REPUBLIC OF KENYA

KENYA INDUSTRIAL RESEARCH AND DEVELOPMENT INSTITUTE

THE PROPOSED PHASE 2 WORKS FOR THE PROPOSED RESEARCH, TECHNOLOGY AND INNOVATION LABORATORIES AND RELATED INFRASTRUCTURE ON PLOT L.R. NO. 209/5811, DUNGA ROAD, SOUTH 'B', NAIROBI

WATERPROOFING WORKS

FINANCIAL PROPOSAL

TENDER REF NO: KIRDI 03/2026/2027

Client

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SUBMISSION DATE: 14TH AUGUST 2026, 11:00AM

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Basement Levels 3 & 4 — Drainage, Retaining Walls & Expansion Joints

Project	Proposed Development of Research, Technology and Innovation Laboratories and Related Infrastructure
Plot Reference	LR No. 209/5811, Dunga Road South 'B', Nairobi
Client	Kenya Industrial Research Development Institute (KIRDI)
Structural Engineer	MultiScope Consulting Engineers Ltd
Date	July 2026
Document Status	REV 01

1. SCOPE OF WORKS

This specification covers all waterproofing, and drainage works for Basement Levels 3 and 4 of the KIRDI Research, Technology and Innovation Laboratories development. The works include:

- Inspection, testing, and integration of the existing French drain system
- Cleaning and flushing of existing drains where necessary
- Upgrading of sump chambers
- Supply, installation, and commissioning of automatic pumping systems
- Basement waterproofing to slabs and retaining walls including crack treatment and crystalline systems
- Installation of pressure relief systems including weep holes and standpipes
- Waterproofing of expansion joints
- Waterproofing of lift pits and service pits
- Waterproofing of roof terraces and balconies
- Waterproofing of swimming pool and associated wet areas
- Sealing of all pipe penetrations and construction joints
- Testing, commissioning, and provision of warranties

2. STANDARDS & REFERENCES

All works shall comply with the following standards and codes of practice:

Standard	Application
EN 1992-1-1	Eurocode 2 – Design of concrete structures – General rules and rules for buildings
EN 1992-3	Eurocode 2 – Part 3: Liquid retaining and containment structures
EN 1504-1 to EN 1504-10	Products and systems for the protection and repair of concrete structures (definitions, surface protection, structural repair, injection, quality control)
EN 1504-2	Surface protection systems for concrete (including crystalline and cementitious coatings)
EN 1504-5	Concrete injection (crack and joint injection systems)
EN 13707	Flexible sheets for waterproofing – Reinforced bitumen sheets for roof waterproofing
EN 13967	Flexible sheets for waterproofing – Plastic and rubber damp proof sheets including basement tanking sheet
EN 14891	Liquid-applied water impermeable products for use beneath ceramic tiling
EN 206	Concrete – Specification, performance, production and conformity

Where conflicts occur, the more stringent requirement shall apply.

3. PERFORMANCE REQUIREMENT

3.1. Watertightness

- Basement waterproofing shall achieve a fully dry internal environment with no visible leakage, dampness or seepage under the design hydrostatic pressure.
- The system shall satisfy the watertightness principles of EN 1992-3 for liquid-retaining structures.
- Existing French drain system and new pressure-relief measures shall effectively control groundwater pressure against the structure.
- Pumping system shall provide continuous automatic removal of groundwater with full redundancy (duty + standby pumps).
- Minimum design service life of the waterproofing system: 10 years.

3.2. Submittals

The Contractor shall submit the following for the Engineer's approval prior to commencement:

- Method statements for all waterproofing, drainage and injection works
- Product data sheets and Declarations of Performance (DoP)
- Shop drawings for expansion joints, sumps, weep-hole layouts and pump installations

- Independent laboratory test reports demonstrating conformity with EN 1504 performance requirements
- Manufacturer's field report confirming substrate suitability
- Pump sizing calculations, performance curves and electrical schematic
- Samples of membranes, sealants and crystalline products
- Manufacturer's written confirmation that the applicator is approved and trained for the proposed system

3.3. SYSTEM DESCRIPTION

3.3.1. Cementitious Crystalline Waterproofing (Primary System for Basements)

A penetrating crystalline waterproofing slurry comprising Portland cement, graded silica and proprietary active chemicals. When applied to damp concrete, the active chemicals penetrate the capillary network and form a non-soluble crystalline structure that permanently blocks water pathways from any direction. The system shall be capable of self-sealing hairline cracks and shall remain effective under continuous hydrostatic pressure. The product shall conform to EN 1504-2 (Surface protection systems).

3.3.2. Reinforced Bitumen Membrane (Roof Terraces and Balconies)

Prefabricated APP-modified polyester-reinforced bituminous membrane, minimum 4 mm thick, conforming to EN 13707. The membrane shall be torch-applied in two layers with staggered joints, fully bonded, and protected by a cement screed and interlocking tiles.

3.3.3. Ancillary Systems

1. Flexible waterproof injection resins conforming to EN 1504-5 for active leaks and construction joints.
2. Microsphere-modified acrylic pre-compressed foam fillers for expansion joints, covered with non-shrink grout.
3. Non-shrink cementitious grouts for penetrations and coves.

3.4. SYSTEM PERFORMANCE REQUIREMENTS

A. Testing Requirements: The waterproofing systems shall be tested in accordance with the following standards and conditions, and the testing results shall meet or exceed the performance requirements as specified herein.

B. Independent Laboratory: Testing shall be performed by an independent. Testing laboratory shall obtain all concrete samples and waterproofing product samples.

C. Permeability: Independent testing shall be performed according to BS-EN: 1992 on "Permeability of Concrete".

1. Concrete samples (treated and untreated) to have design strength of 13.8 Mpa and thickness of 50 mm. No. admixtures permitted.
2. Coatings / Membranes to have maximum thickness as specified in this document / in the BOQ.
3. Samples to be pressure tested to 1.2 Mpa (123.4 m head of water).
4. Treated samples shall exhibit no measurable leakage.

D. Chemical Resistance: Independent testing shall be performed according to ASTM C 267-77

"Chemical Resistance of Mortars" and ASTM C 39-86 "Compressive Strength of Cylindrical Concrete Specimens".

1. Concrete samples (treated and untreated) to have design strength of 27.6 Mpa. No admixtures permitted.
2. Coatings / Membranes to have maximum thickness as specified in this document / in the BOQ.
3. Untreated and treated specimens to be immersed for a minimum of 84 days in following chemical solutions: hydrochloric acid (3.5 pH), brake fluid, transformer oil, ethylene glycol, toluene, caustic soda.
4. Treated specimens shall exhibit no detrimental effects after exposure.

3.5. QUALITY ASSURANCE

A. Manufacturer: Manufacturer shall have a minimum of 15 years' proven experience in the production of crystalline waterproofing systems conforming to EN 1504-2.

B. Specialised Executing Waterproofing Agency: Specialised Executing Waterproofing Agency shall be experienced in the installation of the waterproofing materials offered as demonstrated by previous successful installation, and shall be approved by the manufacturer in writing.

C. Pre-Installation Conference: Prior to installation of waterproofing, conduct meeting with waterproofing agency, Architect/Engineer, owner's representative, and waterproofing manufacturer's representative to verify and review the following:

1. Project requirements for waterproofing as set out in Contract Documents.
2. Manufacturer's product data including application instruction.
3. Substrate conditions, and procedures for substrate preparation and waterproofing installation.

4. MATERIALS

4.1. Existing French Drain System and Pumping

4.1.1. Inspection and Integration

The Contractor shall inspect and verify continuity of all existing drainage lines, absence of blockages, adequate fall toward sump chambers, and proper connection into the sumps. Where necessary, lines shall be flushed and cleaned. Any defects shall be reported to the Engineer for instruction.

4.1.2. Sumps

A. Reinforced concrete construction, watertight

B. Internally waterproofed with cementitious crystalline coating

C. Sized to accommodate pump operation, maintenance access and float-switch operation

4.1.3. Pumping System

Submersible dewatering pumps shall be provided complete with automatic level control, duty and standby arrangement, and all necessary pipework, valves and electrical controls, to the approval of the Mechanical Engineer. Pump sizing calculations shall form part of the submittals.

