

Section II: Schedule of Requirements / Terms of Reference (ToR)

GENERAL INFORMATION

Description of Consultancy Service:	Provision of Geo-technical and Topographical Survey for the Construction of a Primary School in Tsore Refugee Camp near Assosa, Ethiopia
Project/Program Title:	Concept Design for Tsore Refugee Camp Primary School in Ethiopia
eSourcing Reference:	RFQ/2019/12173
Duty Station:	Assosa, Ethiopia
Type of the Contract:	Open Tender
Construction Duration:	23 Working Days distributed over one month and a week
Expected Start Date:	November 11, 2019

I. INTRODUCTION

UNHCR liaison office for AU has requested UNOPS to design and construct a primary school at Tsore refugee camp found in Benishangul-Gumuz region of Ethiopia, funded by the Government of Equatorial Guinea. .

II. OBJECTIVE OF THE ASSIGNMENT:

The main objective of this assignment is to conduct geo-technical investigation and topographic survey in the area dedicated for the construction of a Primary School in the Tsore Refugee Camp near Assosa, Ethiopia.

The purpose of the geo-technical investigation will be to explore the nature and engineering properties of the soil formation and assess the geological formation as foundation material providing adequate support to proposed building structure of a school. The topographic survey shall be conducted with the purpose of gathering existing topographical data and provide benchmarks and site information that will be used during the design and the construction of the facilities.

III. SCOPE OF WORKS (SoW)

3.1 Preliminary considerations

According to the Ethiopian Ministry of Education standard for the primary schools, the Primary school serves students aged 7-14 years. It has two levels, the first level is 1st to 4th grade and the second level is the 5th to 8th grades.

The landscape shall not predispose to flood, heavy wind, dust and should not have physical barrier for movement and exercise of students.

Depending on the weather conditions and availability of materials, the buildings can be constructed from cement, sand, concrete block, clay. It has to be constructed based on the proclamation number 624/2009 about construction of primary schools.

The compound should be completely fenced by materials like stones, concrete blocks, non-barbed wire and wood.

It should have accessible walkways in the compound. It needs to have space for gardening, the compound should have adequate space for car parking. Each drinking water faucet serves for 50 students. A single school should not accommodate more than 2,000 students.

Table: Classroom type, quantity and size recommendation for primary school in Ethiopia

No.	Grade 1-4 classroom recommendation Rooms	Quantity	Area	Remark
1	Classrooms	4	$8 \times 7 = 56$	1.12 square meter for one student
2	School Director (Principal)	1	$4 \times 4 = 16$	
3	Deputy Director (D/Principal)	1	$3 \times 4 = 12$	
4	Teacher room (staff)	1	$8 \times 7 = 56$	
5	Store	1	$8 \times 7 = 56$	
6	Library	1	$8 \times 7 = 56$	
7	Demonstration	1	$7 \times 15 = 105$	
8	Special needs	1	$4 \times 4 = 16$	
9	First Aid	1	$4 \times 4 = 16$	
10	Cleaners	1	$2 \times 2 = 4$	
11	Security (guard)	1	$2.45 \times 2.45 = 6.8$	
12	Toilets for teachers (gender separated)	2 (seats)	$1.50 \times 0.80 = 1.2$	
13	Toilet for students (gender separated)	4 (seats)	$1.50 \times 0.80 = 1.2$	The male and female toilet has to be two separate with at least 30 meter apart.
14	Toilets for handicaps (gender separated)	2 (seats)	$0.90 \times 1.20 = 1.08$	Accessible walkway

The X, Y coordinates of the Tsore Refugee Camp can be found below:

GPS Coordinate
(10.233676, 34.618417)

UNOPS Engineer, during the first site visit, will indicate the final location where the Geotechnical and Topographic Survey will be realized.



3.2 Geo-technical Investigation:

The exploration of the site requires test pit digging, visual classification and sampling of all strata likely to be significantly affected by load of the building. The principal interest will be the strength, deformation and hydraulic characteristics. Manual test pit excavation shall be used for geotechnical investigation.

