

Section II: Schedule of Requirements

DESIGN CONSULTANCY SERVICE TERMS OF REFERENCE (TOR)

RFP/2018/4901 [“Passenger Elevator Shaft Restoration and the Installation of New Elevator for the Consulate General of Argentina in New York”](#).

1. Background and Justification

As part of a bigger scope project, this assignment is related to elevator design works for the Argentinian Consulate located at 12 West 56th Street NYC, NY 10019 in the heart of Midtown Manhattan.

The building was built in the 1900 it has a lot size of 100 feet by 50 feet (30M X 15M). It has a total of 25,000 square feet of living space including the basement (2323 Square meters).

The building is 5 stories high including the basement. It is fully attached to the right and semi attach to left to other buildings. The facility is used by approximately 30 regular staff and 40-50 visitors, visitors can reach up to 70 in special occasions which are expected twice per month.

The existing elevator capacity is 1000lbs (450kgs) with swing doors entrances; which makes it not handicap accessible because of the doors configuration and it is not Up-to-code according to new NYC regulations. The main drive for the elevator is located in the basement with a Drum traction geared machine and a relay logic controller. There are other deflactive sheaves and a Governor in the Overhead located in the roof which demonstrated structural damages. The car door (gate) it is composed of 3 panels sandwiched together (a 3 -speed cab door). The rated speed of the car is 100 FPM foot per minute. Currently the NYC DOB has denied its use for over 4 years because of the structural and other damages (the car is Red-Tagged).

2. Immediate Objectives:

The design should result in improving the vertical transportation means in the Consulate General of Argentina in New York, by tabulating all required repairs, modifications, enhancement for the passenger shaft elevator and specifying new elevator equipment fit for purpose.

This shall also enhance the daily movement required in the facility and provide better working environment for both the employees and visitors of the facility. It is also aimed to contribute to the accessibility of the facility for special needs personnel by providing adequate means of access- as much as possible. This should all be implemented ensuring safe and efficient performance, and in precise alignment with the adopted local codes and regulations in New York City, and following best engineering practices.

The project consists of the following main components:

- Restoration for the passenger elevator shaft.
- Dismantling old elevator and specifying new passenger elevator machinery.

The final design of this consultancy must be compliant with at least three different elevator suppliers in the United States.

3. The Assignment:

The Design Consultancy Service is expected to carry out the assignment of the tasks required as described below:

- The Design Consultancy should be fully coordinated between all required activities, not only with the physical interaction of designed elements, but must also consider foreseeable risks to health and safety. The design must as far as is reasonably practicable and foreseen should eliminate hazards and reduce risk associated with those activities.
- The Design Consultancy must provide adequate information about any significant risks to health and safety associated with the design –if any.
- The Design Consultancy must coordinate their work with that of others in order to improve the way in which health and safety risks are managed and controlled.
- The Design Consultancy shall allow for the attendance and participation of the assigned project manager from their side in required meeting with other stakeholders as required by UNOPS.
- Proposed solution by the Design Consultancy should be cost effective and practical to be implemented considering the specific circumstances of the facility.

- The Design Consultancy shall take into consideration and comply with the requirements of the UNOPS Design and Planning Manual for Building.
- The Design Consultancy shall provide guidance in regards to the required local standard procedures both in related to the design and implementation phases.
- The Design consultancy shall carry out all required coordination with local authorities of New York, also shall perform, finalize and handle to UNOPS all required permits, licenses related to the design, and enabling the design material to be ready to be handled to the construction contractor.

4. Design Phasing

It is envisaged that the design phasing of this project is as shown below:

a- Assessment phase:

In this phase a complete and thorough investigation for the structural integrity of the current status of the elevator shaft to be performed, the assessment shall also include to status of external and internal entrances, all should be done up to good engineering practices, certified by licensed professional engineers and supported by required structural tests. The assessment shall also include the mechanical and electrical installation and main power supply.

b- Shaft restoration design:

In this phase a complete tabulation and listing for all required modifications and repairs should be provided, this should be all supported by needed specifications, bills on quantities and engineering drawings.

c- Elevator components design:

This phase shall also include complete design for elevator components.

d- Design certification:

In this phase all design material shall be certified and approved from professional engineers and all required local authorities.

