3.6.81	Double leaf single swing door size 1200mm x 2400mm high with 300mm high fanlight	NO	5		
	Suply and fix the following ironmongery all to 'industrial galvanised' or equal and approved specification				
3.6.82	Rubber door stop	NO	5		
3.6.83	Door closer hold open power 2/3 (with cover)	NO	5		
	TOTAL FOR ELEMENT NO. 3.6 (DOORS), CARRIED FORWARD TO SUMMARY				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	ELEMENT NO. 3.7				
	FINISHES				
	External Wall Finishes				
3.7.1	15mm cement and sand (1:4) plaster to walls and concrete surfaces trowelled smooth.	SM	996		
3.7.2	Ditto backing to receive stone cladding.	SM	1,494		
3.7.3	Prepare and apply 3 coats of first quality exterior silicone paint to plastered surfaces.	SM	996		
	Mazeras cladding				
3.7.4	25 mm Thick machine cut stone cladding of approved size and pattern on backing including hoop iron hooks installed to architect's details.	SM	845		
	Internal Wall Finishes				
3.7.5	12mm cement and sand (1:4) plaster to walls and concrete surfaces trowelled smooth.	SM	5,026		
3.7.6	Prepare and apply 3 coats of first quality emulsion paint or equal and approved to plastered surfaces.	SM	4,181		
	Wall Tiles				
3.7.7	150 x 150 x 6mm Thick White glazed ceramic wall tiles bedding and jointing in cement and sand (1:3) mortar and flush pointed with white cement:	SM	845		
	MDF Acoustic panels				
3.7.8	Supply and fixing of acoustic panels comprising of 25mm thick decorative gloss melamine faced MDF panels; fixed on and including 50x50mm thick mvule framework running horizontal and vertical to wall at every 600mm centre. Cavity infilled with 50mm thick compressed high density foam;Complete with recessed stainless steel strips at joints; secret nailed or screwed. All to Architect's detail	SM	840		
	Floor Finishes				
	Cement and sand (1:4) screeding smooth trowelled				
3.7.9	32mm Thick floor screed to receive tiles	SM	7,209		
	Ceramic floor tiles				
3.7.10	Supply and fix 8 mm thick non-slip ceramic floor tiles on prepared backing including grouting and edge protectors where required.	SM	1,802		
	Terrazzo paving				
3.7.11	20 mm Thick homogenous mix terrazzo laid on screed backing; cement sand marble chippings (1:4:8) grinded and polished including dividing strips.	SM	1,081		
3.7.12	Ditto but to 100 mm high skirting	LM	750		
3.7.13	25 mm wide Slip-resistant Carborandum inserts on ramp bonded with an approved adhesive	LM	156		
3.7.14	32 x 3mm thick plastic dividing strips	LM	944		
	Granito floor tiles				
3.7.15	Supply and fix 10 mm thick polished granito floor tiles on prepared backing including grouting and edge protectors where required.	SM	3,243		
3.7.16	Ditto but to 100 mm high skirting	LM	1,220		
	TOTAL CARRIED FORWARD				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	FINISHES CONTINUED... BROUGHT FORWARD				
	Fitted carpeting				
3.7.18	15mm thick approved executive heavy duty carpet with and including standard underfelt complete with fixing clips, metal grippers, approved adhesive; all fixed in accordance with the manufacturer's instructions.	SM	1,081		
	Door finishes				
3.7.19	Prepare and apply three coats gloss paint (high-quality or equal approved) to general wood surfaces	SM	485		
3.7.20	Ditto girth 100-200mm	LM	840		
3.7.21	Ditto girth not exceeding 100mm	LM	1,680		
	Grilles				
3.7.22	Prepare and apply three coats corrosion resistant first quality approved marine metal paint or other equal and approved to metal surfaces of Grille Windows & Doors	SM	252		
	Ceiling				
3.7.23	12mm cement and sand (1:4) plaster to concrete surfaces trowelled smooth.	SM	4,437		
3.7.24	Prepare and apply 3 coats of first quality emulsion paint or equal and approved to plastered surfaces.	SM	4,437		
	12 mm Thick suspended moisture resistant moulded gypsum plasterboard ceiling; taped and filled joints; on and including metal grid system; including all cutting and trimming to light fittings				
3.7.25	Horizontal and vertical ceiling lining.	SM	1,750		
3.7.26	Extra over ditto for construction of bulkheads dropped at 300 mm and 600 mm wide to details.	LM	965		
	Cornice				
3.7.27	150 mm Wide decorative gypsum cornice.	LM	1,349		
	Skimming				
3.7.28	1 No. coatwork of approved gypsum boards skimming product.	SM	1,750		
	Prepare and apply three coats of plastic emulsion paint on:-				
3.7.29	Surfaces of gypsum ceiling	SM	1,750		
3.7.30	To surfaces 100 - 200 mm girth.	LM	1,349		
	TOTAL CARRIED FORWARD				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	FINISHES CONTINUED... BROUGHT FORWARD Acoustic Ceiling				
3.7.31	Supply and fix approved suspended mineral fibre acoustic ceiling lining tiles : taped and filled joints : on and including metal grid system and all necessary supports.	SM	1,021		
3.7.32	Extra for standard panels with recess chrome light fitting (m/s)	NO	35		
3.7.33	Allow for signwriting at the building entrance as per the Architectural drawings and as directed and approved by the Project's Architect	SUM	1		
3.7.34	Exterior window sunshades Supply and fix Heavy duty powdercoated venetian aluminium blinds in 25mm slats with all necessary furniture as per manufacturer's specifications and directed and approved by the project architect	SM	126		
	TOTAL FOR ELEMENT NO. 3.7 (FINISHES) CARRIED TO SUMMARY				
	ELEMENT NO. 3.8 BALUSTRANDING AND RAILING Metal Work (All in Grade 316 Stainless Steel sections in 1,000 mm high railing complete with handrail saddles and brackets, balusters base covers, endcaps, spacer brackets and adapters, and all fixing accessories as necessary and to architect's details and approval)				
3.8.1	Ramp Railing 50 mm diameter x 3 mm thick CHS balusters spaced at 1,000 mm centres; one end grouted onto concrete other end welded to handrail (m/s).	LM	265		
3.8.2	50mm diameter x 3 mm thick CHS top rail welded to balusters (m/s)	LM	240		
3.8.3	25 mm Diameter x 1.5 mm thick CHS 5 No. intermediate rails.	LM	1,200		
3.8.4	Sundries Make hole in concrete slab size 50 x 50 x 50mm deep	NO	241		
3.8.5	Staircase railing 50 mm diameter x 3 mm thick CHS balusters spaced at 1,000 mm centres; one end grouted onto concrete other end welded to handrail (m/s).	LM	72		
3.8.6	50mm diameter x 3 mm thick CHS top rail welded to balusters (m/s)	LM	64		
3.8.7	25 mm Diameter x 1.5 mm thick CHS 5 No. intermediate rails.	LM	320		
	TOTAL CARRIED FORWARD				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALUSTRADING CONTINUED... BROUGHT FORWARD				
	Sundries				
3.8.8	Make hole in concrete slab size 50 x 50 x50 mm deep	NO	65		
	Guard railing Metal Work (All in Grade 316 Stainless Steel and to architect's details and approval)				
3.8.9	50 mm diameter x 3 mm thick CHS balusters spaced at 1,000 mm centres; one end grouted onto concrete other end welded to handrail (m/s).	LM	220		
3.8.10	50mm diameter x 3 mm thick CHS top rail welded to balusters (m/s)	LM	183		
3.8.11	25 mm Diameter x 1.5 mm thick CHS 5 No. intermediate rails.	LM	915		
	Sundries				
3.8.12	Make hole in concrete slab size 50 x 50 x50 mm deep	NO	183		
	TOTAL FOR ELEMENT NO. 3.8 (BALUSTRANDING AND RAILING) CARRIED TO SUMMARY				
	ELEMENT NO. 3.9 FITTINGS AND FIXTURES				
	Cupboards / Shelving				
	The following in cupboards, shelving, cabinets and the like; comprising 50 x 25 mm wrot cypress frames; 50 x 25 sawn cypress bearers plugged and screwed; 25 mm thick MDF board to doors, shelves, partitions, sides and divisions, hardwoord lipping on all exposed edges; drawers consisting of 20 mm thick MDF boards sides and front and 8 mm thick veneer bottom, rollers, tracks and knobs; Aluminium D-handles; malpa hinges to doors; prepare and apply undercoat and two finishing coats gloss oil paint.				
3.9.1	Low level kitchen cupboards overall size 17,000 mm long x 600 mm wide x 900 mm high; Top finished in 20 mm thick terrazzo (m/s); 1 No. tier x 7,500 mm long shelf; 7 No. equal vertical division; 8 no. doors,size 550 x 525 mm high; all to Architect's details.	NO	1		
	Shelving				
3.9.2	Allow for construction in 20 mm thick veneered MDF boarding shelving; hardwood lipped to edges; of overall length 3,000 mm and width of 600 mm with varnishing in 6 No. Rows; including 50 x 50 mm cypress bearers and complete with 1,200 x 2,100 mm high double leaf mdf door with all ironmongery.	NO	1		
	TOTAL CARRIED FORWARD				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	FITTINGS & FIXTURES CONTINUED... BROUGHT FORWARD				
	In situ concrete class 25/20 including approved waterproofing admixture.				
3.9.3	100 mm Thick plinths	SM	41		
3.9.4	75 mm Thick slab with and including BRC mesh ref A 98 to worktops.	SM	32		
3.9.5	Extra over for boxing to form opening for sinks to the top of washroom and kitchen counter slabs	NO	62		
	In sawn soft wood formwork				
3.9.6	Formwork to soffits of suspended slab.	SM	32		
3.9.7	Ditto to edges 75 - 150 mm girth.	LM	121		
	Supply and Fix:- 20mm thick Medium Density Fibre (M.D.F) boards veneerd both sides with mahogany to:-				
3.9.8	Kitchen Base Cabinets and reception counter door shutters and partitions & Kitchen Store Shelves	SM	140		
	FINISHES				
3.9.9	20mm thick light Cement and Sand weight (1:4) screeding smooth trowelled	SM	73		
	Terrazzo paving				
3.9.10	20 mm Thick homogenous mix terrazzo laid on screed backing; cement sand marble chippings (1:4:8) grinded and polished including dividing strips.	SM	73		
3.9.11	Ditto but to 100 mm high fascia and skirting	LM	121		
	Painting and Decoration				
3.9.12	Prepare and apply one primer coat and two coats of high quality wood paint or equal and approved to wood surfaces	SM	280		
	Prepare and apply three coats of silk vinyl Emulsion paint to:-				
3.9.13	Plastered soffits.	SM	32		
	TOTAL FOR ELEMENT NO. 3.9 (FITTINGS AND FIXTURES) CARRIED TO SUMMARY				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BUILDING WORKS SUMMARY				
3.1	Total for Element No. 3.1 (Substructure Works), brought forward from page BW/4				
3.2	Total for Element No. 3.2 (Superstructure Reinforced Concrete Works), brought forward from page BW/6				
3.3	Total for Element No. 3.3 (Walling), brought forward from page BW/7				
3.4	Total for Element No. 3.4 (Roofing) brought forward from page BW/8				
3.5	Total for Element No. 3.5 (Windows) brought forward from page BW/10				
3.6	Total for Element No. 3.6 (Doors) brought forward from page BW/16				
3.7	Total for Element No. 3.7 (Finishes) brought forward from page BW/18				
3.8	Total for Element No. 3.8 (Balustrading and Railing) brought forward from page BW/19				
3.9	Total for Element No. 3.9 (Fittings and fixtures) brought forward from page BW/21				
	TOTAL FOR BUILDING WORKS, CARRIED TO GRAND SUMMARY				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	(All Rates are V.A.T Inclusive) **BILL NO. 4; MECHANICAL WORKS** ELEMENT NO. 4,1 (INTERNAL PLUMBING): Supply, deliver and install pipes, tubing and fiitings 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 PPR Pipes				
4.1.1	20mm diameter pipework in wall chase	LM	16		
4.1.2	25mm Ditto	LM	180		
4.1.3	32mm ditto	LM	150		
4.1.4	40mm ditto	LM	256		
4.1.5	50mm ditto	LM	100		
4.1.6	63mm ditto	LM	80		
	Sockets;				
4.1.7	20mm diameter socket	No.	50		
4.1.8	25mm ditto	No.	56		
4.1.9	32mm ditto	No.	25		
4.1.10	40mm ditto	No.	64		
4.1.11	50mm ditto	No.	30		
4.1.12	63mm ditto	No.	20		
	Bends				
4.1.13	20mm diameter bends	No.	40		
4.1.14	25mm ditto	No.	20		
4.1.15	32mm ditto	No.	15		
	TOTAL CARRIED TO NEXT PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
4.1.16	40mm ditto	No.	10		
4.1.17	50mm ditto	No.	5		
4.1.18	63mm ditto	No.	3		
	Tees				
4.1.19	20mm diameter equal tees	No.	25		
4.1.20	25mm ditto	No.	41		
4.1.21	32mm ditto	No.	15		
4.1.22	40mm ditto	No.	10		
4.1.23	50mm ditto	No.	5		
4.1.24	63mm ditto	No.	3		
	Reducers				
4.1.25	25 x 20mm diameter Reducer	No.	18		
4.1.26	32 x 25mm ditto	No.	2		
4.1.27	40 x 32mm ditto	No.	2		
4.1.28	40 x 25mm ditto	No.	2		
4.1.29	50 x 32mm ditto	No.	2		
4.1.30	63 x 40mm ditto	No.	2		
	Threaded Fittings				
4.1.19	20mm diameter male/female threaded 90° bend/Elbow	No.	200		
4.1.20	25mm diameter mle/female PPR-M Adapter	No.	4		
4.1.21	32mm ditto	LM	36		
	Nipples				
4.1.22	20mm diameter G.I. nipple	No	4		
4.1.23	25mm ditto	No.	36		
	Valves				
4.1.24	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.	2		
4.1.25	25mm ditto	LM	18		
	32mm ditto	LM	18		
	40mm ditto	LM	18		
	50mm ditto	LM	18		
	TOTAL INTERNAL PLUMBING CARRIED FORWARD TO MECHANICAL WORKS SUMMARY PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	ELEMENT NO. 4.2:				
	SANITARY FITTINGS:				
	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.				