The investigation shall be conducted to determine the stratification and the engineering properties of the soil/rocks underlying the site. The field investigation work shall be directed by an experienced and qualified geotechnical engineer of the company, and the work shall be monitored by the Client. The scope of works includes the following tasks:

- Identifying and characterizing the rock/soil types through field and laboratory tests as itemized in the attached soil program,
- Identify groundwater and surface water sources in the selected area. Groundwater levels should be investigated and presented in a map. This must include the highest and lowest water level locations.
- Assessment of bearing capacity,
- Drawing conclusions and foundation recommendations.

3.3 Topographic Survey:

- Gather existing topographical data, levels, dimensions, access roads, drainage structures, buildings, fences and any other feature within the selected area in the Refugee Camp. The total size of the school compound that must be analysed is 25'000 square meter.
- Site boundary layout plan with indication of at least 2 benchmarks; Name, ID number and location of the reference BM has to be provided in the survey report.
- Total exact area of the surveyed site, indicating the actual length of each side of the plot.
- Detailed topographic survey by using Real Time Kinematic Global Positioning system (RTK-GPS) and Total Station. Latitude, Longitude and altitude (X, Y, Z) values of all points need to be taken considering a 5m grid showing contours of 0.25m interval.
- Visual inspection on the site to note and mark features, and existing buildings, water meters, playground, water sources, electrical lines, accesses, roads and other structures which are on the project site.
- The report and the drawing shall also indicate the nearest pipe of the Sewerage System (if existing).
- Topographic features in the study area must include, but not limited to, the following features:
 - ✓ All existing buildings and other structures with proper shape, number of floors and height in the site.
 - ✓ Significant trees.
 - ✓ Electric pole, tube well, utilities such as gas, water, drainage, sewage disposal within the site;
 - ✓ Adjacent roads with width, alignment and elevation.
 - ✓ Existing septic tanks with their dimensions.
 - ✓ Existing water tanks and steel towers.
- The topographic survey work shall be directed by an experienced and qualified senior surveyor of the company. The consultant must be certified by the relevant Ethiopian authorities.

IV. STANDARDS AND METHODS

The geotechnical investigation to be conducted both in the field and laboratory with the objective of providing sufficient data and information related to geotechnical engineering enquired for the analysis and design of the foundations of the building structures and provision of ground water facility if applicable. Both activities are to be conducted according to local and international standards and norms. The field work that comprise the soil/rock exploration, protection, handling and labelling of samples including penetration tests shall be made in accordance with the Local Standards or Eurocode Standards (Eurocode 7: Geotechnical Design) and applicable ASTM standards.

The laboratory tests and the standard procedures to be followed are depicted hereunder:

- Index property tests such as moisture content (ASTM D 2216-92), field and bulk density (ASTM D 2937-94), and specific gravity (ASTM D-854-90).
- Classification tests namely: sieve analysis (ASTM D 422-90) and Atterberg limits (ASTM D 424, 432 and ASTM D 4318-84).
- Chemical testing: pH, chloride content (CL-) and total sulphate content (TSO3), for selected samples. The chemical tests to be performed according to DIN 4030 Part 1, and BS 1377 (1990) or applicable ASTM standards.

V. DELIVERABLES:

- 3 copies of Compiled geo-technical investigation report (PDF).
- The report presents sampling methods, discussions, interpretations, conclusions and recommendations regarding the engineering behaviour of the geological formation. The report shall include climatic factors such as flooding possibility and soil potential volume change, presence of any soluble salts which has adverse effect on soil strength and other chemicals resulting corrosion of concrete and steel.
- The geotechnical report shall also include, but not limited to:
 - The starting and finishing date of test pits digging,
 - Sampling method used,
 - Weather condition,
 - Surface elevations of Test pits,
 - Vertical sections of test pits,
 - Ground water level measurement and date of reading,
- Location of strata containing organic materials or other inconsistencies that might affect engineering conclusions,
- Digital photographs at daylight condition need to be taken for at least 4 views of the whole school compound from different angles and at least 4 views of each building or all view by using a 360 degree camera. Digital files of the photographs need to be organized in a systemic way.
- Colour photographs of representative test pits in two copies.
- Generation of CAD format data of the school campus based on surveyed data and showing proper dimension of each infrastructure including the spaces between objects. Proposed new building location need to be determined in consultation with UNOPS Engineer. The colour of different features should be following standard:
 - ✓ Existing building: Blue
 - ✓ Proposed building: Red
 - ✓ Septic Tanks: Cyan
 - ✓ Tree: Green
 - ✓ Electric Pole/ Tubewell: Magenda
 - ✓ Road: Black
 - ✓ Other features: Dark Pink
- 3 hard copies and a soft copy in AutoCAD and PDF formats of the topographic map.

