ITEM 41 : WIRE COMMUNICATION AND SIGNAL SYSTEM

TELEPHONE SYSTEM

GENERAL

Electrical General Requirements applies to this section with the additions and modifications specified herein.

DESCRIPTION OF WORK

The telephone/data system shall consist of an interior system of conduits, outlet, boxes, junction boxes, main distribution frame (MDF) for interconnection of PABX system, telephone/data terminals, telephone/data distribution cables (category 5).

Should there be conflicts between these specifications and the plans, or conflicts within specifications and plans, these shall be brought to the attention of the Engineer for resolution.

PRODUCTS

CONDUIT AND FITTINGS

a. Conduit shall be polyvinyl-chloride conduit (PVC) where specified, shall be heavy wall, high impact resistant Schedule 40, with factory made bends, couplings and fittings. PVC cement for joints shall be of the same brand as for the PVC pipe.

b. No conduits shall be used in any system smaller than 20mm (1/2") diameter electric trade size, nor shall have more than four (4) 90 degree bends in any one run and where necessary, pull boxes shall be provided as directed.

c. No wire shall be pulled into any conduit until the conduit system is completed in all details, in the case of concealed work until all rough plastering masonry has been completed, and in the case of exposed work until the conduit work has been completed in every detail.

d. The ends of all conduits shall have tightly plugged to exclude plaster, dust and moisture while the construction of the building is in progress. All conduits shall be reamed to remove all burrs.

OUTLETS, BOXES AND FITTINGS

a. At all outlets whatever kind, for all system, there shall be provided a suitable fitting, which shall be either a box or other device especially designed to receive the type of fitting to be mounted thereon.

b. The Contractor shall consult with the Engineer as to the nature of the various fittings to be used before installing his outlet fittings, and shall conform strictly in the use of fittings, to the nature of the appliance to be mounted on them, so that the work, when the completed will be a finished design.

c. All outlets on concealed conduit work, provide galvanized pressed steel outlet boxes on standard make. These boxes shall be in all cases standard and where such boxes are not available on the market, special boxes shall be secured by the Contractor at his own

expense. In general outlet boxes shall be at least 100mm diameter, 53mm deep and No. 16 minimum gauge.

JUNCTION AND PULL BOXES

a. Junction and pull boxes, of code gauge steel, galvanized shall be provided as indicated or as required for facilitating the pulling of wires and cables. Pull boxes as finished places shall be located and installed with the permission and to the satisfaction of the Engineer.

b. All junction and pull boxes on exposed conduit work shall be provided with hubs for threaded pipe entry and covers provided with neoprene gaskets.

MAIN TELEPHONE TERMINAL CABINET (MTTC) / INTERCONNECTION OF PABX SYSTEM

a. All components, connections of MTTC shall conform to EIA/TIA standards.

b. Cable terminals shall be the type acceptable to the Telephone Company. Terminals shall be Category 5 as required on the plans.

TELEPHONE TERMINALS

The telephone terminals shall be wall mounted, terminal blocks shall be mounted or 20mm thick treated wood backboard. Terminal blocks shall be based on cross connection system. Terminal blocks shall have similar design with MTTC.

HORIZONTAL CABLE

All horizontal cabling shall be Category 5E (RJ – 45) network cables.

TELEPHONE / DATA OUTLETS

All modular jacks shall be data grade Category 5.

SHOP DRAWINGS

Prepare and submit complete shop drawings for the telephone system in accordance with the latest Local Telephone Company.

ITEM 42 : UNITARY AIR-CONDITIONING SYSTEMS

GENERAL

"Mechanical General Requirements" applies to this section with additions and modification specified herein.

GENERAL REQUIREMENTS

1. Unitary Air-Conditioning System

Air conditioning units in retail stores shall be supplied and installed by the tenant. Capacity of equipment shall not be less than that indicated. In the NFPA standards and SMACNA manuals referred herein, the advisory provisions shall be considered to be mandatory, as though the word "shall" had been substituted for "should" wherever it appears. Reference to the "authority having jurisdiction" shall be interpreted to mean the Engineer.

2. Refrigerant Piping, Fittings and Accessories

Refrigerant piping assembly as used in this section includes pipes, flanges, bolting, gaskets, valves, relief devices, fittings, and the pressure containing parts of other piping components. It also includes hangers and supports and other equipment items necessary to prevent overstressing the pressure containing parts.

a. Piping

ANSI 15 and ANSI B31.5. Compatible with fluids for which they are being used and capable of withstanding the pressures and temperatures of the service that they are handling.

b. Tubing

Refrigerant piping shall be seamless copper tubing, hard drawn, type K, ASTM B88. Tubing used for refrigerant service shall be cleaned, sealed, capped or plugged prior to being shipped from the manufacturer's plant. Fittings for copper tubing shall be wrought copper or bronze, brazing or solder joint type ANSI B16.18 or ANSI B16.22. Copper flared type tubing may be made only in annealed copper tubing ASTM B280 and in nominal sizes smaller than one- inch only for connection to equipment and no larger than 1-3/8 inches diameter for other connections. Flanges shall be of bronze ANSI B16.24.

3. Corrosion Prevention

Unless specified otherwise, equipment fabricated from ferrous metals that do not have a zinc coating shall be treated for prevention of rust with a factory coating or paint system that will withstand 125 hours in a salts-pray fog test except that equipment located outdoors shall be tested for 500 hours. The salt-spray fog test shall use a 20 percent sodium chloride solution. Immediately after completion of the test, the coating shall show no signs of blistering, wrinkling or cracking, no loss of adhesion, and the specimen shall show no signs of rust creep age beyond 1/8 inch on either side of the scratch mark. The film thickness of the factory coating or paint system applied on the equipment shall be not less than film thickness used on the test specimen.

4. Safety Standards

a. Design, Manufacture and Installation of Mechanical Refrigeration Equipment: ASHRAE Safety Code for Mechanical Refrigeration.

b. Machinery Guards: Fully guard drive mechanisms, or other moving parts. Provide guards fabricated of steel and expanded metal, rigidly mounted, and readily removed without disassembly.

MATERIAL REQUIREMENTS

UNITARY AIR-CONDITIONING SYSTEMS - SPLIT TYPES

1. General

The air-conditioning systems shall be designed, constructed, and rating tested in accordance with ARI Standard 210 for unitary air-conditioning equipment of capacities below 135,000 Btu's per hour and ARI Standard 300 for unitary equipment with capacities of 135,000 Btu's per hour and greater. Units shall be ARI certified. Units with capacities below 135,000 Btu's per hour shall be listed in the ARI Directory of Certified Unitary Air-Conditioners.

2. Performance Rating

Cooling capacity of unit shall meet the sensible heat requirements and total requirements indicated. In selecting unit size, make true allowance for "sensible to total heat ratio" to satisfy required sensible cooling capacity. Submittals shall include catalogue selection data which accounts for sensible to total heat ratio, entering air-conditions at evaporator, and condenser air-conditions.

3. Air Conditioners, Ceiling Cassette Type

The air conditioning system has a 4-way air distribution with auto sweep, it can cool an adjacent room using of the 4-way airflow outlets The fresh air intake device and additional outlet grille can condition the air in an adjoining room using one of its 4-way airflow sides..

4. Compressors

Provide hermetic, semi-hermetic rotary, or screw type provided with all the minimum standard equipment and accessories listed therein. Compressor speed for compressors above 20 tons shall not exceed 1750 rpm. Provide compressors with automatic capacity reduction of at least 50 percent for units over 10 tons. Compressors shall start unloaded. Provide each compressor with devices to protect the compressor from short-cycling when shut-down by safety controls. Provide a pump-down cycle of the non-recycling start type for each compressor 20 tons and over. Provide compressors with vibration isolators. Compressor motor shall be suitable for electric power characteristics as indicated. Motor shall conform to NEMA NG-1. Motor starters shall conform to NEMA ICS. Motors shall be constant speed, squirrel-cage induction, open type or hermetically sealed, low starting current, high-torque type, and shall be furnished with reduced voltage or and magnetic across-the-line type motor starter with weather-resistant enclosures

5. Coils

a. Cooling coils shall conform to ARI 410 and to paragraph entitled, Cooling Coils. Coils shall be the type indicated or specified herein.

b. The air-cooled condenser coil shall be extended-surface fin-and-tube type with seamless copper or aluminum construction. Aluminum alloy conforming to ASTM B210, alloy 1100, shall be used for the tubes, and aluminum alloy conforming to chemical requirements of ASTM B209, alloy 7072, shall be used for fins and sheets. Fins shall be soldered or mechanically bonded to tubes and installed in a metal casing. Coils shall be air tested under water for leakage. After testing, dry coils for remote type units to remove free

moisture, and cap to prevent entrance of foreign matter. Evacuate and seal coils at the factory.

