

Terms of Reference

Consulting service for the Design, Drawing and Estimation of the ACC Office Phuntsholing

OBJECTIVE AND SCOPE OF CONSULTING SERVICES

1. Background

Phuntsholing being the commercial hub and the main gateway to Bhutan, there is a high risk of corruption thereby necessitating sustained anti-corruption efforts. However, physical presence of ACC for prolonged period in Phuntsholing poses serious logistic problem owing to the sensitive nature of work and the safety and security of its personnel. Therefore, an operational facility/base is of paramount importance which will facilitate the anti-corruption works in Phuntsholing.

Consequently, ACC has planned to construct office in the 35.90 decimal land in plot no. PGT-2982 of thram no. 660 opposite to the Forest office along the RICBL- Pemaling road in Phuntsholing. The Royal Government of Bhutan is funding the project.

The objective of the project is to prepare master plan, detail design and drawings and to come out with a reliable estimate of the construction.

2. Technical detail of the Project

Name : Construction of ACC office Phuntsholing
Location : Phuntsholing

Specific requirements of the office building:

The proposed building shall be a B+G+3 building in a 12 decimal land having separate entry points for the general and seized vehicles. The other specific requirements of the building are as follows:

Basement	Open space for parking of small seized vehicles, and room to store seized goods
Ground floor	Conference hall and administrative office space
First floor	Interrogation Rooms & working office for investigating officers (independent entry to this floor)
Second floor	Transit rooms with attached kitchen and recreational area
Third floor	Executive room and Laboratory for forensic unit (AC room for Lab)
Compound wall	The open space should be blacktopped

Scope of the work:

The scope of the works to be undertaken by the consultancy firm includes the following:

1. Site survey and develop site layout for ACC office Phuentsholing.
2. Architectural drawings including sewerage and plumbing facilities in complete sets.
3. Structural drawings with complete detailing and bar bending schedule.
4. Electrical drawings complete with cable connection from nearby pole inclusive of transformer if needed.
5. Detailed specifications for the various items of works not covered by SBRW 2015.
6. Water supply scheme design for the office from the source including reservoir and intake tanks if needed.
7. Detailed cost estimate, BOQ and rate analysis wherever necessary.
8. Obtaining the building permit and the necessary approvals of the designs for construction of the building from the authorities concerned.

It shall be the responsibility of the consultancy firm to:

1. Carry out the physical verification of the site for assessing the scope of work; and
2. Conduct necessary tests to determine the design parameters.

3. Detail Design Works

Description of Work	:	Survey, Design, Drawing and Estimation of the Office construction.
Location	:	Phuentsholing
Project Duration	:	2 months

3.1 Objectives:

The consultant is expected to prepare master plan of ACC Office Building, carry layout of the proposed infrastructure and site development works in the 35.9 Decimal land in plot PGT-2982, survey, soil investigation, detail electrical, water supply and sanitation design, preparation of drawings of all designs, Bill of Quantities (BoQ), cost estimate including rate analysis for the whole project and obtaining of necessary design approval for construction from authority concerned.

3.2 Scope of Consultancy Services:

The services to be provided by the consultant will include, but not limited to the following:

a) Site Investigation and Survey Works:

- i. Prospective consultancy firms should visit the proposed site at its own costs to familiarize with the existing site conditions. A copy of the sketch map of site will be provided for reference.
- ii. A detailed survey should be carried out showing all the topographical features as may be required for the purpose of design. Identification and Surveying of appropriate water source for the office. Report to be submitted why the particular source is chosen for the proposed water supply scheme.

b) Soil Investigation:

- i. All the pre-requisite studies such as site study, surface study and investigations, tests, collection of data, (adequate trial pits) etc. should be carried out (Bearing capacity of soil) and incorporate in the structural design before detail design of building structures.
- ii. The soil investigation shall furnish necessary information to decide on the type and depth of building foundations among others.
- iii. The consultant shall submit a detail soil tests and investigation report.
- iv. The consultant has to dig adequate number of pit holes at various sites as per the infrastructure location for obtaining details of the soil conditions adequate for proper design of the buildings.
- v. The location & depth of holes may be decided in close coordination with the departmental engineer.

c) Design of the Building/Infrastructure

- i. The total land for the proposed office construction is 35.9 decimal. The infrastructure should be properly laid out in the appropriate location. The main building shall cover not more than 12 decimal land.
- ii. The lay out plan shall allow provisions for separate parking facilities for general and seized vehicles, overhead water tank, water supply pipeline, telephone cables, television cables, power cables.
- iii. The detail design should conform to the requirements of the Client. The consultants are required to make changes considering the site conditions.
- iv. Designing of water supply scheme for the area. The design to include tank at the water source identified/explored/surveyed by the consultant, overhead reservoir tank within the campus (appropriate size). Water distribution within the area with adequate number of water taps distributed around the area for drawing water for various usages.

