



CAMPUS PLANNING, DEVELOPMENT & MAINTENANCE OFFICE

UNIVERSITY OF THE PHILIPPINES MANILA

*The Health Sciences Center*

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CPDMO



U.P. MANILA

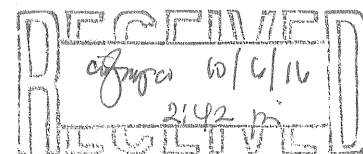
REF. NO. : **WD216NPG08082016**

PROJECT TITLE : **STRUCTURAL INTEGRITY TEST OF SALCEDO HALL**  
College of Medicine  
University of the Philippines Manila

SUBJECT : **SCOPE OF WORKS AND SPECIFICATIONS**

**Division 1 - General**

**Section 01000 General Requirements**



UPCM-PLANNING & RESEARCH

1. The Contractor shall furnish all materials, equipment, tools, apparatus, transportation, labor and supervision required for the implementation of the contract.
2. All Contractors submitting proposal for this project shall first examine the site. All proposals shall take into consideration all such conditions that may affect the work under this contract. The specifications and plans shall form part as one. Anything mentioned on plans and not mentioned on the scope of works and specifications and vice versa shall be properly consulted to the CPDMO Project Architect/Engineer for clarification. Any work or materials not in accordance with the drawings or specifications shall be replaced with new at the Contractor's expense.
3. The Contractor shall coordinate his work with all parties to ensure proper phasing or schedule of works. The Contractor shall engage under him, a registered Engineer to supervise the works. He shall remain at all times in the project site.
4. A logbook shall be available at the site. It shall contain the daily activities in the site, including weather condition, delivery, manpower and other matter pertaining to the condition of the project. It will also serve as data for Contractor and the Project Inspector.
5. Identification Card of workers and engineer/representative shall be supplied by CPDMO with corresponding fees; it should be worn at all times while inside the building/campus premises. Those without IDs shall not be allowed to enter for security purposes.
6. No alteration or addition that will result to an additive or deductive cost change from the contract shall be allowed without the approval of the Chancellor.
7. Complete specifications with product sample shall be submitted by the contractor to CPDMO and end-user for evaluation. Inspection of the Project

Architect/ Engineer in charge shall be required prior to installation of any item/material on the construction.

8. Regular coordination meeting shall be conducted with CPDMO, Contractor and End-user for proper project monitoring.
9. Existing condition of the work site shall be documented by the contractor and photos shall be taken before commence of work to ensure such status. Any damage on the areas due to the contractor's on-going work shall be refurbished at his expense.
10. The Contractor shall provide a complete copy of "As built plans" of the project/unit concerned which shall include all the civil, architectural, plumbing, electrical and other related layouts in 20" x 30" original sheets. It should be properly drawn indicating all the specifications, layouts, tables and necessary data. An initial layout should be submitted in a B4 sheet for checking and approval of Project Architect/Engineer. Final "As built plans" shall be submitted with soft and hard copies.
11. After completion of all works, the Contractor shall promptly remove from the premises all equipment, apparatus and tools and restore all areas that were damaged or affected by the works and leave the site clean to the satisfaction of the Project Inspector or his representative and End-user.
12. All materials removed from the unit shall be properly documented (gate pass c/o CPDMO shall be issued) prior to turn-over to the End-user for proper safe keeping.

### **Section 01510 Temporary Facilities**

- Provide temporary enclosures/canvass on all areas for building protection. Such coverings shall be adequate enough to cover all the building facilities throughout the span of project.
- Charges for the restoration or replacement of any damage facility, equipment, material and the like shall be made on the Contractor due to his negligence in providing suitable temporary covering.
- Provide the appropriate scaffolding, boards ups, safety nets and related items to ensure proper installation of all framing system and protection on the area, at the expense of the Contractor as its basic equipment.

### **Division 2 – Site construction**

#### **Section 02200 Site Preparation**

##### *Mobilization/Demobilization*

- This work includes mobilization process, provision for warning signs, including barricades, temporary facilities, temporary fences, warning lights and similar safeguards shall be provided by the Contractor as they required for protection of his manpower and others during the working life of his project.
- Demobilization procedure shall include clearing o the affected areas from all rubbish, trash, debris, and all superfluous building materials and restore all areas

that were damaged as affected by by the works and leave the site clean to the satisfaction of the Project Inspector or his representative and End-user.

### **Section 02230 Site Clearing**

- Clear the area from all obstructions or as affected by the works, except those structures indicated on the drawings or designated by the Project/Engineer and End-users to be left standing. It shall be properly protected from incidental damage due to work by the section of suitable barriers upon approval of the project Architect/Engineer and End-users.
- The Contractor shall be responsible for the accuracy of his work and any necessary chiseling, drilling, coring, cutting and patching or other works required due to plugged or misplaced conduit shall be done at the expense of the Contractor including the restoration on the damaged part of the building finish.