	Note.				
	(i). All sanitary fittings shall be in approved colour.				
	Flexible Tubing				
4.2.1	15mm diameter x 300mm long flexible connectors complete with Integral chrome plated angle valve for connecting the Sanitary fitting to water supply.	No.	48		
	Robe Hook				
4.2.2	Robe hook in approved viterous mounted to concealed screw to wall wedges.	No.	153		
	Water Closet Suite complete with flush valve				
4.2.3	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 and 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	No	33		
	Counter- top wash hand basin				
4.2.4	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	49		
	Urinal Set				
4.2.5	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 otheraccessories for proper functioning of the set	SET	8		
	Toilet Roll Holder				
4.2.6	9" Jumbo tissue dispenser in approved Plastic in approved colour.	No.	49		
	Mirrors				
4.2.4	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	17		
4.2.5	As above but 1200mmX600mmX25mm	No.	32		
	TOTAL CARRIED TO NEXT PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
	Shower Fittings				
4.2.6	Concealed shower fitting consisting of 25mm diameter x 2500mm long PPR riser pipe for showers,25mm diameter chrome plated brass water swivel/adjustable shower rose, and stop cock	No.	1		
	Soap Dispenser				
4.2.7	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	41		
	Bib Tap				
4.2.9	15mm diameter heavy duty bib tap	No	10		
	Soap dish				
4.2.10	Semi recessed built in soap dish in approved vitreous of size 150x150mm in approved colour.	No.	1		
	Towel Rail				
4.2.11	Chrome plated 20mm diameter x 800mm long approved towel rail and brackets as one piece, plugged and screwed into the wall.	No	1		
	Double bowl, single drainer kitchen sink				
4.2.12	16SWG Double 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 chrome plated 40mm diameter waste fittings,plugs,chain stays,overflow including 1No.15mm diameter heavy duty wall mount stainless steel kitchen sink tap.	No.	3		
	Disabled persons Water Closet and Wash Hand Basin Facility				
4.2.13	Wheel chair accessible W.C facility Comprising of the following:- **(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 **(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. **(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.	SET	16		
	TOTAL CARRIED TO NEXT PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
	Hand Drier				
4.2.12	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.	No	33		
4.2.13	Arabic Shattaf Bidet spray c/w tube and head and fixing to wall.	NO	49		
	TOTAL SANITARY FITTINGS CARRIED FORRWARD TO MECHANICAL WORKS SUMMARY PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	ELEMENT NO. 4.3:				
	FOUL DRAINAGE:				
	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				
	Internal				
4.3.1	40mm diameter Grey UPVC waste pipe in wall chase.	LM	50		
4.3.2	50mm ditto	LM	50		
4.3.3	40mm ditto but boxed in concrete floor slab	LM	80		
4.3.4	50mm ditto	LM	200		
	Extra Ovetubing For;-				
4.3.5	100x50mm diameter UPVC floor trap,grating and cover	No	108		
4.3.6	100mm WC connector	No	49		
4.3.7	40mm diameter access tee and cap	No	13		
4.3.8	50mm ditto	No	19		
4.3.9	100mm diameter inspection bend and acces cap.	No	15		
4.3.10	100mm diameter vent cowl	No	3		
4.3.11	100mm diameter medium duty UPVC gulley trap,grating cover and waste	N0	11		
	External				
4.3.12	100mm diameter Grey UPVC soil vent pipe with expansion coupling and fixing to wall with holder bats ducts	LM	100		
4.3.13	150mm diameter Golden Brown UPVC waste pipe in soil	LM	120		
	TOTAL FOUL DRAINAGE CARRIED FORWARD TO MECHANICAL WORKS SUMMARY PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	ELEMENT NO. 4.4:				
	STERILIZATION AND TESTING:				
4.4.1	Allow for sterilization and flushing out of entire cold water installation with chlorine to the Engineer's Satisfaction	ITEM	1		
4.4.2	Ditto for setting to work and testing the whole of the plumbing and drainage installation works both during progress and at completion to the satisfaction of the Engineer's satisfaction and to leave the whole installation in good working condition	ITEM	1		
	TOTAL TESTING CARRIED FORWARD TO MECHANICAL WORKS SUMMARY PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	ELEMENT NO. 4.5:				
	BUILDER'S WORK IN CONNECTION WITH PLUMBING AND DRAINAGE:				
	Masonry Gulley Trap				
4.5.1	Construct masonry gulley trap size 200x200mm, approx depth 300mm, complete with seal and concrete cover, including all disposal	No.	11		
	Manholes and Covers				
4.5.2	Construct Manholes size 600 x 450mm and averaging 750mm deep constrructed in 100mm thick concrete base(1:3:6), 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.	20		
	Excavations				
4.5.3	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		
	Chasing				
4.5.4	Form chase in both 100mm and 200mm thick coral block wall to receive necessary pipe work and make good disturbed areas	LM	602		
	Holes				
4.5.1	Make a hole through 100mm thick coral block wall for small pipe and make good disturbed areas	No.	16		
4.5.1	Ditto but 200mm thick and for large	No.	12		
	TOTAL BUILDERS WORK CARRIED FORWARD TO MECHANICAL WORKS SUMMARY PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	ELEMENT NO. 4.6:				
	AIR CONDITIONING AND MECHANICAL VENTILATION				
	Supply,deliver and install the following Concealed Slim Ducted & VRF Air Conditioning units comprising of the Indoor and Outdoor Units as herebelow described and to positions indicated on the conract drawings and as instructed by the Engineer:-				
4.6.1	**Outdoor Unit:** Supply, deliver and install, test and commission complete VRF system with controllers and all accessories complete with a matching external EVR Outdoor Unit Nominal Cooling Capacity 89.1kW with Digital Scroll Compressors, Refrigerant R410A or R-407C with all necessary wall penetrations and with all other accessories including but not limited to hangers, supports, vibration isolators, concrete or metal frame bases, refrigerant piping, insulation, aluminum jacket for exposed pipes, controls, control panel to serve the following indoor units.	No.	1		
4.6.2	**Auditorium** 60000BTU/HR(18.5kW) High Static Ducted indoor unit inclusive of wireless remote. The system shall be able to start automatically after power failure with 3 minutes delay. The unit shall be as Rheem / Daikin / Mitshubishi model SAVRHD-H112/4R1A or approved equivalent. Power input 0.6kW, 1ph. Noise level ~ 46dB	No.	4		
4.6.3	**Refrigeration Pipework** A set of sufficient diameter Refrigeration Pipework complete with flared connections and fittings in approved factory insulated copper tubing,including flexible condensate drip line ,properly fixed and encased in black PVC Conduit in conformity with 'APPROVED REFRIGERATION MANUAL'.The line shall be insulated with at least 25mm thickness of insulation or other equal and approved material	LM	150		
4.6.4	**Testing** Allow for testing of the above Air Conditioning Units both during progress of installation and at completion to the Engineers satisfaction,including initial charging of the system with Refrigerant gas R.410A and to leave the system in good and sound working condition	ITEM	12		
	Ceiling Return Diffusers Supply Egg crate Ceiling Diffusers (600mm x 600mm), constructed from aluminium alloy extrusions with mitred and welded/cleated frames, ideal for most commercial projects requiring high quality diffusers for integration with a variety of ceiling types. To be ceiling mounted, square faced, adjustable multi-louvre type with square neck supply. Complete with iris (or opposed blade) damper. or equal and approved.	No.	11		
	TOTAL CARRIED TO NEXT PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
4.6.5	<u>Ceiling Supply Diffusers</u> Supply Ceiling Diffusers (600mm x 600mm), constructed from aluminium alloy extrusions with mitred and welded/cleated frames, ideal for most commercial projects requiring high quality diffusers for integration with a variety of ceiling types. To be ceiling mounted, square faced, adjustable multi-louvre type with square neck supply. Complete with iris (or opposed blade) damper. or equal and approved.	No.	11		
4.6.6	<u>Ductwork</u> Supply, install, test and commission pre- insulated hot dipped zinic coated steel sheet ducts air distribution system including plenums of various Thickness as Technical description to conform to the requirements of SMACNA HVAC Duct construction standards and to the particular requirements of the site with all necessary wall penetrations. Allow for all duct fittings, dampers, hangers, supports, vibration isolators as required to complete the distribution system and all necessary fittings, including but not limited to tapped ends, access panels, mesh openings, flexible connectors and accessories and fixing required for the satisfactory execution operation and completion of the work	SM	250		
4.6.7	<u>UPVC Condensate Drain Pipe</u> UPVC piping 32 mm diameter with 9mm nitrile rubber insulation from indoor unit to nearest drain point.Approximately 24LM. Pipes shall be installed complete with supports to approval	ITEM	1		
4.6.8	<u>Testing</u> Allow for testing of the above VRF System both during progress of installation and at completion to the Engineers satisfaction,including initial charging of the system with Refrigerant gas R.410A and to leave the system in good and sound working condition	ITEM	1		
	TOTAL AIR CONDITIONING CARRIED FORWARD TO MECHANICAL WORKS SUMMARY PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	ELEMENT NO. 4.7: **WATER RETICULATION - ALL PROVISIONAL** **Roof Top Water Tanks**				
4.7.1	Supply, deliver and install vertical close end plastic moulded tank of capacity **5,000 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	ITEM	4		
	Excavations				
4.7.2	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	200		
	Pipe Work				
4.7.3	100mm diameter PN 16 HDPE pump suction lines	LM	30		
4.7.4	100mm diameter Ditto but Delivery line	LM	70		
4.7.5	63mm diameter Ditto but Delivery line	LM	130		
4.7.6	32mm diameter (PN-20) PPR Pipe laid and jointed in trench from water mains	LM	12		
4.7.7	40mm ditto	LM	8		
	Extra Overtubing for: **Sockets:**				
4.7.8	32mm diameter PPR Sockets	No.	8		
4.7.9	40mm ditto	LM	20		
	Bends				
4.7.10	40mm diameter bend/Elbow	No.	8		
	Tees				
4.7.11	40mm diameter (PN-20) PPR equal tee	No.	4		
	Valves				
4.7.12	32mm diameter supply mains full way approved gate valve	No.	4		
4.7.13	40mm ditto	No.	8		
	Water Connection to Supply mains & Testing				
4.7.14	50mm diameter G.I. equal tee	No	1		
4.7.15	50x40mm diameter G.I. reducer	No	1		
4.7.16	40mm diameter G.I. nipple	No	2		
4.7.17	50mm diameter PPR Adaptor	No	1		
4.7.18	40mm diameter full Way approved gate valve	No	1		
	Meter Connection				
4.7.19	Allow for 25mm diameter approved Meter Connection from the Local Water Authority including paying for all the necessary charges,if any	ITEM	1		
	TOTAL CARRIED TO NEXT PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
	<u>Stand Pipe</u>				
4.7.20	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		
	<u>Mains Valve Chamber</u>				
4.7.21	Construct Mains Valve Chamber size 600x600x500mm deep with 100mm thick concrete block rendered all round in cement and and sand mortar (1:4) including hinged iron cover amd frame in grease	ITEM	1		
	<u>Booster Pump Sets</u>				
4.7.22	Booster Pump Sets (2**No)** for Roof Top water Tanks mounted on a common Galvanized Steel base Frame and to approval,each set comprising of, One pump duty, One pump stand by, and each of capacity **8m3/hr** against a Maximum Head of **40metres**. 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 a Pressure Vessel of Approx Capacity **60Litres** 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		
	<u>Testing</u>				
4.7.23	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		
	<u>Surface Mounted Water Storage Tanks</u>				
4.7.24	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	2		
	TOTAL CARRIED TO NEXT PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
	<u>Tank Base</u>				
4.7.25	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 harcore filling,50mm thick blinding,Approved Damp proof membrane,A142 BRC Mesh,100mm thick vibrated (1:2:4)concrete floor slab, 15mm thick screed on the general faces of the tank base in (1:3) cement/sand mortar, 600mm widex1500mm deep srip foundation,including all Excavations and disposal	ITEM	2		
	<u>Testing</u>				
4.7.26	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				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	ELEMENT NO.4.8:				
	FIRE FIGHTING AND PROTECTION SERVICES **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.**				
	Hose Reels.				
