MBEYA UNIVERSITY OF SCIENCE AND TECHNOLOGY

MAIN CAMPUS

TERMS OF REFERENCE

FOR

PROVISION OF CONSULTANCY SERVICES FOR: (i) REVIEW OF DESIGN DOCUMENTS, PREPARATION OF BIDDING DOCUMENTS AND COST ESTIMATES AND (ii) SUPERVISION OF THE BUILDING WORKS AT MUST MAIN CAMPUS:

(a) ACADEMIC BLOCK

(b) WORKSHOPS

(c) CENTRE FOR INNOVATION AND TECHNOLOGY TRANSFER

DECEMBER, 2022

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1.0. BACKGROUND

The Government of United Republic of Tanzania has received funds from the World Bank under the Higher Education for Economic Transformation Project (HEET). This is a five years project running from 2021 to 2026. Mbeya University of Science and Technology (MUST) is one of the government institutions benefiting from the project where part of the received funds are directed to develop the University's infrastructure at the Main Campus and Rukwa Campus.

For the purpose of infrastructure development at MUST main Campus, part of the funds will be used to cover eligible payments for procuring consultancy services for reviewing design and supervision of construction of one Academic Block, Workshops and the Centre for Innovation and Technology Transfer. These buildings are intended to be safe, ecofriendly and promote accessibility to those with special needs.

1.2 OBJECTIVE OF THE ASSIGNMENT

1.2.1 General Objective

The general objective of the assignment is to carryout review of design documents, bidding documents, cost estimates and to supervise the construction of training facilities which include One Academic Block, Workshops and Centre for Innovation and Technology Transfer. Details of the buildings and requirements are provided in Table 1.

1.2.2 Specific Objectives

1.2.2.1 Review Available Documents Related to the Project as Provided by the Client

The consultant shall conduct physical survey, review **MUST main Campus** Masterplan, Review Ground Investigation report for the proposed construction area and on any missing information and incorporate the recommendations to the proposed design.

1.2.2.2 Review of Design Documents

The consultant shall conduct: physical survey, review of geotechnical report provided, perform further ground investigation at proposed locations for the buildings, review of drawings (Architectural including furniture, Structural, Electrical, Plumbing, Firefighting infrastructure, ICT and security System, Access roads and pavements) in order to acquaint with the design and advice of any enhancement in terms of construction methodologies, green building and project implementation. Furthermore, the consultant will review Tender Documents in consultation of available specific reports and documents. Specific reports and documents such as Masterplan, ESIA report and any other related project document to be reviewed for the purpose of identifying any omissions/ additions, which may compromise or supplement the completeness or consistency of the design. A list of completed drawings and those that will need the consultant's input will be issued. Together with the review of Bills of quantities and preparation of Specifications and condition of contract for projects shown in Table 1.

1.2.2.3 Review of Bidding/Tender Documents

The consultant shall conduct physical survey to project sites, review and prepare bidding documents for acquisition of contractor(s) who would execute the works.

1.2.2.4 Supervision of Constructions

The Consultant shall be fully responsible for supervision of the construction works stated in Table 1 from beginning (site handover) to the successful completion (practical completion) including the defect liability period as specified in the contract.

1.3. SCOPE OF THE ASSIGNMENT

Table 1:List of Facilities to be reviewed in accordance to the design drawings provided

S/NO	Facility		Remark
1	Academic Block (four storeys including basement) with total approximate area of 13,500 m^2	Small classrooms	Four (4), each with capacity of 80 – 100 students
		Medium classrooms	Four (4), each with capacity 100 – 150 students
		Large classrooms	Two (2), each with capacity of 250 – 300 students
		Board rooms	Two (2), each with capacity of 50
		Staff offices	Ten (10) Capacity of four (4) each
		CAD laboratory for Architecture students	Capacity of 120 students
		Presentation area/room	Capacity of 100 students
		Design studios	Two (2) each for 100 students
		Design studios	Two (2) each for 50 students
		Construction studio	Two (2) each for 50 students
		Materials laboratory	Civil engineering specialization, each to accommodate 60 - 100 students at a time
		Concrete laboratory	
		Hydraulic laboratory	
		Geotechnical laboratory	
		Highway laboratory	
		Materials engineering laboratory	For mechanical engineering specialization, each to

		Energy laboratory	accommodate 50 students at a time
		Mechatronics and safety laboratory	
		Electronics laboratory	For electrical engineering specialization, capacity of 60 – 100 students
		Electrical drive laboratory	
		Power systems and automation laboratory	
		Measurements and Instrumentation laboratory	
		CAD room	Specialized for Civil Engineering, capacity of 100
		CAD room	Specialized for Mechanical Engineering, capacity of 100
		Drawing rooms	Three (3) each with capacity of 150 - 200
		Printing unit	With storage space
		Server room	
		Reception area	
		Storage space	For stationary, examination scrips, cleaning tools etc.
		Toilets	At each building level. Consideration of people with special needs. The number should be according to TCU and international standards Separate for staff and students
		Space for supporting facilities	Such as security, control room, reception, server room etc. as necessary
2		Carpentry	

	Academic Workshops (Single Storey), approximate area of 3,800 m^2	Plumbing	Each at least 250 m^2 with office and storage space for each
		Model making (2)	
		Automotive	
		Welding and fabrication	
		Air conditioning and refrigeration	
		Construction technology	
		Electrical and electronics	
		Masonry	
		Machine shop	
		Toilets	Enough for the workshop users as per TCU and International standards. Separate for staff and students
		Outdoor working space	Paved and partially shaded
		Display room	Temporary storage for products, approximately 200 m^2
3	Centre for Innovation and Technology Transfer (four storeys including basement) with approximate area of 3,500 m^2	Director's office	Self-contained, a board room, secretary's space, kitchen, preferably in the first floor
		Heads of departments office	Two (2) offices for heads of departments each with secretary's office, first floor
		Meeting room	To accommodate 20 people, second floor
		Designing room	To accommodate eight (8) people, ground floor
		Prototype design rooms	Six (6) each to accommodate ten (10) users. For digital technology, Agri technology,

			Bio-Tech, Architecture and Engineering, Codes room, Blue economy room, preferably in the first floor
		Prototype stirage room	Ground floor
		Technology trasfer office	First floor
		Digital marketing office	To accommodate four (4) users, second floor
		Accounts office	First floor
		Meeting room	To accommodate 50 users
		Mini conference rooms	Three (3) each to accommodate 50 users
		Seminar rooms	Four (4). Also to be used as training rooms, each for 30 users
		Conference room	To accommodate 100 users
		Technology exhibition room	Ground floor
		Innovation lounge	A workspace with computers for 16 users
		Computer laboratory	For 20 users, second floor
		Recreation space	For 12 users, each floor
		Kitchen and store	Ground floor
		Reception and waiting lounge	Ground floor
		Rural technology park office	First floor
		Offices	six
		Exhibition booth	Outside the building
		Sever room	First floor

		Toilets	At each building level. Consideration of people with special needs. The number should be proportional to users

1.4. ACTIVITIES OF THE CONSULTING ASSIGNMENT

The main objective of the assignment is (i) to procure consultancy services for review of design documents, bidding documents and cost estimates and (ii) supervision of the following works at MUST main Campus:

(a)Academic Block

(b) Workshops

(c) Centre for Innovation and Technology Transfer as shown in Table 1 and

The main tasks shall include design review and construction supervision to ensure Environmental and Social (ES) compliance which will include but not limited to:-

a) Review available MUST main Campus Masterplan Provided by the Client – involves conducting physical survey and review MUST main Campus Masterplan on any missing information (including services such as power, ICT, water supply etc.) and incorporate the recommendations to the proposed design.

b) Review of Design Documents – involves conducting: physical Survey, review of geotechnical report provided, further geotechnical investigation at the construction locations as may be required, review of drawings (Architectural, Structural, access roads, pavements and Services), review of Bills of quantities and review of Specifications and condition of contract for projects listed in Table 1.