5. Consultancy Service Output:

It is aimed that the output from the Consultancy Service to be delivered to UNOPS in accordance to the following four stages:

1- Stage one “Project Design Brief”:

This stage output should form the basis for the current existing conditions of the Elevator shaft and services, and should provide a clear project plan; it should be shared with UNOPS for approval upon completion.

2- Stage Two “Preliminary design”:

This stage output shall include design implementation for the aimed solutions based on the approved project design brief. The preliminary design should be approved by UNOPS and then be approved by required local authorities.

3- Stage Three “For Construction Design”:

This stage output shall include all the Preliminary design outputs completed with addressed feedback from UNOPS, beneficiary and local authorities. This stage will enable a ready package for tendering for the construction contractor.

4- Stage Four “Design Certification & licensing”:

This stage output shall an unconditional Design Approval from the local Authorities of New York and in accordance with the applied codes. The Approval shall be unconditional and to include all required licensing permits related to the design works.

6. Deliverables:

Based on the aforementioned outputs, the deliverables from the Consultancy Service shall be as follows:

1- Stage One Deliverables:

In this phase the consultancy service shall prepare the design brief document, in consultation with stakeholders, and should serve to identify user requirements, relevant codes and standards, budget, and quality expectations.

Relevant codes, standards, and minimum requirements must be clearly identified, and all feasibility studies, site investigations, and environmental and risk assessments should be carried out in preparation of the design brief.

It must be emphasized that the brief should always be reviewed and approved by UNOPS before further design work is initiated. This is to ensure that the brief accurately represents the scope of the works and to prevent any changes to the scope without a corresponding adjustment to the agreed budget and timelines.

The design brief documentation should include:

- A full description of the scope of works.
- Site information based on site investigations and surveys.
- Environmental assessment survey, addressing the current environmental conditions and how the proposed solutions would affect the environment.
- Structural assessment survey: the structural assessment survey for the existing elevator shaft, mechanical room and upper shaft room, should form the basis of the design brief, it should be performed by licensed Structural engineers, address the following main elements:
 - Integrity assessment for the foundations of the shaft.
 - Integrity assessment for the shaft walls and upper room.
 - Integrity assessment for the upper skylight.
 - Integrity assessment for the elevator entrances (internal and external).

The above assessments should be performed utilizing all tests required to formulate a thorough and comprehensive report addressing: load bearing capacities, finishes, and dampness, for all internal and external structural elements.

The assessment should be complete with photos & as built drawings for the structural elements, provide recommendations for the required works to be reformed and in case of alternative solutions should perform proper evaluation and verify the most suitable alternative.

- Architectural assessment survey: the Architectural assessment survey should consider elevator entrances, finishes, and special needs personnel accessibility to the elevator. It should be performed by a licensed Architect.

The assessment should be complete with photos & as built drawings for the Architectural elements, provide recommendations for the required works to be reformed and in case of alternative solutions should perform proper evaluation and verify the most suitable alternative.

- MEP assessment survey: a mechanical and electrical survey should also be part of the design brief document, it should address the status of the existing machinery and installations, it should include main power sources, existing power distribution boards, and other existing systems.

The assessment should be complete with photos & as built drawings for all electrical systems related to the elevator enclosure such as: lighting, firefighting, main distribution boards, and should include any existing water drainage installations. This survey should not necessarily include detailed drawings for the existing elevator machinery and wiring, but to include in general terms the location, type and capacity of the control panels, elevator motor. The assessment should also provide recommendations for the required works to be reformed and in case of alternative solutions should perform proper evaluation and verify the most suitable alternative.