4.8.1	20mm diameter x 30Metre long swinging type hose reel complete with delivery hose,nozzle,mild steel feed pipe,isolation valve,guide,bracket and all other accessories.	No.	12		
	Hose Reel Fire Tank				
4.8.2	Supply, deliever and install vertical close end plastic moulded tank of capacity **10,000 Litre (Size 1830 diameter x 2020mm high).**The tank to be assembled complete with cover and having screwed connections for inlet, outlet and overflow, 32mm medium pressure ball valve, drain pipes and any other necessary item for its proper functioning. The tank shall be mounted on a flat slab.	ITEM	1		
	Pipework (G.I)				
4.8.3	20mm diameter medium grade galvanized mild steel supply pipe	LM	12		
4.8.4	25mm ditto	LM	80		
4.8.5	32mm Ditto	LM	12		
4.8.6	40mm ditto	LM	42		
4.8.7	50mm Ditto	LM	250		
	Sockets				
4.8.7	25mm diameter (G.I)socket	No.	20		
4.8.8	32mm Ditto	No.	3		
4.8.9	40mm ditto	No.	8		
4.8.10	50mm Ditto	No.	50		
	Unions				
4.8.11	25mm diameter (G.I)union	No.	15		
4.8.12	50mm Ditto	No.	45		
	Bends/Elbows				
4.8.13	25mm diameter (G.I) bend	No.	24		
4.8.14	32mm Ditto	No.	2		
4.8.15	50mm Ditto	No.	20		
	TOTAL CARRIED TO NEXT PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
	<u>Tees</u>				
4.8.16	25mm diameter (G.I)equal tee	No.	20		
4.8.17	50mm Ditto	No.	12		
	<u>Reducers</u>				
4.8.18	25x20mm diameter G.I. Reducer	No.	2		
4.8.19	32x25mm ditto	No	2		
4.8.20	40x32mm ditto	No	2		
4.8.21	50x25mm ditto	No	8		
	<u>Nipples</u>				
4.8.22	50mm (G.I) nipple	No.	4		
	<u>Painting</u>				
4.8.23	Prepare prime and apply two coats of gloss oil paint - RED - on the general surfaces of the above described Hose Reel supply pipes	ITEM	1		
	<u>Hose Reel Booster Pump Set</u>				
4.8.24	Booster Pump Set for Hose Reels consisting of 2No. parallel duty pumps mounted on a common G.I. base Frame to approval,each of capacity **12m3/hr** against a Maximum Head of **40(metres)**. The 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 a Pressure Vessel of Approx Capacity **300Litres** 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		
	<u>Testing</u>				
4.8.25	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 good and sound working condition	ITEM	1		
	<u>Supply,deliver and install the following Portable Fire extinguishers to positions indicated on the conract drawings and as instructed by the Engineer:-</u>				
	<u>Dry Powder Fire Extinguisher</u>				
4.8.26	9Kg catridge type general purpose portable dry powder fire extingusher fully charged or equal and approved.	No.	20		
	<u>Carbon dioxide Gas Fire Extinguisher</u>				
4.8.27	5kg carbon dioxide gas portale fire extinguisher complete with pressure gauge,initial charge and mounting brackets	No.	20		
	TOTAL CARRIED TO NEXT PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
4.8.28	Water Carbon Dioxide Fire Extinguisher 9.0Litre Water carbon dioxide (WCo2) portable fire extinguisher complete wth pressure gauge,initial charge and mounting brackets.	No.	20		
4.8.29	Signage 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	10		
4.8.30	Testing 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				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	ELEMENT NO.4.9: **ON-SITE WASTEWATER TREATMENT PLANT**				
	Preliminaries, Drawings, Manuals, Handovers, Training, Regulatory Matters, Operation & Maintenance				
4.9.1	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. Personel to be full capable of of regular and routine maintence tasks and reporting.	SUM	1		
4.9.2	Allow for Monthly Maintenance visits for period of Twelve (12) Months	SUM	1		
4.9.3	Allow to liase with the NEMA authorities, assit client with submiting application and obtaining discharge licence for the Waste Water treatment Plant	SUM	1		
4.9.4	On completion of the Waste water treatment plant, take water samples as necessary to Certified Laboritory 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		
4.9.5	Allow for any other item not necessarily mentioned here to provide a complete working system to the Satisfaction of the engineer	SUM	1		
	WASTE WATER TREATMENT SYSTEM **Waste Water Treatment Plant**				
	Supply, Install, Test and Commission the Moving Bed Biofilm Reactor (MBBR) Waste Water Treatment System, With a capacity of treating **650PE** with an average flow rate of **103,000 lts per day**. With a **BOD load of 40Kgs per day**, **Ammonia Nitrogen load of 4Kgs per day**. With minimum treated discharge requirment of **BOD <30mg/lt, TSS <30mg/lt, Ammonia Nitrogen <20mg/lt.** Complete with all Media, Screens, Pumps, Aeration Blowers, Aeration Diffusers, Manifolds, Level sensors, Valves, Piping, Fittings and Accessories to fully conform to the specificied discharge requirements.	No.	1		
	TOTAL CARRIED TO NEXT PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
4.9.6	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, electrial isolators, overload protction, Equipment running and trip indication lights, automatic and manual overide 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		
4.9.7	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 acess via mobile phone App, web protal,SMS/Email alterts for critical plant condition.	SUM	1		
4.9.8	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/m3. Required Surface Area specification shall be 675m2/m3.	SUM	1		
4.9.9	Process Aeration Blowers 1.6 kW / 3 HP positive displacement (PD), one (1) duty, one (1) standby.	NO	2		
4.9.10	Fine bubble aeration system, in-basin pipes and connections to the top of the wall of the basin.	SUM	1		
4.9.11	9" Fine Bubble Disc diffusers. Specification is PTFE coated EPDM membranes. PTFE protective layer is to ensure extended useful lifspan of diffusers over standard EPDM diffuser products.	NO	35		
4.9.12	Allow for Coarse inlet Screen 2" slots for capture of large rags and solids. Fabricated with 50mm polypropelyne structure & Stainless Steel.	NO	1		
4.9.13	Allow for PolyLok PL-625 Effluent Filter with 1/32" linear feet filter slot size for capture of smaller fine solids. E.fluent 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		
4.9.14	1 HP submersible RAS/WAS pumps	NO	1		
4.9.15	Influent pumps, one (1) duty and one (1) standby	NO	2		
4.9.16	Chemical dosing pumps and controls for sodium hypochlorite, plus chemical makeup tank. System for Chlorine Disinfection of Treated Waste Water.	SUM	1		
4.9.17	All pipe & fittings as required to complete the interconnecting system and all necessary fittings, valves and accessories.	SUM	1		
	TOTAL CARRIED FORWARD				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
4.9.17	All pipe & fittings as required to complete the interconnecting system and all necessary fittings, valves and accessories.	SUM	1		
4.9.18	All Electrical wiring as required to complete the interconnecting system and all necessary conduits, fittings and accessories.	SUM	1		
4.9.19	Allow for Installation of Wastewater Treatment Plant Equipment, incldue all Labour, Transport & Sundries Costs	SUM	1		
	TOTAL FOR ON-SITE WASTEWATER TREATMENT PLANT CARRIED TO SUMMARY				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	ELEMENT NO.4.10: **GENERAL ITEMS**				
4.10.1	Allow for mobilization, tools and all necessary equipment on site	1	Item		
4.10.2	Allow for co-ordination of works with the Main Contractor and other Sub-contractors	1	Item		
4.10.3	Allow for preparation of all "shop" drawings and submitting to the Engineers for approval prior to commencement of work on site	1	Item		
4.10.4	Allow for preparation of all "As Built" Drawings immediately after Practical Completion of the works.	1	Item		
4.10.5	Allow for the preparation of all "Operations & Maintenance Manuals" immediately after Practical Completion of the works.	1	Item		
4.10.6	Allow for on-site Training of the Operators for specialised equipment	1	Item		
4.10.7	Allow for County council water connection & borehole meter connection	1	Item		
	Total Carried to Summary Page				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	MECHANICAL WORKS SUMMARY PAGE:				
4.1	INTERNAL PLUMBING				
4.2	SANITARY FITTINGS				
4.3	FOUL DRAINAGE				
4.4	STERILIZING & TESTING				
4.5	BUILDERS WORK RELATED TO MECHANICAL WORKS				
4.6	AIR CONDITIONING				
4.7	WATER RETICULATION				
4.8	FIRE FIGHTING				
4.9	ON-SITE WASTEWATER TREATMENT PLANT				
4.10	GENERAL ITEMS				
	TOTAL FOR MECHANICAL WORKS CARRIED FORWARD TO GRAND SUMMARY PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	(All Rates are V.A.T Inclusive)				
	BILL NO. 5; ELECTRICAL WORKS				
	SCHEDULE 1:				
	GROUND FLOOR				
	Supply Install, Test and Commission Following:-				
	LIGHTING POINTS				
5.1.1	Lighting points wired in 3x4.5mm2 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.	164		
	ii)Two Way switching	No.	132		
5.1.2	10A plastic switch plates as follows				
	i)One gang one way	No.	27		
	ii)Two gang One way	No.	1		
	iii)One gang two way	No.	23		
	iv)Two gang two way	No.	1		
	v)Three gang two way	No.	2		
	vi) Four Gang two way	No.	2		
	vii) Intermediate Switch	No.	3		
	LIGHTING FITTINGS				
5.1.3	Light fittings complete with all the necessary fixing accessories and rated energy lamps as follows:-				
	i) Type C	No.	108		
	ii) Exit Light	No.	22		
	iii) Type 600X600	No.	16		
	iv)Type 2	No.	31		
	v) Type 2D	No.	17		
	vi) Type 4C	No.	9		
	vii) Type N	No.	61		
	viii) Type 4	No.	32		
	ix) Type M	No.	11		
	x) Type X	No.	2		
5.1.4	Motion Sensors for lighting in washrooms	No.	10		
	POWER OUTLETS				
5.1.5	Socket outlet point in Ring wiring of 3x2.5 mm^2 PVC-SC-Cu cables drawn inside 20mm diameter HG conduits	No.	77		
5.1.6	13A Twin switched moduled socket outlet plate	No.	77		
5.1.7	20A Double Pole outlet point comprising of wiring in 3x4.0 mm^2 PVC-SC-Cu cables drawn inside 20mm diameter HG conduits	No.	10		
5.1.8	20A Double pole switch complete with neon light		10		
5.1.9	Single phase isolator point comprising of wiring in 3x6.0 mm^2 PVC-SC-Cu cables drawn inside 20mm diameter HG conduits		2		
	TOTAL C/F TO NEXT PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F/ FROM PREVIOUS PAGE				
5.1.10	Three phase isolator point comprising of wiring in 5x6.0 mm^2 PVC-SC-Cu cables drawn inside 20mm diameter HG conduits		3		
5.1.11	32A Single phase Isolator complete with 3 pin industrial socket and plug		2		
5.1.12	32A Three phase Isolator complete with 5 pin industrial socket and plug		3		
	KITCHENETTE				
5.1.13	Cooker point comprising wiring in 3x6.0mm2 PVC SC Cu cables drawn inside trunking	No.	1		
5.1.14	45A Cooker Control Unit incorporating a 13A switched socket outlet and neon indicator	No.	1		
5.1.15	Cooker connector	No.	1		
	ELECTRICAL SWEEP FANS				
5.1.16	Ceiling fan points wired in 3x2.5mm2 PVC/SC copper cables drawn in concealed 20mm diameter heavy gauge PVC conduit including all boxes, saddles and all accessories	No.	28		
5.1.17	CEILING FANS				
	i) 49W 1400mm 3-arm 5- speed, Ceiling fan complete with the regulator	No.	27		
	ii) 1500W, Single Phase, Blade size 12 feet, 5 Blades High Volume, Low Speed (HVLS), Speed: 50 RPM, Aluminium Ceiling fan for auditorium use.Ceiling fan complete with the regulator and support	No.	1		
5.1.18	Ceiling fan hook (M-10) complete with rawl bolt.	No.	27		
	FIRE DETECTION AND ALARM SYSTEM				
5.1.19	Fire alarm panel/Fire alarm bell/Break glass Unit Points/Smoke detector points comprising iring in 3×1.5mm2 fire risistant cables concealed in PVC conduits concealed in ceiling space but excluding bell and break glass unit	No.	39		
5.1.20	Addressable Call point	No.	8		
5.1.21	Addressable Sounder complete with beacon	No.	8		
5.1.22	Addressable Smoke detectors complete with base	No.	21		
5.1.23	Heat detectors complete with base	No.	1		
5.1.24	Single Loop, Expandable to 8, Intelligent Addressable fire alarm panel with atleast 200 addresses complete with full network capability,stand-by batteries and intergral battery charger, touch screen, thermal printer and CAN modules	No.	1		
	TOTAL C/F TO NEXT PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F/ FROM PREVIOUS PAGE				
	TELEVISION, CCTV AND DATA WORKS				
5.1.25	16 SWG,(450 x 300 x 100)mm³ flush mounted galvanised powder coated draw box for telephone & data works	4	No		
5.1.26	Telephone/Data outlet point comprising of concealed 20mm diameter HG PVC conduits plus draw wire	40	No		
5.1.27	RJ45, Single Data outlet plate a) Single	40	No		
5.1.28	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	9	NO		
5.1.29	Single TV face plate	9	NO		
	DISTRIBUTION BOARDS				
5.1.30	6-Way TP/N distribution board flush mounted complete 1No. 100A TPN integral isolator.	No.	3		
5.1.31	8-Way TP/N distribution board flush mounted complete 1No. 100A TPN integral isolator.	No.	1		
