

**GOVERNMENT OF PAKISTAN
PAKISTAN PUBLIC WORKS DEPARTMENT
EXPRESSION OF INTEREST (E.O.I)**

Applications are invited on quality and cost based selection (QCBS) from well reputed/ experienced consultants/firms having valid registration with Pakistan Engineering Council as consultant for **ASSESSMENT OF THE STRUCTURAL STABILITY OF EXISTING STRUCTURE AND STRUCTURE DESIGN OF TWO ADDITIONAL FLOORS ON BLOCK-A, DIRECTOR GENERAL OFFICE, PAK. PWD, ISLAMABAD.**

1. Tender documents can be purchased from the office of the undersigned during office hours on any working day upto 21-09-2021 after depositing requisite fee of Rs. 1,000/- with written request on the company's letterhead accompanied with attested copy of CNIC, income tax registration certificate as active tax payer (filer) and valid copy of registration with Pakistan Engineering Council.
2. Bidding will be carried out by adopting "single stage two envelopes" procedure. The proposal complete in all respects in accordance with the instructions provided in the RFP document, in sealed envelopes, should reach the office of the undersigned on 22-09-2021 at 12:00 p.m.
3. According to PPRA Rule-25, bid should accompanied with bid security amounting to Rs. 25,000/- in the shape of a bank instrument from the Firm / Company's own account from any scheduled Bank of Pakistan in the name of the Executive Engineer, Project Civil Division-IV, Pak. PWD, Islamabad. No tender will be entertained without bid security.
4. Bidders/candidates are required to submit the bids strictly in accordance to instructions to the bidders. Proposals must be prepared in hard book binding form to rule out the possibility of additions/alteration.
5. The technical proposal shall be opened on the same date at 12:30 p.m. whereas, the financial proposals of only technically qualified consultants shall be opened after finalization of technical evaluation.
6. All the applicable taxes must be considered while preparing the financial proposal. All these taxes are required to be built-in, in the quoted rates.
7. The consultants providing unsubstantiated and/or incorrect information are liable to legal action and/or disqualification.
8. The authority reserves the right to reject all the proposals as per PPRA Rules.
9. This advertisement is also available on Pak. PWD and PPRA websites.



(Mudassar Asghar)
Executive Engineer,
Project Civil Division-IV,
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APPENDIX IV

TERMS OF REFERENCE

BACKGROUND

PWD headquarter complex is located in Islamabad. One of the blocks in the complex was designed as G+8 in 1988 and G+2 were constructed in 1989. In 2001, next two storeys were constructed, so currently the building is G+4. Building foot print area is about 30,000 square feet and it rests on raft foundation.

Now, PWD wants to add two more storeys, thus making the building G+6. For this purpose, PWD invites applications from qualified consultants to carry out structural assessment of the existing structure for the addition of two additional floors and to prepare detailed structural design and drawings required for the construction. Detailed Scope of Work is described below.

SOURCE DOCUMENTS

The following documents, drawings and other pertinent information will be available for reference and which shall be supplied by the Client:

- a) Architectural Drawings, (Ammonia prints in A1 or A2 size).
- b) Structural Drawings, (Ammonia prints in A1 or A2 size).

DESCRIPTION OF SERVICES

Broadly, the scope of work shall consist of the following two phases:

PHASE-I:

- Field Inspection (structure only).
- Structural Design assessment/analysis of existing structure for structure stability and design of two additional floors.
- Assessment and Structural Design Report.

PHASE-II:

Phase-II consists of the following tasks (limited to the structural work only) pertaining to the additional floors, including any strengthening/ remedial measures of existing structural elements, if required.

- Construction Drawings.
- Technical Specifications.
- Bill of Quantities.
- Engineer's Cost Estimate.

Scope of work for both phases is further described in the following sections.

PHASE-I: FIELD INSPECTION, STRUCTURAL DESIGN

Field Inspection

Field inspection and assessment of existing works shall be carried out in the following manner:

- **As-Built Survey:** Carry out an as-built survey. Confirm from the as-built survey that the constructed building conforms to key architectural and structural plans and dimensions as shown on the drawings (e.g. all room bays, beam and column sizes, storey heights, etc.).
- **Condition Survey:** A condition survey of the building shall consist of close-up visual inspection of the building structure. It would also seek to confirm the existence of any defects of significance with regard to the durability and structural integrity of the building. Limited non-destructive testing (Schmidt Hammer Test) shall be done at random locations in beams and columns in order to estimate the qualitative strength of existing concrete.
- Check correctness of plans and information, unusual site features, deviations from design.
- Locate and define areas of distress.
- Photographs will be taken to document and record the general condition of the building as well as the distressed areas.
- Relating observations to causes.
- **Confirmatory Borehole:** No geotechnical report is available. The Consultant shall make provision in his cost for one confirmatory borehole (10m deep) to assess the bearing capacity.

Structural Design Review

This will involve the following tasks:

1. **Structure assessment/analysis of existing structure to check structure stability.**
Review available documents: Drawings, design criteria, codes at the time of design and construction.
2. **Coordinate the structural drawings with those of the other disciplines involved to check that the structural design and details do not conflict with the requirements of other disciplines.**
3. **Analysis and Design:** The Consultant shall perform an independent check of the final design and documents by preparing a new set of detailed calculations based on new analytical models to confirm the adequacy and appropriateness of the design. These calculations and analytical models shall be consistent with the existing design parameters and structural system and shall be shared with the Client.
4. **Codes & Standards:** The structural design of the building shall be done in accordance with the following codes.

- i) Building Code of Pakistan 2007: For Seismic Zone.

ii) ACI 318-11: For Design of Reinforced Concrete.

iii) Uniform Building Code 1997: For Calculation of Seismic Forces.

Structural Design Report

The Design Report shall include the following:

- Structural Design and Analysis.
- Stability check on existing building.
- Statement of assumptions and limitations.
- Comments on structural adequacy and stability.
- Code compliance vis-à-vis strength and serviceability requirements.
- Structural deficiencies of existing structure, if any.
- Strengthening/ remedial measures for existing structural elements, if any.

PHASE-II: CONSTRUCTION DRAWINGS, SPECIFICATIONS, BOQ, ETC.

The scope of work under Phase-II will consist of the following tasks (for structural work only):

- Construction Drawings,
- Technical Specifications,
- Bill of Quantities,
- Engineer's Cost

Time required for completion:

The Consultant shall complete the work stated above within 60 days after signing of the Contract.

Breakdown of Contract Price:

S.No	Description	%age
1	On Completion of Phase I	50%
2	On Completion of Phase II	50%

Deliverables

The Consultant shall provide hard (05 copies) and soft copies of the following:

- Structural Design Report including:
 - Structure assessment/analysis of existing structure.
 - Design of additional floors along with strengthen design report of existing structure if required.
 - Structure Software Modeling using Etabs or SAP2000.
 - Statement of assumptions and limitations.
 - Comments on structural adequacy and stability.
 - Code compliance vis-à-vis strength and serviceability requirements.
 - Structural deficiencies of existing structure, if any.
 - Strengthening/ remedial measures for existing structural elements, if any.
- Construction Drawings.
- Technical Specifications.
- Bill of Quantities.
- Engineer's Cost