

Section VI. Specifications

I. OVERVIEW

The Contractor shall perform all works called for in the plans, specifications and instructions for the project **Rehabilitation of Residence Halls** of the Philippine Science High School - Main Campus, Agham Road, Diliman, Quezon City.

This project covers but not limited to the following:

A. Rehabilitation of Residence Halls

- A.1. Installation of Sprinkler System;
- A.2. Replacement of Plywood Partitions;
- A.3. Replacement of Floor and Wall Tiles.

The construction procedures shall be done in accordance with applicable recognized Standard Specifications, and in full compliance with the approved plans and specifications of the end-user.

Pertinent notes appearing in the Contract Plans or Drawings shall also be considered as part and parcel of the Technical Specifications.

The contractor must abide by the minimum standards set by the applicable laws, ordinances, building codes and standards of the Republic of the Philippines and the professional organizations involved, or the requirements of the PSHS-MC. In any case of discrepancy, the higher quality specifications should prevail.

The contractor is expected to coordinate with the PSHS-MC in order to proactively anticipate any problems or issues, especially regarding Campus Safety and Security, and utility line locations that might be affected by the works.

1. EQUIVALENCY OF STANDARDS AND CODES

Wherever reference is made in the Contract to specific standards and codes to be met by the goods and materials to be furnished, and work performed or tested, the provisions of the latest current edition or revision of the relevant standards and codes in effect shall apply, unless otherwise expressly stated in the Contract. Where such standards and codes are national, or relate to a particular country or region, other authoritative standards that ensure a substantially equal or higher quality than the standards and codes specified will be accepted subject to the Procuring Entity's representative's prior review and written consent. Differences between the standards specified and the proposed alternative standards shall be fully described in writing by the Contractor and submitted to the Procuring Entity's Representative at least twenty eight (28) days prior to the date when the Contractor desires the Procuring Entity's

Representative's consent. In the event the Procuring Entity's Representative determines that such proposed deviations do not ensure substantially equal or higher quality, the Contractor shall comply with the standards specified in the documents.

2. COORDINATION WITH OTHER PARTIES INVOLVED

The Contractor is expected to work with and coordinate closely with regard to the specific Works covered by this project with the following:

1. The Management Committee of the PSHS Main Campus
2. Any designated personnel assigned to related tasks.

Specifically, the Project Manager/Construction Manager and Project Engineer/Architect of the Contractor should be available for regular meetings as set by the PSHS Main Campus, or as requested by any of the other personnel involved.

3. PROJECT DURATION

The Contract Duration is for a period of **sixty (60) calendar days**.

4. DESCRIPTION

The construction in general will be using mixed materials such as fiber cement boards for wall partitions and ceiling, homogeneous floor and wall tiles and compact laminate boards.

5. CONTRACTOR'S SCHEDULE & PROGRESS REPORTING

- a. Progress Reporting. Throughout the Contract duration, the Contractor shall be responsible for taking detailed and accurate measurements of the actual progress of all aspects of the works.
- b. Monthly Progress Report. The Contractor shall maintain a master Project Schedule to summarize the status of the work; work in progress and percentage completed. This summary report shall be updated and issued at the end of each month.
- c. Contractor shall submit during the entire duration of the contract a progress report after the 50%, 95% and 100% accomplishment, under cover of a transmittal sheet and shall include as a minimum the following:
 - Management/Executive Report (Narrative)
 - Construction Progress
 - Forecast for the next one month