d) Detail Drawings for the Building and other infrastructure

- i. The drawings should be done in an appropriate style and the scales suitably fixed so that they are easily readable at site or workshop by naked eye. Except for the general views, the drawings should preferably be made to the scale of 1:50 and for showing minute details to 1:20 / 1:10 where necessary.
- ii. Adequate number of drawings should be produced to appropriately represent all the necessary details, views, etc.
- iii. The detail reinforcement schedule will be a part of the drawings.
- iv. All drawings shall be in ISO A3 format (297x420mm) and in conformity with, but not limited to, the requirements of the TMC for scrutiny and approval as outlined in the BBR. Descriptive reports shall be prepared in A4 format (210x297mm).
- v. Except for similar components, each different component shall have separate drawings in cross section, elevation and plan.
- vi. For the purpose of tendering, drawings printed on A3 sizes would be accepted. However, the drawings should be easily readable by naked eye.
- vii. All drawing dimensions shall be in metric system (i.e. meter, cm and mm)

e) Bill of Quantities

- i. The BoQ should be explicit covering all items of work. It should be as exhaustive as possible to avoid changes, additions, deletions and substitutions during execution and therefore the undesired disputes and claims.
- ii. The detailed technical and material specifications should be a part of the BoQ. One copy of the Technical Specifications shall be submitted to Project Office for its comments & suggestions before making the required number of copies.
- iii. The quantities should be worked out as accurate as possible to avoid unnecessary variations during the execution of the work.
- iv. Availability of materials may also be specified for those that are unique in features. As far as possible, the materials should be readily available in Bhutan & India. The materials may be suggested to suit the climatic condition of the office location.

f) Rate Analysis & Cost Estimates

- i. The cost estimates should be appropriately worked out to indicate the approximate cost of the entire project. It should be accompanied by analysis of rates where necessary.
- ii. All forms of taxes – excise duties, sales tax, royalties, etc. applicable in Bhutan and abroad when materials are imported, should be incorporated in the cost analysis.
- iii. The cost estimate should be treated as highly confidential.

3.3 Key Personnel:

The Consulting firm shall engage the following key personnel whose CV and experience shall be evaluated, apart from other support staff to carry out the Services.

- i) *Team leader*
- ii) *Architect*
- iii) *Structural/Civil Engineer*
- iv) *Electrical Engineer*
- v) *Quantity Surveyor*

The key personnel shall meet the following minimum eligibility requirements:-

i. Team leader:

- a) Must have managed construction projects of about 3 projects of similar type and scale or have about 5 years or more experience in construction project management.
- b) Must have at least Bachelors/Diploma Degree in Architecture/civil engineering.
- c) Must be fluent in spoken & written English.

ii. Architect

- a) Must have at least Bachelors Degree in Architecture from a reputed University.
- b) Must have at least 5 years of experience in building design works.
- c) Must be fluent in spoken & written English.

iii. Structural/Civil Engineer

- a) Must have at least Bachelors Degree in relevant field.
- b) Must have at least 5 years of experience in Building works.
- c) Must be fluent in spoken & written English.

iv. Electrical Engineer

- a) Must have at least Bachelors Degree in Electrical Engineering.
- b) Must have at least 5 years of experience in Building Electrical works.
- c) Must be fluent in spoken & written English.

v. **Quantity Surveyor**

- a) Must have at least Diploma in Civil Engineering.
- b) Must have at least 5 years of experience in Quantity Survey.
- c) Must be fluent in spoken & written English.

The consulting firm should submit detailed references of similar works executed earlier (both by the firm and the key personnel), detailed Curriculum Vitae (CV) and qualification & experience certificates and the letter of commitment of the proposed consulting engineers.

For uniformity in evaluation, the qualification, experience record, etc. of only the above five key personnel would be evaluated. The firm shall be disqualified if the qualification & experience certificates and letter of commitment of the consulting engineers are not enclosed.

3.4 Services and Facilities for the Consultant:

The Consultant would be provided the copy of site plan for the purpose of preparation of lay out plans, designs and drawings. For the purpose of detail design and layout, the Consultant will have to carry out detail survey of the site on its own and shall take full responsibility for accuracy of the data collected.

3.5 Reports and Documents:

The selected Consultancy Firm shall be required to submit and present the followings reports for Client's review and approval:

- ◆ *Inception Report, at the end of first quarter from the date of commencement of the services, and the followings:*
 1. Preliminary Master Plan (The client will provide the architectural designs of the buildings however the consultant will prepare for the Instructor Training Center)
 2. Soil investigation data and report of the site
- ◆ *Interim Report, at the end of second quarter from the date of commencement of the services:*
 1. Master plan with complete site development works
 2. Architectural drawings with complete details
- ◆ *Draft Final Report, at the end of third quarter from the date of commencement of the services:*
 1. Master plan with complete site development works

2. Architectural drawings with complete details
 3. Plumbing drawings
 4. Drainage and sanitation drawings
 5. Electrical drawings
 6. Telephone and LAN line layout drawings
 7. Structural drawings with complete details
 8. Structural analysis and design calculations
 9. Design and drawing of campus electrification
 10. Design and drawing of water supply scheme (intake and reservoir)
- ◆ *Final Report, at the end of last quarter from the date of commencement of the services, are the followings:*
1. Specification of the works
 2. Details of measurement and abstract of estimated cost and BOQ
 3. Building permit and design approvals from concerned authority

The final report shall also consist of the following documents:

- a) A Compact Disc containing the plot files as well as the drawing (.dwg) files.
- b) Three sets of BoQ & Materials/Technical specifications printed and bound and also in CD.
- c) Three sets of detail design drawings printed on A3 size paper for the purpose of tendering only.
- d) Cost estimate and rate analysis for all items of work– one hard copy (properly sealed) and soft copy in a Compact disc in editable format.
- e) Two copies of detail structural analysis and design of the buildings for the reference of Departmental engineers.
- f) Post Approval Process: The consultancy should facilitate the approval of all the drawings, and submit any missing details on the instruction of Thromde engineering section. After obtaining the approved drawing, the Estimate shall be revisited for any changes on the structure marked by the drawing approving agency.