The topographic map shall show contours of 0.25 m interval, considering a 5m grid, benchmarks and references, existing physical features and structures, fences, access roads and boundaries including a soft copy of the coordinates of points, which the contour map has been based.

VI. TEST PIT PROGRAM

The Test pits program shall include the following.

- Dig five test pits **TP1, TP2, TP3, TP4 (next to the four corner of the compound) and TP5 (in the centre of the compound)** to a maximum depth of 4.0 meters, below natural ground level in all test pits.
- Collect undisturbed soil samples from each test pits at depth of 1.5 m, 3.0 m below NGL.
- Collect disturbed soil samples from each test pit at a depth of 1.5 and 3.0 m.
- Collect two groundwater samples, if any for sulphate content, chloride content & PH-value tests.
- Note locations of strata containing organic materials, weak materials, or other inconsistencies that might affect engineering conclusions.
- Measure surface elevations of Test pits and ground water levels. Elevations of Test pits shall be correlated to an appropriate reference benchmark.
- For locations of test pits, refer to the site plan. Alteration of test pits location is subject to approval by the Engineer's Representative.

VII. TIMELINE

The assignment shall be carried out within 23 working days from the date of agreement as follows.

Item	Activities	Timeline
1	Mobilization	5 days
2	Fieldwork	2 days
3	Laboratory Analysis	2 weeks
4	Reporting	2 days
Contract Duration		23 Days

VIII. PREAMBLE TO THE BOQ:

1. **Note-1:** The quantities shown under the BOQ table are just reasonable indicative figures to the volume of work anticipated during the field visit as well as office and laboratory works. Actual payments shall be due and ascertained through measurement along the entire process of works.
2. **Note-2:** Tentatively 5 trial pits are assumed to be adequate to reasonably determine the character of soil and bearing capacity to support the proposed building structures. However this number might increase depending on the variability of the ground to be exhibited during the field survey. The final number of trial pits and locations will be ascertained on site by the Engineer's representative.
3. **Note-3:** The rates, in addition to the direct costs, deemed to include all mark-ups including overhead costs necessary to properly conduct the services in accordance with the requirements set under this document.
4. **Note-4:** Summary price included under as indicated in Section III form B need to be supported by detailed BOQ or price for the work.

Detail Bill of Quantities (BoQ)

1. GEO-TECHNICAL INVESTIGATION

***Note:** The quantities stated below are based on the fact that 5 pits will be conducted.

Item	Description of Tasks/Activities	Unit of Measurement (UoM)	Qty
I	Field Work		
1.1	Mobilization & Demobilization to the site	LS	1
1.2	Excavation of 5 Pits (2.0 m x 2.0m) to a depth of 4 m.	m ³	80
1.3	Backfilling of the 5 pits.	m ³	80

Item	Description of Tasks/Activities	Unit of Measurement (UoM)	Qty
1.4	Collection of disturbed samples using box for log reports : 0-4 m	No.	5
1.5	Collection of undisturbed samples (if the characteristics of soil permits) for laboratory tests- 2 samples from each test pit at 1.5m and 3.0m	No.	10
1.6	Dynamic Cone Penetration Test (DCP) to the depth reached every 50cm starting from 1.5m	No.	30
II	Laboratory Tests		
2.1	Disturbed Samples		
2.1.1	Gradation	No.	10
2.1.2	Atterberg Limits	No.	10
2.1.3	Specific Gravity	No.	10
2.1.4	Free Swell	No.	5
2.2	Undisturbed Samples		
2.2.1	Unconfined Compressive Strength	No.	10
2.2.2	Direct Shear	No.	10
2.2.3	Moisture Content	No.	10
2.2.4	Bulk Density	No.	10
III	Topographical Survey		
3.1	Topographical Analysis of 25'000 square metres area	Plot of Land (L.S)	1
IV	Reporting Costs		
4.1	Soil Classification & Log Report	No.	2
4.2	Bearing Capacity & Foundation Recommendation Including Documentation & Reporting: shallow or deep foundations, bearing capacity, potential settlement, etc.	L.S	1

IX. PAYMENT MILESTONES AND AUTHORITY

Prospective bidder will be paid 100% after the respective Project Manager (PM) confirms the successful delivery of the service.