- Budget; provide an overview for the required budget to achieve the aimed scope of works.
- Proposed codes and standards to be used in the design, and all requirements.
- Overview of project implementation plan and precautions.
- The Consultancy service shall liaise with local authorities to collect all required information regarding local approval processes.
- Any specific design considerations, such as material choice, compatibility with existing built environment.

2- Stage Two Deliverables:

During this design phase the Consultancy service shall put in place all required design components and solutions complying with local codes and regulation and addressing a complete and functional solution to enable an operational elevator in the facility, the delivery in this phase shall include but not limited to the following:

- Preliminary Design Drawings: the consultancy service should provide preliminary design drawings including but not limited to the following:
 1. Design Drawings for the required structural repairs for all structural elements.
 2. Design for required new structural elements- if any.
 3. Design Drawings for the Electrical and mechanical systems including: lighting system for the shaft, firefighting system, water drainage system, power system.

4. Design Drawings for the Architectural works, this should include entrances design, required external rain water shed, and required ramps to enable special needs personnel accessibility- if any, and schedule of finishes.
 5. Design parameters for the required new passenger elevator machinery, this should take into consideration the available machine rooms space, the shaft size ensuring making best usage of the available space, and most suitable elevator type.
- Preliminary Design Report: this document should provides a background to the development of the design, and a concise synopsis of the design issues and the design philosophy applied, including information on user requirements, site surveys, and relevant codes and standards. It should also include all calculation for designed structural and MEP systems.
 - Initial Cost Estimate: a break down for the cost estimate in Bill of Quantity form should be provided.
 - Initial Project implementation plan.

3- Stage three Deliverables:

During this design phase the Consultancy service finalize the design output in a format suitable for tendering “For Construction”, and to include but not limited to the following:

- For Construction Drawings: in this design stage, drawings must be “constructible” that is, sufficiently detailed and informative to allow a contractor to build the desired structure to the performance requirements. It will be necessary to include the following:
 1. Demolition, material removal plans – if any.
 2. Structural design drawings for the required repairs.
 3. Structural design drawings for any new structures.
 4. Architectural design drawings. (Passenger shed ramps, entrances, finishes, and skylight, etc...).
 5. Electrical system drawings. (Shaft & Machine rooms Lighting, fire alarm, and power, etc...)
 6. Mechanical systems (firefighting, drainage, HVAC, etc....)
 7. Elevator machinery design parameters (Warranty period, compliance codes, capacity in kg, velocity, drive type, motor installation type, number of stops,

overhead, pit size, gear type, roping ratio, emergency functions, cabinet size, cabinet finishes, safety requirements, communication requirements, control, door size, etc...)

8. Signage and exit plans.

9. Other necessary documentation related to specific type of works.

- Final Design report: this document should provide the final design parameters and considerations implemented in the design, and should form a final revision for the Primary design report concussing synopsis of the design issues and the design philosophy applied, including information on user requirements, site surveys, and relevant codes and standards. It should also include all final calculation for designed structural and MEP systems.
- Technical specifications & schedules: detailed specifications and any associated schedules specify the requirements to be satisfied by a material, product or service incorporating any special provisions and constraints. Technical specifications shall be provided with a full description of work for every BOQ work activity. All relevant standards, manuals, and guides should be cited, as these will be used as the basis for quality assurance, control and payment for completed works.
- Bill of Quantities (BOQ) with cost estimate for the construction works: The BoQ shall include all relevant applicable work activities and quantities, description of work, material, methods of QA/ QC measurement, and basis of pricing. The BoQ will generally include a preamble that indicates the inclusiveness of prices and the methods of measurement used to arrive at the BoQ. Items should be grouped into sections to distinguish those parts of the works that may give rise to different methods of construction, phasing of the works, or considerations of cost. General items common to all parts of the works may be grouped as a single section. Quantities should be computed from the drawings, and ground and excavation levels identified and noted. Cost estimate for all construction works activities must be provides and should be based on the local market prices.