5.1.32	MCBs for the above boards i)16A SP	No.	22		
	ii)20ASP	No.	15		
	iii)32ASP	No.	11		
	iv)32ATP	No.	3		
	v)Blanking Plates	No.	21		
	SUB-MAINS CABLES				
5.1.33	4 core 25mm^2 PVCC/SWA/PVC (armoured) + 1X16mm^2 single Core copper cables drawn inside 50mm diameter HG conduits	LM	107		
5.1.32	Cable glands for the above cable	No.	8		
5.1.33	Cable lugs for the above cable complete with hydraulic crimping	No.	40		
	TOTAL GROUND FLOOR C/F TO COLLECTION SUMMARY PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	SCHEDULE 2:				
	FIRST FLOOR				
	Supply Install, Test and Commission Following:-				
	LIGHTING POINTS				
5.2.1	Lighting points wired in 3x4.5mm2 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.	79		
	ii)Two Way switching	No.	100		
5.2.2	10A plastic switch plates as follows				
	i)One gang one way	No.	20		
	ii)One gang two way	No.	18		
	iii)Two gang two way	No.	1		
	iv)Three gang two way	No.	1		
5.2.3	LIGHTING FITTINGS				
	Light fittings complete with all the necessary fixing accessories and rated energy lamps as follows:-				
	i) Type C	No.	26		
	ii) Exit Light	No.	9		
	iii) Type 600X600	No.	6		
	iv)Type 2	No.	30		
	v) Type 2D	No.	16		
	vi) Type 4C	No.	1		
	vii) Type N	No.	39		
	viii) Type 4	No.	52		
	ix) Type X	No.	2		
5.2.4	Motion Sensors for lighting in washrooms	No.	12		
	POWER OUTLETS				
5.2.5	Socket outlet point in Ring wiring of 3x2.5 mm^2 PVC-SC-Cu cables drawn inside 20mm diameter HG conduits	No.	57		
5.2.6	13A Twin switched moduled socket outlet plate	No.	57		
5.2.7	20A Double Pole outlet point comprising of wiring in 3x4.0 mm^2 PVC-SC-Cu cables drawn inside 20mm diameter HG conduits	No.	8		
5.2.8	20A Double pole switch complete with neon light		8		
	KITCHENETTE				
5.2.9	Cooker point comprising wiring in 3x6.0mm2 PVC SC Cu cables drawn inside trunking	No.	1		
5.2.10	45A Cooker Control Unit incorporating a 13A switched socket outlet and neon indicator	No.	1		
5.2.11	Cooker connector	No.	1		
	TOTAL C/F TO NEXT PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F/ FROM PREVIOUS PAGE				
	ELECTRICAL SWEEP FANS				
5.2.12	Ceiling fan points wired in 3x2.5mm2 PVC/SC copper cables drawn in concealed 20mm diameter heavy gauge PVC conduit including all boxes, saddles and all accessories	No.	29		
5.2.13	49W 1400mm 3-arm 5- speed, Ceiling fan complete with the regulator	No.	29		
5.2.14	Ceiling fan hook (M-10) complete with rawl bolt.	No.	29		
	FIRE DETECTION AND ALARM SYSTEM				
5.2.15	Fire alarm panel/Fire alarm bell/Break glass Unit Points/Smoke detector points comprising iring in 3×1.5mm2 fire risistant cables concealed in PVC conduits concealed in ceiling space but excluding bell and break glass unit	No.	22		
5.2.16	Addressable Call point	No.	2		
5.2.17	Addressable Sounder complete with beacon	No.	2		
5.2.18	Addressable Smoke detectors complete with base	No.	18		
	TELEVISION, CCTV AND DATA WORKS				
5.2.19	16 SWG,(450 x 300 x 100)mm³ flush mounted galvanised powder coated draw box for telephone & data works	4	No		
5.2.20	Telephone/Data outlet point comprising of concealed 20mm diameter HG PVC conduits plus draw wire	24	No		
5.2.21	RJ45, Data outlet plate a) Single	24	No		
5.2.22	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	8	NO		
5.2.23	Single TV face plate	8	NO		
	DISTRIBUTION BOARDS				
5.2.24	6-Way TP/N distribution board flush mounted complete 1No. 100A TPN integral isolator.	No.	2		
5.2.25	MCBs for the boards above				
	i)16A SP	No.	10		
	ii)20ASP	No.	11		
	iii)32ASP	No.	4		
	iv)45A SP	No.	1		
	v)Blanking Plates	No.	10		
5.2.26	SUB-MAINS CABLES				
	4 core 25mm^2 PVCC/SWA/PVC (armoured) + 1X16mm^2 single Core copper cables drawn inside 50mm diameter HG conduits	LM	50		
	TOTAL C/F TO NEXT PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F/ FROM PREVIOUS PAGE				
5.2.27	Cable glands for the above cable	No.	4		
5.2.28	Cable lugs for the above cable complete with hydraulic crimping	No.	20		
	TOTAL FOR FIRST FLOOR C/F TO SUMMARY PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	SCHEDULE 3:				
	SECOND FLOOR Supply Install, Test and Commission Following:-				
	LIGHTING POINTS				
5.3.1	Lighting points wired in 3x4.5mm2 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.	86		
	ii)Two Way switching	No.	100		
5.3.2	10A plastic switch plates as follows				
	i)One gang one way	No.	21		
	ii)One gang two way	No.	14		
	iii)Two gang two way	No.	1		
	iv)Three gang two way	No.	1		
5.3.3	LIGHTING FITTINGS Light fittings complete with all the necessary fixing accessories and rated energy lamps as follows:-				
	i) Type C	No.	20		
	ii) Exit Light	No.	5		
	iii) Type 600X600	No.	19		
	iv)Type 2	No.	30		
	v) Type 2D	No.	16		
	vi) Type 4C	No.	1		
	vii) Type N	No.	39		
	viii) Type 4	No.	54		
	ix) Type X	No.	2		
5.3.4	Motion Sensors for lighting in washrooms	No.	12		
	POWER OUTLETS				
5.3.5	Socket outlet point in Ring wiring of 3x2.5 mm^2 PVC-SC-Cu cables drawn inside 20mm diameter HG conduits	No.	52		
5.3.6	13A Twin switched moduled socket outlet plate	No.	52		
5.3.7	20A Double Pole outlet point comprising of wiring in 3x4.0 mm^2 PVC-SC-Cu cables drawn inside 20mm diameter HG conduits	No.	8		
5.3.8	20A Double pole switch complete with neon light		8		
	KITCHENETTE				
5.3.9	Cooker point comprising wiring in 3x6.0mm2 PVC SC Cu cables drawn inside trunking	No.	1		
5.3.10	45A Cooker Control Unit incorporating a 13A switched socket outlet and neon indicator	No.	1		
5.3.11	Cooker connector	No.	1		
	TOTAL C/F TO NEXT PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F/ FROM PREVIOUS PAGE				
	ELECTRICAL SWEEP FANS				
5.3.12	Ceiling fan points wired in 3x2.5mm2 PVC/SC copper cables drawn in concealed 20mm diameter heavy gauge PVC conduit including all boxes, saddles and all accessories	No.	31		
5.3.13	49W 1400mm 3-arm 5- speed, Ceiling fan complete with the regulator	No.	31		
5.3.14	Ceiling fan hook (M-10) complete with rawl bolt.	No.	31		
	FIRE DETECTION AND ALARM SYSTEM				
5.3.15	Fire alarm panel/Fire alarm bell/Break glass Unit Points/Smoke detector points comprising iring in 3×1.5mm2 fire risistant cables concealed in PVC conduits concealed in ceiling space but excluding bell and break glass unit	No.	23		
5.3.16	Addressable Call point	No.	4		
5.3.17	Addressable Sounder complete with beacon	No.	4		
5.3.18	Addressable Smoke detectors complete with base	No.	15		
	TELEVISION, CCTV AND DATA WORKS				
5.3.19	16 SWG,(450 x 300 x 100)mm³ flush mounted galvanised powder coated draw box for telephone & data works	4	No		
5.3.20	Telephone/Data outlet point comprising of concealed 20mm diameter HG PVC conduits plus draw wire	22	No		
5.3.21	RJ45, Data outlet plate a) Single	22	No		
5.3.22	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	8	NO		
5.3.23	Single TV face plate	8	NO		
	DISTRIBUTION BOARDS				
5.3.24	6-Way TP/N distribution board flush mounted complete 1No. 100A TPN integral isolator.	No.	2		
5.3.25	MCBs for the boards above i)16A SP ii)20ASP iii)32ASP iv)45A SP v)Blanking Plates	 No. No. No. No. No.	 13 10 4 1 8		
	TOTAL C/F TO NEXT PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F/ FROM PREVIOUS PAGE				
5.3.26	SUB-MAINS CABLES				
	4 core 25mm^2 PVCC/SWA/PVC (armoured) + 1X16mm^2 single Core copper cables drawn inside 50mm diameter HG conduits	LM	57		
5.3.27	Cable glands for the above cable	No.	4		
5.3.28	Cable lugs for the above cable complete with hydraulic crimping	No.	20		
	TOTAL FOR SECOND FLOOR C/F TO CSUMMARY PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	SCHEDULE 4:				
	THIRD FLOOR				
	Supply Install, Test and Commission Following:-				
	LIGHTING POINTS				
5.4.1	Lighting points wired in 3x4.5mm2 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.	72		
	ii)Two Way switching	No.	122		
5.4.2	10A plastic switch plates as follows				
	i)One gang one way	No.	25		
	ii)One gang two way	No.	18		
	iii)Two gang two way	No.	1		
	iv)Three gang two way	No.	1		
	LIGHTING FITTINGS				
5.4.3	Light fittings complete with all the necessary fixing accessories and rated energy lamps as follows:-				
	i) Type M	No.	7		
	ii) Exit Light	No.	7		
	iii) Type 600X600	No.	19		
	iv)Type 2	No.	30		
	v) Type 2D	No.	16		
	vi) Type 4C	No.	11		
	vii) Type N	No.	43		
	viii) Type 4	No.	57		
	ix) Type X	No.	4		
5.4.4	Motion Sensors for lighting in washrooms	No.	12		
	POWER OUTLETS				
5.4.5	Socket outlet point in Ring wiring of 3x2.5 mm^2 PVC-SC-Cu cables drawn inside 20mm diameter HG conduits	No.	65		
5.4.6	13A Twin switched moduled socket outlet plate	No.	65		
5.4.7	20A Double Pole outlet point comprising of wiring in 3x4.0 mm^2 PVC-SC-Cu cables drawn inside 20mm diameter HG conduits	No.	8		
5.4.8	20A Double pole switch complete with neon light		8		
	KITCHENETTE				
5.4.9	Cooker point comprising wiring in 3x6.0mm2 PVC SC Cu cables drawn inside trunking	No.	1		
5.4.10	45A Cooker Control Unit incorporating a 13A switched socket outlet and neon indicator	No.	1		
5.4.11	Cooker connector	No.	1		
	TOTAL C/F TO NEXT PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F/ FROM PREVIOUS PAGE				
	ELECTRICAL SWEEP FANS				
5.4.12	Ceiling fan points wired in 3x2.5mm2 PVC/SC copper cables drawn in concealed 20mm diameter heavy gauge PVC conduit including all boxes, saddles and all accessories	No.	29		
5.4.13	49W 1400mm 3-arm 5- speed, Ceiling fan complete with the regulator	No.	29		
5.4.14	Ceiling fan hook (M-10) complete with rawl bolt.	No.	29		
	FIRE DETECTION AND ALARM SYSTEM				
5.4.15	Fire alarm panel/Fire alarm bell/Break glass Unit Points/Smoke detector points comprising iring in 3×1.5mm2 fire risistant cables concealed in PVC conduits concealed in ceiling space but excluding bell and break glass unit	No.	29		
5.4.16	Addressable Call point	No.	6		
5.4.17	Addressable Sounder complete with beacon	No.	6		
5.4.18	Addressable Smoke detectors complete with base	No.	19		
	TELEVISION, CCTV AND DATA WORKS				
5.4.19	16 SWG,(450 x 300 x 100)mm³ flush mounted galvanised powder coated draw box for telephone & data works	4	No		
5.4.20	Telephone/Data outlet point comprising of concealed 20mm diameter HG PVC conduits plus draw wire	35	No		
5.4.21	RJ45, Data outlet plate a) Single	35	No		
5.4.22	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	8	NO		
5.4.23	Single TV face plate	8	NO		
	DISTRIBUTION BOARDS				
5.4.24	6-Way TP/N distribution board flush mounted complete 1No. 100A TPN integral isolator.	No.	2		
5.4.25	MCBs for the boards above i)16A SP	No.	14		
	ii)20ASP	No.	11		
	iii)32ASP	No.	5		
	iv)45A SP	No.	1		
	v)Blanking Plates	No.	5		
	TOTAL C/F TO NEXT PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F/ FROM PREVIOUS PAGE				
	SUB-MAINS CABLES				
5.4.26	4 core 25mm^2 PVCC/SWA/PVC (armoured) + 1X16mm^2 single Core copper cables drawn inside 50mm diameter HG conduits	LM	64		
5.4.27	Cable glands for the above cable	No.	4		
5.4.28	Cable lugs for the above cable complete with hydraulic crimping	No.	20		
	TOTAL FOR THIRD FLOOR C/F TO SUMMARY PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
5.5.1	<u>SCHEDULE 5 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 0-630A, 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) 400A adjustable TPN MCCB main incomer and having a short-circuit breaking capacity of 100KA at 415Vac, 50Hz. iv) 4 No. 400A TPN copper bus bars v) 12 No. 100A 3 P TPN MCCBs vi) 2 No. 63A SPN MCBs vii) 2 No. 32A SPN MCBs viii) Sufficient spare capacity for future development all fitted with 2 No. 63A SP MCBs ix) Sufficient spare capacity for future development all fitted with 4 No. 125A TP MCCBs x) Sealable studs for all cover plate screws and all necessary accessories xi) 6mm perspex viewing window xii) Heavy duty rubber lining for all the perspex viewing windows xiii) 415V three-phase surge diverter, wired as shown, complete with enclosure with viewing window. xiv) 100 KVAr's automatic Power Factor Correction Capacitor Bank comprising the following:- a) 2No 20 KVAr's 415 V,50Hz, 3-Phase b) 3 No 10 KVAr's 415 V,50Hz, 3-Phase c) 6No 5 KVAr's 415 V,50Hz, 3-Phase d) 11 No Special contactors for capacitor switching e) 11 No Fuse bases and fuses for each capacitor protection f) 11 No Step indicator lamps g) 1 No Control circuit protection fuse/fuse holder h) 1 No. 11-Step automatic control regulator for maintaining power factor at the set level and regulating the switching of capacitor steps i) 1 No 400/5A Current transformer (to be mounted after the mains incoming circuit breaker) **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.** xvi) Allow for Fireman's switch connection as indicated in the schematic drawing	Item	1		
	TOTAL C/F TO NEXT PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
	xvi) 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).				