- Manpower (Management and Workforce)
 - Areas of Concern
 - Photographic Report
- d. Meetings. Contractor Key Personnel shall meet with PSHS-MC representative upon request of PSHS-MC to discuss matters related to the project. PSHS-MC shall arrange to record the minutes of meeting and the Contractor shall be given a copy.
- e. Kick Off Meeting. Immediately after the Notice to Proceed, a Kick off meeting shall be held between PSHS-MC and Contractor. The initial Kick off meeting and recorded minutes shall form the basis of the Project action plan and set up such requirements as Safety and Constructability Reviews. It shall also be used to introduce PSHS-MC and Contractor representatives associated with aspects of the work. The objectives of the kick off meeting are as follows:
- Introduction all of PSHS-MC's and Contractor's Project Management Team, Engineering and Construction team personnel;
 - Convey and promote shared commitment of project expectations;
 - Review and establish understanding of Project Work Scope;
 - Review overall project schedule;
 - Establish project meetings requirements and frequency of meetings; and
 - Establish reporting requirements and frequency of reports.
- f. Minimum Mobilization of Key Personnel
- Project Manager. Full time from Contract award up to completion of Works, to be mobilized on site during the construction phase;
 - Site/Construction Engineer: full time from initiation of site mobilization activities up to provisional acceptance of the works.
- g. Testing Work. The testing work will include all tests and checks on:
- All waterproofing membranes installed on concrete decks and gutters.
 - All plumbing fixtures (P-traps) installed.
- h. Commissioning Punch List. This shall be established for the purpose of recording all discrepancies, damaged or missing materials, malfunctions, missing documents and any deviation from the design drawings and specifications or normal operating conditions. All punch list items must be cleared from the System list prior to project turn over.

6. CONTRACTOR'S UTILITIES CONSUMPTION

The Contractor shall pay their electric and water consumption bills. Sub-meters shall be installed at the expense of the Contractor to determine their actual consumption.

7. CONFLICT IN REFERENCE DOCUMENTS

In case of any conflict between the technical requirement and specifications of this contract and the reference documents, or among the reference documents, the order of precedence is:

1. Basic Engineering Drawings
2. Scope of Works
3. Technical Specifications
4. National Standards for Building Construction
5. International Codes and Standards

The contractor shall notify any discrepancy found in the documentation to PSHS-MC in writing for clarification. PSHS-MC will respond to such request in writing.

8. ITEMS TO BE PROVIDED BY PSHS-MC

*The following items will be provided by PSHS-MC to form part of the material requirements for the **Replacement of Dilapidated Plywood Partitions.***

- 350 pcs. 6mm Thk. Fiber Cement Board
- 100 gals. Semi-Gloss Latex Paint; Boysen "White Room" (106 Series G Colorizer)
- 100 gals. Acrytex Primer, White; Boysen B-1705

II. GENERAL SCOPE OF WORKS

1. GENERAL REQUIREMENTS

- 1.1. Processing and Securing of Permits and Insurance
The contractor shall be responsible for securing the, Contractor's All Risk Insurance & Third Party Liability and Workman's Compensation Insurance (CARI), and other insurances required by the Local Government Unit (LGU), among others, including payment of assessed fees as may be required by the LGU and/or Regulating Agencies before the implementation of the project. All related documents shall be submitted to the Philippine Science High School - Main Campus.

2. MOBILIZATION/ DEMOBILIZATION

- 2.1. Mobilization shall include all activities and associated costs for transportation of Contractor's personnel, equipment, and operating supplies to the site; establishment of temporary field offices, and other necessary general facilities for the Contractor's operation at the site;

- 2.2. Demobilization shall include all activities and costs for transportation of personnel, equipment, and supplies not required or included in the contract from the site; including the disassembly, removal and site cleanup of temporary offices and other facilities assembled on the site specifically for this contract.

3. CONSTRUCTION SAFETY AND HEALTH PROGRAM

- 3.1. This item includes the provision of safety gadgets (belt, goggles, hard hat, working uniform and safety shoes) for all workers on the hard hat area.

4. PROJECT PHOTOGRAPHS

- 4.1. The contractor shall provide record photographs taken as, when and where directed by the Project Engineer at intervals of not more than one month. The photographs shall be sufficient in number and location to record the exact progress of the Works. The contractor shall provide one proof print of each photograph taken, and the electronic copy, in jpeg format of the photographs. The photographs retained by the Project Engineer will become the property of the Government and the Contractor shall supply approved albums to accommodate them. Two copies are to be signed by the Contractor, one of which will be signed by the Project Engineer and returned to the Contractor.
- 4.2. The Contractor shall submit As-Built Plans and Details to the Philippine Science High School - Main Campus prior to the release of the final Progress Payment. As-Built Plans shall be given in electronic format readable by the PSHS Main Campus, and 3 copies large sized prints.