6. Filter Boxes

Provide filter boxes with either hanged access doors or removable panels. Filter boxes shall have racks for filters arranged for angle pattern. Filters shall be of type indicated and shall conform to paragraph hereinafter entitled, "Filters".

7. Mixing Boxes

Mixing boxes shall be of physical size to match the basic unit and include equal sized flanged openings, each sized to handle full air flow. Arrangement of openings shall be as indicated. Provide openings with dampers of opposed blade type. All damper shafts shall be connected together by one continuous linkage bar. Arrange dampers for manual operation so that when one starts to close from its opened position, the other starts to open from its closed position.

8. Controls

a. Condenser Controls

Provide load pressure control to insure condensing temperature for proper system operation at all ambient temperatures down to 40°F.

b. Condenser Start-up Control Provide condenser with a start-up control package which permits start-up compressor regardless of low ambient temperatures. Package shall temporarily bypass system low pressure-start to permit start-up whenever minimum ambient temperature is below design evaporator coil suction temperature.

9. Refrigerant Circuits

Entire refrigerant circuit shall be dehydrated, purged, and charged with refrigerant and oil at factory. Factory oil charge shall be the full amount required for operation. Factory charge for refrigerant shall be the full amount required for operation.

10. Corrosion Protection

Units shall be factory corrosion protected in accordance with paragraph entitled, Corrosion Prevention.

COOLING COILS

1. Direct-Expansion Coils

Direct-expansion coils shall be fin-and-tube type constructed of seamless copper or aluminum tubes and copper or aluminum fins mechanically bonded or soldered or helically wound to tubes. Casing and tube support sheets shall be not lighter than 16-gauge (0.0635-inch nominal thickness) galvanized steel, formed to provide structural strength. Suction header shall be seamless copper tubing or seamless or resistance welded steel tube with copper connection. Supply header shall consist of a distributor to distribute the refrigerant liquid through seamless copper tubing, equally to all the circuit in the coil. Tubes shall be circuited to insure minimum pressure drop and maximum heat transfer. Circulating shall permit refrigerant flew from liquid inlet to suction outlet without causing oil staging or restricting refrigerant flow in coil. Rack coil shall be tested at the factory under water at not less than 300 psi air pressure and shall be suitable for 200 psi working pressure. Each coil shall be completely dehydrated and scaled at the factory upon completion of pressure tests. Coil shall be mounted for counter flow service.

2. Filters

Filter shall be of the sectional or panel cleanable type and be capable of filtering the entire air supply.

3. Manometers

Provide inclined-type manometers for filter stations of 2,000 cfm capacity or larger including filters furnished as integral parts of air handling units and filters installed separately. Manometers shall be of sufficient length to read at least one inch of water column, shall be graduated in 1/10 inches, and equipped with spirit level. Equip each manometer with over-pressure safety traps to prevent loss of oil, and two three-way vent valves for checking zero setting.

CLEANING, PAINTING AND IDENTIFICATION

Cleaning, painting and identification of piping shall be as specified under, "Painting" of "Building Works".

IDENTIFICATION TAGS AND PLATES

Provide equipment, thermometers, valves, and controllers with tags numbered and stamped for their use. Plates and tags shall be of brass or suitable non-ferrous material, securely mounted or attached. Minimum letter and numeral size shall be 1/8 inch.

EXECUTION

INSTALLATION

Application and installation practices for unitary air-conditioning systems shall conform to the requirements of an acceptable industry standard for installation of unitary systems.

1. General

Install equipment and components in a manner to insure proper and sequential operation of the equipment and its controls. Installation of equipment not covered herein or in manufacturer's instructions shall be installed as recommended by manufacturer's representative. Provide proper foundations for mounting of equipment, accessories, appurtenances, piping and controls including, but not limited to, supported vibration isolators, stands, guides, anchors, clamps, and brackets. Foundations for equipment shall conform to equipment manufacturer's recommendation, unless otherwise shown in the drawings. Set anchor bolts and sleeves accurately using properly constructed templates. Anchor bolts shall be of adequate length and provided with welded-on plates on the head end embedded in the concrete. Level equipment bases, using jacks or steel wedges, and neatly grouted-in with a non-shrinking type of grouting mortar. Locate equipment so that working space is available for all necessary servicing such as shaft removal, disassembling compressor cylinders and pistons, replacing or adjusting drives, motors, or shaft seals, access to water heads and valves of shell and tube equipment, tube cleaning or replacement, access to automatic controls, refrigerant charging, lubrication, oil draining and working clearance under overhead lines. Provide electric isolation between dissimilar metals for the purpose of minimizing galvanic corrosion.

2. Unitary Air-Conditioning System

Install system as indicated, in accordance with the requirements of ASHRAE 15-76 and as recommended in the manufacturer's installation and operational instructions.

3. Electrical Work

Electric motor driven equipment specified herein shall be provided complete with motors, motor starters, and controls. Electrical equipment and wiring shall be in accordance with Section 7.1, "Electrical General Requirements" of division 7. Motor starters shall be provided complete with properly sized thermal overload protection and other appurtenances necessary for the motor control wiring required for controls and devices but not indicated.

4. Piping

a. Piping Sleeves
Pipe sleeves shall be as Galvanized Iron, Schedule 20.

b. Provide refrigerant driers, sight glass liquid indicators, moisture indicators, and strainers in refrigerant piping for remote installations when not furnished by the manufacturer as part of the equipment.

c. Locate strainers close to equipment they are to protect. Provide a strainer in the common refrigerant liquid supply to two or more thermal valves in parallel when each thermal valve has a built-in strainer. Install strainers with screen down and in direction of flow as indicated on strainers body.

d. Solenoid valves shall be installed in horizontal lines with stem vertical and with flow in direction indicated on the valve. If not incorporated as internal part of the valve, provide strainers upstream of the solenoid valve. Provide service valves upstream of the solenoid valve, upstream of the strainer, and downstream of the solenoid valve. Remove the internal parts of the solenoid valve when brazing the valve.

5. Auxiliary Drain Pans, Drain Connections, and Drain Lines

Provide auxiliary drain pans under all drain pans of the units located above finished ceilings or over mechanical or electrical equipment where condensate overflow over unit drain pan may cause damage to ceilings, piping, and equipment below. Provide drain lines for all drain and auxiliary drain pans. Trap the drain from bottom pan of air-conditioning units to insure complete pan drainage. Drain lines shall be full size of opening.

6. Air Filters

Provide access panels for all concealed valves, controls, dampers, and other fittings requiring inspection and maintenance.

7. Inspection Plates and Test Holes

Inspection plates and test holes where required in casings for air balance measurements shall conform to SMACMA High Pressure Low Velocity Duct Construction Standards. Test holes shall be a factory-fabricated, air-tight, non-corrosive test hole with screw cap and gasket. Extend cap through insulation.

8. Flashing and Pitch Pockets

Provide flashing and pitch pockets for equipment support and roof penetrations and flashing where piping or ductwork passes through exterior walls.

FIELD TESTS AND INSPECTIONS

1. Tests

All tests shall be performed and materials and equipment required for test shall be furnished by the Contractor. Tests after installation and prior to acceptance shall be performed in the presence of a representative of the Owner and subject to his approval. Equipment and material certified as having been successfully tested by the manufacturer in accordance with referenced specifications and standards will not require retesting before installation. Equipment and materials not tested at the place of manufacturer will be tested before or after installation, as applicable, where necessary to determine compliance with referenced specifications and standards.

2. Leak Testing

Upon completion of installation of the air-conditioning equipment, test all factories as well as field refrigerant piping with an electronic-type leak detector to acquire leak tight refrigerant systems. If leaks are detected at the time of installation or during the guarantee period, remove the entire refrigerant charge from the system, correct the leaks and retest the system.

3. Evacuation, Dehydration, and Charging

After system is found to be without leaks, evacuate the system using a reliable gauge and a vacuum pump capable of pulling a vacuum of at least 1 mm lig absolute. Evacuate system in strict compliance with the triple evacuation and blotter method or in strict accordance with equipment manufacturer's printed instructions. System leak testing, evacuation, dehydration, and charging with refrigerant shall comply with the requirement contained in an acceptable industry standard.

4. Start-Up and Operation Tests

The air-conditioning system and its components shall be started and initially placed under operation and checked to see that it is functioning correctly. Adjust safety and automatic control instruments as necessary to place them in proper operation and sequence. The operational test shall be not less than 8 hours.

5. Performance Tests

Upon completion of evacuation, charging, start-up, final leak testing, and proper adjustment of controls, the system shall be performance tested to demonstrate that it complies with the performance and capacity requirements of the specifications and plans. Test the system for not less than 8 hours, during which time hourly readings shall be recorded. At the end of the test period, the readings shall be averaged and the average shall be considered to be the system performance.

