

TERMS OF REFERENCE

Consulting Services for the Structural Assessment/Evaluation and Investigation for the Repair and Strengthening/Retrofitting of National Electrification Administration (NEA) Building

I. INTRODUCTION

The structural assessment of existing building at #57 NIA Road, Government Center, Diliman, Quezon City compound, namely, NATIONAL ELECTRIFICATION ADMINISTRATION (NEA) BUILDING provides the infrastructure support to the strategic directions of NEA.

The National Electrification Administration, created through Presidential Decree No. 269, as amended by Republic Act No. 10531, has allocated the sum of Philippine Peso: Three Million Five Hundred Thousand Pesos (Php 3,500,000.00), inclusive of taxes being the Approved Budget for the Contract (ABC) to procure the consultancy services of the project: Consulting Services for the Structural Assessment/Evaluation and Investigation for the Repair and Strengthening/Retrofitting of National Electrification Administration (NEA) Building.”

II. BACKGROUND

The “Consulting Services for the Structural Assessment/Evaluation and Investigation for the Repair and Strengthening/Retrofitting of National Electrification Administration (NEA) Building” shall be conducted on the 7-storey Building with roof deck and two basements, to determine the present condition of its structural members and to comply with the latest version of the National Structural Code of the Philippines (NSCP 2015) considering that the structure was built about twenty (20) years ago.

III. OBJECTIVE

To provide a complete structural assessment/evaluation and investigation in accordance with the provisions of the latest National Structural Code of the Philippines of the existing NEA building located at #57 NIA Road, Government Center, Diliman, Quezon City, Metro Manila.

IV. MODE OF PROCUREMENT

The Selection of the Consultant for the conduct of Structural Evaluation/Assessment and Investigation for the Repair and Strengthening/Retrofitting of NEA Building shall be through public competitive bidding to be conducted in accordance with the pertinent provisions of R.A. 9184, by the Bids and Awards Committee (BAC) created by the Head of Procuring Entity (HOPE).

V. NATURE OF PROCUREMENT

Provision of Structural Consultancy/Engineering Services in the conduct of Structural Evaluation/Assessment and Investigation for the Repair and Strengthening/Retrofitting of NEA Building to comply with the latest version of the National Structural Code of the Philippines (NSCP 2015).

VI. SCOPE OF SERVICES

1. Attend preliminary meetings for the initial building assessment and investigation of the NEA Building Structure.
2. The Consultant shall undertake the site inspection of the entire building and record all structural and non-structural damages inclusive of column settlements, ground settlement and possible movements, if any. All columns, shear walls, beams and girders, walls and floor slabs of the entire building shall be inspected.
3. The Consultant shall take photographs of the present state of existing structure, focusing on visible defects, signs of distress or deflection, and properly record the extent of damages either temperature, minimal cracks and/or major damages that will be referred to during the stage of the development of the recommendation for structural strengthening and retrofitting works. Any observed cracks or deflections on structural and non-structural elements, and structural modifications on the building will be mapped.
4. Prior to the opening of the ceiling, floor finishes and other architectural treatment of the existing building, the Consultant shall coordinate with the NEA for the method of temporary displacing any architectural finishes for possible reinstallation. Further, the Consultant shall coordinate with the NEA authorized representative with regards to the scheduling of work so as to minimize, if not eliminate, any disturbance to the building occupants. As much as possible, work will be scheduled after office hours and during weekends, and/or holidays.
5. Field measurements of structural members shall be done for the purpose of preparing the structural as-built drawings.
6. Preparation and submission of as-built drawings in CAD format (soft copy/original and 5 sets of 20" x 30" hard copy) of the 7-storey building with roof deck and two basements.
7. In the preparation of the as-built drawings of its structural members, an exploratory investigation shall be conducted on the structural members like footing beams, columns, slabs, shear walls, roof support, etc. to include random testing of re-bars.
8. Conduct actual site measurements of the structural members, site investigation/inspection to determine present physical condition of the building. This will focus on observing signs of damages or structural distress to the structural elements which may be attributed to recent earthquakes, age of the building, etc.
9. Non-destructive test of actual structural members shall be and but not limited to:
 - a. Testing of actual structural strengths of columns, beam, slab, footings;