X. MINIMUM ORGANIZATION AND KEY PERSONNEL REQUIREMENTS

10.1 Minimum Organization Requirements

The Service Provider must meet the following minimum UNOPS requirements:

- The Service Provider must have renewed Business License, TIN, and VAT/TAX Certificate with the appropriate relevant government authority, and authorized for the provision of Geo-technical and Topographical Survey;

- Bidder should be in continuous business of Geo-technical and Topographical Survey service as specified in **Section II: Schedule of Requirements” /Terms of Reference (ToR)** during the last three (3) years prior to bid opening;
- **Financial capability:** Liquidity: the ratio Average Current Assets / Current Liabilities over the last two (2) years must be **equal or greater than 1**. Bidders must include in their Bid audited balance sheets covering the last two (2) exercises;
- At least three (3) references must be declared by the Bidder with full contact details as per the template to confirm successful delivery of such services, preferably from clients such as UN organizations, international NGOs, etc.;
- Bidder **SHOULD NOT** be any adverse report regarding the service for at least **five (5)** years preceding the date of bid opening.

The multi-disciplinary team should comprise members with the following educational qualifications; experience and competencies:

10.2 Geo-technical Engineer

Academic Qualification:

- M.sc in Geo-Technical Engineering or in relate field or additional 2 years of experience if qualification is B.Sc

Work Experience/Exposure:

- Proposed key personnel must have work at least five year experience in geo-technical survey

Competencies:

- Perform geotechnical analysis and study to assess construction site condition;
- Plan and conduct geotechnical exploration effectively;
- Perform field and environmental investigations for construction projects;
- Analyse geotechnical findings, perform appropriate calculations;
- Strong communication skills;
- Strong presentation and facilitation skills; and
- Excellent command in both written and spoken English is essential.

10.3 Senior Surveyor

Academic Qualification:

- Diploma from recognized University/College

Work Experience/Exposure:

- Proposed key personnel must have work at least eight year experience in surveying

Competencies:

- Prepare and maintain sketches, maps and reports of surveys in order to describe, certify, and assume liability for work performed;
- Verify the accuracy of survey data, including measurements and calculations conducted at survey sites;
- Record the results of surveys, including the shape, contour, location, elevation, and dimensions of land or land features;
- Plan and conduct ground surveys designed to establish baselines, elevations, and other geodetic measurements;
- Strong communication skills;
- Strong presentation and facilitation skills; and
- Excellent command in both written and spoken English is essential.

XI. RECOMMENDED PRESENTATION OF TECHNICAL PROPOSAL

For purposes of generating proposals whose contents are uniformly presented and to facilitate their comparative review, a Service Provider advised to use a proposed Table of Contents. Hence, your Technical Proposal document must have at least the preferred content as outlined in the respective RFQ Returnable Bidding Forms.

XII. CRITERIA FOR SELECTING THE BEST OFFER

Quotations shall be evaluated to determine the **"lowest price most technically acceptable offer"**.

Evaluation shall be conducted as follows:

1. **Preliminary Examination:** Quotations shall be reviewed for compliance of the *eligibility and formal criteria* specified in Evaluation Criteria section.
2. **Qualifications of the Bidder** will be assessed as per *qualification criteria* if so specified in the Evaluation Criteria section.
3. **Technical compliance of the offered services:** The *technical criteria* specified in the Evaluation Criteria section will be reviewed for compliance compared to UNOPS requirements.
4. **Financial evaluation:** Quotations that are found to be technically acceptable shall be evaluated based on price and UNOPS will award the contract as per the lowest priced, most technically acceptable offer evaluation methodology.

At any time during the evaluation process UNOPS may request clarification or further information in writing from Bidders. The Bidder's responses shall not contain any changes regarding the substance, including the technical and financial part of their quotation. UNOPS may use such information in interpreting and evaluating the relevant quotation.