6. Sound Tests, Air-conditioners, Unitary, Split Type

Sound pressure level measurements shall be conducted on units designated by the Owner. Calculate sound power levels by ASHRAE Systems Handbook and Product Directory. Submit test results and calculations.

ITEM 43 : DISTRIBUTION TRANSFORMER

SCOPE OF WORK

The work to be done shall consist of supply, and delivering and installing distribution transformer completed in accordance with all the materials required by Bohol Electric Cooperative, of Tubigon, Bohol including labor, tools and equipment and all incidental works as found necessary.

GENERAL REQUIREMENTS

a) All works shall be done in accordance with the requirements of the publications and agencies having jurisdiction, as well as the requirements of the approved standards.

1. American National Standard Institute - (ANSI)
2. Institute of Electrical and Electronics Engineers - (IEEE)
3. National Electrical Manufacturer Association - (NEMA)
4. Philippine Electrical Code - (PEC)
   Philippine National Standard - (PNS)

b) Materials Requirements

- Distribution Transformer,
- Conventional
- Pole Type
- Oil Immersed
- Self –Cooled
- Single Phase , 1Ø , 60hz
- 65 °C Temperature rise

Capacity	:	75KVA (verify)
Primary Voltage	:	7.62 / 13.2 Y kV 2-2.5% taps FCAN and 2-2.5% taps FCBN Available on tap changer for de-energized operation
Primary BIL Rating	:	95kV
Secondary Voltage	:	120 /240V
Secondary BIL Rating	:	30kV
Percent Impedance	:	ANSI Standard
HV/LV Conductor	:	Copper / Aluminum
Insulating Fluid:		Mineral Oil
Core	:	Silicon Core
NLL	:	190W
LL	:	650W

c) Standard Test Reports:

1. Routine Tests
   - Turn Ratio Test
   - Voltage Ratio Test
   - No Load Loss & Load Loss Test
   - Impedance Voltage Test
   - Applied Potential Test
   - Induced Potential Test

2. Type of Test
   - Impulse test
   - Temperature Rise Test

PRODUCTS (DISTRIBUTION TRANSFORMER)

External Features
- High Voltage Bushing
- Low Voltage Bushing
- Tank and Cover
- Pressure Relief Valve
- Tank and Low Voltage Grounding Provision
- Externally Operated No-Load Tap Changer
- Radiators

Internal Features
- Core Coil Assembly
- Winding Material
- Insulating Di-Electric Fluid
- Coil Support

PRODUCTS (GENERAL DESCRIPTION)

1. **High Voltage Bushing**, the cover mounted and tank - wall high voltage bushing are made of wet process porcelain suitable for both copper and aluminum conductors.

2. **Low Voltage Bushing**, single or double eyebolt or spade terminal made of wet process porcelain.

3. **Tank and Cover**, manufactured from hot-rolled steel sheets and pressure tested to ensure a leak free enclosure. Grit blasted or chemically treated to remove every trace of scale, rust or oil, for better paint adhesion. Outer and inner surfaces are primed with epoxy primer for rust prevention and the outer surface is coated with polyurethane.

4. **Pressure Relief Valve**, gradually releases excess pressure and designed for outdoor condition.

5. **Tank and Low Voltage Grounding Provisions**, provided to help prevent damage to the transformer during electrical surges.

6. **Externally Operated No-Load Tap Changer**, provides up to five (5) primary voltage for convenient changing of high voltage tap connection at no –load.

7. **Radiators**, made of hot-rolled steel sheets these are provided for higher KVA units for added cooling surface.

8. **Core Coil Assembly**, uses a superior transformer insulation system and is permanently centered in the tank using a close fitted steel frame. Materials used for our coils, are wither silicon-iron for our Blue and Silver series or Amorphous metal for our gold line.

9. **Winding Material**, distribution transformer uses a combination of standard copper-aluminum or copper-copper winding materials.

10. **Insulating –DI- Electric Fluid**, used are either mineral oil or an environment friendly high fire point fluid.

11. **Coil Support**, used compatible materials to hold the coil in place and restraint it during short circuit-circuit conditions. Core clamps and clamp angles are also used to ensure that the core and windings are effectively secured even during mechanical stresses.

EXECUTION

INSTALLATION

Shall be in accordance with the code and requirements specified herein.

GROUNDING

Ground all exposed non-current-carrying metallic parts of electrical equipment.

WORKMANSHIP

The work throughout shall be executed in the best and most thorough manner under the direction of and at the satisfaction of the Registered Electrical Engineer or Master Electrician, who will interpret the intent meaning of the drawings and specification and shall have the power to reject any work and materials which in his judgment, are not in full accordance therewith.

TESTING OPERATIONS

When the electrical installation is completed, the Contractor shall test the installed electrical materials and equipment in the presence of Registered Electrical Engineer or Master Electrician. The system shall be free from any defects, shorts or grounds. The Contractor at no extra cost shall furnish all necessary instruments and personnel required for the testing.

GUARANTEE

Upon completion and before final acceptance of the work, the Contractor shall furnish the Engineer a written guarantee stating that all works executed are free from defects on materials and workmanship. The guarantee shall be for a period of one year from the date of the final acceptance. Any work that becomes defective during the said period shall be corrected / replaced by the Contractor at his own expense in a manner satisfactory to the Authority.