- b. Rebound hammer test shall be performed for every columns and main girders and cantilevers per floors;
 - c. Rebar scanning shall be performed on every column, beams, slab and footings.
10. The Consultant shall conduct geotechnical investigation of at least two (2) boreholes to determine the soil bearing capacity, liquefaction potential and settlement.
11. The Consultant shall undertake the structural engineering design analysis using the latest computer software for the vertical and earthquake loads based on the National Structural Code of the Philippines (NSCP) 7th Edition 2015 as well as other latest applicable international code of practice.
12. With the structural design analysis, the Consultant shall also undertake the checking of design capacities of all major structural elements such as, but not limited to, columns, beams/girders and shear walls, so as to assure structural adequacy and safety to resist earthquake load based on internationally accepted design philosophies and standards.
13. Upon finalization of the updated detailed engineering design plans for the strengthening/ retrofitting works for the project building, the Consultant shall prepare the construction drawings, bill of quantities, cost estimates, technical specifications, and procurement documents involved thereto.
14. Relative to the assessment made, the Consultant shall prepare its recommended mitigating/ retrofitting measures as necessary. The Consultant shall assume full responsibility on the services rendered all throughout the duration of the services.
15. Prepare a complete and detailed structural analysis, assessment and investigation report of the existing buildings in accordance with 2015 National Structural Code of the Philippines and the National Building Code of the Philippines, performed, signed and sealed, by qualified structural engineer/s. The analysis and assessment shall:
 - a. Consider the climatic and geological conditions of the site;
 - b. Generally based on the latest edition of the 2015 national codes such as National Structural Code of the Philippines (NSCP);
 - c. Be based on the documents/data provided but not limited to the following:
 - i. As-built plans;
 - ii. Complete set of approved and detailed architectural floor plans and elevations;
 - iii. Other documents/ data as maybe justifiably required and deemed necessary.
 - d. Consider economical design concept if retrofitting is necessary.
16. Submit the following new structural design, with duly signed and sealed documents:
 - a. Structural computations, analysis, investigation and assessment report;
 - b. For structural retrofitting (if found necessary):
 - i. Structural design computations;
 - ii. Structural retrofitting design notes and specifications; and
 - iii. Set of complete and detailed structural retrofitting plans/ drawings on standards 20" x 30" sheets (1 original, 5 blueprints).
17. Signed and sealed necessary technical/legal documents such as building permits, recommendation and certification of sound/ safe structure.

18. Structural Investigation Analysis including Retrofitting Design (if found necessary) and other structural related reports and recommendation shall be signed and sealed by qualified Structural Engineer prepared in accordance with the latest 2015 National Structural Code of the Philippines.
19. Attend pre-construction conference and any other related meetings necessary for the project.
20. Conduct periodic site inspection, or as maybe deemed necessary during actual implementation of the project and submit a comprehensive inspection report, until full completion of all structural related works.
21. Evaluate and recommend amendments and/or introduce alternative methodology in the revision and improvement of structural retrofitting and/or implementation, upon occurrence and recognition of unforeseen problems or eventualities considered certain to affect overall stability of the building, far and beyond the design criteria used in accordance with standards as per approved latest structural codes and other authorized regulatory body, during implementation or even the full accomplishment of the project.
22. The Winning Bidder shall submit the following documents to NEA for approval: Plan of Approach and Methodology; Implementation Schedule (Gantt Chart/ S-Curve); and the respective list of key Personnel - Project Manager/Sr. Structural Engineer, Sr. Geotechnical Engineer, Cost/Specs/Quantity Engineer, Jr. Structural Engineer and other key personnel to be assigned in the implementation of the project.

VII. PROJECT DURATION

Submission of documents/ deliverable shall be within three (3) months upon receipt of Notice to Proceed for the building as specified.

Signing and sealing of all technical documents necessary to secure government construction/ retrofitting permit for the project shall be within three (3) days upon proper notification and receipt of the duly filled-out forms.

VIII. QUALIFICATION

A. For Juridical Entity

1. A local civil/ structural engineering design and services entity, duly organized under the laws of the Philippines;
2. At least sixty percent (60%) of the interest/ outstanding capital stocks belonging to the citizen of the Philippines;
3. Employing experienced and Professional Regulations Commission (PRC) licensed Civil/ Structural Engineer/s, a member of the Association of Structural Engineer of the Philippines (ASEP) and in good standing;
4. With extensive experience in providing general structural engineering design (steel, reinforced concrete, composite steel- concrete, etc.) assessment and investigation including retrofitting for diverse project classification (e.g., residential, commercial, industrial, institutional, etc.) and usage (e.g., office, storage/warehouse, parking, schools, hospitals, etc.); and
5. With a minimum of ten (10) completed contracts/ projects.