On reviewing design documents, the consultant shall conduct study and advise more on proposed requirements on space, furniture, equipment and machinery to be used in the workshops and classrooms in relation to the nature of training programmes

offered by MUST while ensuring that they conform to Tanzania Commission for Universities (TCU) requirements.

c) Review of Tender Documents - involves conducting physical Survey to new project sites, review tendering documents for acquisition/procurement of contractor(s) who would execute the works.

d) Supervision of Constructions Works – fully responsible for supervision of the construction works stated in Table 1 from beginning (site handover) to the successful completion (practical completion/ project handover) including end of the defect liability period (Final completion) as specified in the contract.

e) Review design (State of art, environmental friendly and energy saving design) of the proposed design works which includes drawings (architectural, engineering, services); technical specifications, bills of quantities and initial cost estimates in accordance with the acceptable professional standards.

f) Prepare architectural simulation model to incorporate both existing and proposed infrastructure for MUST main campus area.

g) Propose and design furniture for each of the proposed buildings

h) Prepare both Maintenance Plan and Maintenance Cost for maintaining the functions and forms of the built facilities.

2.0 DETAILED SCOPE OF SERVICES OF DESIGN REVIEW WORKS, CONSTRUCTION SUPERVISION AND MANAGEMENT

The general assignment shall comprise consulting services in Architectural, Engineering and Quantity Survey disciplines. The works involved is mainly expected to be (i) review of design documents, bidding documents and cost estimates and (ii) supervision of the following works at MUST main Campus: (a) Academic Block (b) Workshops, (c) Centre for Innovation and Technology Transfer as shown in Table 1.

2.1 Review of the design works

The Consultant will in this regard review detailed Architectural, Structural and Services designs, on the buildings to be constructed and the access roads. The task will include:

i) The Consultant to review the Environmental and Social Impact Assessment (ESIA) to ensure that the prepared designs comply with applicable Tanzania environmental laws and regulations, and site-specific Environmental and social management plan (ESMP). Such reviewed ESIA against the designed work must be reflected in the work plan in the inception report.

ii) Review of the architectural design of the buildings following acceptable modern professional standards. Full (final) detailed drawings to be ensured are on appropriate scales, e.g. 1:100, 1:50, 1:20 and 1:10 as the need arises. The reviewed detailed drawings will include plans, sections, and elevations and associated details as appropriate. The reviewed architectural details should cover hard (pavements) and soft (grass) landscaping as this is also an important aspect of the project. Check the Architectural /engineering soundness of detailed drawings and document.

iii) Review geotechnical report prepared and conduct detailed geotechnical Investigation studies as may be necessary for the proposed designs. (review and detailed studies work scopes should be clearly presented and approved by the Client).

iv) Ensure a reviewed work constitutes complete sets of all necessary engineering structural designs and detailing of the structures and services required. This will involve appropriate furniture, electrical installation, telephone services, Local Area Network systems (LAN) ,Closed Circuit Television systems (CCTV),Alarm systems, Fire Fitting systems, Internal access roads, Parking facilities, Sewerage systems, Solid west disposal systems, Storm water Drainage systems, Water supply systems, and other water reticulation systems. The Consultant also to ensure that detailed drawings also provide necessary trunking and ducting that

will accommodate the centralized Information Technology system on the buildings and across the roads and at all necessary external surroundings. The Consultant should also ensure that the reviewed specifications, Bills of Quantities and conditions of contract for all these services are appropriate.

v) Reviewed work should consider design assumptions, design calculations and specifications and ensure their compliance with the applicable codes and regulations.

vi) Review work should include geometric and pavement design of access roads, walkways, parking spaces and the general landscape of the construction area.

vii) Review should also ensure on appropriateness of selection of material specification from design alternatives.

viii) The Consultant will in liaison with the Client submit to the relevant local authorities all the relevant designs, calculations and drawings to enable the local authorities issue the required building permits well in advance of the commencement of the construction's activities on site; and he/she will supervise the actual construction works.

ix) Consultant will review a designed work to ensure the accessibility to buildings and additional internal facilities for physically challenged persons is appropriately allocated. This should go in line with a consideration of the best practice and positive legal regulations in Tanzania regarding the rights of the disabled persons.

x) A reviewed work should take regards of the construct-ability of the project, construction means, methods and techniques employed.

xi) After commission of the project the Consultant shall ensure that the contractor has produced As-Built-Drawings for works carried out within 14 days after practical completion. Training and demonstration of different facilities or gadgets as may be necessary to be conducted within the assigned time.

2.2 Preparation of documents

On review work, the consultant shall ensure that there are well prepared plans, sections, elevations and detailed drawings for the buildings covering architectural, structural, civil and other services including access roads and pavements. This will be followed by prepared specifications of materials which are mostly available on the local market, bills of quantities and conditions of contract.

The Consultant will also ensure on the prepared costs based on the design in the form of Bills of Quantities by considering the prevailing market rates around the project location. Such reviewed estimate shall be treated with high confidentiality and submitted to the Client accordingly.

2.3 Construction Quantities

The calculated quantities for the items of construction shall be based on the final design drawings. On reviewing exercise, the consultant shall ensure that the quantities of works are derived from calculations that are based on the field cross-sections and dimensions of structural members with acceptable standard methods of measurements that are agreed with by the Client. Consultant has to also ensure that detailed bill of quantities prepared is under the following sections: preliminary and general; clearing and earthworks; protection works; building and other structures; ancillary works and schedule of day works etc. He/she will also ensure that on the prepared working detailed drawings; cost plan is drawn in order to ensure cost control and fairly balanced costing and its elements.

The Consultant shall also review and ensure on completeness of the Tender documents that it adopts the most recent Standard Procurement Documents in accordance with the World Bank "Procurement Regulations for IPF Borrowers", Procurement in Investment Project Financing Goods, Works, Non-Consulting and Consulting Services, July 2016 and revised in December 2019, or whichever World standard procurement approach is applicable at the time the tender documents are prepared. The tender documents prepared also to reflect the Environmental, Social, Health and Safety requirements, which include but are not limited to Occupational

Health and Safety, Labour Influx, HIV/AIDS, Gender-based Violence and Violence against Children.

Consultant should ensure that the reviewed Biding Documents comprise the following: Instructions to bidders, Bid Data Sheet, Bidding Forms of Tender, General Conditions of Contract, Particular Condition of Contract, Contract Forms, Section Preambles, Building bills (bills of quantities) divided into several elements, External works, Prime Cost and provisional sums, Day works, General Summary, Schedule of Basic List of Materials and Schedule of Drawings. The fact that the bidding documents prepared is in accordance to World Bank procurement regulations.

2.4 Cost Estimates

Consultant shall ensure that a detailed Cost Estimate and a brief summary of the project is submitted showing total infrastructure requirement. In order to make a fair and reasonable estimate of the project cost, the Consultant shall ensure a prepared unit price is analysed for each item using basic cost elements (labour, materials, equipment, tools, overheads, on-site costs, profit, etc.), and the cost of all taxes (direct or indirect, duties, levies and fees are shown separately. The estimated financial cost resulting from this analysis to be ensured that it is accurate to within $\pm$10% and presented in Tanzanian Shilling (TSH). The cost estimates shall accommodate the costs for implementation of Environmental and Social Management Plan (ESMP) including Health Services Management.

2.5 Supervision of the works

The Consultant shall provide all site and backup staff and exercise all necessary architectural, engineering, surveying, quantity surveying, quality and financial control of the construction works in accordance with the approved designs, specifications, conditions of contract and contract documents including the following:

i) Ensure that the works are carried out by the Contractor in a professionally acceptable manner and in accordance with the requirements of the relevant regulatory authorities.

ii) Approve Contractor's proposed designs/drawings for temporary works.

iii) Examine and approve various plans and programs submitted by the Contractor.

iv) Review bonds validity.

v) Control the contractor's and sub-contractors' site personnel at all grades for suitability for the construction of the works;

vi) Check and approve the site installations, equipment plants that are to be used by the contractor for execute the works and safety;

vii) Check and approve the materials testing laboratories that will be used during the construction;

viii) Check the suitability of sub-contractors as they arrive on site;

ix) Check materials and equipment for conformity with the tender specifications by physical inspection and by gathering the manufacturer's and suppliers' certificates of conformance;

x) Verify the contractor's purchasing schedules so that materials and equipment necessary for the swift advancement of the works are available when needed, thus ensuring the work keeps to the establishment programme.