4.2. Crystalline Waterproofing Slurry

A two-coat penetrating crystalline waterproofing slurry conforming to EN 1504-2 shall be applied to all

designated basement slabs and retaining walls. The product shall be capable of self-sealing hairline cracks and shall remain permanently effective under hydrostatic pressure.

A. Application: two-coat slurry on saturated-surface-dry (SSD) substrate
B. Coverage and thickness: strictly in accordance with the approved manufacturer's data sheet
C. Substrate preparation: mechanical scabbling or high-pressure water jetting to remove laitance, dust and contamination
D. Curing: wet-cure for a minimum of three days after each coat

4.3. PVC Drainage Pipework

- Material: unplasticised PVC (uPVC) pressure pipe, Schedule 40 or equivalent approved
- Minimum internal diameter: 100 mm for sub-floor collector drains; 50mm diameter for standpipes / weep holes
- Minimum gradient: 0.5% (1:200) for all sub-floor PVC drainage pipes, as noted on Basement 4 Drainage Layout Plan
- Joints: solvent-welded; no threaded joints below slab

4.4. Weep Hole / Standpipe Assembly

4.4.1. Standpipe: 50-75 mm diameter, Schedule 40 PVC, as noted in the Basement 4 retaining wall details

4.4.2. Surround: 100 mm gravel filter pack, wrapped entirely in geotextile sock to prevent clogging

4.4.3. Termination: all relief water to be directed to the nearest designated sump

4.5. Expansion Joint Sealant

4.5.1. Existing filler: remove completely and clean joint before re-treatment

4.5.2. Grouting: inject flexible waterproof grout to full depth of joint

4.5.3. New filler: microsphere-modified 100% acrylic impregnated pre-compressed foam (mastic filler) —
product and application details to waterproofing specialist's design, subject to Engineer's approval

4.5.4. Topping: cover mastic filler with non-shrink grout flush with adjacent slab/wall surface

4.6. Roof & Terrace Waterproof Membrane

4.6.1. Membrane: 4 mm thick APP (atactic polypropylene) bituminous membrane, applied in two layers

4.6.2. Laps: minimum 100 mm side and end laps, fully bonded

4.6.3. Protection: interlocking concrete tiles bedded on 25 mm cement screed, laid to fall

4.6.4. Minimum drainage fall: 1:80 to all fulbora outlets

4.7. Swimming Pool — Pipe Penetrations

4.7.1. All gaps around service pipes to be sealed with non-shrink grout prior to any liquid waterproofing

4.7.2. Liquid waterproofing: applied continuously from 150 mm above ground level down and over all internal surfaces

4.8. **Lift Pits**

- Cementitious waterproofing slurry
- Non-shrink grout at penetrations
- Fillets at wall-floor junctions

5. EXECUTION

5.1. General Requirements

A. The waterproofing subcontractor shall carry out a detailed survey of all basement slabs and walls before commencing work, map all defects (cracks, honeycombing, cold joints, construction joints), and submit a written treatment report with recommendations to the Engineer for approval. Works shall not commence until the report is approved.

B. ***Verification of Substrates:*** Verify that concrete surfaces are sound and clean, and that form release agents and materials used to cure the concrete are compatible with waterproofing treatment.

C. ***Examination for Defects:*** Examine surfaces to be waterproofed for form tie holes and structural defects such as honeycombing, rock pockets, faulty construction joints and cracks. Such defects to be repaired in accordance to manufacturer's product data.

D. ***Concrete Finish:*** Concrete surfaces to receive waterproofing treatment shall be free from scale, excess form oil, laitance, curing compounds and foreign matter. Horizontal surfaces shall have a rough wood float, smooth or broom finish, as required by the waterproofing material manufacturer.

E. ***Surface Preparation:*** Smooth surfaces (e.g. where steel forms are used) or surfaces covered with excess form oil or other contaminants shall be washed, lightly sandblasted, waterblasted, or acid etched with muriatic acid (as necessary) to provide a clean absorbent surface. Surfaces to be acid-etched shall be saturated with water prior to application of acid. Concrete surfaces shall be sound, clean and free from laitance, form oil, curing compounds and foreign matter. Defects shall be repaired in accordance with EN 1504 and the manufacturer's instructions before any waterproofing is applied.

5.2. Repair of Defects:

Surface defects shall be repaired in accordance with manufacturer's instructions as follows:

1. **Form Tie Holes, Construction Joints, cracks**: Chip out to a U-shaped slot approximately 25 mm wide and 25 mm deep. Clean, pre-soak, apply bonding slurry, and pack with non-shrink waterproof mortar. Active leaks shall be injected with flexible polyurethane resin conforming to EN 1504-5; structural cracks shall be injected with epoxy resin.
2. **Honeycombing and defective concrete:** Rout out to sound concrete, clean, pre-soak and reinstate with polymer-modified non-shrink repair mortar conforming to EN 1504-3.
3. **Coves:** Form a minimum 100 mm diagonal cove at all 90° wall-to-floor interfaces before crystalline application.

5.3. Existing French Drain System Integration

The Contractor shall carry out a thorough inspection of the entire existing French drain network to assess its condition, continuity, and functionality. Where necessary, the Contractor shall flush and clean the drainage

pipes to remove any silt, debris, or blockages that may impede flow. The Contractor shall further verify that the system is functioning effectively by confirming that all drainage lines discharge freely and are properly directed towards the designated sump chambers. Any significant defects, deficiencies, or failures identified during the inspection shall be promptly reported to the Engineer for further instruction.

5.4. Basement 4 — Retaining Wall Weep Holes

Works shall be executed in the following sequence:

- Conduct a detailed crack mapping survey of all basement slabs and retaining walls.
- Repair all identified cracks using appropriate injection methods, including polyurethane injection for active leaks and epoxy injection for structural cracks.
- Provide a pressure relief system along retaining walls to mitigate hydrostatic pressure buildup.
- Apply a cementitious crystalline waterproofing system to all designated surfaces in a minimum of two coats, in accordance with the manufacturer's specifications.

Basement 4 – Retaining Wall Weep Holes:

- Drill 50-75 mm diameter holes through the retaining wall at 4,000–6,000 mm centres at locations indicated on the drawings, angled slightly downward toward the retained face.
- Insert 50-75 mm diameter Schedule-40 PVC standpipes into each drilled hole.
- Surround the base of each standpipe with a 100 mm thick gravel filter pack, fully wrapped in a geotextile sock to prevent clogging.
- Direct all relief water from the standpipes via 100 mm diameter uPVC collector drains laid to a minimum gradient of 0.5% into the designated sump.
- Connect to sump pits as shown on the layout drawing; sump locations as indicated
- All slab surfaces to be graded to slope toward drainage inlets — slope direction as indicated on layout (see 'Slope' arrows on drawing)
- Submit all works for inspection and approval by the Engineer prior to covering or concealment.

5.5. Crystalline Waterproofing — Slabs & Walls

1. Prepare substrate: remove all laitance, oil, dust and loose material. Mechanically abrade or scabble entire surface area. Blow clean with oil-free compressed air.
2. Pre-wet substrate to SSD condition immediately before application.
3. Mix crystalline slurry and apply strictly per manufacturer's instructions.

5.6. Expansion Joint Repair

1. Remove all existing mastic filler and loose material from the joint. Clean joint faces by wire brushing and blowing clean.
2. Inject flexible waterproof grout to full depth of joint; allow to set fully.
3. Install new microsphere-modified acrylic pre-compressed foam mastic filler in accordance with the waterproofing specialist's detail drawing, approved by the Engineer.
4. Apply non-shrink grout topping flush with surrounding surface.

5.7. Roof Terraces

1. Ensure structural slab surface is clean, dry and free of laitance.
2. Prime surface if required by membrane manufacturer.
3. Apply first layer of 4 mm APP membrane, fully bonded by torch application, with minimum 100 mm laps.
4. Apply second layer of 4 mm APP membrane offset from first layer joints, fully bonded.
5. Install 25 mm cement screed protection layer laid to minimum 1:80 fall toward all fulbora outlets.
6. Lay interlocking concrete tiles over screed.