ITEM 44 : PROJECT BILLBOARD

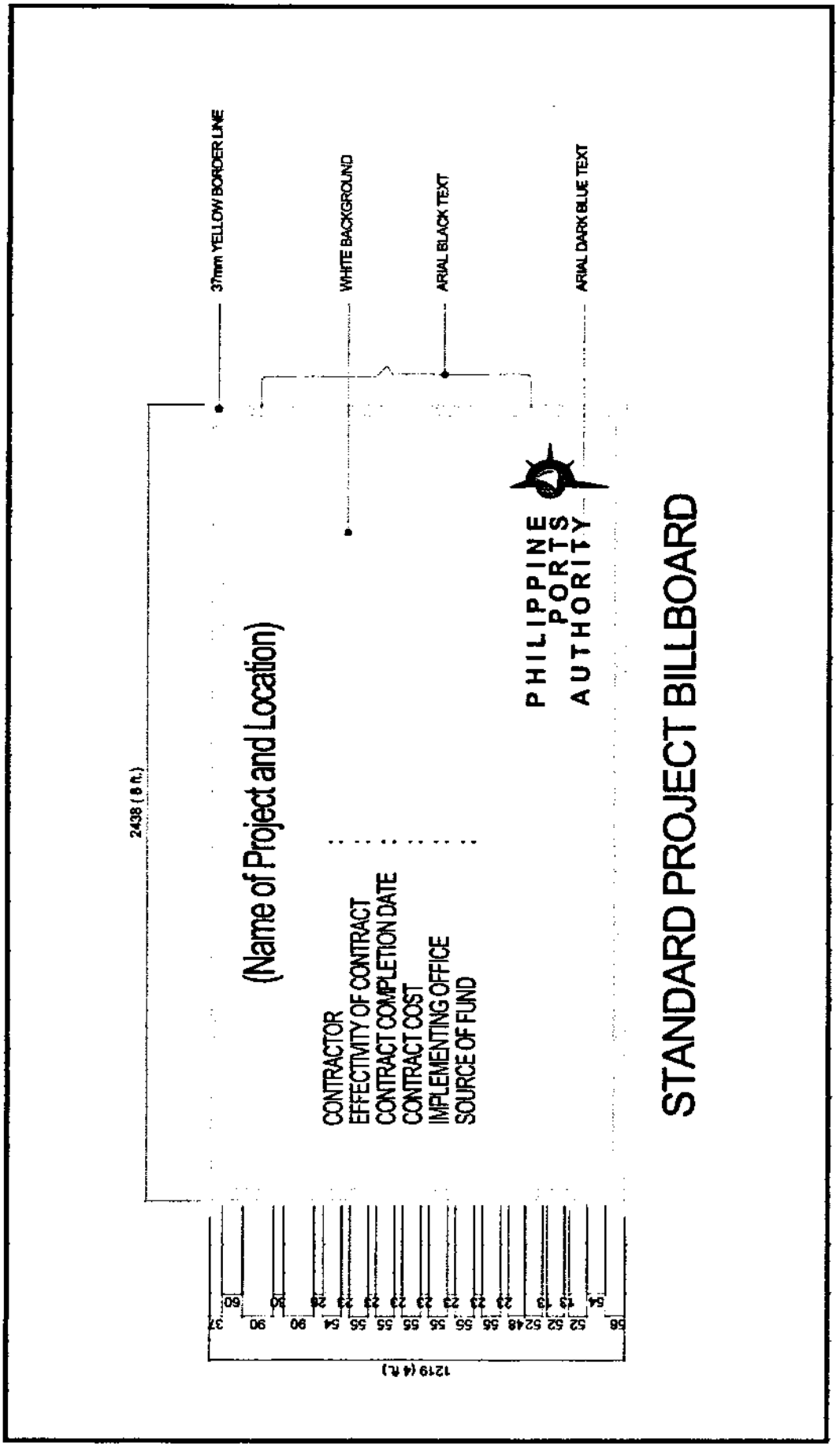
SPECIFICATION

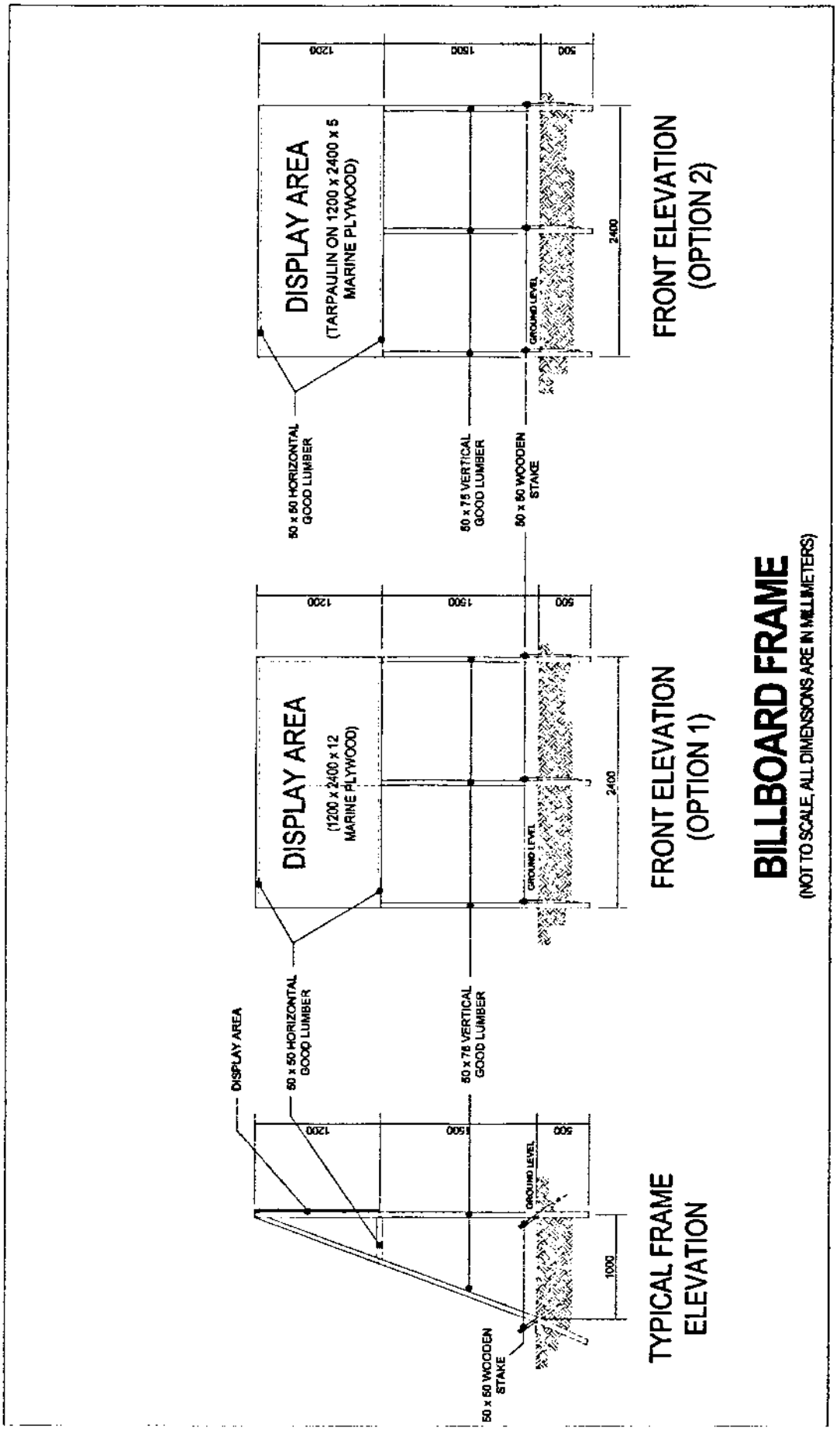
The Project Billboard shall be installed at location(s) designated by the Engineer.

The size and specifications of materials for the standard billboard shall be 4ft. x 8ft. (1,200mm x 2,400mm) using ½ inch (12mm) marine plywood or tarpaulin poster on 3/16 inch (5mm) marine plywood.

Project billboards shall not contain Name(s) and/or picture(s) of any personages.

See attached drawings for further details of the standard billboard.


37mm YELLOW BORDER LINE
WHITE BACKGROUND
ARIAL BLACK TEXT
ARIAL DARK BLUE TEXT
2438 (8 ft.)
(Name of Project and Location)
CONTRACTOR
EFFECTIVITY OF CONTRACT
CONTRACT COMPLETION DATE
CONTRACT COST
IMPLEMENTING OFFICE
SOURCE OF FUND
PHILIPPINE PORTS AUTHORITY
STANDARD PROJECT BILLBOARD
1219 (4 ft.)


DISPLAY AREA
(TARPAULIN ON 1200 x 2400 x 5 MARINE PLYWOOD)
50 x 50 HORIZONTAL GOOD LUMBER
50 x 75 VERTICAL GOOD LUMBER
50 x 50 WOODEN STAKE
GROUND LEVEL
1200
1500
500
2400
FRONT ELEVATION (OPTION 2)
DISPLAY AREA
(1200 x 2400 x 12 MARINE PLYWOOD)
50 x 50 HORIZONTAL GOOD LUMBER
50 x 75 VERTICAL GOOD LUMBER
GROUND LEVEL
1200
1500
500
2400
FRONT ELEVATION (OPTION 1)
DISPLAY AREA
50 x 50 HORIZONTAL GOOD LUMBER
50 x 75 VERTICAL GOOD LUMBER
50 x 50 WOODEN STAKE
GROUND LEVEL
1200
1500
500
1000
TYPICAL FRAME ELEVATION
BILLBOARD FRAME
(NOT TO SCALE, ALL DIMENSIONS ARE IN MILLIMETERS)

"To all our contractors, suppliers, and service providers, all we ask is for you to
SPEED UP
your contracts and FINISH
AHEAD of schedule,
WITHOUT SACRIFICING
QUALITY
of work, and REASONABLENESS
OF COST agreed upon. Gawin niyo 'yan at hindi tayo maghihiwalay ng landas (Do that and we will not part ways)."
A Message from
DOTr Secretary Arthur Tugade
@DOTrPH
@DOTrPH
www.dotr.gov.ph

ITEM 45 : SAFETY SIGNAGES AND BARRICADES

DESCRIPTION

This work includes the furnishing and installing of safety signages and barricades in accordance with the specifications and to the details shown below in the drawings, or as directed by the Engineer.