xi) Provide day to day supervision of the works in terms of quality and quantity and arrange for monthly progress report. Ensuring that there is a Resident Engineer/Clark of Works to supervise execution of works at site daily. Weekly reports to be submitted every Monday during the course of the project. Daily reports must be documented, compiled and submitted to the client along the weekly report for schedule and scope management. This will enhance quality control in line with documented quality assurance from methodologies provided;

xii) Provide day to day supervision of the works in terms of quality and quantity and arrange for monthly progress report;

xiii) Undertake all the necessary material tests before they are incorporated into the works; such tests may be done directly by him or by other approved competent entities at his cost;

xiv) Check the setting out of the works to make sure that construction conform to the standard practice, plumbing, waste water, drainage works and levelling as per the designs;

xv) Check measured or estimated quantities of work completed and certify payment certificates for interim payment to be effected by the Client;

xvi) Provide continuous liaison with the Client on all possible changes on the designated scope and budget of works;

xvii) Inspect at regular intervals the Contractor's plant and facilities, for both construction production work and workers accommodation, to ensure that they conform with to both the conditions of contract and all government regulations;

xviii) Inspect the entire Contractor's safety measures, including labour welfare, notify immediately both the Employer and the Contractor of any infringement or violation.

xix)Liaise and coordinate with relevant authorities to remove all obstacles and encumbrances from the project site, including utility relocation and tree cutting as required;

xx) Keep all records updated including reports, site diaries, correspondence, instructions given to Contractor, test records, measurement and quantity calculations, payment records and all other relevant documents pertaining to the supervision of the works;

xii) Record all claims and submit recommendations to the Client for review and ultimate settlement, if justifiable;

xiii) Check contractor's application of payment, advise the client and issue interim certificates of payments in accordance to the conditions of Contract;

xiv) Measure authorized changes and agreed quantities and cost with Contractors/Sub-Contractors. Estimate the cost effect of proposed changes before issue instructions. These changes must be communicated to the client for approval and a change order must be issued;

xv) Advise the parties under the Works Contract on any dispute arising under the Contract to ensure that disputes are resolved amicably as soon as possible without affecting the project;

xvi) Ensure that the Contractor strictly adheres to the contract, specifications and bills of quantities in the execution of the works and advise the Client on the appropriate actions to be taken whenever there is a breach of contract or misconduct by the Contractor.

xvii) Prepare monthly/periodic project reports as per formats approved by the Client and the World Bank. Detailed quarterly reports, to be submitted within 14 days of the end of each quarter. Quarterly reports should include description of project activities illustrated by progress/completion photographs, status of any delays and contractual claims and details of all latest financial projections, an electronic copy and 4 copies to be submitted to the Project Coordinator;

xviii) Arrange fortnight site meetings to be attended by all concerned parties and/or any other management meeting as may be deemed necessary. A summary/ draft of minutes in bullet form or description and action format must be presented in two (2) days' time after the meeting. Final minutes in approved format should be circulated within five (5) days.

xix) A detailed Contract Completion Report of which , an electronic copy and 5 copies to be submitted to the Project Coordinator;

xx) A Quality Assurance Manual, detailing all QA/QC procedures, to be submitted within ten (10) days of commencement of services, 6 copies to be submitted to the Project Coordinator;

xxi) Review and approve As-built drawings, operation & maintenance manuals where applicable and submit documents in six (6) hard and electronic copies to the Employer;

xxii) Upon practical completion, the consultant shall be responsible to undertake final inspection prior to issuing of the practical completion certificate and a penultimate certificate.

xxiii) Monitoring the completed works after completion up to defects liability period. Issuance of certificate of making good defects (Perfomance Certificate) and final completion certificate.

xxiv) Monitoring the completed works after completion up to defects liability period;

xxv) Prepare variation orders whenever required and submit them to the Client for approval before giving relevant instructions to the Contractor.

xxvi) Facilitate the project handing over upon successful completion of the project.

xxvii) Prepare Project Final Accounts; one (1) month after practical completion of the project. A draft copy of final account must be distributed to authorized parties within fourteen (14) days after practical completion.

xxviii) Prepare and submit to the Client the final payment certificate for the completed works;

xxix) Prepare a final report for the works. The report in addition to all aspects of the project should include lesson learned as a reference to future project execution and management.

xxx) To approve return of bonds to the contractor after practical completion.

xxxi) Perform Regular inspection of the works during defect Liability Period

xxxii) On completion of construction ensure the Client acquires certificate of occupancy from relevant authority;

2.6 Environmental and Social Health and Safety (ESHS)services of the Consultant

Ensure that the Contractor's ESHS performance is in accordance with good international industry practice and delivers the Contractor's ESHS obligations.

The ESHS related services include but are not limited to:

1. Review the Contractor's Environment and Social Management Plan (C-ESMP), which will be approved by the Client. Including all updates and revisions (not less than once every 6 months).
2. Review and approve ESHS provisions of method statements, implementation plans, Gender Based Violence (GBV) prevention and response action plan, drawings, proposals, schedules and all relevant Contractor's documents;
3. Review and consider the ESHS risks and impacts of any design change proposals and advise if there are implications for compliance with ESIA, ESMP, consent/permits and other relevant project requirements;
4. Involving OSHA in undertaking audits, supervisions and/or inspections of any sites where the Contractor is undertaking activities related to the Works, to verify the Contractor's compliance with ESHS requirements including its GBV/SEA (Sexual Exploitation or Abuse) obligations, with and without contractor and/or client relevant representatives, as necessary, but not less than once per month
5. Undertake audits and inspections of Contractor's accident logs, community liaison records, monitoring findings and other ESHS related documentation, as necessary, to confirm the Contractor's compliance with ESHS requirements;

6. Ensure that Contractor's report cover modalities during fatality, accidents and incidents. Since this is a World Bank financed project, fatality should be reported to the World Bank immediately within 24 Hours as per guidelines while other procedures as per the country's laws are also complied;
7. Agree remedial action/s and their timeframe for implementation in the event of a noncompliance with the Contractor's ESHS obligations;
8. Ensure appropriate representation at relevant meetings including site meetings, and progress meetings to discuss and agree appropriate actions to ensure compliance with ESHS obligations;
9. Check that the Contractor's actual reporting (content and timeliness) is in accordance with the Contractor's contractual obligations;
10. Review and critique, in a timely manner, the Contractor's ESHS documentation (including regular reports and incident reports) regarding the accuracy and efficacy of the documentation;
11. Undertake liaison, from time to time and as necessary, with project stakeholders to identify and discuss any actual or potential ESHS issues;
12. Establish and maintain a grievance redress mechanism including types of grievances to be recorded and how to protect confidentiality e.g of those reporting allegations of GBV/SEA. These should be included in a log issue accessible to a specified professional.
13. Ensure any GBV/SEA instances and complaints that come to the attention of the consultant are registered in the grievance redress mechanism and subsequently sorted/resolved through proper procedures. Ensure all complainants receive the feedback timely.
14. Ensure adequate environmental and social institutional capacity is in place to support implementation, monitoring and reporting

15. Adequate implementation of environmental and social issues of sexual abuse and exploitation, effects of labour influx on local communities and concerns relate with labour conditions.

16. Ensure resettlement, access restriction and livelihoods restoration and grievance redress mechanism are in place and functioning,

17. Ensure there is appropriate measure in place for labor management that will be mobilized.

2.7 Testing, Commissioning and Completion

i) Witness any specified test done by the Contractor. (Material tests and Systems and services tests); The Consultant shall approve all the testing of materials used throughout the construction.

ii) Conduct any independent tests necessary to confirm the results; The Consultant will recommend and supervise any remedial works that may be necessary to bring the construction to the required standard.

iii) Prepare and issue a short summary report confirming the tests and clearly specifying any instructions to be issued to the Contractor;

iv) Prepare a short technical report describing the Testing and commissioning. All carried out tests together with their reviewed results should be included in the consultant's monthly and quarterly reports;

v) Issue the Taking over Certificate to the Employer.

vi) The Consultant shall certify that the construction material brought at site by the contractor(s) is in accordance with the specifications and it had been tested as per standard practices.

vii) The Consultant shall certify that works are executed as per approved design, drawings, standard specifications, technically sanctioned and within the provisions of contract agreement.

viii) The Contractor shall submit the certified work record and drawings of works executed

ix) The Consultant shall issue a Certificate of Completion to the Contractor verifying the outstanding defects the Contractor shall rectify before operational acceptance

x) The Consultant shall arrange the operational acceptance and handover of the completed works from the Contractor to MUST upon satisfactory rectification of all the defects notified to the Contractor.