6. INSPECTION & TESTING

6.1. Pre-Work Survey

Before any waterproofing, the appointed subcontractor shall carry out a detailed inspection of all basement slabs and walls across Basement Levels 3 and 4. The survey shall identify all cracks, honeycombing, construction joints and areas of active seepage. A written report with photographic evidence and proposed treatment mapping shall be submitted to the Engineer for approval.

6.2. Intermediate Inspections

- All reinforcement in walls and columns shall be inspected by the Engineer before formwork is closed
- Drainage gradient verification by laser level prior to any concrete or screed topping
- Weep hole / standpipe installation to be inspected before surrounding gravel and geotextile are placed
- Each layer of APP membrane to be inspected before the subsequent layer is applied

6.3. Water Testing

- All sub-floor drainage runs shall be water-tested (head test or pressure test) prior to covering
- Roof terraces shall be flood-tested (25 mm minimum water head for 24 hours) before tile protection is laid
- Swimming pool: water-tight test after all sealing and waterproofing works are completed

6.4. Defect Liability

The waterproofing subcontractor shall provide a minimum 10-year product and application warranty for the crystalline waterproofing system and the APP membrane system. Any leakage or defect noted during the defects liability period shall be remedied by the subcontractor at no cost to the client.

7. HEALTH, SAFETY & ENVIRONMENT

- Personal protective equipment (PPE): safety boots, hard hats, eye protection, chemical-resistant gloves and overalls to be worn at all times when handling crystalline or bituminous waterproofing materials

- All confined space entry (sumps, drainage trenches) to comply with applicable confined space regulations; gas testing and rescue equipment mandatory
- Torch-applied APP membrane: fire extinguisher to be present at point of application at all times; no combustible materials within 2 m
- Waste materials (solvents, PVC off-cuts, bituminous waste) to be segregated and disposed of in accordance with Kenyan environmental regulations
- Working areas in basement levels to be adequately ventilated during all application works

PRELIMINARIES

PARTICULAR PRELIMINARIES

THE PROPOSED PHASE 2 WORKS FOR THE PROPOSED RESEARCH, TECHNOLOGY AND INNOVATION LABORATORIES AND RELATED INFRASTRUCTURE ON PLOT L.R. NO. 209/5811, DUNGA ROAD, SOUTH 'B', NAIROBI

ITEM	DESCRIPTION	AMOUNT
	PARTICULAR PRELIMINARIES	
A	**PARTIES**	
	The **Employer** is: KENYA INDUSTRIAL RESEARCH & DEVELOPMENT INSTITUTE (KIRDI) P.O.BOX 30650 – 00100 NAIROBI	
	The **Engineer** is: The term "Engineer" wherever used in these Bills of Quantities shall be deemed to imply the Engineer as defined in Condition 1 of the Conditions of Contract or such person or persons as may be duly authorised to represent him on behalf of the Government.	
	The Architect is: The term "Architect" wherever used in these Bills of Quantities shall be deemed to imply the Architect as defined in Condition 1 of the Conditions of Contract or such person or persons as may be duly authorised to represent him on behalf of the Government. Ministry of Lands, Public works,Housing and Urban Development, State Department of Housing and Urban Development	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
A	**LOCATION OF SITE** The site of the proposed works is located along Lusaka Road**, Nairobi County** The Contractor shall be deemed to have visited the site and satisfied himself as to:- **a)** The nature, position, topography and access of the site **b)** The amount of the rubbish or debris to be cleared away before commencement. **c)** The nature, current usage, proximity and size of adjoining property and buildings **d)** The availability of land for the erection and positioning of all temporary structures, plant and materials necessary for the execution of the works. The Contractor shall obtain approval from the relevant Local Authority in adherence to site access and erection of temporary structures and must ensure all matters relating to the requirements of these authorities. No claim will be allowed for travelling or other expenses which may be incurred by the Contractor in visiting the site or preparing the tender for the works.	
B	**EXISTING SITE CONDITIONS** The Contractor is advised that the site is in a predominantly commercial and Industrial zone area and all measures should be taken to avoid nuisance to neighbours. All occupation health and safety requirements must be met as required by law. This includes prevention and or minimizing noise, dust, fumes e.t.c. Notices should be given prior to disruption of services	
C	**SCOPE OF CONTRACT** The Works under this contract comprises of completion of Waterproofing works at Research, Technology And Innovation Laboratories and Related Infrastructure On Plot L.R. No. 209/5811, Dunga Road, South 'B', Nairobi as detailed in the Bills of Quantities and herebelow The Contractor shall thoroughly inspect and assess the existing structure before commencing the Works and shall develop and implement appropriate waterproofing solutions based on the findings of the assessment. The Contractor shall be deemed to have satisfied themselves as to the condition of the existing structure and all factors that may affect the execution of the Works. No claims for additional payment, extension of time, or any other compensation arising from the condition of the existing structure or from the waterproofing works required shall be entertained after contract award.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
A	**DESCRIPTION OF THE WORKS** The works comprise of waterproofing to the basement walls, floor, swimming pool and terraces and expansion joints as specified in the Bills of Quantities Materials to be used include Polyurethane (PU) injection or other equal and approved hydrophobic technique applied in accordance with manufacturers printed instructions and to Engineer's Approval and 4mm thick Atatic poly-propylene (APP) roofing membrane with protective chippings or other equal and approved laid in accordance with manufacturers printed instructions by an approved sub-contractor **CONTRACT PARTICULARS**	
B	**FORM OF CONTRACT** The Contractor will be required to enter into a contract with the Employer under the **Terms and Conditions of Contract as "Standard Tender Document for Procurement of Works (Building and Associated Civil Engineering Works) Issued by the Public Procument Regulatory Authority in February 2021 (updated 2022)** and in association with the latest applicable version of the Public Procurement and Asset Disposal Act. The Contractor's attention is called to the appendix of the conditions of Contract and additions and amendments thereto, which shall be read as incorporated herein and he shall allow any sums which he considers necessary for the observance of such conditions, together with sub clauses used in application. The prioirity of such documents shall be as stated in the conditions of agreement.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
A	**LIABILITY AGAINST INJURY TO PERSONS AND PROPERTY** Insurance against injury to persons and property NOTES In addition to the conditions of the contract and the requirement contained herein the contractor's all risk policy shall cover the full value of the following and allow for all costs thereof:- i) The works and temporary works erected in performance of this contract. ii) The materials on site, plant and tools iii) The cost and expense of removing debris of the property insured, destroyed or damaged by any peril insured. iv) Professional fees (to be allowed at 15% of the contract sum) v) Employer's liability (workman's compensation) ii) Third party (Public liability for an indemnity of not less than shs 15,000,000 for any accident or series of accidents arising from the same event (unlimited in aggregate) The contractor shall ensure that all sub-contractors effect and maintain such insurances as are necessary to cover their liabilities in respect of injury to persons and property and workman,s compensation. Should the contractor already hold annual insurances covering the whole of his activities, and the indemnity required under the existing policy/ies then further insurances shall be effected and maintained to cover such excess, the policies of insurances being suitably endorsed to cover this project	
B	**Insurance of the works (contractors liability)** The Contractor shall insure as required in the Conditions of Contract. No payment on account of the work executed will be made to the Contractor until he has satisfied the Engineer 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 Engineer 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 Engineer's inspection.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
	PERFORMANCE BOND	
A	**Performance bond for the works** The Contractor shall submit on the Form of Tender an approved bank or approved (By PPRA) Insurance Company and who will be willing to be bound to the Employer in an amount .....(*as defined in the bidding documents*)..... for the due performances of the Contract up to the date of completion as certified by the Engineer and who will when and if called upon, sign a Bond to that effect on the relevant standard form as seen in the CONTRACT STANDARD FORMS (without the addition of any limitations) And should the surety fail to be approved, the Contractor shall furnish within seven days another Surety to the approval of the Employer. Note that no payments on account of works executed will be made to the Contractor until he has submitted the Performance bond, duly stamped signed and sealed by an approved bank or insurance company.	
B	**POSSESSION AND COMMENCEMENT** The Contractor shall take possession of the site on the date indicated in the acceptance letter. The date of commencement of the works shall also be communicated to the Contractor and the contract period shall run from the commencement date. The Contractor is expected to utilize the period between possession and commencement to mobilise his resources to ensure smooth running of the works from the commencement date.	
C	**PROJECT SUPERVISION** The said works shall be executed under the direction and to the entire satisfaction of the Engineer and Clerk of works who shall have the Engineer's specifically delegated authority and shall at all times have access to the works, to the yards and workshops of the contractor or other places where goods are being prepared for the building.	
D	**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. The mode of transport must comply with the current TLB, PSV and Traffic Police requirements currently in force.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
A	**DOWNTAKINGS** All materials arising from demolitions and downtakings are deemed to be the property of the employer. No claim will be entertained on account of employer excising this right to retain the materials All downtakings shall be carefully removed, taken down, dismantled and stored on site until instructed by the Engineer to remove from the site. Such materials shall only be incorporated in the new works if required by the Engineer in which case appropriate adjustments will be made in the final account for the cost of labour, screws etc for fixing such downtakings in the new works.	
B	**DAMAGES** Damages for delay in completion shall be levied at the rate of Kshs ……...(Refer to the special Conditions of Contract)……..	
C	**OTHER PRELIMINARIES** Allow for any other item necessary to execute the works and state them below;	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
	PARTICULAR PRELIMINARIES	
	COLLECTION	
	Carried from page PP/1	
	Carried from page PP/2	
	Carried from page PP/3	
	Carried from page PP/4	
	Carried from page PP/5	
	Carried from page PP/6	
	TOTAL FOR PARTICULAR PRELIMINARIES CARRIED TO MAIN SUMMARY	