5. SETTING OUT

- 5.1. The Contractor shall make adequate site survey/inspection, verification and setting outs.
- 5.2. The Contractor shall not be permitted to erect temporary buildings or structures on the site without the specific permission in writing of the Project Engineer including approval of the dimensions of such buildings or structures.

6. PROJECT BILLBOARD

- 6.1. The Contractor must provide project billboards showing information about the project.

6.2. The Project Billboard shall be strategically placed within the site vicinity; *(as provided on the General Guidelines and Legal Mandates of the Commission on audit to promote good governance and/or publicity for or otherwise relating to the Projects/Programs/Activities (PPA) shall be made at the least possible cost)*. Hence, for infrastructure projects, two (2) tarpaulin signboards must be suitably framed for outdoor display at the project location, and shall be posted as the award has been made. The design and format of the tarpaulin, shall have the following specifications:

- Tarpaulin, white, 8ft. x 8ft.
- Resolution: 70 dpi
- Font: Helvetica
- Font Size: Main Information - 3”
- Sub-Information - 1”
- Font Color: Black

7. TEMPORARY FACILITIES/ FIELD OFFICE

7.1. This item includes the construction of temporary facilities for storage of materials and Contractor’s Field Office.

8. WATERPROOFING WORKS

8.1. Furnish all labor, materials, equipment, plant and other facilities required to complete all waterproofing works as shown on the drawings and herein specified.

8.2. All waterproofing materials shall be installed by the accredited supplier following the product manual.

8.3. Coat the entire surface with concrete primer and allow drying.

8.4. Membranes are unrolled and laid in the position where they are to be bonded. During each stage the membrane should overlap the next by at least 8cm at the edges and at least 15cm at the ends.

8.5. All materials shall be Environmental Protection Agency (EPA) certified and approved.

8.6. Test waterproofed area for seventy-two (72) hours minimum and check for any seepages prior to application of 30mm minimum concrete topping with 1” wire mesh reinforcement.

Note: Areas not stated above but requiring waterproofing by Procuring Entity shall be included in the scope of work. Thickness should be as per

Manufacturer's Specifications and Installation depending on the Areas to be applied with.

9. PLUMBING / SANITARY WORKS

- 9.1 The work to be undertaken under this section shall consist of the furnishing of all materials, labor tools, equipment and other facilities and the satisfactory performance of all work necessary for the complete installation, testing and operation of the plumbing system accordance with the applicable drawing and this section of that specifications consisting of, but not necessarily limited to the following:
 - 9.1.1. Soil, waste and vents pipe system, within the building up to sewer line.
 - 9.1.2. Interior fire protection system consisting of combination standpipes, valves, automatic fire sprinklers, inlets, and connectors.
 - 9.1.3. Furnishing, installation and testing of water closets, lavatories, accessories including controls & piping works.
 - 9.1.4. Furnishing and installation of all plumbing fixtures, fittings, trims and accessories.
 - 9.1.5. All work shall be performed in accordance with the requirements of all applicable laws of the Republic of the Philippines and all local codes and ordinances.
- 9.2 The contractor is required to refer to all mechanical, electrical, structural and architectural plans and specifications all shall investigate all possible interference and conditions affecting his work in this section and that of the other sections.
- 9.3. All plumbing works to be done and sizes of pipe to be used shall be of the sizes, which are required and in accordance with the NATIONAL PLUMBING CODE OF THE PHILIPPINES.

10. PAINTING WORKS

- 10.1. All painting materials shall be of approved brand. Use first class neutralizer primer, putty, tinting color and thinning solvents of the same brand.
- 10.2. Prior to painting works, all exposed finish hardware, electrical plates & fixtures, plumbing fixtures, toilet accessories, glasses and the like shall be adequately insulated/protected that these are not stained with paint

and stain materials. All other surfaces which stain would endanger existing paint, should be taped and covered with paper or equal.

- 10.3. Apply the proper number of coats to affect a painted surface which is not transparent, looks full bodied when dried, and generally as recommended by the manufacturer for the respective paint types.
- 10.4. The walls and ceiling should be coated with paint that doesn't easily peel off or chip, does not contain lead, is resistant to water and moulding as well as repeated cleaning and disinfections.
- 10.5. For all areas specified for moisture protection shall be coordinated with painting procedures shown on brochures from manufacturers.