2.8 Consulting Services to be provided during Defects Liability Period Phase

The Consultant shall oversee the works during the Defects Liability Period through regular visits. The Consultant is expected to carry out site visits at regular intervals during which the Consultant shall draw attention of the Contractor to any defects if and when noticed and shall supervise such remedial works. Prior to expiry of the defects liability period, the Consultant shall inspect the works according to the Condition of Contract and issue instructions for rectifications of all defects, imperfections of faults, and supervise the remedial works. Following the Employer's acceptance, the Defects Liability Certificate shall be issued.

The Consultant shall assist the Employer in administrative matters related to the Works Contract. The tasks shall include but not limited to:

(i) Regular inspection of the works Contractor's remedy of defects. Advise MUST of any defects found during the defects liability period and recommend action needed to correct them.

(ii) Inspect, suggest mitigation measures and supervise remedial works of all Environmental, Social, Health and Safety matters

(iii) Prepare defects report after at the end of each inspection and testing period with full details of the cost and nature of the defects and the corrections thereof.

(iv) Conduct a final inspection of the works after the correction of all defects. This inspection shall be carried out jointly with the representatives of MUST.

(v) Finalize all the work and the records thereof including drawings, as- built drawings, operation and maintenance manuals and records of defect corrections during the Defects Liability Period.

(vi) Finalize evaluation all the outstanding claims from the Contractor and prepare the final payment certificate.

(vii) Prepare and issue the final payment certificate (final account) and final completion certificate.

(viii) Recommend the return of bonds and retention money.

3.0 CONSULTANCY FEES AND PAYMENTS

The assignment is divided into two phases: Phase 1- Design review of drawings and Phase 2 - Construction Supervision and Defect Liability Period. The consultants should clearly indicate the costs of each activity when submitting their financial proposal. Payment to the consultant will be made in consideration of the achieved milestone based on project activities. Payment shall be effected after completion of specific tasks and submission of the associated reports. Milestone for payments shall be effected after submission and obtaining approval of the under mentioned activities with the associated reports/documents. The terms and conditions of payment shall be as follows:-

The Consultant shall clearly submit separately each consultancy services (technical and financial) fee on design review of drawings and construction supervision when submitting the financial proposals. Payment shall be paid monthly as per terms and conditions of time based contracts. The Consultant shall price separately for each stage described above (Design Review and Supervision Phase). The Consultant's remuneration shall be deemed to cover his liabilities, taxes, travel costs and support

of his head office staff, Resident Engineer and all his obligations other than additional services not covered by these terms of reference.

Detailed fee for design review and construction supervision shall be submitted separately as financial proposal. Reimbursable expenses, which cover all out-of-pocket expenses and shall be made against contractual acceptable documentary evidence, as agreed with the Client.

Table 2: Description of deliverables in Phases

Phases	**Description of deliverables**	**Time**
Design review of drawings	Submission of Acceptable design review report and Acceptable bidding document in accordance to World Bank procurement guidelines	1.5 months
Construction Supervision and Defect Liability Period	During this phase, all remunerations to the consultant shall be time based as per terms and conditions of time-based contracts. The professionals to be deployed on supervision works as mentioned under paragraph 6.1 of this TOR shall be allocated with their person months expected and compute their fees resulting thereof. During supervision stage the Consultant should submit the following deliverables: - Monthly/ Quarterly Progress Reports - Final Construction Report; - Final Account; - Operation and maintenance manual; and Any other report as might be required by Client	Monthly

4.0 SITE VISIT BY THE CONSULTANT

i) The Consultant at their own costs, is advised to visit and examine the Sites and obtain all information that may be necessary for preparing their proposals under this assignment;

ii) The Consultant should ensure that the Client is advised of the site visit in adequate time to allow her make appropriate arrangements;

iii) The costs of visiting the Site shall be bore by the Consultant.

During the course of this assignment, the Consultant is free to seek additional information/clarification on any issue relating to the earmarked Project from Mbeya University of Science and Technology and the same shall be provided to the Consultant promptly.

5.0 REPORTING AND DOCUMENTATION

The Consultant shall prepare and submit to the Client the following reports and documents here under. They shall be in English and in a format, quality and quantity approved by the Client and the World Bank

5.1. Phase I: Design Review and Tendering

Review: documents/reports, detailed design, bidding documents, BOQ and Cost estimates.

5.1.1 Documents

The Consultant shall review and submit four (4) sets of contract documents, comprising of drawings for both building and services, Specifications, Geotechnical investigation report, review documents for the Masterplan and Bills of Quantities for the proposed design work in electronic soft copy in a format agreed by the client. Five (5) sets of Drawings Handbook of site layout shall also be submitted in both Soft copy formats and hard copies. For compatibility reasons with Client's equipment, the consultant shall submit soft copy drawings in AutoCAD or ArchiCAD and DXF

format in a hard drive. In addition, the Team shall submit to the Client some perspective view drawings, in soft copy format and in three (3) each of A_0, and A_3 hard copies.

5.1.2 Reports

The Team shall prepare and submit four (4) sets of reports; i.e. **inception report**, **Geotechnical report**, **Draft Design Review report** and **Final Design Review report etc.** as would be appropriate.

(a) Inception report

Inception report is designed to give the Client confidence that the assignment can be carried out as planned and as agreed upon in the contract. The report shall include but not limited to professional staff deployed and detailed involvement of staff in execution of duties. The report will also indicate the reviewed key Client's requirements including site information and further provide Consultant's work-plan, stating Consultant's services and general understanding of scope of those services, and frequency of reporting for approval by client. The report should also bring to its attention major problems that might affect the direction and progress of the work if any. The inception report for the design review phase shall be submitted to Client in three (3) copies within five (5) days from the day the contract is signed and should indicate any major findings that may have a scope or cost changes. The report will be presented and discussed with the Client for more input if any. The Consultant will use such inputs to improve the report and proceed with the assignment while refining the report. The refined inception report should be submitted within the next five (5) days of the assignment. The Client shall review and approve the report within a period of five (5) calendar-days.

The final document will be submitted within five (5) days after consultant has received the comments.

(b) Draft of Design Review Report

Draft review report should include an outline review of design documents including site layouts, specifications and project cost. The draft review report shall be submitted to the Client in three (3) copies within 28 days from commencement date and should highlight areas that have been reviewed in relation to the proposed original designs. The consultant will proceed to prepare final design (simultaneously with the client's review) and submit a refined design review report within the next 14 days after submission of the draft design review report. The report will be discussed with the Client while in draft form for more inputs if any. The consultant will use such inputs to improve the draft (as approved by MUST) and produce the final report.

(c) Final Design Review Report

Detailed Design Report covering all aspects of design load estimation and all necessary assumptions on the same, approved design including architectural, structural, services (mechanical, electrical and data) drawings, access roads and pavements, Bill of quantities, specifications (an approved type of construction, quality of material and standard of workmanship) and a complete set of tender documents should form part of the Final Report.

The final report should be due on the completion of Phase I assignment. A physical presentation in *power point* format will be part of Final Report. The report must be submitted in 5 hard copies duly signed by the Team Leader, final detailed design report and Tender documents for tendering purposes. These reports shall be submitted one week after receiving Client's and/or comments should there be any. Architectural animation model in form of a short movie that provides visualization of existing and prospective buildings in a 3D environment should be submitted. Electronic version (in PDF format) of all drawings shall be submitted to the client via agreed electronic memory disc.

5.2. Phase II: Construction Supervision and Defects Liability Period

5.2.1 Assist the Client in Tender Administration

Bidding process will be administered by the Client, the Consultant shall play advisory role by providing assistance. In particular, the Consultant shall assist the Client in administration of tender for accounting activities assisted/performed during bidding administration.

5.2.2 Inception Report

The Consultant shall submit an inception report within four (4) weeks after the notification of the commencement of the Construction stage, the Consultant shall present to MUST consolidated work plan outlining methodologies, staff schedule, and a plan to ensure the quality of the services.