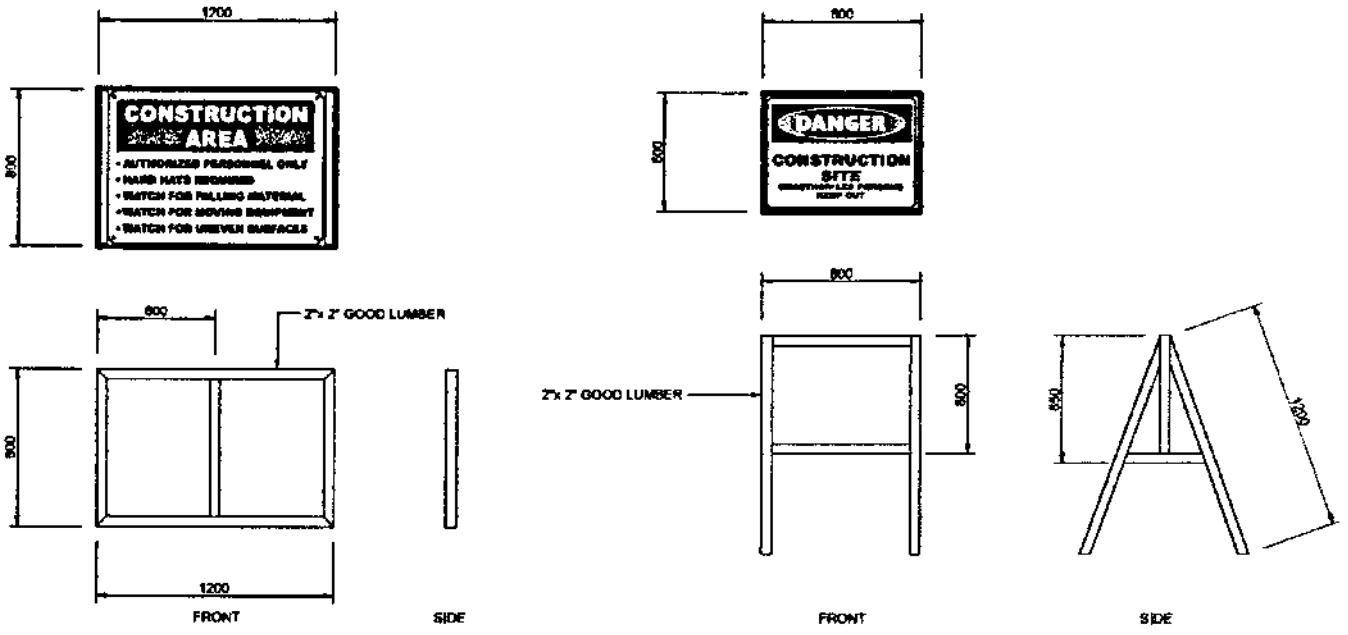
SPECIFICATION

The Signage's and Barricades shall be installed at location(s) designated by the Engineer.

The sizes of the standard signages shall be 2-2/3ft x 4ft (800mm X 1,200mm) for fixed type and 2ft x 2–2/3ft (600mm x 800mm) for mobile type. For barricade standard 2ft x 2–2/3ft (600mm x 800mm) shall be provided.

The materials to be used for signages and barricades are ½ inch (12mm) marine plywood or tarpaulin poster on 2" x 2" (50mm x 50mm) good lumber frame (see drawing below).

The printing or painting shall be the discretion of the Engineer.



STANDARD PLAN FOR SIGNAGES AND BARRICADES

SECTION VII

PROJECT DRAWINGS

SECTION VII

PROJECT DRAWINGS
(SEE ISSUED APPROVED PLANS)

LIST OF DRAWINGS:

BACK-UP AREA WITH CONTINUOUS RORO RAMP ON FILL

1	OF	19	-	DEVELOPMENT PLAN, VICINITY MAP, GENERAL NOTES, LIST OF DRAWINGS
2	OF	19	-	GENERAL PLAN
3	OF	19	-	PILING AND ANCHORAGE PLAN
4	OF	19	-	OFF-SHORE ELEVATION, SECTION A-A
5	OF	19	-	SECTION B-B, SECTION C-C
6	OF	19	-	SECTION D-D, SECTION E-E
7	OF	19	-	SECTION F-F, SECTION J
8	OF	19	-	SECTION G-G, SECTION H-H
9	OF	19	-	SECTION I-I
10	OF	19	-	DETAIL OF RETAINING WALL 1, 2, 3, 4
				DETAIL OF RC DITCH, DETAIL OF MOORING BLOCK
				DETAIL OF WING WALL
				DETAIL OF CONCRETE EDGING
11	OF	19	-	DETAIL OF INTERLOCKING CONCRETE BLOCKS
				DETAIL OF ANCHOR BLOCK
				DETAIL 300MM PCC PAVEMENT
				DETAIL PILE CAP
12	OF	19	-	DETAIL OF LATERAL DRAIN, DETAIL OF FENCE
				DETAIL OF ANCHOR BLOCK
13	OF	19	-	DETAIL OF TIE ROD, STORM DRAINAGE LAYOUT
14	OF	19	-	DETAIL OF RUBBER DOCK FENDER (V-500H X 1500L)
				DETAIL OF 35 TON MOORING BOLLARD
15	OF	19	-	DETAIL OF RC CORNER SHEET PILES
16	OF	19	-	DETAIL OF PRE-STRESSED CONCRETE SHEET PILE
17	OF	19	-	DETAIL OF 400MM X 400MM PRE-STRESSED CONCRETE PILE
18	OF	19	-	ELECTRICAL PLAN
19	OF	19	-	ELECTRICAL PLAN

CONSTRUCTION OF PORT OPERATIONS BUILDING

ARCHITECTURAL

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A-03 of 24	• SITE DEVELOPMENT PLAN (TRAFFIC MANAGEMENT SCHEME)
A-04 of 24	• GROUND FLOOR PLAN
A-05 of 24	• SECOND FLOOR PLAN
A-06 of 24	• THIRD LEVEL ROOF DECK FLOOR PLAN • FOURTH LEVEL ROOF DECK FLOOR PLAN
A-07 of 24	• FRONT ELEVATION • LEFT SIDE ELEVATION • RIGHT SIDE ELEVATION • REAR ELEVATION
A-08 of 24	• CROSS SECTION THRU X-X' • LONGITUDINAL SECTION THRU Y-Y'
A-09 of 24	• GROUND FLOOR REFLECTED CEILING PLAN
A-10 of 24	• SECOND FLOOR REFLECTED CEILING PLAN • THIRD LEVEL REFLECTED CEILING PLAN
A-11 of 24	• GROUND FLOOR WALLS AND PARTITION LAYOUT
A-12 of 24	• SECOND FLOOR WALLS AND PARTITION LAYOUT
A-13 of 24	• THIRD LEVEL DECK WALLS AND PARTITION LAYOUT • FOURTH LEVEL DECK WALLS AND PARTITION LAYOUT
A-14 of 24	• SCHEDULE OF DOORS AND WINDOWS
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SECTION VIII

BILL OF QUANTITIES
and
ATTACHMENTS

BILL OF QUANTITIES
CONST. OF BACK-UP AREA WITH CONTINUOUS RORO RAMP & POB
Port of Tubigon, Bohol

NO. (1)	DESCRIPTION OF WORK (2)	UNIT (3)	QTY. (4)	UNIT PRICE (Pesos) (5)	AMOUNT (Pesos) (4) x (5)
BILL NO.	1 GENERAL EXPENSES				
1.01	Mobilization, demobilization and cleaning	lot	1		
1.02	Rental of temporary site office and residence for the Engineer and staff	mo.	22		
1.03	Maintain temporary site office and residence for the Engineer and staff	mo.	22		
1.04	Provide Construction Safety and Health Program in the execution of the project	mo.	22		
	TOTAL FOR BILL NO. 1				

BILL OF QUANTITIES
CONST. OF BACK-UP AREA WITH CONTINUOUS RORO RAMP & POB
Port of Tubigon, Bohol

NO. (1)	DESCRIPTION OF WORK (2)	UNIT (3)	QTY. (4)	UNIT PRICE (Pesos) (5)	AMOUNT (Pesos) (4) x (5)
BILL NO.	2 BACK-UP AREA WITH CONTINUOUS RORO RAMP ON-FILL				
2.01	Demolish and dispose portion of existing covered walkway & accessories as directed by the Engineer	sq.m.	108		
2.02	Demolish and dispose portion of existing CHB Fence & accessories as directed by the Engineer	l.m.	36		
2.03	Excavation of existing seabed	cu.m.	12,820		
2.04	Supply and deliver to site 400mm x 400mmm PSC Anchor Piles	l.m.	3,996		
2.05	Handle, pitch and drive 400mm x 400mm Batter PSC Anchor Piles	l.m.	3,996		
2.06	Chip/cut & dispose portion of newly driven PSC Piles up to required elevation	no.	148		
2.07	Supply and deliver to site 0.350m x 0.525m PSC sheet piles	l.m.	5,695		
2.08	Supply and deliver to site R.C. Corner piles				
	a) R.C. Corner pile No. 1	l.m.	19		
	b) R.C. Corner pile No. 2	l.m.	19		
	c) R.C. Corner pile No. 3	l.m.	19		
	d) R.C. Corner pile No. 1a	l.m.	20		
	e) R.C. Corner pile No. 2a	l.m.	20		
	f) R.C. Corner pile No. 3a	l.m.	20		
2.09	Handle, pitch and drive PSC sheet piles and R.C. corner piles	l.m.	5,812		