5.5.2	240mm^2 PVC/SWA/PVC single core armoured copper cable laid in ducts in trench from main splitter board to Resource center low voltage board complete with glands and lugs	LM	600		
	UNDERGROUND CABLE DUCTING				
5.5.3	Allow for 300mm deep trecncing and back filling for the cable mentioned before.	Lm	700		
5.5.4	Ducting for the above in 150mm HGPVC Pipes complete with haunching	Lm	700		
5.5.5	Allow for cable markers in concrete tiles marked "HATARI" for the item above	No.	20		
	AUDITORIUM AC PROVISIONS				
5.5.6	8-Way TP/N distribution board flush mounted complete 1No. 100A TPN integral isolator.	No.	1		
5.5.7	MCBs for the boards above				
	i)20ASP	No.	11		
	ii)32ASP	No.	5		
	iii)45A SP	No.	1		
	iv)Blanking Plates	No.	5		
5.5.8	4 core 25mm^2 PVC/SWA/PVC (armoured) + 1X16mm^2 single Core copper cables drawn inside 50mm diameter HG conduits	LM	40		
5.5.9	Cable glands for the above cable	No.	2		
5.5.10	Cable lugs for the above cable complete with hydraulic crimping	No.	10		
5.5.11	Single phase isolator point comprising of wiring in 3x6.0 mm^2 PVC-SC-Cu cables drawn inside 20mm diameter HG conduits	No.	6		
5.5.12	Three phase isolator point comprising of wiring in 5x6.0 mm^2 PVC-SC-Cu cables drawn inside 20mm diameter HG conduits	No.	3		
5.5.13	32A Single phase Isolator complete with 3 pin industrial socket and plug	No.	6		
5.5.14	32A Three phase Isolator complete with 5 pin industrial socket and plug	No.	3		
	TOTAL C/F TO NEXT PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
	<u>BIO- DIGETSTER PROVISIONS</u>				
5.5.15	4 core 25mm^2 PVC/SWA/PVC (armoured) copper cables drawn inside 32mm diameter HG conduits	Lm	120		
	Cable glands for the above cable	No.	2		
	Cable lugs for the above cable complete with hydraulic crimping	No.	10		
5.5.16	8-Way TP/N distribution board flush mounted complete 1No. 100A TPN integral isolator.	No.	1		
5.5.17	MCBs for the boards above				
	i)16A SP	No.	1		
	ii)20ASP	No.	3		
	iii)32ASP	No.	5		
	iv)32A TP	No.	4		
	v)Blanking Plates	No.	3		
5.5.18	Single phase isolator point comprising of wiring in 3x6.0 mm^2 PVC-SC-Cu cables drawn inside 20mm diameter HG conduits	No.	5		
5.5.19	Three phase isolator point comprising of wiring in 5x6.0 mm^2 PVC-SC-Cu cables drawn inside 20mm diameter HG conduits	No.	4		
5.5.20	32A Single phase Isolator complete with 3 pin industrial socket and plug	No.	5		
5.5.21	32A Three phase Isolator complete with 3 pin industrial socket and plug	No.	4		
	<u>LIFTS PROVISIONS</u>				
5.5.22	4 core 16mm^2 PVC/SWA/PVC (armoured) + 1X16mm^2 single Core copper cables drawn inside 50mm diameter HG conduits	Lm	40		
5.5.23	63A Three phase Isolator	No.	2		
	TOTAL FOR POWER DISTRIBUTION C/F TO SUMMARY PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	SCHEDULE 6 300KW SOLAR SYSTEM IN A CONTAINER				
5.6.1	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 Rated Current (Im) 13.76A Maximum Power Voltage (Vmp) 42.52v, Cell Efficiency - 22.65%	No.	550		
5.6.2	193.5KWh Lithium Battery Pack Smart String Energy Storage System (ESS) including a smart Rack Controller. Max Charging & Discharge power: 100kW, IP65, Class A EMC Protection Rating, Type II DC Lightning Protection. Smart Rack efficiency: +98.5%,	Item	1		
5.6.3	Smart Power Control System, 100kW DC/AC hybrid Power inverter full protection function:over-voltage, over-frequency, over-current, over-temperature, AC short-circuit automatic protection, max MPPT number: 10 Rated Output power 100KW MPPT efficiency of upto 98.8% Pure Sinewave output	No.	3		
5.6.4	Solar MPPT charge controller with the following characteristics; PV open circuit voltage 500V, Max PV power 250KW, PV rated current 100A, 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		
5.6.5	Racks/brackets to fit for item "4.31" above. To be Aluminium or approved equivalent resisting corrosion	No.	75		
5.6.6	Non-corrosive brackets to fit item "4.32" above	No.	75		
5.6.7	Non-corrosive brackets to fit item "4.33" above	No.	2		
5.6.8	Non-corrosive brackets to fit item "4.34" above	No.	1		
5.6.9	Solar surge protection device rated for 300VDC or to the Engineers approval	No.	1		
5.6.10	List any other item necessary to complete the installation of the 300KW solar system	Lot	1		
	TOTAL FOR HYBRID SOLAR POWER C/F TO SUMMARY PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	SCHEDULE 7				
	STANDBY POWER SUPPLY SYSTEM (GENERATOR SET)				
	GENERATING SET				
5.7.1	Supply, deliver to site, install, test and commission a prime rated 300 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		
5.7.2	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		
5.7.3	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		
5.7.4	Complete earthing of generating set to electrical engineer's approval	Item	1		
	AMF CONTROL PANEL				
	Supply, deliver to site, install, test and commission the following:				
5.7.5	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		
5.7.6	400A 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		
5.7.7	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		
5.7.8	12 volts battery as directed by the Engineer's specifications	No.	1		
	RECOMMENDED SPARE PARTS AND LUBRICATORS				
	For the supply to the site of the following spare parts and lubricators:				
5.7.9	Oil Filters	No.	2		
5.7.10	Air Filters	No.	2		
5.7.11	Fuel filters to suit the set	No.	2		
5.7.12	Set of Fan belts to suit the set	No.	1		
	TOTAL C/F TO NEXT PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
5.7.13	10 litres container of sump oil of grade.....*	No.	1		
5.7.14	2 kilogram grease in a tin of grade .....*	No.	1		
5.7.15	10 litre plastic container of distilled water	No.	1		
5.7.16	20 litre of engine oil in a tin of grade .....*	No.	1		
5.7.17	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**				
	SCHEDULE 4 -TOOLS TO BE SUPPLIED WITH THE SET				
	For the supply to site of the following tools:				
5.7.18	Metal tool box with lock and two keys	No.	1		
5.7.19	Set of 8 No. Chrome vanadium ring spanners in sizes to suit the set	No.	1		
5.7.20	Set of 3 screwdrivers, 75mm, 200mm and 300mm plus one 200mm Philips type	No.	1		
5.7.21	- ditto -but open ended spanners	No.	1		
5.7.22	Set of feeler gauges	No.	1		
5.7.23	Set of 8 No. Ratchets in sizes to suit the set	No.	1		
5.7.24	Grease gun to suit greasing points complete with compressor	No.	1		
5.7.25	Oil can, trigger type	No.	1		
5.7.26	Any other special tools which the tenderer recommends should be purchased as an optional:*	Item	1		
	NOTE* Tenderer should give detail and prices of item 5.7.26 but the price not to be included in total carried forward.				
	TOTAL FOR 300KVA GENERATOR C/F TO SUMMARY PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	SCHEDULE 8 SOLAR STREET LIGHTING				
5.8.1	Type P4	No.	33		
5.8.2	Type M	No.	24		
5.8.3	7 meter Long Class B Galvanized Iron Solar Street Lighting pole as per detail for Type P4 lighting	No.	33		
5.8.4	7 meter Long Class B Galvanized Iron Solar Street Lighting pole as per detail for Type M lighting	No.	6		
5.8.5	Excavate holes to take the poles above, average depth 1000mm, install pole back-fill with concrete, and compact to natural ground level.	No.	39		
	TOTAL FOR SOLAR STREET LIGHTING C/F TO SUMMARY PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	SCHEDULE 9 LIGHTNING PROTECTION				
	Air Termination				
5.9.1	15mm diameter multiple point copper air terminal complete with base	No.	4		
5.9.2	Copper junction clamps for tape.	No.	7		
5.9.3	25 x 3mm turned copper tape	Lm	100		
5.9.4	Copper ridge saddle	No.	10		
5.9.5	D.C. tape clip	No.	30		
	Down Conductors				
5.9.6	25 x 3mm turned copper tape	Lm	40		
5.9.7	D.C. tape clip	No.	20		
5.9.8	Oblong test/junction clamp	No.	2		
5.9.9	Diameter 38mm HG PVC conduits for the down conductors above.	Lm	40		
	Earth Termination				
5.9.10	15mm diameter, 1200mm long solid copper earth rod, complete with driving stud and spike.	No.	2		
5.9.11	Earth rod-to-tape clamp type A.	No.	2		
5.9.12	Concrete inspection earth pit with 5 hole earth bar	No.	2		
5.9.13	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.	2		
5.9.14	Soil treatment around the earth pits with marconite to achieve the required conductivity and obtain acceptable reading	Item	1		
5.9.15	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 LIGHTNING ARRESTORS C/F TO SUMMARY PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	SCHEDULE 11 AUDITORIUM AUDIO- VISUAL SYSTEM				
5.10.1	LCD projector with Light Output of upto 6500-7000lm	No.	1		
5.10.2	Fixed installation projector hanger with a mounting height range: 1500mm; maximum load of 36kg	No.	1		
5.10.3	4mX3m Wall mount Electric projection screen	No.	1		
5.10.4	PC as Desktop, A6-5400B(3.6Ghz or above), 16GB RAM or above,TTB SSD or above, 8Gb Grapgiccs card or above, DVDRW, Integrated NIC Audio Card, Internal speaker, 27 Inch or more, Wide LCD, English Windows 11 Professional 64 bit	No.	1		
5.10.5	Handheld Wireless microphone	No.	2		
5.10.6	Wired microphone as 37.5dB, 12mm*421mm, 48V power supply, unidirectional, 10m Cable or approved equivalent.	No.	2		
5.10.7	Microphone floor stands	No.	2		
5.10.8	Mixer with Input Connectors :10 MIC, Line inputs ;4x stereo, Output connectors: 2 ST, 2 AUX SEND, 1 EFFECT SEND,4 CH INSERT, 1 Stereo REC, 1 stereo MONITOR, 4 GROUP and Phone	No.	1		
5.10.9	Amplifier as; Stereo mode (dual-channel simultaneously drive): 600W (8Ω), 900W (4Ω); bridging mode (1x8Ω): 1800W; total harmonic distortion: @ 1kHz <0.05%; SNR:> 105dB; Input Sensitivity: 0.775 V/1.0V/1.4V; input impedance: 20K/10K; damping Factor:> 200; voltage gain: 30dB; dynamic range:> 90dB; frequency Response: 20Hz ~ 20kHz, +0 /-0.3dB 1W/8Ω; conversion rate:> 15 V / us; output Type: E class; protection features: High temperature protection, DC protection, power protection, overload protection o	No.	2		
5.10.10	Amplifier as; tereo mode (dual-channel simultaneously drive): 300W (8Ω), 425W (4Ω); bridging mode (1x8Ω): 900W; total harmonic distortion: @ 1kHz <0.05%; SNR:> 105dB; Input Sensitivity: 0.775V / 1.0V/1.4V; input impedance: 20K/10K; damping Factor:> 200; voltage gain: 30dB; dynamic range:>90dB; frequency Response: 20Hz ~ 20 kHz, +0 /-0.3dB 1W/8Ω; conversion rate:> 15 V / us; output Type: E class; protection features: High temperature protection, DC protection, power protection, overload protection	No.	3		
5.10.11	Auxiliary Speaker with; Weight:4.2kg Rated power: 100W@8Ω,music	No.	8		
5.10.12	Main speaker with; Weight:7.6kg Rated power: 200W@8Ω,music	No.	2		
	TOTAL C/F TO NEXT PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
5.10.13	Rack: Dimensions;600mm*600mm*2200mm	No.	1		
5.10.14	VGA video with an 8*8 VGA matrix switcher or approved equivalent	No.	1		
5.10.15	12*12 Digital Audio processor with speaker management, feedback suppressor, echo cancellation and delay or approved equivalent	No.	1		
5.10.16	Subwoofer with a frequency response range of 35Hz-400Hz and rated power of 600W@8Ω	No.	2		
5.10.17	Back- stage speaker with; Frequency Response: 70HZ-20KHZ (± 3DB); Sensitivity: 96DB (100HZ-20khz); Nominal impedance 8Ω; rated power	No.	4		
5.10.18	VGA UTP Extender with VGA Twisted Pair Transmitter(Transmission 300 meters by CAT6 cable)	No.	3		
	TOTAL FOR AUDITORIUM AUDIO-VISUAL C/F TO SUMMARY PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	SCHEDULE 11 **LIFTS INSTALLATIONS**				
	Supply,deliver and install the following Lift and accessories to positions indicated on the Architectural drawings and as instructed by the Engineer:-				
	Elevator				
5.11.1	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	No	2		
	Testing				
5.11.2	Allow for testing the lift to Engineers satisfaction and to leave in sound working condition.	ITEM	1		
	415V Surge diverter as Furze ESP 415, or approved equivalent, complete with purpose-made enclosure with viewing window	No.	2		
	Training				
5.11.3	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		
	Maintenance Contract schedule				
5.11.4	Maintenance for 12 months of the 2 lifts after end of deffects and liability period	ITEM	1		
5.11.5	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				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	SCHEDULE 12 Supply, install, test, commission and set to work (To the full satisfaction of all parties to the contract) the following: - CCTV				
5.12.1	**Dome Camera** 4MP resolution, Excellent low light performance, Efficient H.265+ compression technology, IP67, 24/7 colourful imaging	No.	40		
5.12.2	Ditto but Bullet Cameras	No.	11		
5.12.3	Network Video Recording System base to be mounted in a 42U data Cabinet with the following features:- • Up to 64 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 interfaces16 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.	1		
5.12.4	24 Port layer 2 100Mbps POE SFP Switch with Min 30W Power availability per port	No.	4		
5.12.5	GBIC transceiver modules (LC to LC) multimode for the switches above	No.	4		
5.12.6	Fibre Patch Panels for Data cable termination	No.	4		
5.12.7	9 U 600X600 wall mounted data cabinet complete with all accessories including power supply points	No.	4		
5.12.8	10TB Surveillance Hard Disk Drive	No.	8		
5.12.9	STP Cat 6 structured cables	Boxes	7		
5.12.10	STP Cat. 6 patch cord, 3M for the Cameras.	No.	30		
5.12.11	UPT Cat. 6A patch cord, 1M	No.	21		
5.12.12	Associated Fiber and UTP (CAT 6) cabling between field devices and Main Switch	Item	1		
	TOTAL FOR CCTV CARRIED FORWARD TO SUMMARY PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	SCHEDULE 13 Supply, install, test, commission and set to work (To the full satisfaction of all parties to the contract) the following: - ICT Horizontal Cabaling				
5.13.1	CAT 6A cable for Data/Telephone outlets	Lm	5,000		
5.13.2	Dual RJ45 Cat 6 outlets for voice / Data complete with faceplate and labeling	No.	2		
5.13.3	Single RJ45 Cat 6 outlets for Data complete with faceplate and labeling	No.	86		
5.13.4	24 port CAT 6 Data Modular Patch Panel for 4-Pair UTP termination	No.	4		
5.13.5	1M Factory terminated Cat 6 4 pair-SFTP RJ 45- RJ 45 patch cords to be used inside cabinet **(includes 15No Spares)**	No.	105		
5.13.6	3M Factory terminated Cat 6 4 pair-SFTP RJ 45- RJ 45 patch cords for data outlets **(includes 15No Spares)**	No.	105		
5.13.7	2U Cable managers/organisers	No.	4		
	ACTIVE EQUIPMENT				
5.13.8	24 port floor edge switch as CISCO for data	No.	4		
5.13.9	9U cabinets on each floor for floor edge switches complete with mounting brackets	No.	4		
	BACKBONE CABLING				
5.13.10	24 Port ST Multimode, sliding Fibre Optic patch panel complete with LC type connectors for Multimode fibre	No.	1		
5.13.11	1M Factory Terminated Fibre optic patch cords complete with LC-LC TYPE connectors to be used inside cabinet	No.	40		
5.13.12	8 core Loose tube multimode fibre optic cable linking floor edge switches to core switch in the Server room	LM	100		
5.13.13	RJ45-ST media converters for each floor edge switch	No.	4		
	SERVER				
5.13.14	42U Server rack cabinet, black complete with mounting angles and rails in Server Room as described in the particular specification of this tender document	No.	1		
5.13.15	24 port Core network switch for routing voice	No.	1		
5.13.16	24 port Core network switch equivalent for routing data	No.	1		
	TOTAL C/F TO NEXT PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
5.13.17	Router	No.	1		
5.13.18	2U Cable managers/organisers	No.	4		
5.13.19	Wireless Access point	No.	18		
	TELEPHONY				
5.13.20	Hybrid IP-PABX capable of handling 50 extensions to include GSM modules plus all accessories to work	No.	1		
5.13.21	Standard UC Phone complete with all accessories	No.	58		
5.13.22	Executive UC Phone complete with all accessories	No.	5		
5.13.23	Operator Phones complete with all accessories. Each takes up to 16 concurrent lines	No.	2		
5.13.24	Voice Gateways with 2 x E1 Cards each and 1 x 4 Port FXO Cards. These can host total of 136 ISDN + CO Lines	No.	1		
5.13.25	Any other items necessary to complete the system installation satisfactorily. (List, give quantities and price of the items) i)……. ii)…… ii)……..… iv)…….……				
	TOTAL FOR ICT ARRIED FORWARD TO SUMMARY PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	SCHEDULE 14 GENERAL ITEMS				
5.14.1	Carry out comprehensive 24-hour power analysis, after installing main switchboard, but before switching on load with a digital power meter (with printer) to: i) Record and print all the power system parameters. ii) Submit 3 copies of the print-outs. **(Note: Parameters must be satisfactory before building is switched on).**	Item			
5.14.2	Allow for presentation of all the required samples as per specifications, Bills of Quantities and Drawings.	Item			
5.14.3	**Working/ Shop Drawings** Prepare and submit three sets of record (shop) plan and isometric layout drawings to easily readable scale, A1 or A0 paper size formart 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 (CAD FILES) 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 maintainance manuals to Engineers approvals.	Item			
5.14.4	**As Installed Drawings** As above but for as built/ installed drawings	Item			
5.14.5	Prepare and submit Maintenance Manuals for all items installed.	Item			
5.14.6	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. 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. Provisional Sum for Contribution to KPLC for power upgrade	Item			
	TOTAL C/F TO NEXT PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BALANCE B/F FROM PREVIOUS PAGE				
5.14.7	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/m0difying all power manholes to KPLC standards. xiv) All other incidental KPLC requirements/charges.				