The inception report will address the following;

(a) Methodology and details of any modifications required in the original bills,,

(b) Review of the Contractor's detailed program of work, showing time, duration and personnel as well as the inter -relationship between activities,

(c) Proposed methodology for tracking compliance with applicable technical specifications and Tanzania environmental laws and regulations, and site-specific Environmental and social management plan (ESMP).

5.2.3 Supervision of Construction

The Consultant will undertake supervision (Architectural, Structural/Civil Engineering, Services Engineering and Quantity surveying) including arranging and coordinating all project meetings such as site meetings, technical meetings and management meetings during construction and Defects liability period.

5.2.4 Weekly, Monthly and Quarterly Progress Reports

The Consultant shall conduct valuation of work in progress and prepare quarterly progress reports of the project, and submit to the Client. The Consultant shall prepare and submit monthly progress reports which shall address the status of work

measured as "percent completion" against the schedule approved at the onset of work. The monthly progress reports shall contain an accurate, up to date, account of all work accomplishments, work scheduled and outstanding issues of the works. The reports shall also address the compliance of the Contractor and the works permits, ESMP, GRM/SEA/SH tracking reports as well as financial and scheduling commitments. At the end of each report the Consultant shall append colored progress pictures for physical progress at site for the particular reporting period. The monthly reports shall be submitted to the Employer not later than 7th day of the month following the end of the monthly period covered by each report. The quarterly reports shall be submitted to the Employer no later than 7th day of each yearly quarter (3 months) of project execution.

Weekly Reports by the resident engineer/ architect to be submitted every Monday during the course of the project. Daily reports must be documented, compiled and submitted to the client along the weekly report for schedule and scope management. This will enhance quality control in line with documented quality assurance from methodologies provided;

The monthly and quarterly report shall contain physical and financial progress and implementation and monitoring of the ESMP, including health and safety and other plans such as stakeholder engagement plan. The format of the monthly progress report shall broadly consist of:

(i) Cover to indicate Country, Regional, District, Beneficiary, Project name and Chronological number of reports;

(ii) Page 1 Index;

(iii) Page 2 Location map of project site/s

(iv) Page 3 Project details – All relevant dates of the Contract, such as the Contract signature date, site insurance expiry date, construction permit expiry date, mobilisation date, contract expiry date and other relevant dates;

(v) Page 4 Block diagram of Supervising Engineer's personnel with names;

(vi) Page 5 Block diagram of Contractor's personnel with names;

(vii) Page 6 Responsibility Assignment Matrix (who is in charge of what, names of certified laboratories or approving agencies where official tests will be performed);

(viii) Page 7 Project Schedule to be updated monthly;

(ix) Page 8 Percentage completion of BOQ showing drawdown;

(x) Page 9 Brief description (text) of construction activities carried out over the last month;

(xi) Page 10 Description (text) of laboratory and in-situ tests carried out over the last month and a review of the results obtained. Test readings and laboratory reports should be in a separate annex.

(xii) Page 11 CMP – 1-page description of approved Construction Management Plan in 1st progress report. (In the 2nd and successive reports, only report changes in CMP and any deviations by the contractor)

(xiii) Page 12 ESMP – Draw up matrix table for project with help from a separate ESIA report finding; include reporting requirements for environmental and social issues as per the approved environmental and social management plans, like resettlement, livelihoods, stakeholder consultation, grievances registered and resolved, labor influx issues.

(xiv) Page 13 Health and Safety plan report sheet drawn up by contractor;

(xv) Page 14 Status of personnel and human power on site (previous month and current month);

(xvi) Page 15 Status of Plant and equipment on site (previous month and current month);

(xvii) Page 16 Status of stockpiles and materials on site in table format;

(xviii) Page 17 Daily weather diary for the month of reporting;

(xix) Page 18 Chronological list of all official correspondence with contractor and client;

(xx) Page 19 List of Revisions, drawings or variations (date initiated, and date approved, and date issued);

(xxi) Page 20 Status of Project grievance redress mechanism including issues to be resolved Client-Stakeholder or Client-Contractor-Sub contractors;

(xxii) Page 21 Financial draw down. Funds still available for disbursement, Interim Payment Certificate (IPC) and cumulative drawdown;

(xxiii) Page 22 Supervising Engineer's comments on the progress of the works;

(xxiv) Page 22 Supervising Engineer's suggestions/feedback for head office/client;

(xxv) Annex 1-Progress photos from site – Low resolution pictures, 3 to each page, total 5 or 6 pages;

(xxvi) Annex 2-Attach copies of official lab results (concrete, aggregate and batching water quality, environmental readings where appropriate, etc)

5.2.5 Preparation of Interim Certificates

The consultant shall prepare interim valuation and payment certificates to the interval as per contractor's applications of payment.

5.2.6 Financial Appraisal

The Consultant team shall be required to conduct financial assessment of the project as might be required by the Client. Prepare cash flow forecast, project physical and financial progress reports.

5.2.6 Project Handover Report upon Practical Completion

The report should be due on completion of the construction work. The report will be discussed while it is still in draft form for MUST input if any. A physical presentation in Power point format will be part of Final Report. Upon completion of the project, consultant will prepare practical completion certificate and handing over the project to MUST.

This Report will mark the start of the Defects Liability Period. It shall include a summary of activities and components completed and list of outstanding works and snag list. The report shall cover at least the following items:

a) Background, objectives, and scope of the construction package

b) The quality, conformity, consistency of construction practices.

c) The fitness for purpose, utility and quality of constructed assets.

d) The outstanding defects that the Contractor must rectify before operational acceptance and handover of completed works.

e) Schedule for rectifying defects.

f) A schedule of defects and maintenance criteria to guide assignment of liability for defects arising during the Defects Notification Period, including environmental liabilities.

g) A schedule of inspections and testing which a Consultant have carried out during the Defects Notification Period to identify other defects that might arise during the period.

h) A list of operation manuals (including booklets, keys, equipment and maintenance guide).

5.2.7 Final Completion and Handing Over Report

The Consultant shall prepare a final report of the project, as defined, including recommendation to the Employer for final Acceptance of all the works included in the

contract documents and amendments, with a quality certification, stating that evaluation parameters have been accomplished. A final completion and handover report shall be prepared upon completion of the Defects Liability Period.

5.2.8 Environmental and Social Health and Safety (ESHS) reporting

(a) The Consultant shall provide immediate notification to the Client should any incident in the following categories occur while carrying out the Services. Full details of such incidents shall be provided to the Client within the timeframe agreed with the Client.

(i) Confirmed or likely violation of any Tanzania law, World Bank Regulations or any applicable international agreement;

(ii) Any fatality (lost life) or serious injury;

(iii) Significant adverse effects or damage to private property (e.g. vehicle accident); or

(iv) Any allegation of gender based violence (GBV), sexual exploitation or abuse (SEA), sexual harassment or sexual misbehavior, rape, sexual assault, child abuse or defilement, or other violations involving children,

(b) Ensure that contractor immediate notifications on ESHS aspects are shared with the Client immediately while procedures related to fatality, accidents or incidents are also carried out as per the country's laws and Regulations.;

(c) Immediately inform and share with the Client any immediate notification related to ESHS incidents provided to the Consultant by the Contractor as part of the Progress Reporting;

(d) Share with the Client in a timely manner the Contractor's ESHS metrics as part of the Progress Reports.

(e) Ensure that all complaints are resolved and both contractor and complainant are immediately informed on the resolutions.

5.3 Additional Services

The consultant shall provide any other additional services in the execution of both Phase I and Phase II works if so required by the client, at the rates and conditions applicable in the Contract.

6.0 CONSULTANT TEAM

The firm should express to have at least ten (10) years' experience in the building industry, and must have demonstrated capabilities of undertaking works of similar nature, value and volume. Supporting documents of at least five (5) projects of similar nature executed by the firm within the previous ten (10) years (2012 – 2022) is vital.

Firm's ability to manage at least three (3) projects of not less than a cumulative total of TShs 20 billion cumulatively delivered within expected project parameters is mandatory. The consulting firm should be registered by recognized professional boards and authorities recognized internationally and if awarded the of contract, the consultant must be registered by recognized professional boards and authorities in Tanzania.

HEET project comprises various projects in different parts of the country. Each project will be designed (where applicable) and supervised independently, hence entailing concurrent activities. Consultant firm or teams are permitted to participate in tendering for any of HEET projects. However, it will be mandatory for each a consulting firm to present sufficient independent qualified manpower/ professionals with supporting evidence for each project tendered since the projects will run simultaneously. Failure to demonstrate capacity in terms of assigned staff for various projects will lead to disqualification.