BILL OF QUANTITIES
CONST. OF BACK-UP AREA WITH CONTINUOUS RORO RAMP & POB
Port of Tubigon, Bohol

NO. (1)	DESCRIPTION OF WORK (2)	UNIT (3)	QTY. (4)	UNIT PRICE (Pesos) (5)	AMOUNT (Pesos) (4) x (5)
2.10	Chipping of newly driven PSC sheet piles & R.C. Corner piles including disposal	no.	298		
2.11	Supply & place 3,500 psi. concrete for retaining walls, anchor blocks, wing wall, pile cap, mooring block, concrete edging and drainage system	cu.m.	917		
2.12	Supply & install steel reinforcement retaining walls, anchor blocks, wing wall, pile cap, mooring block, concrete edging and drainage system	kg.	103,334		
2.13	Supply & place sacked concrete	cu.m.	5		
2.14	Supply and place 1,000 kg. Armour rocks	cu.m.	3,504		
2.15	Supply and place 50-100 kg. Core rocks	cu.m.	11,268		
2.16	Supply and install 60mm Ø x 14m tie-rod including accessories	set.	75		
2.17	Supply and install 32mm Ø x 16m tie-rod including accessories	set.	23		
2.18	Supply and install Geotextile Fabric	sq.m.	6,997		
2.19	Supply and place Sand and Gravel fill	cu.m.	37,591		
2.20	Supply, place and compact selected fill	cu.m.	13,278		
2.21	Supply, spread and compact aggregate base course	cu.m.	2,276		
2.22	Supply, place and compact gravel bedding	cu.m.	10		

BILL OF QUANTITIES
CONST. OF BACK-UP AREA WITH CONTINUOUS RORO RAMP & POB
Port of Tubigon, Bohol

NO. (1)	DESCRIPTION OF WORK (2)	UNIT (3)	QTY. (4)	UNIT PRICE (Pesos) (5)	AMOUNT (Pesos) (4) x (5)
2.23	Supply, spread and compact cement treated base course	cu.m.	1,966		
2.24	Supply, spread and compact levelling course sand cushion	cu.m.	655		
2.25	Supply, deliver and install interlocking concrete paving blocks	sq.m.	13,104		
2.26	Construct portland cement concrete pavement (300mm thk) including dowel bars and construction joint	sq.m.	1,298		
2.27	Supply and deliver to site rubber dock fender (V-type, 500H x 1500L) including accessories	set	17		
2.28	Install rubber dock fender and accessories	set	17		
2.29	Supply and deliver to site mooring bollard (35 Tons, T-head) including accessories	set	6		
2.30	Install mooring bollards (T-head type) and accessories	set	6		
2.31	Construct Security fence including acessories	l.m.	379		
2.32	Supply, fabricate and install trence grate for (LD) lateral drainage cover including built-up frames, dowels and other miscellaneous items	l.m.	206		
2.33	Supply, deliver and install wires and cables	lot.	1		
2.34	Supply, deliver and install conduit pipes including fittings of various sizes.	lot.	1		

BILL OF QUANTITIES
CONST. OF BACK-UP AREA WITH CONTINUOUS RORO RAMP & POB
Port of Tubigon, Bohol

NO. (1)	DESCRIPTION OF WORK (2)	UNIT (3)	QTY. (4)	UNIT PRICE (Pesos) (5)	AMOUNT (Pesos) (4) x (5)
2.35	Supply, deliver and install protective devices	lot.	1		
2.36	Supply, deliver and install 10.0 m.ht single bar floodlight steel tapered lamp post in hot dip galvanized with 2 units -100 watt LED, floodlight fixtures.	set	8		
	TOTAL FOR BILL NO. 2				

BILL OF QUANTITIES
CONST. OF BACK-UP AREA WITH CONTINUOUS RORO RAMP & POB
Port of Tubigon, Bohol

NO. (1)	DESCRIPTION OF WORK (2)	UNIT (3)	QTY. (4)	UNIT PRICE (Pesos) (5)	AMOUNT (Pesos) (4) x (5)
BILL NO.	3 PORT OPERATIONS BUILDING				
3.01	Excavation and backfilling works for building foundations, drainages, and Septic vault	cu.m.	531		
3.02	Supply and deliver to site 450mm x 450mm PSC Piles	l.m.	1,176		
3.03	Handle, pitch and drive 450mm x 450mm Vertical PSC Piles	l.m.	1,176		
3.04	Cut/chip and dispose newly driven PSC Piles up to required elevation	no.	49		
3.05	Supply and apply soil treatment	sq.m.	1,236		
3.06	Supply, place and compact gravel bedding for building foundation, ramps, step-up, signage post, septic vault, & catch basin.	cu.m.	47		
3.07	Supply, place and compact selected fill	cu.m.	22		
3.08	Supply, spread and grade Sand bedding for interlocking decorative blocks	cu.m.	3		
3.09	Supply, deliver & install Interlocking Decorative block	sq.m.	59		
3.10	Supply and place lean concrete for pile caps	cu.m.	7		
3.11	Supply & place 4,000 psi. concrete for pile caps, columns, wall footing, beams, slabs stairs, parapet wall, curtain wall conc. edge & canopies	cu.m.	923		
3.12	Supply & Install steel reinforcement for pile caps, columns, wall footing, beams, slabs stairs, parapet wall, curtain wall conc. edge & canopies	kg.	209,316		

BILL OF QUANTITIES
CONST. OF BACK-UP AREA WITH CONTINUOUS RORO RAMP & POB
Port of Tubigon, Bohol

NO. (1)	DESCRIPTION OF WORK (2)	UNIT (3)	QTY. (4)	UNIT PRICE (Pesos) (5)	AMOUNT (Pesos) (4) x (5)
3.13	Construct 4,000 psi. concrete slab and ramp on-fill including reinforcement	sq.m.	1,140		
3.14	Construct 150mm thick CHB wall including reinforcement	sq.m.	1,233		
3.15	Construct 100mm thick CHB wall including reinforcement	sq.m.	334		
3.16	Supply and install dry wall partition	sq.m	46		
3.17	Supply, fabricate and install indoor plantboxes	set	3		
3.18	Supply and place 13mm thick cement Plaster finish (2,500 psi concrete)	sq.m.	3,806		
3.19	Supply and apply paint for concrete and dry-wall surfaces (2-coats)	sq.m.	4,060		
3.20	Supply and apply paint for wood and metal surfaces (2-coats)	sq.m.	166		
3.21	Supply and apply water proofing for toilets, footbaths, stair wells, roof deck and canopies	sq.m.	1,739		
3.22	Supply and install Aluminum Composite Panels and accessories	sq.m.	778		
3.23	Supply and install 0.60m x 0.60m Unglazed Ceramic Floor Tiles (F1)	sq.m.	2,343		
3.24	Supply and install 0.60m x 0.60m Non-slip Floor Tiles (F2)	sq.m.	149		
3.25	Suppy and place Non-skid / Rough Cement Floor Finish (F3)	sq.m.	149		
3.26	Supply and install tactile strip for ramp	sq.m.	11		

BILL OF QUANTITIES
CONST. OF BACK-UP AREA WITH CONTINUOUS RORO RAMP & POB
Port of Tubigon, Bohol

NO. (1)	DESCRIPTION OF WORK (2)	UNIT (3)	QTY. (4)	UNIT PRICE (Pesos) (5)	AMOUNT (Pesos) (4) x (5)
3.27	Supply and install 0.30m x 0.60m Ceramic Wall Tiles	sq.m.	579		
3.28	Supply and install 0.60m x 0.60m Ceramic decorative stones	sq.m.	12		
3.29	Supply and install Granite tile splash board and countertop	sq.m.	46		
3.30	Supply and install 50mm x 10mm thk. Stair Nosing (Rigid Type)	l.m.	183		
3.31	Supply and install Aluminum Clip-in Perforated Panel including accessories (1.20 x 0.60 x 0.07m) (C1)	sq.m.	1,608		
3.32	Supply and install Aluminum Clip-in Perforated Panel including accessories (0.60 x 0.60 x 0.07m) (C2)	sq.m.	423		
3.33	Supply and install 0.40mm thk pre-formed/pre-painted ribbed type spandrel ceiling (C3)	sq.m.	61		
3.34	Supply and install 13mm thk. Gypsum board on 0.40mm thk galvanized steel ceiling suspension system at 0.40m O.C. (furring) carrying channel) and suspension rod (C4)	sq.m.	254		
3.35	Supply and install stainless steel and aluminum materials, buffed finish of various sizes including accessories	lot	1		
3.36	Supply and install fabricated 1.5 mm thk. Aluminum Framed Doors and Windows including glass and accessories	lot	1		
3.37	Supply and install fabricated Cooled rolled steel emergency exit Doors with panic bar lock including jumbs and accessories	set	2		