GENERAL PRELIMINARIES

THE PROPOSED PHASE 2 WORKS FOR THE PROPOSED RESEARCH, TECHNOLOGY AND INNOVATION LABORATORIES AND RELATED INFRASTRUCTURE ON PLOT L.R. NO. 209/5811, DUNGA ROAD, SOUTH 'B', NAIROBI

ITEM	DESCRIPTION	AMOUNT
	GENERAL PRELIMINARIES	
	PRICING OF ITEMS OF PRELIMINARIES AND PREAMBLES	
A	Whenever in the Contractor's priced Bills of Quantities no price appears against an item of Preliminaries or Preambles or work items , the value of such item shall be deemed to be included in his prices for other items in the Bills of Quantities.	
	SUFFICIENCY OF TENDER	
B	The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the rates and prices stated in the priced Bills of Quantities. Rates and prices quoted shall cover all his obligations under the contract and all the matters and maintenance of the works	
	RECORDS	
C	The Contractor shall ensure proper records are kept and maintained for : Daily Reports on Personnel and Machinery; tracked programme; weather charts/reports; site instruction book and query book,a digital camera shall be provided for taking progress photos The contractor shall be required to provide equipment for taking ground and aerial photos or videos in relation to the progress of works when called upon to do so.	
	DEFINITIONS AND ABBREVIATIONS	
D	Throughout these Bills, units of measurements and terms are abbreviated and shall be interpreted as follows: mm shall mean millimeter lm shall mean linear meter sm shall mean square meter m^2 shall mean square meter cm shall mean cubic meter kg shall mean kilogramme N shall mean Newton KN shall mean KiloNewton	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
	in/" shall mean inches L f shall mean linear foot s f shall mean square foot c f shall mean cubic foot L b shall mean pound avoirdupois No. shall mean number B.S.M shall mean both sides measured K.S. shall mean current Kenya Standard specification published by the Kenya Bureau of Standard, P.O. Box 54974. NAIROBI, Kenya. 'As described' shall mean as described in these Bills of Quantities. 'As before described' shall mean the whole of the previous description except as qualified in the current one. **Carried to collection**	

THE PROPOSED PHASE 2 WORKS FOR THE PROPOSED RESEARCH, TECHNOLOGY AND INNOVATION LABORATORIES AND RELATED INFRASTRUCTURE ON PLOT L.R. NO. 209/5811, DUNGA ROAD, SOUTH 'B', NAIROBI

ITEM	DESCRIPTION	AMOUNT
	SITE LEVELS	
A	Before commencing work the Contractor must arrange for and agree with the Architect, Engineer and Quantity Surveyor the existing site levels and similarly establish and agree on a bench mark. The Contractor shall provide a surveyor to ensure all levels are achieved as per the drawings and Architects/Structural Engineer's instructions	
	SETTING OUT	
B	The contractor shall set out works in accordance with the dimensions and levels shown on the drawings and shall be responsible for the correctness of all dimensions and levels set out by him and he will be required to amend all errors arising from inaccurate setting out at his own cost and expenses. In the event of any error or discrepancy in the dimensions or levels marked on the drawings being discovered, such errors or discrepancies must be reported by the Contractor to the Engineer for his immediate attention. No work shall be commenced by the Contractor until he has received written instructions from the Engineer to adjust such discrepancies which may be proved, upon receipt of such instructions and no claim for extra expenses or relief from the provisions of Clause 5 of the Conditions of the Contract , any discrepancy or error in the dimensions or levels shown on the drawings may be made thereafter. The Contractor shall give the Engineer reasonable notice of the intention to set out or take levels for any part of the Works so that arrangements may be made for checking the work. The accuracy of setting out and leveling shall be within the tolerances specified in the Specifications or on the Drawings. The checking of setting out or leveling by the Engineer shall not relieve the Contractor of his duties or responsibilities under the Contract.	
	MEASUREMENTS	
C	Measurements are based on **Standard Methods of Measurement of Building Works and Associated Civil Works For Eastern Africa (SMM) Second Edition 2008.** In the event of any discrepancies arising between the Bills of Quantities and the actual works, the site measurements shall generally take precedence.	
D	**GENERAL SPECIFICATIONS** All works to be carried out in accordance with the Ministry of Roads, public Works and Housing **General Specifications for Building Works issued in 1976** or as qualified and amended.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
	SAMPLES	
A	The contractor shall furnish at the earliest possible opportunity before work commences and at his own cost any samples of materials or workmanship that may be called for by the Engineer for his approval or rejection until such samples are approved to be the acceptable standard for the work to which they apply. The samples shall be maintained and displayed on a designated section within the site for the duration of the project where practical and possible.	
	PROTECTION OF EXISTING PROPERTY	
B	The contractor shall take every precaution to avoid damage to all existing property including boundary wall, carpark, roads, cables, drains,staircases, lift etc including other services and he will be held responsible for all damages hereto arising from the execution of his contract and he shall make good all such damages when directed at his own expense. Any damage or disturbances caused to any element shall be reported immediately to the Engineer and the relevant Authority and shall be made good to their satisfaction at the Contractor's expense.	
C	**PROTECTION / RELOCATION OF EXISTING SERVICES** Prior to commencement of any work the Contractor is to ascertain from the relevant Authorities the exact position, depth and level of all existing electric cables, water pipes and all other services in the area and he shall make whatever provisions may be required by the authorities concerned for the support and protection and/or relocation of such services as will be necessitated. The contractor is also expected to generate a utility management plan to the approval of the Engineer . Any damage or disturbances caused to any service shall be reported immediately to the Engineer and the relevant Authority and shall be made good to their satisfaction at the Contractor's expense.	
	Carried to collection	

THE PROPOSED PHASE 2 WORKS FOR THE PROPOSED RESEARCH, TECHNOLOGY AND INNOVATION LABORATORIES AND RELATED INFRASTRUCTURE ON PLOT L.R. NO. 209/5811, DUNGA ROAD, SOUTH 'B', NAIROBI