The staff to be provided by the Consultant shall be sufficient to cover the services under this contract. The timing and inputs of each professional staff member shall be in accordance with the agreed program for the delivery of services and appropriate to the project. The Consultant shall employ only such key staff whose curriculum vitae

or certificates or professional registration have been reviewed and approved by authorizing bodies and thereafter Mbeya University of Science and Technology . Staff employed must be relevant to the project with intended actual participation in the project. There should be a clear breakdown of all staff members that intend to be involved in the projects in terms of man month realistically to the actual individual executing a particular task.

The Consultant must describe in the technical proposal her system of quality assurance and how they will support experts on site with all required logistical support. Quality control of reports in terms of content,(standardized) layout and quality of language is a key aspect of quality assurance.

The Consultant will be required to have a full range of specialists to cover all the technical fields included in the project and to make these services available as required during the term of the Contract.

The Consultant must be capable of providing fully competent expertise in the following disciplines on as needed basis. In preparing proposals, firms must provide Curriculum Vitae for all positions indicated in Table 3.

6.1 Experts and their qualifications in All Stages of the Contract

Table 3: Key expert's qualifications

Category of Consultant	**Qualifications and Experience of key experts**
Team Leader	The Team Leader shall be a registered Architect or Engineer or Quantity Surveyor with a minimum qualification of Master's Degree in Civil Engineering/Project Management/Construction Management/Architecture/Building Economics/ Quantity Surveying/ Construction Technology. She/he must have at least 15 years cumulative experience with at least five (5) executed projects in

	design, review of drawings and supervision. Must have been involved in at least one (1) World Bank/Development Partners funded project. Supporting documents illustrating his/her actual participation in the projects is vital. A clear demonstration of his/her project management abilities in the past 10 years of three (3) projects with value of not less than a cumulative total of TShs. 20 Billion is required. Must demonstrate good communication and interpretation skills and working knowledge of ICT applications. Fluency in written and spoken English is mandatory. He/she should be registered as a professional by relevant Board.
Architect (s)	She/he must be a Registered Architect with a degree in Architecture or equivalent. She/he must have at least ten (10) years cumulative experience in architectural practice, planning and designs and with at least five (5) years of practical working experience in design of buildings construction and the construction industry as a whole after registration as an architect. She/he must have served in a similar position in at least three (3) projects of similar magnitude and complexity within the last ten (10) years including at least one World bank/Development partner project. Must be conversant with all aspects of architectural design, landscaping, interior design, and Computer Aided Designs (CAD) plus Microsoft office.

	Supporting documents demonstrating her/his knowledge in design and construction planning to be attached. Evidence of his experience in executing projects of not less than a cumulative total of TShs 10 billion is vital. The Architect should have proven ability to lead the design teams in the design (new and rehabilitation) and supervision of building construction activities. Fluency in written and spoken English is mandatory.
Quantity Surveyor	She/he must be a Registered Building Economics or Quantity Surveyor by professional board with a degree in Building Economics/Quantity Surveying/Building surveying/ Construction management or its equivalent. She/he must have at least ten (10) years cumulative experience in conducting measurement of quantities in infrastructure projects. Must have been involved in at least one (1) World Bank/Development Partners funded project. She/he must have served as a Quantity Surveyor in at least three (3) projects similar magnitude and complexity within the last 10 years with supporting evidence. Supporting documents for valuation of three projects with value not less than the cumulative total of TShs 20 Billion are vital. Must be well conversant with current market prices. Evidence of experience in dealing with contractual and legal matters. Managing costs and providing cost projection prior to the contractor's application of

	payment to make sure that the initial budget is not exceeded is mandatory. Evidence of proficiency in Quantity Surveying Professional Software. Fluency in written and spoken English is mandatory.
Structural/Civil Engineer	She/he must at least be a Registered Professional Civil/ Structural Engineer with a degree in above field. Postgraduate qualification is an added advantage. She /he must have at least ten (10) years cumulative experience in building and civil engineering designs with at least Five (5) years of practical working experience in design and supervision of construction works. Must have been involved in at least one (1) World Bank/Development Partners funded project. Must have served in a similar capacity on at least three (3) projects of similar magnitude and complexity within the last 10 years. The Civil/ Structural Engineer must be conversant with all aspects of reinforced concrete design, design of steel structures, design of timber and steel structures, strength of materials, soil mechanics. Supporting documents illustrating his/her actual participation in projects of similar nature is vital. A clear demonstration – supporting documents of his/her value engineering solutions for project of similar magnitude (with value of not less than a cumulative total of TShs 6 Billion in the previous 10 years is an added advantage.

	Fluency in written and spoken English is mandatory.
Services Engineer (Mechanical/Plumbing)	She/he must be a Registered Mechanical/ Sanitation Engineer by professional board with a degree in Mechanical/ Sanitation Engineering. She/he must have at least ten (10) years cumulative experience in design and mechanical installations. She/he must have served in similar capacity in design of mechanical installations in at least three (3) projects of similar magnitude and complexity in the last ten (10) years (2012 - 2021). Experience in supervision of plumbing systems (cold and hot water installation, waste and soil water systems), drainage and sewage systems, mechanical ventilation, lift design, firefighting, security systems, and the construction industry as a whole. Supporting documents demonstrating her/his knowledge in design (both new and rehabilitation projects) and mechanical installations management to be submitted. Evidence of his/her experience in executing projects of value not less than a cumulative total of TShs 10 billion is vital. Must have been involved in at least one (1) World Bank/Development Partners funded project Illustration of his/her ability to provide cost effective mechanical engineering solutions as per design and site conditions is vital.

	Knowledge in CAD programs and costing/ valuation of mechanical works is necessary. Fluency in written and spoken English is mandatory.
Services Engineer (Electrical)	She/he must be a Registered Electrical Engineer by professional board with a degree in Electrical Engineering. She/he must have at least ten (10) years cumulative experience in design of electrical installations. She/he must have served in similar capacity in design of electrical installations in at least three (3) projects of similar magnitude and complexity. She/he must have served in similar capacity in design of electrical and installation systems and the construction industry as a whole. The Electrical Engineer must be conversant with all aspects of design and construction/ installations of electrical systems in office/public buildings and supply main connections in at least three (3) projects of similar magnitude and complexity. Supporting documents demonstrating her/his knowledge in design and construction management to be submitted. Evidence of his experience in executing projects of not less than a cumulative total of TShs 10 Billion is necessary. Must have been involved in at least one (1) World Bank/Development Partners funded project. Illustration of his/her ability to provide cost effective electrical engineering solutions for new design and rehabilitation works as per site conditions is vital.

	Knowledge in CAD programs and costing/ valuation of electrical works is necessary. Fluency in written and spoken English is mandatory.
ICT Specialist	She/he must be a Registered certified ICT with a degree in ICT/ Computer science/ Information Technology or equivalent. She/he must have at least five (5) years cumulative experience in ICT projects. She/he must have served in similar capacity in at least two (2) projects of similar magnitude and complexity. Supporting documents of his/her actual involvement in such projects is necessary. Must have been involved in at least one (1) World Bank/Development Partners funded project. ICT Consultant should possess enough work experience in Technical solution designs, integration and expansion for large ICT projects, Wireless LAN design, Implementation and Management, Structured Cabling Design and Installation, Core network design, Server room layout design and equipment installation, TCP/IP protocol stack, Voice and Video over IP service delivery using proprietary and open source platforms, Network analysis tools, Configuration of network equipment, Access Control/Security System and Communication Systems Analysis Fluency in written and spoken English is mandatory.
Land Surveyor	She/he must be a Registered Land Surveyor by recognized professional boards with a degree in land surveying or its equivalent. She/he must have at least

	five (5) years cumulative experience in land surveying and related infrastructure. She/he must have served as a Topographical Surveyor in at least three (3) projects similar magnitude and complexity. Must have been involved in at least one (1) World Bank/Development Partners funded project Supporting documents of his/her actual involvement in such projects is necessary. Fluency in written and spoken English is mandatory.
Environmental specialist	She/he must be a holder of Degree in Environmental Engineering or Sciences, with broad range of experience in ESIA and related assessments and a minimum of five (5) years relevant experience in project design and construction of similar nature and complexity. Experience in environment management in tropical countries is mandatory during supervision of building construction project in order to ensure that the construction works adhere to developed project reports e.g. ESIA/ESMP. She/he must have knowledge and understanding on World Bank's Environmental and Social Framework (ESF) and associated Environmental and Social Standards (ESS) to address environmental and social issues within the project Cycle. She/he must have served in similar capacity in construction of at least three (3) building projects of similar magnitude and complexity. Supporting documents of his/her actual involvement in such projects is necessary.