B. Consultant Team and Staff

To effectively carry out the task of the consultancy services for the project, the Team should be able to field key professional/ technical personnel with adequate educational and technical experience and capability of the fields of civil engineering, planning, structural design and project management. Any changes or replacements of assigned personnel shall be subject to NEA's review and approval. It is expected that all key personnel, as proposed, should be available for the duration of the project, especially during kick-off meeting, presentation of reports and anytime whenever their presence is essential in the discharge of their duties.

DESIGNATION	MAN-MONTH
PROFESSIONAL STAFF	
1. Project Manager/Sr. Structural Engineer	3
2. Sr. Geotechnical Engineer	1
3. Cost/Specs/Quantity Engineer	3
4. Jr. Structural Engineer	3
5. Technician- Hammer Test	1.5
6. Technician- Rebar Scanning	1.5
SUPPORT STAFF	
CAD Operator/Computer Encoder	2
TOTAL	15

IX. REPORT REQUIREMENTS AND DELIVERABLES

The Consultant shall submit reports and documents for the project building that include but not limited to the following:

a. As-Built Structural Drawings	-	One (1) original copy (508mm x 762mm size) to be submitted not later than the first fifteen (15) days of the services.
	-	Two (2) duplicates (A3 size) of the approved original copy
b. Contract Drawings (for the strengthening/ retrofitting works, including repair works, if any)		
b.1 Preliminary Engineering Plans and Reports	-	Two (2) sets of Plans (A3 Size) and Reports (A4 size) not later than the first fifteen (15) days of the services
b.2 Draft Final Design Plans	-	

and Drawings		Two (2) sets of Plans (508mm x 762mm size) to be submitted at the end of the first month of the services.
b.3 Final Design Plans and Drawings	-	One (1) original copy (508mm x 762mm size) to be submitted ten (10) days before the end of the duration of the Services.
	-	Ten (10) duplicates (A3 size) of the approved original copy
c. Structural Assessment Report	-	Three (3) copies to be submitted simultaneously with the Preliminary Engineering Plans and Reports
d. Structural Engineering Design Report	-	Three (3) draft copies to be submitted simultaneously with the Draft Final Design Plans and Drawings.
	-	Ten (10) final copies to be submitted simultaneously with the Final Design Plans and Drawings
e. Bidding Documents	-	Three (3) draft copies to be submitted within forty (40) days after commencement of services
	-	Ten (10) final copies to be submitted simultaneously with the Final Design Plans and Drawings
f. Quantity Calculations and Unit Price Analysis	-	Three (3) draft copies to be submitted simultaneously with the draft Bidding Documents
	-	Ten (10) final copies to be submitted simultaneously with the final design plans and drawings
g. Cost Estimates	-	Three (3) draft copies to be submitted simultaneously with the draft Bidding Documents
	-	Ten (10) final copies to be submitted simultaneously with the Final Design and Drawings
h. Technical Specifications	-	Three (3) draft copies to be submitted simultaneously with the draft Bidding Documents
<i>Technical Specifications consist of the DPWH Standard Specifications and</i>	-	

<i>if necessary, Special Provisions for specific items of work or methods of construction, measurement and payment which are not covered by the DPWH Standard Specifications</i>		Ten (10) final copies to be submitted simultaneously with the Final Design Plans and Drawings
i. Inception Report <i>The Inception report shall present the details of Consultant personnel mobilization, required technical surveys, investigations and implementation strategies for carrying the consulting services</i>	-	Two (20) copies to be submitted within five (5) days after commencement of services
j. Monthly Progress Report <i>The Monthly Progress Reports shall present the work progress, problems encountered, counter-measures taken and anticipated services for the next period of services.</i>		
k. Completion Report <i>The Completion Report shall give a summary of the whole program of work carried out during the period of the services.</i>	-	Two (2) copies to be submitted at the beginning of the services

Other reports may be required to address specific issues arising within the duration of services shall also be prepared and submitted by the consultant.

X. CONTRACT PERIOD

The Consultant's contract period for undertaking the services set out in this Terms of Reference shall not be more than three (3) months, which shall be implemented based on the schedule of deployment of staff as shown below:

STAFF WORK SCHEDULE			
Personnel	Month		
	1	2	3
1. Sr. Structural Engineer/Project Manager			
2. Sr. Geotechnical Engineer			
3. Cost/Specs/Quantity Engineer			
4. Jr. Structural Engineer			

XI. FEES AND EXPENSES

The CONSULTANT is expected to provide a summary of their fixed fees and expenses for the conduct of "Structural Evaluation/Assessment and Investigation for the Repair and Strengthening/Retrofitting of NEA Building". The maximum cost of this service contract is for Philippine Pesos: **Three Million Five Hundred Thousand Pesos (Php 3,500,000.00)**.