BILL OF QUANTITIES
CONST. OF BACK-UP AREA WITH CONTINUOUS RORO RAMP & POB
Port of Tubigon, Bohol

NO. (1)	DESCRIPTION OF WORK (2)	UNIT (3)	QTY. (4)	UNIT PRICE (Pesos) (5)	AMOUNT (Pesos) (4) x (5)
3.38	Supply and install fabricated Marine Plywood Finish Flush Doors door jambs, hinges and locksets	lot	1		
3.39	Supply, fabricate and install Phenolic anti-bacterial water proof Toilet partition 20mm thk, including stainless hinges, lock indicators, bottom support door knobs and coat hooks	lot	1		
3.40	Supply and install Toilet Fixtures and accessories	lot	1		
3.41	Supply and install water line pipes and fittings including accessories.	lot	1		
3.42	Supply and install sewerage pipes and fittings including accessories.	lot	1		
3.43	Supply and install drainage pipes and fittings including accessories	lot	1		
3.44	Construct septic vault including fittings and accessories	no.	2		
3.45	Construct catch basin including accessories	no.	12		
3.46	Supply, deliver and install wires and cables of various sizes	lot	1		
3.47	Supply, deliver and install conduit pipe including fittings of various sizes	lot	1		
3.48	Supply, deliver and install wiring devices	lot	1		
3.49	Supply, deliver and install protective devices	lot	1		
3.50	Supply, deliver and install lighting fixtures	lot	1		

BILL OF QUANTITIES
CONST. OF BACK-UP AREA WITH CONTINUOUS RORO RAMP & POB
Port of Tubigon, Bohol

NO. (1)	DESCRIPTION OF WORK (2)	UNIT (3)	QTY. (4)	UNIT PRICE (Pesos) (5)	AMOUNT (Pesos) (4) x (5)
3.51	Supply, deliver and install lightning protection and accessories	lot	1		
3.52	Supply, deliver and install auxiliary system:				
	a) Closed Circuit Television (CCTV)	lot	1		
	b) Community Antenna Television (CATV)	lot	1		
	c) Background Music / Paging Alarm (BGM/PA)	lot	1		
	d) Fire Detection Alarm System (FDAS)	lot	1		
	e) Telephone System	lot	1		
3.53	Supply, deliver and install airconditioning unit	lot	1		
3.54	Construct Pumphouse including apurtenances	lot	1		
3.55	Supply, spread and compact gravel base course	cu.m.	107		
3.56	Construct Reinforced Concrete for Service entrance post, lamp post and & regulatory signages post foundation	lot	1		
3.57	Supply, deliver and install Gang-chairs and acessories	lot	1		
3.58	Supply and deliver office furnitures	lot	1		
3.59	Supply and install PPA Logo and Regulatory signages including accessories	lot	1		
3.60	Supply, deliver & installatin of distribution transformer including accessories and other incidental expenses	lot	1		
	TOTAL FOR BILL NO. 3				

BILL OF QUANTITIES
CONST. OF BACK-UP AREA WITH CONTINUOUS RORO RAMP & POB
Port of Tubigon, Bohol

NO. (1)	DESCRIPTION OF WORK (2)	UNIT (3)	QTY. (4)	UNIT PRICE (Pesos) (5)	AMOUNT (Pesos) (4) x (5)
BILL NO.	4 REIMBURSABLE ITEMS				
4.01	Provide reimbursable items necessary in the implementation of the project as determined by the Authority	lot	1	4,784,111.08	4,784,111.08
	TOTAL FOR BILL NO. 4				4,784,111.08

BASIS OF PAYMENT FOR WORK ITEMS INCLUDED IN THE PROPOSAL

The work items included in the proposal and the basis of payments are as follows:

BILL NO. 1

GENERAL EXPENSES

Item 1.01 Mobilization, demobilization and cleaning

The quantity to be paid for shall be the minimum equipment requirement enumerated in the bid documents mobilized, demobilized and cleaning of the site and accepted by the Engineer. The contract lump sum price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to mobilize and demobilize all the minimum equipment requirement enumerated in the bid documents including cleaning of the site. Fifty percent (50%) of the total amount shall be payable after the mobilization activity while the remaining (50%) payable after demobilization and cleaning.

Item 1.02 Rental of temporary site office and residence for the Engineer and staff

The quantity to be paid for shall be the actual rental for temporary site office and residence for the engineer and staff and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary for the provision of temporary site office and residence for the engineer and staff at least 48.00 m^2

Item 1.03 Maintain temporary site office and residence for the Engineer and staff

The quantity to be paid for shall be the actual services rendered in maintaining the site office and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the maintenance of the temporary site office and residence as well as other expenses such as provision for electric power, telephone bill, potable water supply, janitorial and security services.

Item 1.04 Provide construction safety and Health Program in the execution of the project

The quantity to be paid for shall be the actual implementation of construction safety and health program and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the implementation of the Construction Safety and Health Program, as required and approved by the Department of Labor and Employment (DOLE).

BILL NO. 2

BACK-UP AREA WITH CONTINUOUS RORO RAMP ON-FILL

Item 2.01 Demolish and dispose portion of existing covered walkway and accessories as directed by the Engineer

The quantity to be paid for shall be the actual area in square meter of existing covered walkway and accessories, demolished and disposed as directed by the Engineer in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.02 Demolish and dispose portion of existing CHB fence and accessories as directed by the Engineer

The quantity to be paid for shall be the actual length in linear meter of existing CHB fence and accessories, demolished and disposed as directed by the Engineer in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.03 Excavation of existing seabed

The quantity to be paid for shall be the actual volume in cubic meter of existing seabed, excavated in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.04 Supply and deliver to site 400mm x 400mm PSC piles

The quantity to be paid for shall be the actual length in linear meter of PSC piles (400mm x 400mm), supplied and delivered to site in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.05 Handle, pitch and drive 400mm x 400mm batter PSC piles

The quantity to be paid for shall be the actual length in linear meter of 400mm x 400mm batter PSC piles, handled, pitched and driven in accordance with the plans and specifications, measured from the tip of piles to cut-off elevation and accepted by the Engineers. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.06 Chip/cut and dispose portion of newly driven PSC piles up to required elevation

The quantity to be paid for shall be the actual number of newly driven PSC piles, chipped/cut off up to required elevation and disposed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.07 **Supply and deliver to site 0.350m x 0.525m PSC sheet piles**

The quantity to be paid for shall be the actual length in linear meter of 0.350m x 0.525m PSC sheet piles, supplied and delivered to site in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.08 **Supply and deliver to site RC corner piles**

a) RC corner pile no. 1
b) RC corner pile no. 2
c) RC corner pile no. 3
d) RC corner pile no. 1a
e) RC corner pile no. 2a
f) RC corner pile no. 3a

The quantity to be paid for shall be the actual length in linear meter of RC corner piles of various sizes, supplied and delivered to site in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.09 **Handle, pitch and drive PSC sheet piles and RC corner piles**

The quantity to be paid for shall be the actual length in linear meter of PSC sheet piles and RC corner piles to be handled, pitched and driven in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.10 **Chipping of newly driven PSC sheet piles and RC corner piles including disposal**

The quantity to be paid for shall be the actual number of newly driven PSC sheet piles and RC corner piles to be chipped off up to required elevation including disposal of debris in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.11 **Supply and place 3,500 psi concrete for retaining walls, anchor blocks, wing wall, pile cap, mooring block, concrete edging and drainage system**

The quantity to be paid for shall be the actual volume in cubic meter of 3,500 psi concrete for retaining walls, anchor blocks, wing wall, pile cap, mooring block, concrete edging and drainage system, supplied and set-in-place in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.12 **Supply and install steel reinforcements for retaining walls, anchor blocks, wing wall, pile cap, mooring block, concrete edging and drainage system**

The quantity to be paid for shall be the actual weight in kilogram of steel reinforcements for retaining walls, anchor blocks, wing wall, pile cap, mooring block, concrete edging and drainage system, supplied and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be

full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.13 Supply and place sacked concrete

The quantity to be paid for shall be the actual volume in cubic meter of sacked concrete, supplied and set-in-place in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.14 Supply and place 1,000 kg. Armour rocks

The quantity to be paid for shall be the actual volume in cubic meter of 1,000 kg. armour rocks, supplied and set-in-place in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.15 Supply and place 50-100 kg. core rocks

The quantity to be paid for shall be the actual volume in cubic meter of 50-100 kg. core rocks, supplied and set-in-place in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.16 Supply and install 60mmØ x 14.00m tie-rod including accessories

The quantity to be paid for shall be the actual quantity in set of 60mmØ x 14.00m tie-rod including accessories, supplied and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.17 Supply and install 32mmØ x 16.00m tie-rod including accessories

The quantity to be paid for shall be the actual quantity in set of 32mmØ x 16.00m tie-rod including accessories, supplied and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.18 Supply and install geotextile fabric

The quantity to be paid for shall be the actual area in square meter of geotextile filter fabric, supplied and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.19 Supply and place sand and gravel fill

The quantity to be paid for shall be the actual volume in cubic meter of sand and gravel fill, supplied and set-in-place in accordance with the plans and specifications and accepted by the Engineer. Hydrographic/Topographic Surveys before and after placing of sand and gravel fill shall be made to determine the actual elevations along the cross sections and the actual quantities for payment. Volume due to settlement as established using settlement plates shall also be considered for payment. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.20 Supply, spread and compact selected fill