Geotechnical/Material Engineer	Must be a registered Civil or Geotechnical Engineer and should possess a Degree or equivalent in Geotechnical Engineering/ Highway/ Material Engineering with a minimum of 10 years of geotechnical experience. Experience on projects of similar nature and size in terms of scope is also an added advantage.
Sociologist	She/he must be a holder of Degree in Social Sciences, Development Studies, Community Development or related fields with demonstrated experience in environmental and related studies and a minimum of five (5) years relevant experience. She/he must have served in similar capacity in at least three (3) building projects. He/she must have working experience related to social impact management in the supervision of construction project including ensuring that the construction works adhere to ESIA/ESMP. Relevant experience in supervising construction projects which follow specific relevant standards of World Bank Group EHS Guidelines including aspects of gender based violence, sexual abuse and exploitation and conflict analysis. She/he must have knowledge and understanding on World Bank's Environmental and Social Standards (ESS) to address environmental and social issues within the project Cycle. He/she must be fluent in written and spoken English and ability to communicate ideas freely and easily are essential qualities.

Resident Engineer	Shall be on site full time during the construction period and part time during the defects liability period. She/he must at least be a Registered Architect/ Civil/ Structural/Quantity Surveyor with a degree in above field. She /he must have at least five years cumulative experience in building and civil engineering designs and construction works. Must have served in a similar capacity on at least two (2) infrastructure projects of similar magnitude and complexity within the last five years. Must have been involved in at least one (1) World Bank/Development Partners funded project He /she shall be responsible for giving directions/instructions to the contractor or to the foreman-in charge in respect of; the interpretation of the Tenderers' instructions, Drawings, specifications, or bill of quantities; and any other matter in respect of which the Architect/ engineer is expressly empowered to issue instructions.

Non-Key Experts

In addition to the key personnel designated above, the Consultant may deploy Non-Key Expert to assist with the supervision of the works as deemed fit. In this case, it is at the discretion of the Consultant to propose Non-Key Experts for successful implementation of the assignment.

Note:

CVs for Support Staff will not be evaluated. However, evidence of professional registration and academic certificates for key staff should be submitted and will be evaluated.

6.4 Estimated Time on Task for Key Personnel

The estimated number of professional staff-months required for the assignment is **69.45** Staff- Months as follows:

Table 4: Breakdown of Staff-Months for Key Personnel for Each Phase

S/N	KEY STAFF POSITION	STAFF - MONTHS			
		Design Review Stage	**Supervision Stage**	**Defect Liability**	**Total**
1.	Team leader	0.5	5.5	0.5	6.5
2.	Architect	1.5	6.75	0.5	8.75
3.	Quantity Surveyor	1.0	6.75	0.5	8.25
4.	Structural/Civil Engineer	0.75	4.8	0.25	5.8
5.	Services Engineer - Mechanical	0.5	3.75	0.25	4.5
6.	Services Engineer - Electrical	0.5	3.75	0.25	4.5
7.	ICT Specialist	0.5	2.75	0.25	3.5
8.	Land Surveyor	0.25	1.5	0	1.75
9.	Environmentalist	0.25	2.0	0.20	2.45
10.	Geotechnical Engineer	0.5	1.5	0	2.0
11.	Sociologist	0.25	3.0	0.20	3.45
12.	Resident Engineer	0	17	1	18
Total		**6.5**	**59.05**	**3.9**	**69.45**

7.0 IMPLEMENTATION TIME FRAME AND SCHEDULE

7.1 Time frame

The overall time frame for implementation of consultancy works for design and supervision of construction works stated in Table 1 is estimated at a total of **31.5 calendar months** (1.5 Months for Design Review, 18-Months Construction and Supervision and 12-Months Defects liability Period) starting from the date of commencement of Consultant's assignment. The defect liability period shall be extended to a period of Twelve (12) calendar-months after completion of works.

7.2 Implementation Schedule

The breakdown of the estimated time frame and implementation schedule for the proposed construction of Academic block, Workshops and Center for Innovation and Technology Transfer buildings is as presented in Table 5.

Table 5: Implementation time frame for Design Review and Supervision of Construction

Item	Activity description	Duration (months)
1	**Design Review and Tendering**	
A	Inception report, Review Work, Final Review Report, Acceptable bidding documents	1.5
2	**Construction and Defects Liability Period**	
B	Construction and Supervision	18
C	Defects Liability Period	12
	Total duration	**31.5**

8.0 DATA, SERVICES AND FACILITIES TO BE PROVIDED BY THE CLIENT

8.1 Information to be provided by the Client

The Client will provide basic data needed to facilitate the assignment; these include assistance on matters related to administration as required for carrying out the work and liaison necessary for this purpose. In addition, the consultant will have access to all available information i.e. design documents, the MUST main Campus Masterplan, planning consent or building permit – if any and Topographical survey report.

A pre-briefing meeting will be held at Mbeya University of Science and Technology main Campus with prospective consultants in order to make them aware and familiar with this assignment. During carrying out of Physical Survey, the Consultant Team will be guided by the respective MUST staff. Likewise, on technical issues about the project, the Consultant will liaise with Client's in-house technical team.

8.2 Obligation of Consultant and Client

8.2.1. Consultant

i. The Consultant shall be responsible for the execution of the entire assignment as described in this Terms of Reference (TOR) and shall provide such facilities, staff and equipment that will enable her to execute the assignment in a timely and efficient manner.

ii. The Consultant shall be responsible for organising her/his office. She/He will be responsible for her accommodation, transport, equipment, supplies, secretarial services and such other services that are necessary for smooth and efficient execution of the assignment.

iii. The Consultant shall allow working with counterpart staff from MUST for the duration of the consultancy service. The Consultant shall prepare a management, control and supervision of projects and it is expected that the counterpart staffs will be fully integrated within the consultants operations for capacity building.

iv. Shall review specifications and bills of quantities for the entire assignment including submission of confidential cost estimates of the various components.

v. Shall review bidding documents for the entire assignment. Assist the client in obtaining qualified contractors for the execution of the works. In doing so the consultant shall be available to assist the Client in the bidding proceedings and in particular undertake the following activities:

   a) Provide detailed clarification as requested from the bidders.
   b) Assist the Client and the Tender Board in the preparation of the Bid Evaluation Report, negotiation and recommendations for award.

vi. The Consultant shall be responsible for the quality, safety, and security of the submitted designed works and specifications.

vii. The consultant shall adhere to different statutory obligations such as; insurance, taxes, and duties related to the design works shall be the responsibility of the consultant. The Consultant must contact the Tanzania Revenue Authority for specific details.

viii. The Consultant must comply with the Terms of Reference for this project. Arrange for own office space expenses and transportation activities related to this project (including travel costs, documents and drawings preparations/ submissions and per diems).

ix. Preparations and submission of reports as per these terms of reference. The Consultant shall allow working with counterpart staff from MUST for the duration of the consultancy service.

x. The Consultant shall prepare a management, control and supervision of projects and it is expected that the counterpart staffs will be fully integrated within the consultants operations for capacity building.

xi. The consultant shall submit a project supervision plan and project performance management plan.

xii. Consultant shall be responsible for obtaining all necessary work permits (if applicable) and cover all necessary costs for his/her expatriates and any other necessary consent from relevant statutory bodies.

xiii. Provide designers risk assessment in accordance with Environmental, Health and Safety policies.

xiv. Ensure the compliance of the contractor's construction drawings with the specifications of the contract, and subsequently approve such drawings; and

xv. Participate in all site meetings during construction.

xvi. To enhance HEET education development plan the consultant should practice professional development and responsibility. The consultants are encouraged to train and engage graduates architects/ quantity surveyors and engineers in order to boost their experience in design and management. This

will ensure professional continuity and sustainability for future projects. More specifically for MUST, there should be allowance of students to visit the site regularly and gain practical knowledge on applicability of theoretical studies.