ITEM	DESCRIPTION	AMOUNT
A	**MATERIALS, TOOLS, PLANT AND SCAFFOLDINGS** All materials and workmanship used in the execution of the works shall be of the best quality and description. Any materials for the works condemned by the Engineer shall immediately be removed from the site at the Contractor's expense. The Contractor shall be responsible for the provision of all materials, scaffolding, tools, plant, transport and workmen required for the works except in so far as may be stated otherwise herein and he shall allow for the provision of the foregoing 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 similar purpose shall be used afterwards in the permanent works. All such plant, tools and scaffolding shall comply with all regulations whether general or local in force including Environmental,Social, Health and Safety (ESHS) policies throughout the period of the contract and shall be required as may be necessary to comply with any amendments in or additions to such regulations The Contractor shall keep on the site and maintain in good condition one dumpy or quickset level, metric leveling staff and one 30 metre steel tape for the use of the Architect, Surveyor and Engineer. The contractor may be required to provide an appropriate tower crane as required during the project life. Where a crane is provided, it should meet all regulatory and technical standards, all licences in connection with erection, usage shall be at the Contractors expense.	
B	**IDLE TOOLS, PLANT, LABOUR AND SCAFFOLDINGS** Plants, tools, scaffolding and labour brought to site for the execution of the Works which have been deemed idle shall remain on site for a period not exceeding ninety (90) days without any additional cost to the Employer. The Contractor shall issue a written notice to the Employer of the intention to demobilise such idle plant, tools, scaffolding or labour no later than fourteen (14) days before the expiry of the 90-day period. The Contractor shall fully demobilise the idle plant, tools, scaffolding and/or labour by the 90th day, unless otherwise instructed in writing by the Employer. No claims for standing time, idle time, labour downtime, or any associated costs shall be entertained within the 90-day period.	
	Carried to collection	

THE PROPOSED PHASE 2 WORKS FOR THE PROPOSED RESEARCH, TECHNOLOGY AND INNOVATION LABORATORIES AND RELATED INFRASTRUCTURE ON PLOT L.R. NO. 209/5811, DUNGA ROAD, SOUTH 'B', NAIROBI

ITEM	DESCRIPTION	AMOUNT
A	**LOCAL REGULATIONS AND BY-LAWS** The contractor is to comply with all local regulations and by-laws of the Local Authority including serving notices and paying of fees where applicable. These include, but not limited to: National Environmental Management Authority (NEMA), National Contruction Authority (NCA), Water Resources Authority (WRA) The Contractor will be held responsible for serving on the Chief Inspector of Factories a written notice not later than seven days after the beginning of the building operations included in this contract stating the particulars required.	
B	**TRANSPORT TO AND FROM THE SITE** The Contractor shall include in his prices for the transport of materials, workmen etc to and from the site of the proposed works at such hours and by such routes as are permitted by the Authorities. All unit rates for local or imported goods are to include freight, insurance, handling and delivery costs to the project site together with import duties, sale tax, port charges etc and all other charges of whatever nature.	
	Carried to collection	

THE PROPOSED PHASE 2 WORKS FOR THE PROPOSED RESEARCH, TECHNOLOGY AND INNOVATION LABORATORIES AND RELATED INFRASTRUCTURE ON PLOT L.R. NO. 209/5811, DUNGA ROAD, SOUTH 'B', NAIROBI

ITEM	DESCRIPTION	AMOUNT
A	**FAIR WAGES** The Contractor shall pay rates of wages and observe hours and conditions of labour not less favourable than the minimum conditions of employment applicable in the area in which the work is carried out. The relevant notice must be posted up and kept posted upon the site where it can be conveniently read by the employees concerned in languages they can understand. The Contractor is to comply with the regulations of Wages and Conditions of Employment Act, Building and Construction Industry Wages Council and is to be responsible for compliance of the sub-contractors employed in the execution of the contract. If required he is to notify the Engineer of the names and addresses of all such Sub-contractors. Any Contractor or Sub-contractors not complying will not be permitted to tender for other work for such a period as the Engineer may determine Should a claim be made to the Engineer alleging the Contractor's default in payment of fair wages to any workman employed on the contract and if proof thereof satisfactory to the Engineer, may failing payment by the Contractor, pay the claim out of any monies due or which may become due to the contractor under this contract. The Contractor is to furnish to the Engineer, if called upon to do so, such particulars of the rates of wages, hours and conditions of labour referred to above as the Engineer may direct	
B	**SECURITY OF WORKS** The Contractor lias with the main contractor to ensure security of all works, stores, materials, plant, personnel etc including all necessary watching, lighting, and other precautions as necessary are provided to ensure the security, the safety and protection of the public.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
A	**OCCUPATIONAL HEALTH AND SAFETY MEASURES** The Contractor shall to adhere to strict safety measures. In this regard the Contractor should ensure that all his workers, the Consultants and his sub-Contractors workmen are wearing Personal Protective Equipment (PPE) before commencement of any work where applicable including overalls. The Contractor shall allow for providing all watching, lighting, green netting, barriers, signs, covering open trenches and protection of the works, including Sub-Contract works, as may be necessary for the safety of the works and for the protection of the public and his own and Sub-Contractors' employees. He shall also ensure provision of a certified and qualified safety, health and environmental officer, access to ambulance services at all worksites and arrangement to access a local hospital/dispensary with qualified medical staff. The contractor shall take cognisance and shall fully adhrere to the regulations of the **Occupational Safety and Health Act of 2007** including all the associated revisions The Engineer shall expect full compliance to this regulation and no excuses will be entertained for non-compliance which may lead to suspension of works until the issue is addressed satisfactorily.	
B	**PUBLIC, PRIVATE ROADS AND PAVEMENTS ETC** The contractor will be required to make good at his own expense any damages he may cause to the present approach the newly constructed boundary wall and surrounding road surfaces during the period of the works	
C	**POLICE REGULATIONS** The contractor is to allow for complying with all Government Acts, orders or regulations in connection with employment of labour and other matters related to the execution of the works. The Contractor must acquit himself duly with current acts and regulations, including police regulations regarding the movement, housing, security and control of labour, labour camps, passes for transport, etc..	
	Carried to collection	

THE PROPOSED PHASE 2 WORKS FOR THE PROPOSED RESEARCH, TECHNOLOGY AND INNOVATION LABORATORIES AND RELATED INFRASTRUCTURE ON PLOT L.R. NO. 209/5811, DUNGA ROAD, SOUTH 'B', NAIROBI

ITEM	DESCRIPTION	AMOUNT
A	**AREA TO BE OCCUPIED BY CONTRACTOR** The area of the site which may be occupied by the Contractor for use as storage and for the purpose of erecting workshops etc shall be defined on the site by the Engineer	
B	**PROGRESS SCHEDULE** Immediately after signing the contract the Contractor is to prepare a Time Progress Chart showing the time and order in which he proposes to carry out the works within the total construction time stated in the contract. The chart will show in detail the construction time and order in which each section of the work is to be carried out and be sub-divided into trades and tasks. If the contractor proposes sectional completion of the project he must plan this in detail including access roads, and services and this shall be reflected on the chart At the end of each week the Contractor is to mark on the chart in a different colour the actual time taken to complete the respective stages and sections of the work. The contractor shall obtain the Engineer's approval on the chart and then shall supply copies to the consultants If at any time it should appear to the Engineer that the actual progress of the works does not conform to the approved programme progress schedule the Contractor shall produce at the request of the Engineer a revised programme showing the modifications and accelerations to the approved programme necessary to ensure completion of the works within the agreed contract period. The submission of and approval by the Engineer of such revisions and accelerations shall not entitle the Contractor to any extra payment or extension of time and shall not relieve the Contractor of any duties or obligations or responsibilities under the contract	
	Carried to collection	

THE PROPOSED PHASE 2 WORKS FOR THE PROPOSED RESEARCH, TECHNOLOGY AND INNOVATION LABORATORIES AND RELATED INFRASTRUCTURE ON PLOT L.R. NO. 209/5811, DUNGA ROAD, SOUTH 'B', NAIROBI

