



Republic of the Philippines  
**GENERAL SANTOS CITY WATER DISTRICT**  
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## SCOPE OF WORK

Project Title: **CONSTRUCTION OF PUMPHOUSE AND GENSET SHED**

Location: **Lot 49-A-2-B., Brgy. Sinawal, General Santos City**

1. The scope of work for this project consists of supply and delivery of necessary materials, appurtenances, labor, equipment, tools, power, water consumables and supervision for the completion of the proposed project as shown on plan and technical drawings specified in the scope of work herein.
2. The **project duration is ninety (90) Calendar Days** and shall commence Five (5) Days after the receipt of Notice to proceed.
3. The contractor shall fabricate and install needed fittings and other appurtenances as shown and specified, and as required for a complete and workable piping system.
4. **Steel Pipes, flow meter and valves (check valves, gate valves and Air Release Valve), Y-strainer, and Sleeve Type Coupling shall be supplied by GSCWD**, whereas installation shall be done by the contractor including supply of **steel flanges, bolts & nuts, rubber gasket and it's accessories.**
5. Electro-mechanical equipment such as Motor Controller and Panel boards, Auto Transfer Switch (ATS) 300Amps, Main Circuit Breaker (MCB), 10 KVA Dry-Type transformer, Submersible pump and motor, Chlorine Booster Pump, Chlorine Gas ejector and Regulator shall be **supplied and installed by GSCWD** however, **provisions for necessary rough-ins materials such as conduits & gutter box** will be provided by the contractor as part of the contract.
6. All works shall be performed by the winning bidder in accordance with the approved plan and specifications of the owner as enumerated below.

### **6.1 Site Preparation**

The location of the building where is to be erected shall be staked out and grade established as shown on drawings and in accordance with the Local Building Code. Contractor shall provide instrument for purposes of establishing, checking, and monitoring of the elevation and plumbness.

### **6.2 Clearing and Grubbing**

All surface objects and all trees, stumps, roots and other protruding obstructions, not designated to remain, shall be cleared and/or grubbed.

### **6.3 Earthworks**

Excavation shall include the removal of materials of whatever nature encountered that would interfere with the proper execution and completion of the work. All excavations shall be carried to the grade of the bottom of the footing or slab or as indicated on technical drawings. The

materials excavated shall be placed as backfill on the footing, etc. and above shall be compacted as described. Excess will be hauled to a place designated by the Owner.

#### **6.4 Concrete Works**

Cement shall conform to the "Standard specifications for Portland Cement" (ASTM C-150-Latest Revision) and shall be type I. The cement shall be in accordance with DPWH standards such as "Holcim, Royal, Hex cement or other brands of the same quality" and shall not be more than three (3) months from date of manufacture.

All reinforcing steel bars used shall be of deformed type, new, free from rust, oil, defects, greases or kinks. They shall conform to the latest edition of National Structural Code for Buildings with a minimum grade equal to 275 Mpa (Grade 40) unless otherwise shown on the plans. Stamp Mark and Color Coding shall also be in accordance to its corresponding Grade. Test of this material, to determine its suitability shall be in accordance with the standards of the American Society for Testing and Materials (ASTM).

Concrete forms should be water tight, strong enough and rigid to sustain the weight of concrete. Forms should be oiled to make the wood water proof. Oiling of forms should not be done after the steel bars reinforcements have been set to its position.

Pipes, conduits, dowels, and other items required to be imbedded in the concrete construction shall be so positioned and supported prior to placement of concrete. As concrete is placed, it shall be thoroughly settled and compacted through-out the entire depth of the layer. The Concrete shall be carefully worked by tamping, rodding and vibrating to make sure that all air and rock pockets have been eliminated. All concrete shall be cured for not less than fourteen (14) days after placing in accordance with standards.

The Owner may require a reasonable number of tests on the concrete to be made during the progress of the work. Six cylindrical specimens shall be made for each test of which at least two shall be reserved for 28-day test. Strength test shall be made in accordance with the "Standard Method of Test for Compressive Strength of Cylindrical Concrete Specimens (ASTM C-39-latest revision).

Should the test fail to give the required strength, the Owner shall have the right to order a change in the proportions or in the procedures of curing of the concrete for the rest of structure.

#### **6.5 Masonry Works**

The work includes, furnishing labor, equipment and materials performing all operations required to complete the masonry work as shown and specified. The 4" and 6" Concrete Hollow Blocks shall be machine made and shall conform to ASTM standards and shall have standard dimensions. Mortar shall be workable cement-sand mixture and attaining a 28 days

compressive strength of 3.44 mPa (500 psi). No hand mixing shall be allowed during concreting operations.

**Pump House:** 4" and 6" Concrete Hollow Blocks, machine made, plastered both sides, smooth finished

**Generator Shed:** 4 " Concrete Hollow Blocks, ordinary made, plastered one (1) side, smooth finished

The minimum size of reinforcement shall be 10 mm in diameter. Vertical reinforcement and horizontal reinforcement shall be as indicated in the plans. Vertical and horizontal reinforcement bars shall be continuous, lapped or spliced. All horizontal and vertical bars as the case maybe, shall be anchored 20 bars diameters into the concrete footings, columns and beams. All horizontal reinforcement shall be tied to the vertical reinforcement at every intersection with No. 16 GI Wire.