8.2.2. Client

i. The Client will provide the necessary available documents for the task as requested by the consultant. The Consultant shall be responsible for the accuracy of data and correctness of the information, analysis and interpretation of the data and recommendations thereof. All such documents, data and information shall be treated as confidential and shall not be used for any purpose not related to the project.

ii. The Client will assist the Consultant to meet Government Departments and other agencies as needs arise. The consultant shall be fully responsible for subsequent follow up.

iii. The Client will appoint a Project Coordinator for the assignment who will guide the implementation of the project including providing guidance to the Consultant during the project duration.

iv. Ensure the consultant's performance complies with the Terms of Reference of this project and is reported to the employer on monthly basis or any time in case of emergency.

v. Ensure all payments are made according to the contract upon receiving the certificate of actual measurements taken by the employer team, consultant, and Contractor.

vi. Ensure the availability of counterpart staff.

vii. Receive and evaluate regular reports from consultant attached with the original reports from Contractors

viii. Ask/demand clarification from the Consultant from time to time

9.0 PROJECT LIBRARY

The Consultant shall create a library of all the documents, reports, maps, working papers, progress pictures, and other reference material used and/or created during the period of the work. A list of documents proposed to be kept in the library shall be included in the inception report for acceptance by the Employer.

During the course of the work the Consultant shall maintain it in good order and in a reference format in office space so as to be used by the MUST (Employer) staff. On completion of the period of work, the entire contents of the project library will be transferred to the Employer in good order and properly indexed and marked.

10.0 MANDATORY STANDARDS

a) All measurements in metric units

b) All drawings to have legend explaining symbols

c) All drawings including revisions to be dated and signed by Design Consultant

d) All Electrical drawings to be dated and signed by Electrical Engineer

e) All designs must conform to all applicable standards

f) Summary sheet with legend to all drawings

g) A legend to indicate changes to the drawings with date of these changes

h) Design to be based on full topographic survey or spot levels as the site requires, to determine exact quantities.

i) Design based on soil report that assesses pre requisite foundation type required.

j) A percolation test done according to Ministry of health standards for all sanitation and drainage requirement.

k) Bills of Quantity shall follow the prescribed standard and not include Prime Cost Sums and can only include provisional sums where absolutely necessary. The appendices shall carry a 'List of Drawings' from which the Bill of Quantities was prepared. Each page of the BOQ shall carry a footer indicating the total prices on that particular page and read' carried to collection'. The BOQ shall carry a general summary.

l) All quantities are to be measured in metric units and rounded off to two decimal places.

m) The Bills of Quantities shall not include Prime Cost Sums, and can only include Provisional Sums where absolutely necessary (i.e. only for works or for costs which cannot be entirely foreseen, quantified or detailed at the time tendering documents are prepared). The justification for ALL Provisional Sums must be outlined in a separate document, accompanying the Bills of Quantities.

n) Engineering Services and external works shall be priced and not billed as a lump sum.

o) Preliminaries should be properly priced.

p) All provisional sums must be justified on a separate document.

q) The Appendices shall carry a “List of Drawings” from which the Bills of Quantities was prepared.

r) Each page shall carry a footer indicating the total of prices on that particular page. This footer shall read “Carried to Collection”.

s) The Bills of Quantities shall carry a General Summary.

t) A printed copy of the priced Bills of Quantities should be submitted in electronic format.

u) Maintenance Plan comprising an inventory of the number and types of fixtures, surface areas and other amenities with a schedule of frequency and cycle of maintenance of the inventory listing.

v) The design consultant to provide Engineering specification covering all aspects of the proposed works.

11.0 ENVIRONMENTAL AND SOCIAL RISK MANAGEMENT

The consultant should follow the guidelines as provided by Higher Education for Economic Transformation (HEET), Environmental and Social Management Framework and associated instruments including the Environmental and Social Management Plan (ESMP) for proposed construction works. (available at http://www.moe.go.tz/sw/article/higher-education-for-economic-transformation-project-documents)

For the Supervision Phase the Consultant should attach or refer to the Consultant's environmental, social, health and safety policies that will apply to the project. As a minimum, the policy is set out to the commitments to:

1. Apply good international industry practice to protect and conserve the natural environment and to minimize unavoidable impacts;
2. Provide and maintain a healthy and safe work environment and safe systems of work;
3. Protect the health and safety of local communities and users, with particular concern for those who are disabled, elderly, or otherwise vulnerable;
4. Ensure that terms of employment and working conditions of all workers engaged in the Works meet the requirements of the ILO labour conventions to which the host country is a signatory;
5. Be intolerant of, and enforce disciplinary measures for illegal activities. To be intolerant of, and enforce disciplinary measures for GBV, inhumane treatment, sexual activity with children, and sexual harassment;
6. Incorporate a gender perspective and provide an enabling environment where women and men have equal opportunity to participate in, and benefit

from, planning and development of the Works;

7. Work co-operatively, including with end users of the Works, relevant authorities, contractors and local communities;
8. Engage with and listen to affected persons and organizations and be responsive to their concerns, with special regard for vulnerable, disabled, and elderly people;
9. Provide an environment that fosters the exchange of information, views, and ideas that is free of any fear of retaliation, and protects whistleblowers;
10. Minimize the risk of HIV transmission and to mitigate the effects of HIV/AIDS associated with the execution of the Works;
11. Provide mechanism to resolve grievances including those related to Gender Based violence, Sexual Abuse and harassment; and
12. Ensure that there are ample measures to minimize the risk of COVID – 19 transmission during the entire period of assignment.

The policy should be signed by the senior manager of the Consultant. This is to signal the intent that it will be applied rigorously.

12.0 CODE OF CONDUCT

The Consultant is required to attach or prepare a Code of Conduct for Supervision of Civil Works. A satisfactory code of conduct will contain obligations on all Consultant's Experts that are suitable to address the following issues, as a minimum. Additional obligations may be added to respond to particular concerns of the region, the location and the project sector or to specific project requirements. The code of conduct shall contain a statement that the term "child" / "children" means any person(s) under the age of 18 years.

The issues to be addressed include:

1. Compliance with applicable laws, rules, and regulations

2. Compliance with applicable health and safety requirements to protect the local community (including vulnerable and disadvantaged groups), the Consultant's Experts, the Client's personnel, and the Contractor's personnel, including sub-contractors and day workers (including wearing prescribed personal protective equipment, preventing avoidable accidents and a duty to report conditions or practices that pose a safety hazard or threaten the environment)

3. The use of illegal substances

4. Non-Discrimination in dealing with the local community (including vulnerable and disadvantaged groups), the Consultant's Experts, the Client's personnel, and the Contractor's personnel, including sub-contractors and day workers (for example, on the basis of family status, ethnicity, race, gender, religion, language, marital status, age, disability (physical and mental), sexual orientation, gender identity, political conviction or social, civic, or health status)

5. Interactions with the local community(ies), members of the local community (ies), and any affected person(s) (for example to convey an attitude of respect, including to their culture and traditions)

6. Sexual harassment (for example to prohibit use of language or behavior, in particular towards women and/or children, that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate)

7. Violence, including sexual and/or gender based violence (for example acts that inflict physical, mental or sexual harm or suffering, threats of such acts, coercion, and deprivation of liberty

8. Exploitation including sexual exploitation and abuse (for example the prohibition of the exchange of money, employment, goods, or services for sex, including sexual favors or other forms of humiliating, degrading behavior, exploitative behavior or abuse of power)

9. Protection of children (including prohibitions against sexual activity or abuse, or otherwise unacceptable behavior towards children, limiting interactions with children, and ensuring their safety in project areas)
10. Sanitation requirements (for example, to ensure workers use specified sanitary facilities provided by their employer and not open areas)
11. Avoidance of conflicts of interest (such that benefits, contracts, or employment, or any sort of preferential treatment or favors, are not provided to any person with whom there is a financial, family, or personal connection)
12. Respecting reasonable work instructions (including regarding environmental and social norms)
13. Protection and proper use of property (for example, to prohibit theft, carelessness or waste)
14. Duty to report violations of this Code
15. Non-retaliation against personnel who report violations of the Code, if that report is made in good faith