	TOTAL FOR GENERAL ITEMS C/F TO SUMMARY PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	ELECTRICAL INSTALLATIONS SUMMARY PAGE				
5.1	TOTAL FOR SCHEDULE 1 GROUND FLOOR				
5.2	TOTAL FOR SCHEDULE 2 FIRST FLOOR				
5.3	TOTAL FOR SCHEDULE 3 SECOND FLOOR				
5.4	TOTAL FOR SCHEDULE THIRD FLOOR				
5.5	TOTAL FOR SCHEDULE MAINS DISTRIBUTION				
5.6	TOTAL FOR SCHEDULE 6 SOLAR POWER				
5.7	TOTAL FOR SCHEDULE 7 STANDBY GENERATOR				
5.8	TOTAL FOR SCHEDULE 8 SOLAR STREET LIGHTING				
5.9	TOTAL FOR SCHEDULE 9 LIGHTNING PROTECTION				
5.10	TOTAL FOR SCHEDULE 10 AUDITORIUM AUDIO- VISUAL				
5.11	TOTAL FOR SCHEDULE 11 LIFTS INSTALLATIONS				
5.12	TOTAL FOR SCHEDULE 12 CCTV				
5.13	TOTAL FOR SCHEDULE 13 ICT				
5.14	TOTAL FOR SCHEDULE 14 GENERAL ITEMS				
	TOTAL FOR ELECTRICAL WORKS, CARRIED TO GRAND SUMMARY				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	(All rates are V.A.T Inclusive) BILL NO. 6; LANDSCAPING WORKS ELEMNET NO. 6.1 (INTERNAL LANDSCAPING) GROUND PREPARATION AND GRASSING Clearing and Levelling				
6.1.1	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.	SM	210		
6.1.2	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	SM	210		
	Supply and application of Manure.				
6.1.3	Supply and apply prime quality fertilizers or compost manure at designated locations and as directed by the landscape architect or Project Manager	SM	210		
	Supply and Installation of Grass and Lawns 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				
6.1.4	Penisetum clandestinum (KIKUYU GRASS) springs spaced at 100mm centres both ways	SM	210		
	Planting of ground Covers				
6.1.5	Supply,plant,weed,water and tend well assorted species of groundcovers till full establishment as per the designs of the landscape architect or as directed by the Project Manager	SM	41		
	Planting of Shrubs				
6.1.6	Supply, 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	LM	68		
	TOTAL CARRIED FORWARD				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	INTERNAL LANDSCAPING WORKS CONTINUED...				
	BROUGHT FORWARD FROM PAGE LW/1				
	Supply, 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.				
6.1.7	Assorted Species of Palm trees and other ornamental trees as per the designs of the landscape architect or as directed by the project manager	NO	10		
6.1.8	Assorted Species of other indegenous trees as per the designs of the landscape architect or as directed by the project manager.	NO	10		
	MAINTENANCE				
6.1.9	Allow for a follow up of all installations and constructions to insure establishment and concept preservation. Mowing, watering, training and trimming all included	Months	6		
	LITTER BINS				
	Supply, deliver and install litter bins to specification				
6.1.10	Standard round swivel litter bin, 68L Stainless Steel with detailed pattern perforation, inclusive of installations, fixing to concrete footing or any other aprroved by project architect	NO	20		
	TOTAL FOR INTERNAL LANDSCAPING WORKS CARRIED FORWARD TO SUMMARY				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	ELEMENET NO. 6.2. (EXTERNAL LANDSCAPING)				
	GROUND PREPARATION AND GRASSING				
	Clearing and Levelling				
6.2.1	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.	SM	500		
6.2.2	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	SM	500		
	Supply and application of Manure.				
6.2.3	Supply and apply prime quality fertilizers or compost manure at designated locations and as directed by the landscape architect or Project Manager	SM	500		
	Supply and Installation of Grass and Lawns				
	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				
6.2.4	Penisetum clandestinum (KIKUYU GRASS) springs spaced at 100mm centres both ways	SM	500		
	Planting of ground Covers				
6.2.5	Supply,plant,weed,water and tend well assorted species of groundcovers till full establishment as per the designs of the landscape architect or as directed by the Project Manager	SM	68		
	Planting of Shrubs				
6.2.6	Supply, 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	LM	114		
	TOTAL CARRIED FORWARD				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	EXTERNAL LANDSCAPING WORKS CONTINUED...				
	BROUGHT FORWARD FROM PAGE LW/3				
	Supply, 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.				
6.2.7	Assorted Species of Palm trees and other ornamental trees as per the designs of the landscape architect or as directed by the project manager	NO	15		
6.2.8	Assorted Species of other indegenous trees as per the designs of the landscape architect or as directed by the project manager.	NO	10		
	MAINTENANCE				
6.2.9	Allow for a follow up of all installations and constructions to insure establishment and concept preservation. Mowing, watering, training and trimming all included	Months	6		
	LITTER BINS				
	Supply, deliver and install litter bins to specification				
6.2.10	Standard round swivel litter bin, 68L Stainless Steel with detailed pattern perforation, inclusive of installations, fixing to concrete footing or any other aprroved by project architect	NO	10		
	TOTAL FOR INTERNAL LANDSCAPING WORKS CARRIED FORWARD TO SUMMARY BELOW				
	LANDSCAPING WORKS SUMMARRY				
6.1	TOTAL FOR ELEMENT NO 1. (INTERNAL LANDSCAPING) B/F FROM PAGE LW/2				
6.2	TOTAL FOR ELEMENT NO 2. (EXTERNAL LANDSCAPING) B/F FROM ABOVE				
	TOTAL FOR LANDSCAPING WORKS CARRIED FORWARD TO GRAND SUMMARY				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BILL NO. 7; CIVIL WORKS **(All prices are V.A.T Inclusive)**				
	ELEMENT NO. 7.1 (ROAD WORKS AND PARKING):				
	Excavation and Earthworks				
7.1.1	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	SM	800		
7.1.2	Bulk excavation: not exceeding 1.5m deep and cart away or stock pile for re-use as directed by the project manager	CM	560		
	Disposal of excavated material				
7.1.3	Load and cart away surplus material from the site as diected by the project manager.	CM	560		
	Road formation and subbase				
7.1.4	Trim and compact formation to correct levels, cross-falls and longitudinal falls	SM	800		
7.1.5	Provide and lay 300mm thick Imported and approved murram backfill 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	SM	800		
7.1.6	Provide, lay and compact 300mm thick approved handpacked stone base blinded to Engineer's specifications or as directed by the Engineer.	CM	240		
	Concrete Paving blocks				
7.1.7	Provide, lay and compact 60mm thick heavy duty interlocking paving blocks min strength 49N/mm2	SM	800		
	STORM WATER DRAINAGE				
	Excavation				
	Excavation of drain trenches including, maintaining and supporting sides and keeping bottom free from water, mud and fallen materials, grading bottoms, backfilling in appropriate material and loading and carting away surplus excavted materials				
7.1.8	For pitch drain average depth -1000mm	CM	336		
	Invert Block Drains				
7.1.9	600mm diameter round precast concrete invert blocks drain manufactured in accordance with BS 340 laid to slope and including 100mm murram bed, jointing in cement and sand mortar	LM	121		
	TOTAL CARRIED FORWARD				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	CIVIL WORKS CONTINUED... BROUGHT FORWARD FROM PAGE CIV/1				
	KERBS				
7.1.10	Provide, lay and joint along the edge of the driveways, walkways, round about and parking 125x250mm pre-cast concrete kerb including excavation, 100x225mm bed, 100x350mm haunch (concrete class 20/20) any necessary formwork and disposal of surplus material all to detail (50) 5332 'A.	LM	336		
	CHANNELS				
7.1.11	Provide, lay and joint along the edge of tdriveways, walkways, round about and parking 125x100mm pcc channels, including excavation 350x100mm bed, 350x100mm haunch (conc class 20/20) and any necessary excavation, formwork and disposal of surplus material to detail (50) 5332 'B'.	LM	336		
	ROAD AND PARKING MARKING Prepare and aplpy three coats of approved road marking thermoplastic paint on asphalt to surfaces not exceeding 100mm girth				
7.1.12	Yellow in colour	SM	100		
7.1.13	White in colour	SM	100		
	TOTAL FOR ELEMENT NO. 1 (ROAD WORKS AND PARKING) CARRIED FORWARD TO SUMMARY				
	ELEMENT NO. 7.2 (EXTERNAL PAVING)				
	Excavation and Earthworks				
7.2.1	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	SM	269		
7.2.2	Excavate oversite average 150mm deep and cart away or stock pile for re-use as directed by the project manager	SM	269		
	Disposal of excavated material				
7.2.3	Load and cart away surplus material from the site as diected by the project manager.	CM	40		
7.2.4	Provide, lay and compact 100mm approved gravel filling to 100% MDD well watered and compacted to 95% MDD and level ready to receive paving slabs	SM	269		
7.2.5	Treat trimmed surfaces with approved herbicide applied in accordance with the manufacturer's instructions and subject to a TEN YEAR guarantee	SM	269		
	TOTAL CARRIED FORWARD				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	CIVIL WORKS CONTINUED...				