The prepared documents by the Consultancy service; shall also clearly identify any required construction permits / approvals that would be required by the contractor prior / after the implementation, the contractor should also be responsible for issuing needed maintenance contract for the elevator for the first year, and handling to UNOPS a complete function elevator.

- Project Implementation Plan: The consultancy service shall provide a general project

implementation plan, including all required construction and approval phases.

- The Consultancy Service shall prepare relevant documents for obtaining exclusive permission / licenses / permits related to the design phase.
- The consultancy service shall also include in the prepared “For Construction” documents the responsibility of the contractor to provide any permits / approval related to the construction phase.
- All prepared documents should be handled to UNOPS in individual packages; allowing UNOPS to consolidate in the works contract tender that will be prepared by UNOPS utilizing standard contract modalities.

4- Stage Four Deliverables:

In this stage the Consultancy Service shall deliver to UNOPS all related local approvals and authorization from relevant local authorities / organizations; required to start the construction phase, in according to applied regulation and processes of the City of New York. The Consultancy Service shall provide all required communication with the local Authorities and where required shall coordinate with the Owner for any related matters. The Consultancy Service shall be responsible for all associated costs for obtaining the approvals/ licenses / authorizations.

7. Design Packaging:

Design Drawings Format:

All drawings shall be prepared to ISO standards. They shall include all layouts, sections, details, dimensions...etc.

Drawings shall be presented in standard scales, with minimum scale of 1:100 for the Architectural plans, and a more detailed scale for the other technical components.

Drawings shall include; Title blocks including the name and logo of the Donor, Beneficiary, Consultancy Service, and UNOPS. It shall also include: Drawing numbers, Revision numbers, Revision dates, Legends, Scale, and the needed technical contents.

A complete set of drawings shall consist of but not limited to the following main components:

- Cover Sheet,
- Index Sheet & General Notes,

- Architectural drawings,
- Structural drawings,
- MEP drawings,
- Book of Details.

Bills of Quantities (BOQ) & Preambles Format:

The Bill of quantities should clearly describe and specify the items based on specifications considered in the design and approved by UNOPS. In addition to prepare preambles for each work category clearly states the measuring and pricing methodology and includes collection pages and grand summary sheets.

Technical Specifications Format:

Specification Document: the provide specifications document should be of Standard Master Format or equal applied Standards.

Design Submission Contents:

Based on the required stages of delivery, the Consultancy Service shall deliver the content packaged as follows:

- 1- Stage one Delivery: in this stage the following to be delivered:
 - One hard Copy and Electronic (MS & PDF Format) of the Design Brief Document and all its components.

- 2- Stage Two Delivery : in this stage the following to be delivered:
 - One hard Copy and Electronic (DWG & PDF Format) of the preliminary design drawings.
 - One hard Copy and Electronic (MS & PDF Format) of the Preliminary Design Report.
 - One hard Copy and Electronic (MS & PDF Format) of the Project Budget and Project Plan.

3- Stage Three Delivery: in this stage the following to be delivered:

- Two hard Copy and Electronic (DWG & PDF Format) of the For Construction design drawings.
- Two hard Copy and Electronic (MS & PDF Format) of the final Design Report.
- Two hard Copy and Electronic of the Project Plan.
- Two hard Copy and Electronic (MS-Excel & PDF Format) of the Bill of Quantities, with a cost estimate and without.
- Two hard Copy and Electronic of the Technical specifications & schedules
- Original copies of permits/ engineers approvals/ local approval.

Note: The construction Tender Document to be complied by UNOPS based on needed contract modality.

8. General Codes / Standards

The building codes and construction standards will include, but not limited to:

- New York Department of Building Requirements (DOB).
- Applied Construction Codes and regulation in New York.
- Related ASTM Codes.
- UNOPS Design Planning Manual for Buildings.