ITEM	DESCRIPTION	AMOUNT
A	**WORKING HOURS AND OVERTIME** The contractor shall be allowed 24 hour working shifts if required to adhere to the predetermined contract period. The work shall not be carried unless under direct permision of NEMA as allowed for in the NEMA By Laws. All working hours must conform to the requests of the statutory authorities The Contractor shall be responsible for any extra costs for overtime working he considers will be necessary in order to complete the works within the contract period or time for completion apart from overtime working which may be authorised by the Engineer If overtime is worked out in accordance with a written instruction issued by the Engineer the contractor will be reimbursed in respect of such overtime to the unproductive time payable over and above the basic hourly rates as laid down by the Regulation of wages and Conditions of employment Act, Building and Construction Industry Wages Council and excluding any bonuses, profits and overheads.	
B	**WATER** The contractor shall provide at his own risk and cost all water for use in connection with the works including the work of sub-contractors make arrangements with the local authority for the installation of a separate meter where applicable and possible for all water used by him throughout the contract and pay all costs and fees in connection therewith. He shall also provide temporary storage tanks and tubing etc as he may consider necessary and clear away at completion. The contractor is to provide clean drinking water at the construction site for his workers at all times. All water shall be fresh, clean and pure, free from earthly vegetable or organic matter, acid or alkaline substance in solution or suspension.	
C	**TELEPHONE** The contractor shall provide in the office, from the commencement to the completion of the works, a wireless or mobile phone and shall pay all charges or airtime necessary for its use	
D	**LIGHTING AND POWER** The contractor shall provide at his own risk and cost all temporary artificial lighting and power for use on the works including all sub-contractors and specialists requirements and including all temporary connections, wiring, fittings etc and clearing away on completion. The Contractor shall pay all fees and obtain all permits in connection therewith.	
	Carried to Collection	

THE PROPOSED PHASE 2 WORKS FOR THE PROPOSED RESEARCH, TECHNOLOGY AND INNOVATION LABORATORIES AND RELATED INFRASTRUCTURE ON PLOT L.R. NO. 209/5811, DUNGA ROAD, SOUTH 'B', NAIROBI

ITEM	DESCRIPTION	AMOUNT
A	**TESTING** Allow for all expenses in connection with the testing of materials as requested bythe Engineer including the supply and preparation of materials to be tested, the cost of materials and their packing and conveyance to the nearest approved Testing Laboratory, laboratory charges, etc.	
B	**PRICING RATES** 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.	
C	**RESOURCE ALLOCATION PLAN** The Contractor shall prepare a resource allocation schedule in line with the progress schedule. This shall include a breakdown of labour, equipment and materials among others. The labour shall be broken down to include the number of skilled, unskilled and supervising teams that shall be required per task. The contractor shall incorporate the resources required by the subcontractors including but not limited to labour, equipment and materials. The Contractor shall continuously track the resources allocation plan and issue reports on the same. If at any time it should appear to the Architect that the actual progress of the works does not conform to the approved resource allocation plan and the progress schedule, the Contractor shall produce at the instructions of the Architect a revised resource allocation plan showing modifications and accelerations to the plan to ensure completion of the works within agreed contract period and within the agreed contract period and cost.	
	Carried to collection	

THE PROPOSED PHASE 2 WORKS FOR THE PROPOSED RESEARCH, TECHNOLOGY AND INNOVATION LABORATORIES AND RELATED INFRASTRUCTURE ON PLOT L.R. NO. 209/5811, DUNGA ROAD, SOUTH 'B', NAIROBI

ITEM	DESCRIPTION	AMOUNT
A	**TEMPORARY STRUCTURES** a) The Contractor shall allow for providing and clearing away on completion of the works such temporary hoarding , rubbish chutes, gates, planked walkways, guard rails etc. as may be necessary for the protection of the workers, the general public, and for the proper execution of the works. b) As such, temporary structures shall be constructed with the approval of the Engineer and to his full satisfaction and in such a manner as to cause minimum intrisiveness and disturbance to occupants of adjacent developments and users of the adjacent roads. c) All such temporary structures shall comply in all aspects with the national laws, rules, and regulations currently in force and applicable to such structures. d) All temporary structures shall be erected in a manner so that the unloading of materials causes minimum obstruction to the use of adjacent roads and other facilities e) All temporary structures shall be kept properly lighted throughout the periods of darkness and any corners or projections shall be painted white. g) Temporary structures shall not be used or permitted to be used for advertisement purposes except with the written consent of the Engineer h) All temporary structures shall be maintained at all times in good order and good condition to the satisfaction of the Engineer. i) All temporary structures shall be removed when so required by the Engineer or at the end of the period for which it is required. j) The Contractor shall indemnify and shall keep the employer idemnified against any expenses, loss, claim or suits arising out of or in connection with the temporary structures.	
B	**PERMANENT STRUCTURES** The Conttactor Shall ensure :- i) Care of exisiting structures and services already constructed at the site ii)Care of exisiting storage containers where the client materials are kept. iii)Care of the exisiting boundary wall (Recently Constructed)	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
	TEMPORARY DISPOSAL OF RAIN WATER	
A	The Contractor shall provide and maintain all necessary temporary gutters, downpipes, chutes, drains etc. for conveying rainwater from the buildings and storage tanks for rainwater harvesting. The Contractor shall allow for temporary drainage plumbing and piping for keeping the premises and site free from accumulation of water. He shall also allow for construction and maintaining any necessary storm water drainage structures as directed.	
B	**CLEARING AWAY** The Contractor shall remove all temporary works, rubbish, debris and surplus materials from the site as they accumulate, on intervals as intructed by the Engineer 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 Engineer. The whole of the works shall be delivered up clean, complete and in perfect condition in every respect to the satisfaction of the Engineer.	
C	**DEMOLITIONS AND DOWNTAKINGS** The Contractor is to allow for all temporary protection required during the works including ordinary and special dust screens, hoardings, barriers, warning signs etc. as directed by the Engineer and as necessary for the adequate protection of adjacent property and finishes, workmen employed upon the site and the public. Any damage or loss incurred due to the insufficiency of such protection must be made good by the Contractor. All protective devices are to be removed on completion of the work and any necessary making good consequent upon this is to be executed to the satisfaction of the Engineer All materials arising from demolitions and downtakings are deemed to be the property of the employer. No claim will be entertained on account of employer excising this right to retain the materials unless otherwise stated. The Contractor shall allow in his rates the cost of handling and disposal of debris arising out of the demolition works All downtakings shall be carefully removed, taken down, dismantled and stored on site until instructed by the Engineer to remove from the site. Such materials shall only be incorporated in the new works if required by the Engineer in which case appropriate adjustments will be made in the final account for the cost of labour, screws etc for fixing such downtakings in the new works. The Contractor shall be entirely responsible for any breakage or damage which may occur to materials required for re-use, during their removal, unless it is certified by the Engineer that such damage or breakage was inevitable as a result of the condition of the item concerned.	
	Carried to collection	

THE PROPOSED PHASE 2 WORKS FOR THE PROPOSED RESEARCH, TECHNOLOGY AND INNOVATION LABORATORIES AND RELATED INFRASTRUCTURE ON PLOT L.R. NO. 209/5811, DUNGA ROAD, SOUTH 'B', NAIROBI