11. HAULING OF WASTE & DEMOLISHED MATERIALS

- 11.1. This item includes cleaning of all the excess and unnecessary materials and removing them from the site.

III. SPECIFIC SCOPE OF WORKS

1. Rehabilitation of Residence Halls:

1.1. Installation of Dry Sprinkler System

Works under this item include:

- 1.1.1. Installation of schedule 40 black iron pipes for the main riser, distribution pipe lines, complete with the necessary fixtures and fittings as per plan;
- 1.1.2. Installation of 12mm diam. pendent sprinkler heads, with elevation and details as per plan;
- 1.1.3. Pressure testing of the piping system for a continuous period of not less than 72 hours.

1.2. Replacement of Plywood Partitions

Works under this item include:

- 1.2.1. Removal of the existing plywood partitions of the 1st, 2nd and 3rd floors of the BRHM;
- 1.2.2. Removal of the existing plywood ceiling boards of the 3rd floor of GRHM, BRHA-1 & BRHA-2;
- 1.2.3. Removal of the air-con ducting at the bedrooms of the BRHM;
- 1.2.4. Installation of 6mm thick fiber cement boards for wall partitions for the 1st, 2nd and 3rd floors of the BRHM;
- 1.2.5. Installation of 3.5mm thick fiber cement boards for ceiling of the 1st and 3rd floors of the BRHM & GRHM;
- 1.2.6. Installation of 3.5mm thick fiber cement boards for the ceiling of the 3rd floor of the BRHA-1 & BRHA-2;

- 1.2.7. Fabrication of hollow core flush doors complete with hardware and accessories of the BRHM, GRHM, BRHA-1 & BRHA-2;
- 1.2.8. Painting works on the installed fiber cement boards and doors and door jambs;
- 1.2.9.
- 1.2.10. Repainting of the interior wall partitions of the GRHM.

1.3. Replacement of Floor and Wall Tiles

Works under this item include:

- 1.3.1. Removal of the existing 200mm x 200mm concrete tiles at the corridors and bedrooms of the 2nd and 3rd floors of the BRHM & GRHM, not including the existing substrate;
- 1.3.2. Removal of the existing floor and wall tiles at the toilets of the BRHM & GRHM, including existing substrate;
- 1.3.3. Check and Repair of the existing sewer pipes at the BRHM & GRHM toilets;
- 1.3.4. Application of torch applied bituminous waterproofing membrane (min. 72 hours flood test) with 30mm min. concrete topping with 1” wire mesh reinforcement;
- 1.3.5. Installation of 600mm x 600mm homogeneous floor tiles at the corridors and bedrooms of the 2nd and 3rd floors of the BRHM & GRHM;
- 1.3.6. Installation of 600mm x 600mm floor and wall tiles at the toilets of the BRHM & GRHM.
- 1.3.7. Removal of the existing toilet fixtures and shower heads of the BRHM & GRHM toilets;
- 1.3.8. Installation of dual flush water closets, undercounter lavatory; rain shower type shower heads; lavatory faucets at the BRHM & GRHM toilets and showers;
- 1.3.9. Inspection and repair of the existing sewer pipes at the BRHM & GRHM toilets;
- 1.3.10. Removal of the existing waterproofing membrane at the BRHM, GRHM, BRHA-1 & BRHA-2 concrete gutters and roof decks;
- 1.3.11. Installation of 110mm diam. PVC downspouts at the sides of the concrete gutters of the BRHM, GRHM, BRHA-1 & BRHA-2;
- 1.3.12. Application of torch applied waterproofing membrane (min. 72 hours flood test) with 30mm min. concrete topping with 1” wire mesh reinforcement at the BRHM, GRHM, BRHA-1 & BRHA-2 concrete gutters and roof decks;
- 1.3.13. Installation of 12mm thick compact laminate board toilet and shower cubicle partitions on powder coated aluminium frame, complete with hardware and accessories at the 2nd & 3rd floor toilets of the BRHM & GRHM.