#### **6.6 Carpentry and Lumber Works**

All lumber shall be in good quality of respectable kind for the various part of the construction, well-seasoned, thoroughly dry and free from large, loose or unsound knots saps shakes or other imperfection impairing the strength and durability or appearance. It shall be free from warp that cannot be corrected in the progress of bridging or nailing.

Materials when delivered on site shall be piled properly to insure adequate ventilation and protection from weather.

Finished woodwork and paneling shall be free from tool marks, abrasions, and other defects exposed to view. Woodwork shall be properly framed, closely fitted and accurately set to the required lines and levels and shall be rigidly secured in placed.

Lumber shall be treated with preservative of highest quality against rots and termites. All joints shall be done on in mortise and tendon and in approved manner if possible.

All other specifications shall be referred to the approved plan.

#### **6.7 Hardware**

Rough and finishing hardware shall be provided for the completion of the works. All hardware which are necessary to leave the work complete shall be provided, though same is not herein specifically mentioned.

Locksets shall be of good quality such as kwikset to all doors or as specified by the owner. Provide barrel bolts to every door.

All other specifications shall be referred to the approved plan.

#### **6.8 Electrical Works**

All electrical installations shall be in accordance with the latest edition of the Philippine Electrical Code and shall comply with all laws and regulations applicable to the authorities.

Work under this section shall include the supply, installation, testing and delivery in perfect running conditions of the electrical installations for subject project.

These installations comprise, but are not limited to, the following chapters:

-Main Distribution Boards (MDB)

-Complete electrical installations for all lighting, sockets, and power outlets

-Lighting fixtures

The supply shall include all the equipment, accessories and other materials not enumerated in these specifications but found necessary for the completion and perfect functioning of the installations. Work shall be executed in a first-class work-manlike manner in accordance with these specifications, the drawings and notes indicated therein, the instructions of the Engineer, the provisions of the Bill of Quantities delivered in place and tested to the full satisfaction of the Engineer.

All wires shall be concealed and all electrical devices shall be of good kind and quality.

Electrical switches, outlets, convenient outlets shall be placed as indicated on the plans and necessary. Electrical fixtures are of highest standard quality such as National, GE, Toshiba or other brands of the same quality.

All Electrical fixture shall be referred to the Owner.

All other specifications shall be referred to the approved plan.

#### **6.9 Steel Works**

The Contractor shall furnish, fabricate and install metal works as specified herein and as shown in the plans. Miscellaneous metal works is defined as all items required to be fabricated from structural steel shapes, plates, bars and their products. The Contractor shall accomplish the work in a complete and finished manner and ensure the highest quality of workmanship in accordance with the plan and specification.

Structural steel shall conform to the "**Standard Specifications for Structural Steel**" (**ASTM Designation A 36**). All materials to be provided and used by the contractor shall be new, previously unused, and in first class condition.

#### **6.10 Roofing Works**

Roofing shall be **0.400 mm thick (base metal) rib-type, pre-painted, long span galvanized iron (G.I.) sheet with effective width of 1.05m.**

Laying of roofing sheets should start from the end opposite the direction of the prevailing wind, overlap the next sheet to the first sheet and fix according to fastening procedures.

Where roofing is to rest on steel purlins, use Tek screw at every rib. In between washer and roof sheet, provide neoprene washer as water seal.

### **6.11 Painting**

The metal surfaces shall be clean, dry, and free from mill scale, rust, grease, oil, or any other substance that could affect the quality of the painting and it shall be well puttied and sand papered.

All surfaces to be painted and, before beginning any work, shall be ensure that work of other trade has been left or installed in workmanlike condition to receive paint.

Each coat of paint shall be applied at proper consistency and brushed/rolled evenly, free of brush marks, sags, runs, and with no evidence of poor workmanship. No painting shall be done under conditions of weather, moisture, or temperature unsuited to good work, nor until previous coat is hard and dry. Paints are of highest standard quality such as Davies or Boysen. All Painting materials shall be referred to the Owner.

### **6.12 Plumbing Works**

All plumbing works included herein shall be executed according to the provision of the national plumbing code of the Philippines and the local rules and regulation.

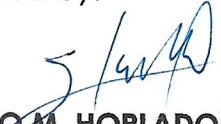
Plumbing fixture shall be manufactured of dense, durable, non-absorbent materials and have smooth, impervious surfaces, free from unnecessary concealed fouling surfaces, except as permitted elsewhere in this code, all fixture shall conform in highest quality standards such as, HCG, American Standard or other brands of the same quality.

### **6.13 Architectural and Fenestration**

All architectural and fenestration works and specification shall be referred to the Owner.

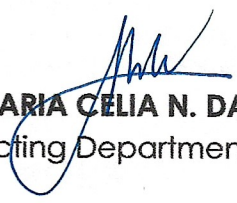
7. All waste materials shall be cleared and properly disposed by the contractor.
8. Pull-out/Turn-over materials form shall be properly filled-out by the contractor prior to endorsement to GSCWD warehouse personnel.
9. All laboratory testing fee and transportation shall be shouldered by the contractor.
10. Authorized representative of General Santos City Water District shall be assigned to monitor/inspect the implementation of the project.
11. One (1) year warranty under normal condition shall be provided by the contractor.
12. The progress payment shall be made upon reaching 30%, 70% and 100% project completion.

Prepared by:



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