

4. Monolithic concrete pouring of slab on fill/suspended slab/girder and beams shall be observed.
5. This scope includes the concrete pouring of the framing system before masonry works.
6. Proper concrete sampling and testing shall be done on-site as per specifications.
7. Proper concrete curing must be observed on site.
8. Lean concrete must be provided for column footings and grade beams with a minimum thickness of 50mm.
9. Proper concrete pouring methodology shall be observed on-site to avoid the segregation of aggregates.
10. This scope includes all reinforced concrete works but not limited to (See detail of column footing, column, tie beams, beams and girders, ramps, stairs, lintel Beams, canopies, concrete baffles, and sun-breakers, and slabs).
11. Structural Concrete shall attain its acceptable strength before Stripping/Dismantling of bottom forms.

## XII. Structural Steel Works

This Item shall consist of furnishing all materials, labor, tools and equipment required in undertaking all metal works which includes Stainless Steel Railings, Multi-purpose Hall Stage, and window grills as shown on the Plans and in accordance with this Specification.

1. All materials to be incorporated in the metal works shall be of good quality. Before incorporation in work, all materials shall have been inspected/accepted by the Project Monitoring Committee.
2. Pure stainless steel, G.I pipes/tubular, and other metallic structural materials either plain or fabricated shall be stored above the ground upon platforms, skids, or other supports. It shall be kept free from dirt, grease, or other foreign matter and shall be protected as far as practicable from corrosion.
3. The steel bars and other metallic structural materials shall be coated with red oxide primer (two coats) before installation or after welding works.
4. Workmanship and finish shall be per the best general practice. Portions of the work exposed to view shall be finished neatly. Shearing, flame-cutting, and chipping shall be done carefully and accurately.
5. No welding works shall be done on areas coated with paint.
6. Shop drawings shall be submitted by the Contractor for TPC approval before fabrication and installation.
7. Submission of shop drawings for evaluation/approval shall be submitted seven (7) days before fabrication and installation.
8. All materials for metal works to be used shall be brand new. Usage of scrap and tarnishing metals is strictly prohibited. The Contractor shall promptly remove and replace any scrap, old, and used materials installed on site.

### *XII.A. Structural Steel Purlins Incl. Cleats*

All specifications should be considered by the contractor. Use 2mm thk. 20mm x 50mm x 175mm C-Purlins w/ 5mm thk. X 75mm x 50mm x 100mm Angle Cleats spaced at 400mm O.C. See truss details for reference.

### *XII.B. Structural Steel Roof Trusses & Framing*

The contractor shall furnish all labor, material, equipment and supervision to replace all existing wooden truss into steel trusses and the construction of additional trusses for Mess Area

of the Building. All works shall be performed in accordance with the existing provisional codes and standards on steel structures construction; the National Building Code of the Philippines. Proper procedures and installation process shall be observed upon construction.

All specifications should be considered by the contractor. Verify plan for details and schedule.

Truss Member	Angle Bar
Top Chords	Angel Bar- Double Angle 50mm x 50mm x 3.0mm thk.
Bottom Chords	Angel Bar- Double Angle 38mm x 38mm x 3.0mm thk.
Verticals Members	Angel Bar- Double Angle 38mm x 38mm x 3.0mm thk.
Diagonal Members	Angel Bar- Double Angle 38mm x 38mm x 3.0mm thk.
King Post	Angel Bar- Double Angle 38mm x 38mm x 3.0mm thk.

*XII.C. Metal Structures (Anchor Bolts)*

The contractor must consider this bolts for steel to concrete/ steel to steel connections to provide additional anchoring system from the existing structure. Verify plan for details.

Hilti Injectable Mortar Epoxy (Hilti Hit-Re 500)
20mmØ HILTI Wedge Anchors w/ Std. nuts and Washer

*XII.D. Metal Structures (Sagrods)*

Use 10mmØ steel sagrod with nuts and bolts for purlins support. See detailed plan for location and details – 5 lines every span.