### **Section 02290 Site Monitoring**

- Site monitoring shall be a must to the contractor for the effective implementation of the project. Any discrepancies on plans and actual site conditions shall be properly coordinated with the Project Architect/Engineer concerned for verification.
- Regular coordination meeting shall be done between the contractor or its representative and the Project Architect/Engineer concerned at CPDMO.

### **Section 02500 Utility Services**

- Provision of electric and water meter shall be included in the quotation to be charged to the contractor's overhead. All utility consumption shall be provided with meters to limit the usage of such during working period. Payments of bills shall be made thru the Cashier Office after the renovation period presenting the statement of account issued by Accounting upon recommendation of the Chief of CPDMO. End-user shall be furnished with the copy of official receipt.

## **Division 3 – Concrete**

### **Section 03100 Concrete Testing**

#### *Preparation Works*

- Provide scaffoldings to ensure proper implementation of the testing/extraction of specimen, restoration works and for the safety of manpower during the duration of works.

#### *Notations*

- Test location shall be identified by the designated structural engineer of the Contractor/Consultant.
- Presence of CPDMO Project Architect/Engineer, Technical Consultant of UP Manila and End-user shall be required on the execution of the on-site testing.
- Actual testing of the specimens at the office of the Contractor/Consultant shall be done in the presence of CPDMO Project Architect/Engineer, Technical Consultant of UP Manila and End-user.

### *Non-Destructive Testing*

- Non-destructive tests would include refinements in concrete outline drawings showing the location of columns, walls, slabs, beams and girders. This method would utilize equipment to locate reinforcing bars by means of magnetic detection.
1. Site Inspection enables the engineer/consultant to confirm the correctness of the existing structure and to assess the structural condition of the building. Any evidence structural modification, deterioration of materials, weakness in structural members of connection, settlement or foundation problems or unusual structural features shall be noted.
  2. Rebound Hammer Test shall be done at 10 (ten) locations to determine the in – place compressive strength of concrete. Rebound hammer consist of a spring-loaded steel hammer which when released strikes a steel plunger in contact with the concrete surface. The spring – loaded hammer must travel with a fixed and reproducible velocity. The rebound distance of the steel hammer from the steel plunger is measured in a linear scale attached to the frame of the instrument.

### *Destructive Testing*

- Destructive Testing would include concrete core extraction to determine concrete compressive strength tests and steel bars strength tests. This method will consist of actual chipping of concrete to expose the steel bars. This tests will have to take specimens from the existing structures through the use of specialized equipment.
1. Concrete Coring for beams and columns shall be done at 10 (ten) locations known to be critical area of structural stability. Specimens to be drilled shall be 2" dia. to 4" dia. at a length twice its diameter by using Dymodrills. The core specimen shall not be disturbed during transportation. It must be placed in a container with sand.
  2. Covermeter Survey – Existing concrete structures will need to examined and tested to ensure the concrete remains of adequate strength and durability. The cover meter survey will give a detailed view of the reinforcement closest to the surface within a concrete structure. Information such as: reinforcement spacing, diameter, depth from surface and location can be determined. The test involves scanning the surface with an electromagnetic meter in six (6) locations, which \can detects the ferrous elements within the concrete.

### *Structural Evaluation*

- After all necessary test are made and documented, the structural assessment for the following items shall be put into process:
1. Verification of actual loading capacity of the existing structures based on the test result with complete structural computation, analysis, investigation and assessment report
  2. Verification of actual occupancy condition
  3. Provision for as-built plan, working drawings showing economical rectification/retrofitting design; and recommended rectification/retrofittings

- measures if necessary with complete design calculations, retrofitting design notes and specifications.
4. Certify structural soundness of the building; and
  5. Other related design analysis and evaluations.

### Section 03930 Concrete Rehabilitation

#### Rehabilitation Works

- Upon completion of all the test on the concrete structures of the building the contractor/consultant shall rehabilitate all the destructed concrete areas and restore in place all areas affected by their works. This includes the restoration of the physical, aesthetic features and painting of structures.
- Restoration works shall be properly checked by CPDMO Project Architect/Engineer and End-users. Rectification on that shall be made to the satisfaction of the End-user.

### COMPLETION PERIOD

The Contractor is given **SIXTY (60) calendar days** to execute the testing and evaluation of the structural integrity of the building. The Contractor shall coordinate to the CPDMO Inspector and End-users for the schedule of testing of systems and other related job.

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