The PROCURING ENTITY shall pay the CONSULTANT based on the following payment schedule:

- Fifteen Percent (15%) upon signing of the contract.
- Sixty- Five Percent (65%) of the Approved Contract Price (ACP)- upon delivery and acceptance of the following documents for the 7-storey building with roof deck and two basements, duly signed and sealed by the qualified Structural Engineer:
 - Signed and Sealed Detailed Structural Analysis/Investigation and assessment reports in accordance with the latest National Structural Code of the Philippines;
 - As-Built drawings in CAD format (soft copy/original and five (5) sets of 20" x 30" hard copy);
 - Rebound Hammer Test Result (conducted on concrete beams/girders, slabs, footings/foundation, etc.);
 - Rebar Scanning Result (conducted on concrete beams/girders, slabs, footings/foundation, etc.)
 - Technical/Legal documents duly Signed and Sealed by qualified Structural Engineer such as recommendations/certification regarding the soundness of the structures; and
 - Other documents necessary for the preparation of Investigation/ Design Analysis of the Building Structure.
- Twenty Percent (20%) of the ACP - upon submission of the following documents duly signed and sealed by qualified Structural Engineer necessary to secure government construction/retrofitting permit for the project:
 - Retrofitting (if found necessary) detailed design computations/ analysis, notes and specifications for 7-storey building with roof deck and two basements;
 - Complete and detailed structural retrofitting plans/drawings (if necessary) on 20" x 30" sheet, CAD/ original and five (5) sets of blueprints; and
 - Other pertinent documents that may be needed/required by Building Officials for securing Building/ Retrofitting Permit.
- All payments will be subject to the usual government accounting and auditing rules and regulations.

XII. DISCLOSURE OF RELATIONS

All bidding of documents shall be accompanied by a sworn affidavit of the bidder that it, or any officer of its corporation, is not related to the Head of the Procuring Entity, members of the BAC, the TWG and the BAC Secretariat, consanguinity or affinity up to the third civil degree. Moreover, the prospective bidder must also declare in the sworn affidavit that it does not have any "conflict of interest" with any government agencies or officials which may have connections or relations of the procuring entity or its officials. Failure to comply aforementioned provisions shall be a ground for the automatic disqualification of the bid in consonance with Section 30 of the IRR of R.A. 9184.

In no case shall the winning bidder or any officer of their corporation be related by consanguinity or affinity up to third civil degree to the Procuring Entity on the Project.

XIII. RESERVATION CLAUSE

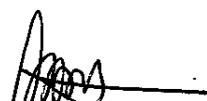
The Head of the Agency reserves the right to reject any and all Bids, declare failure of bidding, or not award a contract in the following situations:

- a. If there is a prima facie evidence of collusion between officers or employees of the procuring entity, or between the BAC and of the bidders, or if the collusion is between the BAC and of the bidders, or if the collusion is between or among the bidders themselves, or between a bidder and a third party, including any act that restricts, suppresses or nullifies, or tends to restrict, suppress or nullify competition;
- b. If the BAC is found to have failed in following the prescribed bidding procedures;
- c. For justifiable and reasonable grounds where the award of the contract will not redound to the benefit of the government as defined in the Revised IRR of R.A. 9184.

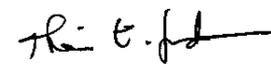
For your information.

TECHNICAL WORKING GROUP


FEDERICO P. VILLAR, JR.
Member, Engineering

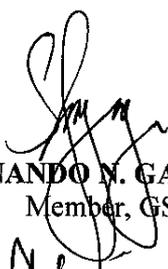

SHIRLEY J. SALVADOR
Member, ITCS D


EDGAR A. DE GUZMAN
Member, MCSO


CYNTHIA E. LISONDRA
Member, RAO



MARCELINO D. CACDAC
Member, TED



HERNANDO N. GABOTERO
Member, GSD



RAFAEL B. BARRIENTOS
Member, CCSMO



CESAR F. JACINTO
Member, ITCSD



ESTRELLITA S. VOLANTE
End-User



MA. CHONA O. DELA CRUZ
Vice-Chairperson

ON LEAVE

GWEN P. ENCISO-KYAMKO
Chairperson