*XII.E. Metal Structures (Turnbuckle)*

Use 16mmØ Steel Turnbuckle for Diagonal Cross bracing support. See detailed plan for location and details.

*XII.F. Metal Structures (Cross Bracing)*

Use 16mmØ Steel Cross Bracing for Diagonal Cross bracing support. See detailed plan for location and details.

**XIII. Roofing Sheet & Accessories**

The contractor shall replace all existing roofing sheet with new heavy duty roofing sheets with the material provided on this scope of work. Structural material either plain or fabricated shall be stored above the ground upon platforms, skids or other supports. It shall be kept free from dirt, grease or other foreign matter and shall be protected as far as practicable from corrosion.

1. Proper laying pattern shall be performed.
2. All roofing sheet to be installed shall be free from any damages such as rust, cuts, any deformities etc.
3. Use Long Span Pre-Painted Metal Roofing Sheet Grade 26 Colored (Forest Green).
4. Use 6mmØ J-Bolt w/ standard nut & washer.
5. Use Ridge Roll Grade 26 on edges and roof eave.
6. No leaks should be observed after installation

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#### XIV. 5" Masonry Works (including Reinforcing Steel)

Contractor shall supply all the specified materials, expertise, supervision, labor, layout, equipment, tools, scaffold and miscellaneous items required for a complete masonry job in accordance with the drawings, plans and specifications as specified herein. All masonry works shall be performed by skilled craftsmen in a workmanlike manner throughout and shall be in accordance with all relevant codes, standards and regulations as deemed necessary.

1. Concrete Hollow Blocks (CHB) shall be applicable for non-load-bearing applications as specified in the drawings. CHB shall have fine, even texture, well defined edges and shall be sound and free from cracks and other defects.
2. Masonry units should be delivered and stored on wooden pallets to prevent moisture absorption from the soil and covered with water-repellent tarps or plastic covers to prevent wetting, staining, or discoloration.
3. Aggregates should be protected against contamination from rain and from blowing dust and soil during construction to prevent staining or reduced mortar bond strength.
4. Different aggregates should be stored in separate stockpiles and all aggregate stockpiles covered with a waterproof tarp or plastic covering when not in use.
5. CHB shall be laid with full mortar coverage on both horizontal and vertical shells. Requirements for the mortar are as follows:
  - Portland Cement: ASTM C150, Type 1
  - Sand: Clear, Sharp, graded from fine to coarse, ASTM C-144
  - Water: Clean and potable
  - Mixture: One (1) part cement, two (2) parts sand
6. If needed, provide a guide chord stretched out from end to end to establish desired CHB alignment.
7. After erecting 4 layers of CHB, observe 3 to 4 hours' interval before proceeding with the next layer of CHB.
8. The contractor shall establish and ensure desired CHB alignment and plumbness. The Contractor shall reconstruct any inadequate work.
9. This includes all masonry works required for the completion of the building as well as parapet walls, planter box and other decorative masonry works.
10. CHB shall be piled on plank platforms in dry locations, and shall be protected with appropriate cover or other suitable material until laid in the wall. Reinforcement and other metal items shall be protected from the elements. All mortar materials shall be stored under cover in a dry place so that damage from moisture, freezing and other sources are prevented.
11. The contractor shall provide masonry walls on all doors and windows subject for closure.
12. Included on this scope is the repair of walls that may be damaged or trimmed upon removal of existing window frames, door jambs, lavatory, wall tiles etc.
13. Ramp sidings should be provided also with CHB. See ramp details.

#### XV. Doors

This Item shall consist of furnishing all solid wood panel doors materials, labor, tools and equipment required in undertaking the proper installation as shown on the Plans and in accordance with this Specification.

1. This scope of work includes fabrication and installation of Doors including all items required to be fabricated like doorjambs and provision of complete accessories including heavy duty handle set and locking devices.
2. This scope of work includes provision of Doors and door frames conforming to the sizes, dimensions and designs as shown and specified in the schedule of doors or as per the quantity estimate.