ITEM	DESCRIPTION	AMOUNT
A	**ACCESS TO SITE AND TEMPORARY ROADS** Means of access to the site shall be agreed with the Engineer prior to commencement of the works and the Contractor must allow for building and maintaining any temporary access roads for the transport of 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. Upon the completion the works the Contractor shall remove such temporary roads, temporary culverts bridges etc and make good and reinstate all works and services disturbed to the satisfaction of the Engineer.	
B	**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 Engineer within the contract period. No claim shall be entertained upon the expiry of the said contract period.	
C	**PAYMENTS** The tenderer's attention is drawn to the fact that the payments shall be made in accordance with Clause 14 of 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.	
D	**PREVENTION OF ACCIDENT, DAMAGE OR LOSS** 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. The Contractor shall allow in his rates any expense he deemed necessary by taking such care within the site. The Contractor shall employ qualified and competent safety, health and Environment officer to be approved by the Engineer.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
A	**NOMINATED SUPPLIERS** The contractor shall take delivery all materials or goods supplied by the Nominated suppliers and shall sign a receipt as having received them in good order and condition. He shall offload, transport to site, unload, hoist, provide safe storage and thereafter be responsible for any loss or damage or replacement of any such lost or damaged articles at his own expense and shall return case if so required. Provision is made herein following each appropriate P.C sums for the costs of the foregoing services against items reading "take delivery of and fix only" Fix Only:- "Fix Only" shall mean take delivery on site, unload, store, unpack, assemble as necessary, distribute to position, hoist and fix only.	
B	**DIRECT CONTRACTS** Notwithstanding the foregoing conditions, the Procuring Entity 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 in the priced Bills of Quantities will be adjusted as described for P.C. Sums is allowed.	
C	**PROTECTION OF THE WORK** The Contractor shall cover up and protect all finished work liable to damage including provision of temporary roof, gutters, drains etc until the completion of the works. In the event of any damages occurring to the works, materials, sewers, drains, gullies, paths or other works on site in temporary possession of the contractor for the purpose of this contract either from weather, want of proper protection, defects, or insufficiency of the works or any other causes or whatsoever during the progress of the works, the contractor shall be responsible and without extra charge, make good all damage and pay all costs which may be levied.	
D	**BLASTING OPERATIONS** Blasting will only be allowed with the express permission of the Engineer 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 Engineer governing the use and storage of explosives.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
	PREVENTION OF NUISANCE	
A	The works and such sections of the site necessary thereafter 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. The contractor shall provide appropriate screens to seal off the working area.	
B	**REMOVAL OF PLANT AND RUBBISH ETC** The Contractor shall upon completion of the works remove and clear away all temporary buildings, plant, rubbish and unused materials, and shall leave the whole of the site of the works in a clean and tidy state to the satisfaction of the Engineer. He shall also remove all rubbish and dirt from the site at intervals or as directed by the Engineer. Particular care shall be taken in leaving windows, external floors and fittings clean and the removal of all paint and cement stains therefrom. The contractor is expected to have established a well planned method of solid disposal of debris/garbage on and off the camp site	
C	**CONTRACTOR'S SUPERINTENDENCE/SITE AGENT** The Contractor shall constantly keep on the works a literate and qualified 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. The site Agent shall have the following qualifications:- Higher diploma/Diploma in Building and Civil works or Architecture from a recognized Institutions Such Agent or Representative shall receive on behalf of the Contractor all directions and instructions from the Engineer 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
A	**TRAINING LEVY** The Contractor's attention is drawn to legal notice No. 237 of 2007 which requires payment by the Contractor for a training levy and the contractor shall allow in the preliminaries of this contract (basic rates column) for all costs arising or resulting therefrom. Proof of payment of this Levy should be provided at the request of the Engineer	
B	**STANDARDS LEVY** The Contractor is required to make payments to the Kenya Bureau of Standards as Standard Levy inline with the current current and prevailing regulations.	
C	**VALUE ADDED TAX (V.A.T.)** The Contractor's attention is drawn to V.A.T PUBLIC NOTICE NO. 6 of 5th August, 1993 regarding the Finance Bill 1993 which expanded the V.A.T base to cover construction services amongst other items. The Contractor's attention is also drawn to all other notices issued by the government in relation to taxation. The Contractor shall familiarise himself with the said notices and allow in all his Bills of Quantities rates (Excluding P.C and Provisional Sums) for the net tax. (i.e less input tax where applicable) as required by law. Please note that allowing a lump sum tax either in preliminaries or in summary page shall not be acceptable. Any additional information and assistance concerning the application of the said notice should be directed to the office of the Commissioner of Value Added Tax	
D	**CAPACITY BUILDING LEVY** The Contractor's attention is drawn to legal notice No. 206 of 2015 THE PUBLIC PROCUREMENT AND ASSET DISPOSAL ACT (No. 33 of 2015) which requires payment by the Contractor for Capacity Building Levy for development of capacity through training, technical support and mentoring of the persons involved in the public procurement and asset disposal system in order to facilitate achievement of value for money in public procurement and enhance quality of public service	
	Carried to collection	

THE PROPOSED PHASE 2 WORKS FOR THE PROPOSED RESEARCH, TECHNOLOGY AND INNOVATION LABORATORIES AND RELATED INFRASTRUCTURE ON PLOT L.R. NO. 209/5811, DUNGA ROAD, SOUTH 'B', NAIROBI

ITEM	DESCRIPTION	AMOUNT
	GENERAL PRELIMINARIES	
	COLLECTION	
	Carried from page GP/1	
	Carried from page GP/2	
	Carried from page GP/3	
	Carried from page GP/4	
	Carried from page GP/5	
	Carried from page GP/6	
	Carried from page GP/7	
	Carried from page GP/8	
	Carried from page GP/9	
	Carried from page GP/10	
	Carried from page GP/11	
	Carried from page GP/12	
	Carried from page GP/13	
	Carried from page GP/14	
	Carried from page GP/15	
	Carried from page GP/16	
	Carried from page GP/17	
	TOTAL FOR GENERAL PRELIMINARIES CARRIED TO MAIN SUMMARY	

SECTION 2:
MEASURED WORKS

BASEMENT 01

THE PROPOSED PHASE 2 WORKS FOR THE PROPOSED RESEARCH, TECHNOLOGY AND INNOVATION LABORATORIES AND RELATED INFRASTRUCTURE ON PLOT L.R. NO. 209/5811, DUNGA ROAD, SOUTH 'B', NAIROBI

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 03				
	BASEMENT 01				
	ELEMENT NO.1				
	R.C. SUPERSTRUCTURE				
	Waterproofing				
	Provide a written guarantee of ten (10) years to the employer (effective from the date of application) for all water proofing works measured herein in these bills from an approved sub-contractor.				
	Apply 'Vandex Super' or other equal and approved high-performance crystalline waterproofing system, two-coat slurry application, to damp but saturated-surface-dry (SSD) substrate, strictly in accordance with the manufacturer's printed instructions and to the Engineer's approval.				
A	Walling; generally	1,453	M2		
	Expansion Joint filler				
B	Inject to full joint depth Microsphere-modified 100% acrylic impregnated pre-compressed foam "mastic filler" or equal and approved high-perfomance joint filler, all to waterproofing specialist's design, and Engineer's approval.	349	M1		
C	Supply and install non-shrink cementitious structural cover grout to repaired surfaces and adjacent slab/wall surface	349	M1		
	TOTAL FOR BASEMENT 01 TO MAIN SUMMARY				

BASEMENT 02

THE PROPOSED PHASE 2 WORKS FOR THE PROPOSED RESEARCH, TECHNOLOGY AND INNOVATION LABORATORIES AND RELATED INFRASTRUCTURE ON PLOT L.R. NO. 209/5811, DUNGA ROAD, SOUTH 'B', NAIROBI

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 04				
	BASEMENT 02				
	ELEMENT NO.1				
	R.C. SUPERSTRUCTURE				
	Waterproofing				
	Provide a written guarantee of ten (10) years to the employer (effective from the date of application) for all water proofing works measured herein in these bills from an approved sub-contractor.				
	Apply 'Vandex Super' or other equal and approved high-performance crystalline waterproofing system, two-coat slurry application, to damp but saturated-surface-dry (SSD) substrate, strictly in accordance with the manufacturer's printed instructions and to the Engineer's approval.				
A	Concrete and Wall surfaces	1,453	M2		
	Expansion Joint filler				
B	Inject to full joint depth Microsphere-modified 100% acrylic impregnated pre-compressed foam "mastic filler" or equal and approved high-perfomance joint filler, all to waterproofing specialist's design, and Engineer's approval.	349	M1		
C	Supply and install non-shrink cementitious structural cover grout to repaired surfaces and adjacent slab/wall surface	349	M1		
	TOTAL FOR BASEMENT 02 TO MAIN SUMMARY				

BASEMENT 03

THE PROPOSED PHASE 2 WORKS FOR THE PROPOSED RESEARCH, TECHNOLOGY AND INNOVATION LABORATORIES AND RELATED INFRASTRUCTURE ON PLOT L.R. NO. 209/5811, DUNGA ROAD, SOUTH 'B', NAIROBI

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 05				
	BASEMENT 03				
	ELEMENT NO.1				
	SUBSTRUCTURES (ALL PROVISIONAL)				
	Waterproofing				
	Provide a written guarantee of ten (10) years to the employer (effective from the date of application) for all water proofing works measured herein in these bills from an approved sub-contractor.				
	Apply 'Vandex Super' or other equal and approved high-performance crystalline waterproofing system, two-coat slurry application, to damp but saturated-surface-dry (SSD) substrate, strictly in accordance with the manufacturer's printed instructions and to the Engineer's approval.				
A	RC Wall surfaces	1,453	M2		
B	Basement floor slab	3,200	M2		
	Expansion Joint filler				
C	Inject to full joint depth Microsphere-modified 100% acrylic impregnated pre-compressed foam "mastic filler" or equal and approved high-perfomance joint filler, all to waterproofing specialist's design, and Engineer's approval.	349	M1		
D	Supply and install non-shrink cementitious structural cover grout to repaired surfaces and adjacent slab/wall surface	349	M1		
	TOTAL FOR BASEMENT 03 TO MAIN SUMMARY				

