



**ENGINEERING SERVICES  
STATEMENT OF WORK (SOW)**

FOR

**U.S. Consulate Chennai  
Consular Office Building**

**India**

**January 6, 2022**

## **A. Background**

The United States Government (USG), Department of State (DOS), requires Professional Engineering Services for a comprehensive structural survey and assessment of the Consulate Office Building located in the Chennai District, Gopalapuram Taluk. The intent of the survey is to establish the integrity of the existing building structural systems.

The U.S. Consulate General Office Building (COB) was constructed between 1964 and 1968. The existing building structure is comprised of a reinforced concrete joist and girder framing system, supported by walls and columns. The COB has approximately 7042 Gross SM of space spread over 3 floors and a basement. There is an open-air courtyard at center of the building at Level 1. Level 1 and the basement level have been subject to multiple flooding events throughout the life span of this building.

## **B. Scope**

This SOW requires a comprehensive structural survey and assessment. This investigation shall consist of a review of the existing building plans, construction data, reports, other available documents, and a visual inspection of the existing structure. The survey and assessment shall establish existing structure general conformance with existing documentation, determine if unsafe structural conditions are present, substantial structural damage has occurred, faulty construction is present, or deterioration is present and shall report these conditions. The in-place strength of the existing structure shall be determined through non-destructive testing (NDT), limited destructive sampling and testing of the existing concrete and steel reinforcing, while also considering the in-place geometric dimensions and material properties including the effects of material deterioration and other deficiencies.

**Note: The contractor shall immediately notify USG officials immediately if unsafe conditions that pose imminent danger to the building occupants are found at any point during the course of the assessment.**

Upon completion of the survey and assessment, the contractor shall prepare a report to document the findings, and provide conceptual descriptions of how to repair/strengthen identified deficiencies.

Major work items include the following:

1. Review of available existing documentation and other construction documents that may be available on site or recorded with the local municipality.
2. Survey of the building to assess main load components of the floors framing system. The survey shall include a visual inspection, nondestructive testing, and limited destructive testing to establish concrete strength. Destructive tests must be coordinated and approved beforehand.

- Concrete cores shall be taken at preapproved locations in order to determine the compressive strength of concrete per ACI. The Contractor shall not weaken the structure by damaging or cutting reinforcing steel. The Contractor shall locate the reinforcing steel or other embedded items prior to coring.
  - The removed concrete shall be replaced/repared with non-shrink grout or patching mortar that exceeds the compression strength (f'c) of the existing concrete.
  - Reinforcing steel removed for sampling shall be repaired/replaced with rebar to match the existing size, spliced with mechanical couplers or welded splices (if applicable). The Contractor shall submit signed and sealed details for the repair.
3. Following the survey and materials testing, provide a structural condition assessment report of the integrity of the building, and provide concept sketches of how to repair/strengthen identified deficiencies.

#### **C. Structural Engineer Qualifications**

Qualifications of the Engineer shall include:

1. Proficiency in English, particularly with respect to engineering technical language;
2. Licensed/Registration as a structural engineer in the United States, Europe or the Host Country.
3. The contractor shall have education and experience levels commensurate with analyses, assessment, and design; and a minimum of 10 years' experience in the assessment of building structures using recognized and well established methods and practice. (The contractor shall submit a copy of their certification/qualifications for review.)

#### **D. Deliverables**

1. The contractor shall prepare an Initial findings report following the initial walkthrough, documenting investigation plan.
2. The contractor shall prepare a report documenting the finding of the survey condition assessment. The report shall include the following as a minimum:
  - Listing of available documentation
  - Type, age, locations and general description of the structure
  - Field observations and extent of structure inspected

- Findings and recommendations
  - Provide an assessment of the structural integrity of floor slabs, joists, beams, and supporting walls/columns.
  - Establish the strength of concrete and live load carrying capacity of the floor slab, joists, beams, and supporting walls/columns.
  - Limitations and considerations of major building renovations, including opening up/rearranging of interior walls, load increases, and other major changes.
  - The ability of the building to withstand renovation work such as: new duct work and plumbing penetrations through floors, trenching for installation of conduit, and installation of concrete anchors.
  - Annotated photographs
- 3. Concept sketches in electronic format (AutoCAD and PDF) of the structural system repair.
- 4. Copies of all tests results conducted, to include descriptions of methods used.

#### **E. Electronic Files**

All electronic files shall be submitted:

- tested and verified free of any computer viruses;
- both in native application format and in .pdf format;
- computer-aided-design (CAD) drawings shall be compatible with Autocad .dwg format;
- drawings shall be developed using the metric system of measurement with dimensions only in millimeters (mm) to avoid fractions;
- graphic scale for all drawings:
  - Overall Plans – 1:100 at minimum
  - Details – 1:5 to 1:20
- all text - in drawings and written documents - shall be in English.

#### **F. SCHEDULE OF ACTIVITIES AND DELIVERABLES**

All submissions shall be provided electronically via ProjNet and/or cd-rom (coordinate with the COR in advance).

ITEMS / EVENTS	# OF PRINTED COPIES	SCHEDULE
1. Survey/Investigation	Not Applicable	Within 15 calendar days of notice to proceed (NTP). Exact date of the site visit to be coordinated with the COR at minimum 5 days in advance.
2. Initial Findings Report (via ProjNet)	Not Applicable	Within 30 calendar days of NTP
3. Submission: 90% Assessment and Recommendation Report (via ProjNet)	Not Applicable	Within 100 calendar days of NTP.
4. DOS Review/Comments and Questions To be furnished to the Contractor via ProjNet	Not Applicable	Within 120 calendar days of NTP.
5. Submission: Response to DOS Comments and Questions	Not Applicable	Within 130 calendar days of NTP
6.Submission: Final Assessment and Recommendation Report (via ProjNet)	Not Applicable	Within 150 calendar days of NTP

**G. CORRESPONDENCE AND PACKAGE DELIVERY:**

Correspondence and packages shall be delivered to the following address via mail, local courier, FedEx/DHL:

Attention:

US Consulate of the United States of America

xxxx Road

xxxx, xxxxx

Telephone: xxxxx

\*\*\*END OF STATEMENT OF WORK\*\*\*