	BROUGHT FORWARD FROM PAGE CIV/2				
7.2.6	Provide, lay and joint in cement/sand mortar mix (1:3) 600 x 600 x 60mm precast concrete paving slab on 50mm sand or stone dust blinding.	SM	269		
7.2.7	Prepare and apply concrete 100mm wide concrete class 20/20 to edges of Paving slabs lining	LM	1,121		
	TOTAL FOR ELEMENT NO.7.2 (EXTERNAL PAVING) CARRIED FORWARD TO SUMMARY BELOW				
	ELEMENT NO. 7.3 WASTE WATER TREATMENT SYSTEM				
	BUILDER'S WORK				
	Excavate in pit for biodigester tank starting from ground level				
7.3.1	Depth not exceeding (ne)1.5m	CM	73		
7.3.2	Ditto,depth 1.5 - 3.0m	CM	73		
7.3.3	Ditto,depth 3 - 9.5m	CM	12		
7.3.4	Trim bottom of excavated surface	SM	49		
7.3.5	Extra over for excavation in rock class II	CM	158		
7.3.6	Return fill and ram approved excavated material around foundations	CM	99		
7.3.7	Load and cart away surplus excavated material	CM	34		
7.3.8	Allow for keeping the whole excavation free from all water including spring and running water	ITEM	1		
7.3.9	Allow for plunking and strutting the whole excavation	ITEM	1		
	Concrete class 15/20				
7.3.10	Mix and place 50mm concrete blinding	CM	2		
	Vibrated reinforced concrete class 25/20 in				
7.3.11	150mm thick bottom slab	SM	49		
7.3.12	200X300 mm thicknessing	CM	3		
7.3.13	300mm thick walls	CM	45		
7.3.14	150 mm thick scum baffle wall	CM	1		
7.3.15	150mm thick suspended cover slab	SM	49		
7.3.16	Beams	CM	6		
	High yied ribbed reinforcement steel to 8.S 4449				
7.3.17	Arsorted bars	KG	9,621		
	BRC Mesh Reinforcement to B.S 1483				
7.3.18	BRC mesh No, 65/66	SM	49		
	TOTAL CARRIED FORWARD				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BROUGHT FORWARD				
	Formwork				
	Sawn formwork to:-				
7.3.19	Interior sides of vertical walls	SM	150		
7.3.20	External sides of vertical walls	SM	150		
7.3.21	Soffits of suspended slab	SM	49		
7.3.22	Sides of suspended slab, 150 mm-225 mm wide	LM	29		
7.3.23	Ditto to sides of entry and exit manholes	SM	2		
7.3.24	Boxing in formwork to form opening in cover slab for 600 x 450 mm manhole cover and frame, 150 -225 mm wide	NO	8		
	WATER PROOF CEMENT RENDERING				
7.3.25	12mm thick sulphate resistant cement sand (mix 13) to base slab	SM	49		
7.3.26	Ditto to sides of vertical walls	SM	299		
	Sundries				
7.3.27	Form or leave 100mm diameter hole in 200mm thick reinforced concrete wall and slab	NO	7		
7.3.28	Form or leave 600 x 600mm hole in 200mm thick reinforced concrete suspended slab	NO	8		
7.3.29	600 x 600mm heavy duty double sel manhole cover and frame including setting cover in concrete opening and forming rebate	NO	8		
7.3.30	20mm diameter galvanised mild steel step iron 450mm long twice bent and with both ends built 75mm deep into concrete wall	NO	8		
	SOAK PIT				
	Excavate pit for circular soak pit				
7.3.31	depth 0 - 1.5m	CM	8		
7.3.32	depth 1.5 - 3.0m	CM	8		
7.3.33	depth 3.0 - 9.5m	CM	8		
7.3.34	depth 9.5 - 6.0m	CM	8		
7.3.35	depth 6.0 - 7.5m	CM	8		
7.3.36	depth 7.5 - 9.0m	CM	3		
7.3.37	Cart away excavated materials and spread evenly distance not exceeding 50 metres fro site	CM	43		
	Concrete class 15/20				
7.3.38	Mix and place concrete strip footing	CM	1		
7.3.39	Blinding concrete	CM	1		
	Walling				
7.3.40	150mm thick dressed natural stone to detail 50(5345)	SM	31		
7.3.41	12mm thick water proof cement rendering to vertical walls	SM	62		
	Vibrated reinforced concrete class 25/20				
7.3.42	Mix and place concrete class 25/20 in 150mm thick suspended slab	CM	1		
	TOTAL CARRIED FORWARD				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BROUGHT FORWARD				
	Mild steel reinforcement bars to B.S 4449				
7.3.43	12mm diameter round bars	KG	83		
7.3.44	Supply and place unconsolidated hardcore in soak pits	CM	52		
7.3.45	Provide and fix 600 x 450mm medium duty Fibre manhole cover and frame to B.S 497	NO	4		
	FRENCH DRAINS				
7.3.46	Excavate, provide and lay 160mm diameter agricultural pipes in French drains. Include for all other materials as per drawing No. (50)5344	LM	150		
7.3.47	Cultivate within soakage area, provide and spread 100mm thick layer of red soil mixed with manure (ratio manure: red soil = 1:6). Plant Kikuyu grass, maintain till established	SM	100		
	TOTAL FOR ELEMENT NO.7.2 (WASTE WATER TREATMENT BUILDER'S WORK) CARRIED FORWARD TO SUMMARY BELOW				
	CIVIL WORKS SUMMARRY				
7.1	TOTAL FOR ELEMENT NO 7.1 (ROAD WORKS AND PARKING) B/F FROM PAGE CW/2				
7.2	TOTAL FOR ELEMENT NO 7.2 (EXTERNAL PAVING) B/F FROM ABOVE				
7.3	TOTAL FOR ELEMENT NO 7.3 (WASTE WATER TREATMENT BUILDER'S WORK) B/F FROM ABOVE				
	TOTAL FOR LANDSCAPING WORKS CARRIED FORWARD TO GRAND SUMMARY				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	(All Rates are V.A.T Inclusive) BILL NO. 8; GATE HOUSE BUILDING WORKS ELEMENT NO 8.1 SUBSTRUCTURE WORKS (All Provisional) Please note that ALL substructure works are Measured Provisionally. The contractor must ensure that the actual measurements are taken by the Project Quantity Surveyor before any works are covered. Failure to do so will necessatate works to be open up for verificatation at your (contractors) cost. NOTE: Classes of Rock (1) Class 1 : Soft rock of the type known locally as "CORAL" which in the opinion of the Engineer cannot be considered as hard rock shall be known as Class 1 rock. Soft Rock shall be rock with compressive strength not exceeding 15N/mm2. Murram and Kunker is specifically excluded and will be reckoned as normal/common excavation. Extremely weathered and weak Tuff shall also be considered as normal excavation. (2) Class 2 : Class 2 Rock shall be with compressive strength exceeding 15N/mm2. This type of rock contains stones and boulders of unweathered or incompletely weathered Tuff, trachyte, black trap or lava with compressive strength exceeding 15N/mm2 in a formation which is massive and geologically homogeneous. A boulder or outcrop with such compressive strength will be deemed to be Class 2 rock or Hard Rock The opinion of the Engineer in classifying rock shall be final and binding. Explosives must not be used without the prior approval of the Engineer. Blasting operations are carried out at the Contractor's sole risk, and all blasting must be carried out in accordance with government regulations and approval				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	EXCAVATION AND EARTHWORKS				
	Excavation including maintaining and supporting sides and keeping free from water, mud and falling materials; No allowance is made in the excavations for working space; contractor to factor in working space in his rates:				
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	SM	13		
8.1.2	Excavate oversite average 150mm deep and cart away	SM	13		
8.1.3	Excavate trench for strip foundation: not exceeding 1.5m deep	CM	8		
8.1.4	Excavate for column bases: not exceeding 1.5m deep	CM	14		
8.1.5	Extra over excavation from rock in any position	CM	22		
	Disposal of excavated material				
8.1.6	Return, fill and ram extra excavation materials around foundation	CM	13		
8.1.7	Load and cart away surplus material	CM	10		
	Disposal of Water				
8.1.8	Allow for keeping the whole of the excavation free from mud, water and fallen materials	Item	1		
	Planking and strutting				
8.1.9	Allow for planking and strutting sides of excavation	Item	1		
	Filling				
8.1.10	300mm thick (minimum) approved hardcore handpacked in layers not exceeding 150mm	CM	4		
8.1.11	50mm thick murram dust or any other equal and approved material in blinding surface of hardcore	SM	13		
	Insecticide Treatment				
8.1.12	Treat hardcore surface with approved antitermite applied in accordance with the manufacturer's instructions and subject to a TEN YEAR guarantee	SM	13		
	TOTAL EXCAVATION AND EARTHWORKS, CARRIED FORWARD TO ELEMENT COLLECTION				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	SUBSTRUCTURES CONTINUED				
	CONCRETE WORKS				
8.1.13	50mm thick concrete blinding to surfaces of strip footing & column bases (concrete class 15)	SM	14		
	Vibrated reinforced concrete class 25/20 to:-				
8.1.14	Strip footing	CM	1		
8.1.15	Columns Bases	CM	4		
8.1.16	Foundation Columns	CM	1		
8.1.17	150 mm thick ground floor slab	SM	13		
	High Tensile Ribbed Reinforcement Bars to B. S. 4461 including cutting, bending and all necessary spacer blocks : (Provisional) :-				
8.1.18	Assorted bars	KG	780		
8.1.19	BRC mesh type A142	SM	13		
	Marineply formwork as Described. Allow for setting to special steel proping, strutting, fillets, nails, etc to:				
8.1.20	Sides of strip footing	SM	4		
8.1.21	Ditto but to column bases	SM	10		
8.1.22	Ditto but to sides of foundation columns	SM	5		
8.1.23	Ditto but to edges of floor slab 150mm - 225mm thick	LM	18		
	FOUNDATION WALLING				
8.1.24	200mm solid coral block foundation wall in cement:sand (1:3) reinforced with hoop iron at every to alternative course	SM	14		
	WATERPROOFING				
8.1.25	1000 gauge polythene DPM	SM	13		
	PLINTH FINISHES				
8.1.26	15mm cement and sand (1:4) render trowelled smooth and comprising 12mm thick backing and 3mm finishing coat.	SM	9		
	Painting and Decoration				
8.1.27	Prepare and apply 3 coats of approved first quality bituminous paint or equal and approved to rendered surfaces	SM	9		
	TOTAL SUBSTRUCTURE WALLING AND CONCRETE WORKS, CARRIED FORWARD TO ELEMENT COLLECTION				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	ELEMENT NO. 6.1 (SUBSTRUCTURE WORKS) COLLECTION				
A	Total Excavation and Earthworks brought forward from page GHBW/2				
B	Total Substructure Walling and Concrete Works brought forward from page GHBW/3				
	TOTAL ELEMENT NO. 8.1 (SUBSTRUCTURE WORKS), CARRIED TO SUMMARY				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	SUPERSTRUCTURES ELEMENT NO 8.2 SUPERSTRUCTURE REINFORCED CONCRETE WORKS Vibrated Reinforced Concrete Class - 25/20 to:-				
8.2.1	Beams	CM	2		
8.2.2	Columns	CM	2		
8.2.3	150 mm Thick Suspended floor slab	SM	13		
	High Tensile Reinforcement Bars to B. S. 4461 including cutting, bending and all necessary spacer blocks : (Provisional) :-				
8.2.4	Asorted bars	KG	858		
	Marineply formwork as Described. Allow for setting to special steel proping, strutting, fillets, nails, etc to:				
8.2.5	Sides of Beams	SM	15		
8.2.6	Sides of columns	SM	15		
8.2.7	To soffits of suspended slabs	SM	13		
8.2.8	To Edges of first floor slabs 150-225mm high	LM	18		
	TOTAL FOR ELEMENT NO. 8.2 (SUPERSTRUCTURE REINFORCED CONCRETE WORKS), CARRIED FORWARD TO SUMMARY				
	ELEMENT NO. 8.3 WALLING				
8.3.1	200mm machine cut coral stone wall in cement:sand (1:3) reinforced with hoop iron at every to alternative course (internally and externally)	SM	35		
	WATERPROOFING				
8.3.2	Hessian based bituminous felt damp proof course 200mm wide	LM	36		
	Precast concrete coping				
8.3.3	300 x 50 mm thick insitu concrete coping reinforced in 4No. 10mm diameter bars and 8mm diameter rings; weathered and throated saddled-back on both sides for handling finished fair and jointed to 200 thick dwarf and parapet walls in cement sand mortar 1:3 all to approval	LM	18		
8.3.4	Ditto 550 x 350mm pier cap ditto to columns	NO	4		
	TOTAL FOR ELEMENT NO. 8.3 (WALLING), CARRIED FORWARD TO SUMMARY				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	ELEMENT NO. 8.4 ROOFING FLAT ROOF FINISHES				
8.4.1	50 mm cement sand 1:3 water proof screed to flat roof slab laid to fall and crossfalls	SM	13		
8.4.2	Apply one coat bituminous primer to surface of screed.	SM	13		
8.4.3	Supply, torch and apply bituminous membrane as per 'high quality' or equal and approved to primed screed surfaces	SM	13		
8.4.4	Ditto sides of wall 200mm high	LM	18		
8.4.5	50 x 50mm internal angle fillet	LM	18		
8.4.6	200 x 200 x 25mm thick high quality clay tiles or equal approved on roof slab bedded and jointed in cement mortar 1:3 and 25mm joint pointed with red cement slurry	SM	13		
8.4.7	Ditto sides of wall 200mm high	LM	18		
	Rainwater goods				
8.4.8	Extra over for running outlet	NO	4		
8.4.9	100mm x 75 x 0.6mm PVC down pipes fixed to wall with holding clips at 1200mm centres	LM	13		
8.4.10	Extra over for swan neck 1000mm long	NO	4		
8.4.11	Extra over for shoe 1000mm long	NO	4		
	TOTAL FOR ELEMENT NO. 8.4 (ROOFING) CARRIED TO SUMMARY				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	ELEMENT NO. 8.5 WINDOWS ALUMINIUM WINDOWS Supply, assemble and fix the following purpose made powder coated aluminium framed sliding windows to B.S 3987, 1984 from approved manufacturer(s) complete with mullions, transomes, railing and necessary intermediate reinforcement elements including all weather strips, rubber glazing strips,couplings, sliding rails bars, window cills and window boards; panes fixed with 6mm thick one way tinted glass fixed with beadings.				