9. Reporting / Monthly Design reports

The monthly design reports will detail project status related to: design progress against the schedule, potential delays and recommended course of actions; outstanding issues from the previous month and remedial actions undertaken; and planned activities for the coming month.

10. Design Activities:

The Consultancy service shall ensure that all drawings, details, specifications, calculations and schedules are as far as possible correct and accurate in order to avoid related contractual complications and construction faults.

The Consultancy service is deemed to have allowed for all expenses involved in completing the project in his/her bid, including but not limited to; site inspection, existing utilities assessment, site visits etc. Therefore such expenses will be INCLUDED in the lump sum price of the contract. UNOPS will not pay any additional costs for these works.

It is the responsibility of the Consultancy Service to provide all the required equipment and facilities to perform the services and to obtain all pertinent information and other data as shall be necessary to perform his obligation.

Design Activities include but are not necessarily limited to the following requirements:

- Any additional Site Investigation works carried out must be completed by an accredited engineering laboratory and should be made and submitted for UNOPS relating all necessary data required for the design.
- The final design report, drawings and all related tender documents will be a property of UNOPS, and will be handed to the contractor for use.
- Design review Process. To mitigate risks inherent in the design and construction of Infrastructure works and ensure a minimum standard of safety and functionality, and in line with professional engineering practice, UNOPS carries out design review process. Once the Consultancy Service completed the detailed design document for each work package, UNOPS will commence its internal design review process. The designer shall remain responsible to implement appropriate modifications to the design until it meets the minimum requirement set out in the design planning manual that will be provided upon signing the contract. And will be required to prepare the design review checklist for designers.
- Design Liability shall rest with the Consultancy service. Design reviewer's' liability shall be limited to evaluating the compliance of the design against the minimum requirements set out in the design planning manual and shall not include any liability for the design itself, which shall remain with the Consultancy Service.

11. Design Program:

The design should be delivered per stages according to the milestones table below (in successive order). Each period indicated are envisioned from commencement to completion of the design works, subsequent design review process, and handover of information to UNOPS. The period starts when a commencement order is issued by UNOPS for a work package. If the Consultancy Service fails to deliver the service or part thereof in accordance

with the milestone dates specified in the ToR, UNOPS may, without prejudice to its other remedies take the required actions as per the Contract.

Design Stage #	Description	Period (Calendar Weeks)
Stage One	Design Brief	Four Calendar Weeks
Stage Two	Preliminary Design	Four Calendar Weeks
Stage Three	For Construction Design	Three Calendar Weeks
Stage Four	Design Certification	Concurrent with Phases 1-3

12. Qualification & experience

- a) The Constancy Service shall be a licensed company in New York in the field of vertical transportation with in house or Joint Ventured Structural, Architectural and MEP capacity.
- b) The Constancy Service Company including Joint Ventured parties should have a minimum of 5 years' experience.
- c) The Consultancy Service should provide details of in house / external consulting disciplines that they propose to use and details of their qualifications.
- d) The Consultancy service shall provide insurance against accidents for all project team participating the in the assignment.
- e) Information provided as part of the proposal should include the curriculum vitae of all senior internal / external senior professional members assigned to the team,
- f) The following are deemed to be the minimum qualifications required for the project design & Supervision team. These credentials will form part of the evaluation criteria and all should be licensed engineers by the "National Society of Professional Engineers":
 - Team Leader, Structural engineer, minimum 10 years' experience.
 - Vertical transportation engineer, minimum 10 years' experience.
 - Electrical engineer, minimum 10 years' experience.
 - Mechanical, plumbing and HVAC engineer, minimum 10 years' experience.
 - Architect, minimum 10 years' experience. (Required only during Design phase).
 - Other required Project support personnel, such as secretary, draftsmen, legal advisor, etc... Needed for the complete and successful completion of the assignment.

Annexes

- 1- UNOPS Design planning Manual for buildings.
- 2- Pictures for existing elevator shaft.