BASEMENT 04

THE PROPOSED PHASE 2 WORKS FOR THE PROPOSED RESEARCH, TECHNOLOGY AND INNOVATION LABORATORIES AND RELATED INFRASTRUCTURE ON PLOT L.R. NO. 209/5811, DUNGA ROAD, SOUTH 'B', NAIROBI

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BASEMENT 04				
	SUBSTRUCTURE				
	(ALL PROVISIONAL)				
	Waterproofing				
	Provide a written guarantee of ten (10) years to the employer (effective from the date of application) for all water proofing works measured herein in these bills from an approved sub-contractor.				
	4mm thick Atatic poly-propylene (APP) roofing membrane with modified bitumen mineral finish membrane from approved supplier laid in accordance with manufacturers printed instructions to Engineer's Approval				
A	Floor slab	1,052	M2		
	Waterproofing				
	Provide a written guarantee of ten (10) years to the employer (effective from the date of application) for all water proofing works measured herein in these bills from an approved sub-contractor.				
	Apply 'Vandex Super' or other equal and approved high-performance crystalline waterproofing system, two-coat slurry application, to damp but saturated-surface-dry (SSD) substrate, strictly in accordance with the manufacturer's printed instructions and to the Engineer's approval.				
B	RC Wall surfaces	833	M2		
C	Inject to full joint depth Microsphere-modified 100% acrylic impregnated pre-compressed foam "mastic filler" or equal and approved high-perfomance joint filler, all to waterproofing specialist's design, and Engineer's approval.	180	M1		
D	Supply and install non-shrink cementitious structural cover grout to repaired surfaces and adjacent slab/wall surface.	180	M1		
	TOTAL FOR BASEMENT-04 TO MAIN SUMMARY				

TYPICAL FLOOR & ROOF

THE PROPOSED PHASE 2 WORKS FOR THE PROPOSED RESEARCH, TECHNOLOGY AND INNOVATION LABORATORIES AND RELATED INFRASTRUCTURE ON PLOT L.R. NO. 209/5811, DUNGA ROAD, SOUTH 'B', NAIROBI

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 07				
	TYPICAL FLOORS & ROOF				
	ELEMENT NO.1				
	ELEMENT NO.1				
	R.C. SUPERSTRUCTURE				
	Waterproofing				
	Expansion Joint filler				
A	Inject to full joint depth Microsphere-modified 100% acrylic impregnated pre-compressed foam "mastic filler" or equal and approved high-perfomance joint filler, all to waterproofing specialist's design, and Engineer's approval.	349	M1		
B	Supply and install non-shrink cementitious structural cover grout to repaired surfaces and adjacent slab/wall surface	349	M1		
	Total for RC superstructure carried forward to Summary				

THE PROPOSED PHASE 2 WORKS FOR THE PROPOSED RESEARCH, TECHNOLOGY AND INNOVATION LABORATORIES AND RELATED INFRASTRUCTURE ON PLOT L.R. NO. 209/5811, DUNGA ROAD, SOUTH 'B', NAIROBI

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.2				
	ROOF GUTTER & TERRACES				
	Provide a written guarantee of ten (10) years to the employer (effective from the date of application) for all water proofing works measured herein in these bills from an approved sub-contractor				
	4mm thick Atatic poly-propylene (APP) roofing membrane with protective chippings as manufactured by Messrs Italbuild Imports Ltd. or other equal and approved laid in accordance with manufacturers printed instructions by an approved sub-contractor				
A	Gutters surfaces	3,121	M2		
B	Terraces	1,536	M2		
	Total for Roof Gutters and Terraces carried forward to Summary				

THE PROPOSED PHASE 2 WORKS FOR THE PROPOSED RESEARCH, TECHNOLOGY AND INNOVATION LABORATORIES AND RELATED INFRASTRUCTURE ON PLOT L.R. NO. 209/5811, DUNGA ROAD, SOUTH 'B', NAIROBI

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.3				
	SWIMMING POOL				
	Waterproofing				
	Provide a written guarantee of ten (10) years to the employer (effective from the date of application) for all water proofing works measured herein in these bills from an approved sub-contractor.				
	Apply Polyurethane (PU) injection or other equal and approved hydrophobic technique applied in accordance with manufacturers printed instructions and to Engineer's Approval				
A	Wall surfaces	992	M2		
B	Floor slab surfaces	368	M2		
	Total for Swimming Pool Carried to Summary				

THE PROPOSED PHASE 2 WORKS FOR THE PROPOSED RESEARCH, TECHNOLOGY AND INNOVATION LABORATORIES AND RELATED INFRASTRUCTURE ON PLOT L.R. NO. 209/5811, DUNGA ROAD, SOUTH 'B', NAIROBI

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.4				
	FLOOR & WALLS				
	Provide a written guarantee of ten (10) years to the employer (effective from the date of application) for all water proofing works measured herein in these bills from an approved sub-contractor				
	4mm thick Atatic poly-propylene (APP) roofing membrane with protective chippings as manufactured by Messrs Italbuild Imports Ltd. or other equal and approved laid in accordance with manufacturers printed instructions by an approved sub-contractor				
A	Floor Finishes	818	M2		
B	Parapet Walls	647	M2		
	Total for Floor and Walls carried forward to Summary				

THE PROPOSED PHASE 2 WORKS FOR THE PROPOSED RESEARCH, TECHNOLOGY AND INNOVATION LABORATORIES AND RELATED INFRASTRUCTURE ON PLOT L.R. NO. 209/5811, DUNGA ROAD, SOUTH 'B', NAIROBI

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	SUMMARY				
A	SUPERSTRUCTURE				
B	ROOF GUTTERS AND TERRACES				
C	SWIMMING POOL				
D	FLOOR & WALLS				
	TOTAL FOR TYPICAL FLOOR AND ROOF TO MAIN SUMMARY				

PRIME COST AND PROVISIONAL SUMS

THE PROPOSED PHASE 2 WORKS FOR THE PROPOSED RESEARCH, TECHNOLOGY AND INNOVATION LABORATORIES AND RELATED INFRASTRUCTURE ON PLOT L.R. NO. 209/5811, DUNGA ROAD, SOUTH 'B', NAIROBI

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	PROVISIONAL SUMS				
	French Drain				
A	Allow for a Provisional Sum of Kshs. 1,080,000.00 only for de-silting to existing French Drain		Sum		
	Contingency				
B	Allow for a Provisional Sum of Kshs.4,000,000.00 only to be expended at the discretion of the Project Manager		Sum		
	TOTAL FOR P.C & PROVISIONAL SUMS TO MAIN SUMMARY			**(KSHS)**	

MAIN SUMMARY

THE PROPOSED PHASE 2 WORKS FOR THE PROPOSED RESEARCH, TECHNOLOGY AND INNOVATION LABORATORIES AND RELATED INFRASTRUCTURE ON PLOT L.R. NO. 209/5811, DUNGA ROAD, SOUTH 'B', NAIROBI

ITEM	DESCRIPTION		AMOUNT
	MAIN SUMMARY	**From Page**	
1	PARTICULAR PRELIMINARIES	PP/7	
2	GENERAL PRELIMINARIES	GP/18	
3	BASEMENT 01	B0-1/1	
4	BASEMENT 02	B0-2/1	
5	BASEMENT 03	B0-3/1	
6	BASEMENT 04	B0-4/1	
7	TYPICAL FLOOR & ROOF	TF-R/5	
8	PRIME COST AND PROVISIONAL SUMS	PC/1	
	TOTAL COST FOR SPECIALISTS WORKS TO FORM OF TENDER		

CONTRACTOR'S NAME:……

ADDRESS:……

SIGNATURE:……...……..DATE:……..……

WITNESS'S NAME:……..……..

ADDRESS:……..…….

SIGNATURE:……...……..DATE:……..……