EVALUATION CRITERIA

The evaluation criteria reflect the information being requested in the Returnable Bid Schedules. Some of the evaluation criteria are marked as **"Pass or Fail"**, whereas others are marked as **"To be checked by UNOPS and clarified if necessary"**. If bidders **FAIL** a "Pass/Fail" criteria they will be ineligible and require no further evaluation. Non-compliance with "Check and Clarify" evaluation criteria, may be rectified by the bidder prior to its (non) selection. *If the bidders are failed to provide the clarification within the stipulated time by UNOPS, then these bids shall be failed in the solicitation process.* Missing historical documents in the "Pass or Fail" criteria may also be requested from the bidders by UNOPS at its own discretion through bid clarification process.

STAGE I: ELIGIBILITY AND FORMAL CRITERIA

Item No	UNOPS Eligibility and Formal Requirements
1	Bidder is eligible as defined in the document Section I: Instructions to Bidders, Article 3 1.1 A Bidder shall not have <i>a conflict of interest</i> (refer the detail under Article 3). 1.2 A Bidder is not included in any UNOPS, UNGM, World Bank, and/or UNOPS Partner <i>Ineligibility List</i> (refer the detail under Article 3) — Pass or Fail
2	Completeness of the Quotation. Returnable Bidding Forms and other documentation requested under the Document Checklist section have been provided and are complete — To be checked by UNOPS and clarified if necessary
3	Bidder accepts UNOPS General Conditions of Contract as specified in Section IV: Contract Forms — Pass or Fail

STAGE II: QUALIFICATION CRITERIA

Item No	UNOPS Qualification Requirements
1	A bidder submitted renewed Business Licence and Tax Registration Certificate(s) — Pass or Fail

Item No	UNOPS Qualification Requirements
2	Is the bidder registered in Federal Republic of Ethiopia by authorized Government Entity to provide the captioned RFQ Service? — Pass or Fail
3	Bidder has been in continuous business for the provision of similar service for the last 3 (three) years — Pass or Fail
4	Is the Bidder submitted RFQ proposal written in English? — Pass or Fail
5	At least three (3) references are declared by the Bidder with full contact details as per the template to confirm successful delivery of such services (preferably from UN Agencies and/or international NGOs) — To be checked by UNOPS and clarified if necessary
6	Bidder Confirmed the Quotation is Valid for the period of 90 days from the date fixed for the submission deadline as set out in this RFQ — Pass or Fail

STAGE III: MINIMUM TECHNICAL REQUIREMENTS FOR SERVICE PROVISION (i.e., PASS or FAIL Criteria)







Item No	UNOPS Minimum Technical Requirements
1	Proposed Methodology/Approach and Implementation Plan 1.1 To what degree does a Bidder understand the task? 1.2 Have the important aspects of the task in the respective "Schedule of Requirements" been addressed in sufficient detail in the proposed methodology/approach? — Pass or Fail
2	Is the Implementation Timelines (i.e., Work Plan) clearly indicates the bidder commitment to accomplish the service within 23 working days from the date of agreement? — Pass or Fail
3	Geo-technical Engineer: The extent to which the proposed Key Personnel satisfy the list of minimum academic, work experience and competencies requirements indicated on Page 7 of the respective Terms of Reference (ToR) — Pass or Fail
4	Senior Surveyor: The extent to which the proposed Key Personnel satisfy the list of minimum academic, work experience and competencies requirements indicated on Page 7 of the respective Terms of Reference (ToR) — Pass or Fail
5	Is (ASTM D 2216-92) used for index property tests such as moisture content, field and bulk density (ASTM D 2937-94), and specific gravity (ASTM D-854-90) — Pass or Fail
6	Are standards of (ASTM D 422-90) and (ASTM D 424, 432 and ASTM D 4318-84) for classification tests namely: sieve analysis and Atterberg limits respectively? — Pass or Fail
7	The Chemical testing: pH, chloride content (CL-) and total sulphate content (TSO3), for selected samples be performed according to DIN 4030 Part 1, and BS 1377 (1990) or applicable ASTM standards — Pass or Fail
8	3 hard copies and a soft copy with Auto-Cad format of the topographic map need to be submitted to the employer — Pass or Fail
9	3 copies of geo-technical investigation report need to be submitted to the employer — Pass or Fail