8.5.1	Overall size 800 x 2000mm high.	NO.	1		
	TOTAL FOR ELEMENT NO. 8.5 (WINDOWS), CARRIED FORWARD TO SUMMARY				
	ELEMENT NO. 8.6 DOORS Aluminium Doors Supply, assemble and fix the following purpose made powder coated aluminium framed door to B.S 3987, 1984 complete panes fixed with 8mm thick One way tinted glass fixed with beadings with a complete set of industrial galvanised ironmongery comprising of 3 lever mortice locks complete with lever furniture, 100mm heavy duty aluminium butt hinges, brass door stops, guardsman pull handle XL003820 and rubber buffers as directed by the project Architect.All exposed aluminium section are to be powder coated. (Ref Architects Detailing)				
8.6.1	Single leaf single swing door size 900mm x 2400mm high with 300mm high fanlight	NO	1		
	TOTAL FOR ELEMENT NO. 8.6 (DOORS), CARRIED FORWARD TO SUMMARY				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	ELEMENT NO. 8.7				
	FINISHES				
	Wall and Concrete Finishes				
8.7.1	12mm cement and sand (1:4) plaster to walls and concrete surfaces trowelled smooth.	SM	70		
8.7.2	Prepare and apply 3 coats of first quality emulsion paint or equal and approved to plastered surfaces.	SM	70		
	Floor Finishes				
	Cement and sand (1:4) screeding smooth trowelled				
8.7.3	32mm Thick floor screed	SM	13		
	Terrazzo paving				
8.7.4	20 mm Thick homogenous mix terrazzo laid on screed backing; cement sand marble chippings (1:4:8) grinded and polished including dividing strips.	SM	13		
8.7.5	Ditto but to 100 mm high skirting	LM	10		
8.7.6	25 mm wide Slip-resistant Carborandum inserts on ramp bonded with an approved adhesive	LM	1		
8.7.7	32 x 3mm thick plastic dividing strips	LM	10		
	Ceiling				
8.7.8	12mm cement and sand (1:4) plaster to concrete surfaces trowelled smooth.	SM	13		
8.7.9	Prepare and apply 3 coats of first quality emulsion paint or equal and approved to plastered surfaces.	SM	13		
	TOTAL FOR ELEMENT NO. 8.7 (FINISHES) CARRIED TO SUMMARY BELOW				
	GATE HOUSE BUILDING WORKS SUMMARY				
8.1	Total for Element No. 8.1 (Substructure Works), brought forward from page GHBW/4				
8.2	Total for Element No. 8.2 (Superstructure Reinforced Concrete Works), brought forward from page GHBW/5				
8.3	Total for Element No. 8.3 (Walling), brought forward from page GHBW/5				
8.4	Total for Element No. 8.4 (Roofing) brought forward from page GHBW/6				
8.5	Total for Element No. 8.5 (Windows) brought forward from page GHBW/7				
8.6	Total for Element No. 8.6 (Doors) brought forward from page GHBW/7				
8.7	Total for Element No. 8.7 (Finishes) brought forward from above				
	TOTAL FOR GATE HOUSE BUILDING WORKS, CARRIED TO GRAND SUMMARY				

BILL OF QUANTITIES FOR PROPOSED NATIONAL MARICULTURE RESEARCH AND TRAINING CENTRE

Item	Description	Unit	Qty	Rate	Amount
	(All Rates are V.A.T Inclusive) BILL NO. 9; DAYWORKS The dayworks rates priced below should include all overheads and profits				
9.1	Provision of labour				
9.1.1	Porter	Hrs	10		
9.1.2	Semi-skilled	Hrs	10		
9.1.3	Mason/	Hrs	10		
9.1.4	Steel fixer	Hrs	10		
9.1.5	Carpenter	Hrs	10		
9.1.6	Painter	Hrs	10		
9.1.7	Tile fixer	Hrs	10		
9.1.8	Welder/Electrician	Hrs	10		
9.1.9	Foreman	Hrs	10		
9.1.10	Carpenter for joinery	Hrs	10		
9.1.11	Plumber	Hrs	10		
9.1.12	Electrician	Hrs	10		
9.2	Provision of plant 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				
9.2.1	Lorry (minimum 8 tonne capacity - or similar)	Hrs	5		
9.2.2	Tipper (8 tonne capacity - or similar)	Hrs	5		
9.2.3	Compressor	Hrs	5		
9.2.4	Roller	Hrs	5		
9.2.5	Plate compactor	Hrs	5		
9.2.6	Wheel loader	Hrs	5		
9.2.7	Grader	Hrs	5		
9.2.8	Crawl loader	Hrs	5		
9.2.9	Jack hammer	Hrs	5		
9.2.10	Dewatering pump	Hrs	5		
9.2.11	Concrete mixer	Hrs	5		
9.2.12	Dumper	Hrs	5		
9.2.13	Hand tools (power drills, grinders, torque wrenches, etc.)	Hrs	5		
9.2.14	Excavator	Hrs	5		
9.2.15	Bulldozer	Hrs	5		
9.2.16	Motor grade	Hrs	5		
9.2.17	Portable generator	Hrs	5		
9.2.18	3-Phase power generator	Hrs	5		
9.2.19	Vibrator	Hrs	5		
	Total Carried to Summary				

Item	Description	Unit	Qty	Rate	Amount
9.3	Provision of material 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				
9.3.1	Ordinary portland cement @ 50kg bags	Bags	10		
9.3.2	Clean river sand	m3	10		
9.3.3	12-20mm graded course aggregate	m3	10		
9.3.4	Manufactured sand / Quarry dust / 0-6mm aggregate	m3	10		
9.3.5	Graded crushed stone (crusher run - 0 to 60mm)	m3	10		
9.3.6	Murram	m3	10		
9.3.7	Hardcore	m3	10		
9.3.8	Redsoil	m3	10		
9.3.9	Reinforcement steel	Kg	100		
9.3.10	Sawn timber formwork	m2	10		
9.3.11	6mm thick clear glass	m2	10		
9.3.12	Water	lts	100		
9.3.13	Diesel fuel	lts	10		
	Total Carried to Summary Below				
	DAYWORKS SUMMARY				
A	Total Brought Forward from page DW/1				
B	Total Brought Forward from above				
	TOTAL FOR DAY WORKS CARRIED TO GRAND SUMMARY				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	(All Rates are V.A.T Inclusive) BILL NO. 10; ESMP PRELIMINARIES FOR HEALTH AND SAFETY, AIR AND NOISE MONITORING & CONTROL, WASTE MANAGEMENT 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. 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: SAFETY, HEALTH AND WELFARE OF WORKERS				
10.0.1	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 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. 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 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. 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. The Contractor is expected to also come up with an Emergency Response plan	Item	1	4,000,000.00	4,000,000.00
	Total Carried to Collection			Ksh	4,000,000.00

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	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.				
10.0.2	SANITATION OF THE WORKS 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. 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. 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. 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.	Item	1	800,000.00	800,000.00
10.0.3	PREVENTION OF DISTURBANCE AND NUISANCE Tenderers should note that normal activities shall be continuing in the surrounding buildings during the construction period. 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. 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. 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.	Item	1	500,000.00	500,000.00
	Total Carried to Collection			Ksh	1,300,000.00

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	GRIEVANCE REDRESS MECHANISM (GRM) WORKER				
10.0.4	The Contractor shall employ, maintain and equip throughout the project duration staff assigned the functions for GRM and the implementation of social safeguard issues.	Item	1	1,020,000.00	1,020,000.00
	CLEANING, REMOVAL OF PLANT AND RUBBISH AND GENERAL WASTE MANAGEMENT ETC				
10.0.5	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	700,000.00	700,000.00
	AMBIENT AIR QUALITY AND NOISE MONITORING				
10.0.6	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	700,000.00	700,000.00
	TRAFFIC CONTROL AND MANAGEMENT				
10.0.7	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. The Contractor will also come up with a Traffic Management Plan to ensure safety of local communities from construction traffic	Item	1	850,000.00	850,000.00
	Total Carried to Collection			Ksh	3,270,000.00

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
10.0.8	MOVEMENT OF TRUCKS OR MACHINERY 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.	Item	1	500,000.00	500,000.00
10.0.9	PROTECTION OF EXISTING INSTALLATION 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.	Item	1	200,000.00	200,000.00
10.0.10	PHYSICAL, CULTURAL & NATURAL RESOURCES 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				
	The Contractor will come up with a Water Resource Protection Plan to prevent contamination of drinking water	Item	1	300,000.00	300,000.00
	Total Carried to Collection below			**Ksh**	**1,000,000.00**
	SECTION SUMMARY- ESMP				
	Total Brought Forward from Page ESMP/1				**4,000,000.00**
	Total Brought Forward from Page ESMP/2				**1,300,000.00**
	Total Brought Forward from Page ESMP/3				**3,270,000.00**
	Total Brought Forward from Page above				**1,000,000.00**
	TOTAL FOR DAY WORKS CARRIED TO GRAND SUMMARY				9,570,000.00

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	(All Rates are V.A.T Inclusive) **BILL NO. 11; FURNITURE & FURNISHING** **(All provisional)**				
	Supply and install the following furniture of approved quality and stands from approved supplier and to Architect's details.				
	Reception Counter				
11.0.1	Allow for construction of L-Shaped MDF Counter overall size 10,000 mm long, 700 mm wide and 1,200 mm high with mahogany veneered shutters top finished in 20 mm thick scratch proof boards; 2 horizontal division and 2 vertical divisions, 6 No. Drawers internally (m/s);all in accordance with design to Architectural details.	NO	1		
11.0.2	Secretarial chairs.	NO	3		
	Auditorium Seats				
11.0.2	Seats size 900 x 800 x 900 mm high ergonomic tip up seats to details	NO	241		
	Restaurant tables and Seats				
11.0.3	Restaurant tables of size 1200 x 900 x 450mm high with dry kilned mvule frame and tampered glass top.	NO	30		
11.0.4	Soft seating single seater banquet chair with dry kilned mvule frame	NO	120		
	Office desks in 25 mm thick veneered MDF boarding shelving; hardwood lipped to edges; 3 No. drawers cabinet; complete with all necessary joining and fixing accessories, ironmongery to details. and Seats				
11.0.5	Office desks-1400x700x745mm high-type1	NO	20		
11.0.6	Office desks-1200x750x750mm high-type 2 managerial	NO	4		
11.0.7	High back orthopaedic mesh and fabric office seats	NO	20		
11.0.8	Ditto but managerial office seat.	NO	4		
11.0.9	Open filing cabinet-800x350x1278mm high	NO	5		
11.0.10	Half open half closed cabinet-800x370x2074mm high	NO	5		
	Training rooms				
11.0.11	Writing table in fluid and scratch prrof high quality MDF - 1400x600x745mm high	NO	48		
11.0.12	Ergonomic conference chairs made of maple, held together with black-coated steel framework and legs; fabric back and seat.	NO	192		
	Meeting rooms				
11.0.13	Boardroom table in fluid and scratch prrof high quality MDF-5200x1800x750mm high	NO	6		
11.0.14	Board room chairs	NO	72		
	TOTAL FOR FURNISHING CARRIED TO GRAND SUMMARY				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	(All Rates are V.A.T Inclusive) BILL NO. 12; PRIME COST AND PROVISIONAL SUMS				
12.0.1	Allow a Provisional Sum of Kshs. Ten Million (10,000,000.00) only for Contingencies to be used upon approval by Project Engineer				10,000,000.00
12.0.2	Allow a Provisional Sum of Kshs. Ten Million (10,000,000.00) only for Fluctuations to be used upon approval by Engineer.				10,000,000.00
	TOTAL PRIME COST AND PROVISIONAL SUMS, CARRIED TO GRAND SUMMARY				20,000,000.00

BILL OF QUANTITIES FOR PROPOSED NATIONAL MARICULTURE RESEARCH AND TRAINING CENTRE

ITEM	DESCRIPTION	AMOUNT
	(All Rates are V.A.T Inclusive) BILL NO. 13; GRAND SUMMARY	
13.0.1	Total Amount for Particular Preliminaries brought forward from Page PP/7	
13.0.3	Total Amount for General Preliminaries brought forward from Page GP/13	
13.0.4	Total cost for Building Works brought forward from page BW/22	
13.0.5	Total cost for Mechanical Works brought forward from page MW/43	
13.0.6	Total cost for Electrical Works brought forward from Page EW/16	
13.0.7	Total cost for Landscaping Works brought forward from page LW/4	
13.0.8	Total cost for Civil Works brought forward from page LW/4	
13.0.9	Total cost for Gate House brought forward from GH/8	
13.0.10	Total for Day Works brought forward from page DW/2	
13.0.11	Total for ESMP brought forward from page ESMP/3	9,570,000.00
13.0.12	Total for Furnishing brought forward from page FW/1	
13.0.13	Total for Prime Cost and Provisional Sums brought forward from page PS/1	20,000,000.00
	TOTAL AMOUNT FOR GRAND SUMMARY CARRIED TO FORM OF TENDER	
	SIGNATURE AND STAMP OF TENDERER DATE NAME AND ADDRESS TENDERER'S WITNESS SIGNATURE DATE NAME AND ADDRESS	

12. GRAND SUMMARY

Contract Name: CONSTRUCTION OF NAMARET RESOURCE CENTRE

RFBNo.: KE-MOMBE&MA-KWL-2024-006-CW

General Summary	*Page*	*Amount*
BILL NO. 1: PARTICULAR PRELIMINARIES	PP/7	
BILL NO. 2: GENERAL PRELIMINARIES	GP/13	
BILL NO.3: BUILDING WORKS	BW/22	
BILL NO.4 : MECHANICAL WORKS	MW/43	
BILL NO.5: ELECTRICAL WORKS	EW/16	
BILL NO.6: LANDSCAPING	LW/4	
BILL NO.7: CIVIL WORKS	LW/4	
BILL NO.8: GATE HOUSE	GH/8	
BILL NO.9: DAYWORKS	DW/2	
BILL NO.10: ESMP	ESMP/3	
BILL NO.11: FURNISHING	FW/1	
Subtotal of Bills	*(A)*	
*Total for Daywork (Provisional Sum)**	*(B)*	
Provisional Sum of Kenya Shillings Ten Million Only (Kes 10,000,000.00) for fluctuations[ii]	*(C)*	*10,000,000.00*
Total of Bills Plus Provisional Sums (A + B + C)[i]	*(D)*	
Add Provisional Sum of Kenya Shillings Ten Million Only (Kes 10,000,000.00) for Contingency Allowance[ii]	*(E)*	*10,000,000.00*
Bid Price (D + E) (Carried forward to Letter of Bid)	*(F)*	

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