XIII. INSTRUCTION WHEN SUBMITTING PRICED BOQ ALONG RETURNABLE BID FORM



Prospect bidders/Contractors are strongly advised to follow the below instructions when filling out Bill of Quantities (BoQ):

1. You are not allow to change any item descriptions on this BOQ. Failure to abide by it will result to automatic disqualification of your bid;
2. You are only required to fill in the cells under the column "Rate/Unit Price" corresponding to works description in the currency indicated on BoQs

3. **Upon filling in the Rate and/or Unit Price, all other calculations will be done automatically, meaning you do not have to tamper with any other cell within this spreadsheet.**
4. The summary sheet will also be fill in automatically, you do not have to temple with it.
5. At the bottom of the BoQ sheet, you are also require to sign in the space left for it to authenticate the submission.
6. UNOPS has factor in the various percentages, which cannot be change. They are fixed and base on your total price, these will be calculated automatically.
7. Please note that this BoQ forms is part of the "Returnable Bid Forms" and as such should be returned (**BOTH THE PRINTED AND DULY SIGNED FORM; and the Excel Soft Copies for Arithmetic check**) along with all other documents when submitting your tender.
8. Attached are all returnable schedules to be appropriately fill in and return along with your submission.
9. **IMPORTANT:** The Returnable Bid Forms shall have **THE FOLLOWING FILE NAMES** to let Technical Panel **EASILY LOCATE AND EVALUATE** your bids:

-  Form A - Quotation Submission Form.pdf
-  Form C - Technical Quotation Form.pdf
-  Form D - Previous Experience Form.pdf
-  Form E - Key Personnel Form.pdf
-  Form F - Renewed Business License; VAT Certificate.pdf
-  Form G - Audited Financial Statements.pdf

Under "**Form B Form B: Price Schedule Form**" the pdf and Excel File Names shall have the following details:

-  Form B - Priced BoQ Returnable Schedule Form.pdf
-  Form B - Priced BoQ Returnable Schedule Form.xlsx

XIV. POST QUALIFICATION ACTIONS

UNOPS has the right to carry out reference checks with a recommended Bidder/Contractor regarding:

- Verification of accuracy, correctness and authenticity of the information provided by the bidder on the legal, technical and financial documents submitted;
- Validation of extent of compliance to the ITB requirements and evaluation criteria based on what has so far been found by the evaluation team;
- Inquiry and reference checking with Government entities with jurisdiction on the bidder, or any other entity that may have done business with the bidder;
- Inquiry and reference checking with other previous clients on the quality of performance on ongoing or previous contracts completed;
- Physical inspection of the bidder's plant, factory, branches or other places where business transpires, with or without notice to the bidder; and/or
- Testing and sampling of completed Works and ancillary services similar to the requirements of UNOPS, where available.

XV. CONFIDENTIALITY AND PROPRIETARY INTERESTS

The consulting firm shall not either during the term or after termination of the assignment, disclose any proprietary or confidential information related to the consultancy or the Government without prior written consent. Proprietary interests on all materials and documents prepared by the consultants under the assignment shall become and remain properties of United Nations Office for Project Services (UNOPS). This assignment will be administrated by the UNOPS, and all relevant UNOPS rules, policies and procedures will apply.

XVI. CHECKLIST OF DOCUMENTS TO BE SUBMITTED BY VENDORS

Prospect bidders are strongly advised to ensure the following Forms and Supporting Business Documents are uploaded on UNOPS eSourcing Portal while submitting bids for this RFQ on or before the bid closing period.

No	Document Form	Document Descriptions	Remark
1	Form A	Duly Signed Quotation Submission Form - (Bid submission form)	Mandatory
2	Form B	Duly Signed Price Schedule Form - (Price schedule/Financial proposal)	Mandatory
3	Form C	Duly Signed Technical Quotation Form - (Technical proposal)	Mandatory
4	Form D	Previous Experience Form	Mandatory
5	Form E	Key Personnel Form/Assigned Experts along with their respective detail Curriculum Vitae (Key personnel CVs)	Mandatory
6	Form F	General Requirements: Renewed Business License; VAT Certificate; Statements of "Satisfactory Performance" (Company profile)	Mandatory
7	Form G	Last Two Years Audited Financial Statements	Mandatory