The quantity to be paid for shall be the actual volume in cubic meter of selected fill to be supplied, spread and compacted in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.21 Supply, spread and compact aggregate base course

The quantity to be paid for shall be the actual volume in cubic meter of aggregate base course to be supplied, spread and compacted in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.22 Supply, place and compact gravel bedding

The quantity to be paid for shall be the actual volume in cubic meter of gravel bedding to be supplied, place and compacted in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.23 Supply, spread and compact cement treated base course

The quantity to be paid for shall be the actual volume in cubic meter of cement treated base course to be supplied, spread and compacted in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.24 Supply, spread and compact leveling course sand cushion

The quantity to be paid for shall be the actual volume in cubic meter of leveling course sand cushion, supplied, spread and compacted in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.25 Supply, deliver and install Interlocking Concrete paving blocks

The quantity to be paid for shall be the actual area in square meter of interlocking concrete paving blocks to be supplied and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full

compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.26 Construct Portland cement concrete pavement (PCCP, 300mm thk.) including dowel bars and construction joint

The quantity to be paid for shall be the actual area in square meter of Portland cement concrete pavement (PCCP, 300mm thk.) including dowel bars and construction joint to be constructed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.27 Supply and deliver to site rubber dock fender (V-Type, 500H x 1500L) including accessories

The quantity to be paid for shall be the actual quantity in set of rubber dock fender (V-type, 500H x 1500L) including accessories, supplied and delivered to site in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.28 Install rubber dock fender and accessories

The quantity to be paid for shall be the actual quantity in set of rubber dock fender and accessories, installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.29 Supply and deliver to site mooring bollard (35 Tons, T-head) including accessories

The quantity to be paid for shall be the actual quantity in set of mooring bollard (35 Tons, T-head) including accessories, supplied and delivered in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.30 Install mooring bollards (T-head type) and accessories

The quantity to be paid for shall be the actual quantity in set of mooring bollards (T-head type) and accessories, installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.31 Construct security fence including accessories

The quantity to be paid for shall be the actual length in linear meter of security fence including accessories to be constructed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.32 Supply, fabricate and install trench grate for (LD) lateral drainage cover including built-up frames, dowels and other miscellaneous items

The quantity to be paid for shall be the actual length in linear meter of trench grate for (LD) lateral drainage cover including built-up frames, dowels and other miscellaneous items to be supplied, fabricated and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.33 Supply, deliver and install wires and cables

The quantity to be paid for shall be the actual quantity in lot of wires and cables to be supplied, delivered and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.34 Supply, deliver and install conduit pipe including fittings of various sizes

The quantity to be paid for shall be the actual quantity in lot of conduit pipe including fittings of various sizes to be supplied, delivered and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.35 Supply, deliver and install protective devices

The quantity to be paid for shall be the actual quantity in lot of protective devices to be supplied, delivered and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 2.36 Supply, deliver and install 10.0m ht. single bar floodlight steel tapered lamp post in hot dip galvanized with 2 units- 100 watt LED, floodlight fixtures

The quantity to be paid for shall be the actual quantity in set of install 10.0m ht. single bar floodlight steel tapered lamp post in hot dip galvanized with 2 units- 100 watt LED, floodlight fixtures, supplied, delivered and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

BILL NO. 3

PORT OPERATIONS BUILDING

Item 3.01 Excavation and backfilling works for building foundations, drainages and septic vault

The quantity to be paid for shall be the actual volume in cubic meter of existing materials to be excavated and backfilled for building foundations, drainages and septic vault in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.02 Supply and deliver to site 450mm x 450mm PSC piles

The quantity to be paid for shall be the actual length in linear meter of PSC piles (450mm x 450mm), supplied and delivered to site in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.03 Handle, pitch and drive 450mm x 450mm PSC vertical piles

The quantity to be paid for shall be the actual length in linear meter of 450mm x 450mm PSC vertical piles, handled, pitched and driven in accordance with the plans and specifications, measured from the tip of piles to cut-off elevation and accepted by the Engineers. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.04 Cut/chip and dispose newly driven PSC piles up to required elevation

The quantity to be paid for shall be the actual number of newly driven PSC piles to be chipped/cut off up to required elevation and disposed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.05 Supply and apply soil treatment

The quantity to be paid for shall be the actual area in square meter of soil treatment, supplied and applied in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.06 Supply, place and compact gravel bedding for building foundation, ramps, step-up, signage post, septic vault and catch basin

The quantity to be paid for shall be the actual volume in cubic meter of gravel bedding for building foundation, ramps, step-up, signage post, septic vault and catch basin to be supplied, set-in-place and compacted in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.07 Supply, place and compact selected fill

The quantity to be paid for shall be the actual volume in cubic meter of selected fill to be supplied, set-in-place and compacted in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.08 Supply, spread and grade sand bedding for interlocking decorative blocks

The quantity to be paid for shall be the actual volume in cubic meter of sand bedding for interlocking decorative blocks to be supplied, spread and graded in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.09 Supply, deliver and install Interlocking Decorative block

The quantity to be paid for shall be the actual area in square meter of interlocking decorative block, supplied, delivered and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.10 Supply and place lean concrete for pile caps

The quantity to be paid for shall be the actual volume in cubic meter of lean concrete to be supplied and set-in-place for pile caps in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.11 Supply and place 4,000 psi concrete for pile caps, columns, wall footing, beams, slabs stairs, parapet wall, curtain wall concrete edge and canopies

The quantity to be paid for shall be the actual volume in cubic meter of 4,000 psi concrete for pile caps, columns, wall footing, beams, slabs stairs, parapet wall, curtain wall concrete edge and canopies to be supplied and set-in-place in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.12 Supply and install steel reinforcement for pile caps, columns, wall footing, beams, slabs stairs, parapet wall, curtain wall and canopies

The quantity to be paid for shall be the actual weight in kilogram of reinforcing steel bars for pile caps, columns, wall footing, beams, slabs stairs, parapet wall, curtain wall concrete edge and canopies to be supplied and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.13 Construct 4,000 psi. concrete slab and ramp on fill including reinforcement

The quantity to be paid for shall be the actual area in square meter of 4,000 psi. concrete slab and ramp on fill including reinforcement, constructed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.14 Construct 150mm thick CHB wall including reinforcement

The quantity to be paid for shall be the actual area in square meter of 150mm thick CHB wall including reinforcement for PTB and pump house, constructed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.15 Construct 100mm thick CHB wall including reinforcement

The quantity to be paid for shall be the actual area in square meter of 100mm thick CHB wall including reinforcement, constructed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.16 Supply and install dry wall partition

The quantity to be paid for shall be the actual area in square meter of dry wall partition to be supplied and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.17 Supply, fabricate and install indoor plant boxes

The quantity to be paid for shall be the actual quantity in set of indoor plant boxes, to be supplied, fabricated and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.18 Supply and place 13mm thick cement plaster finish (2,500 psi concrete)

The quantity to be paid for shall be the actual area in square meter of 13mm thk. cement plaster finish (2,500 psi concrete), supplied and set-in-place in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.19 Supply and apply paint for concrete and dry-wall surfaces (2-coats)

The quantity to be paid for shall be the actual area in square meter of paint for concrete and dry-wall surfaces (2-coats), supplied and applied in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.20 Supply and apply paint for wood and metal surfaces (2-coats)

The quantity to be paid for shall be the actual area in square meter of paint (2-coats) for wood and metal surfaces, supplied and applied in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.21 Supply and apply water proofing for toilets, foothbaths, stair wells, roof deck and canopies

The quantity to be paid for shall be the actual area in square meter of water proofing for toilets, foothbaths, stair wells, roof deck and canopies, supplied and applied in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.22 Supply and Install Aluminum Composite Panels and accessories

The quantity to be paid for shall be the actual area in square meter of aluminum composite panels and accessories (C6), supplied and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.23 Supply and Install 0.60m x 0.60m Unglazed Ceramic Floor Tiles (F1)

The quantity to be paid for shall be the actual area in square meter of unglazed ceramic floor tiles (0.60m x 0.60m), supplied and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.24 Supply and Install 0.60m x 0.60m Non-Slip Floor Tiles (F2)

The quantity to be paid for shall be the actual area in square meter of non-slip floor tiles (0.60m x 0.60m), supplied and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.25 Supply and place Non-Skid / Rough Cement Floor Finish (F3)

The quantity to be paid for shall be the actual area in square meter of non-skid / rough cement floor finish, supplied and set-in-place in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.26 Supply and Install Tack Tile strip for ramp

The quantity to be paid for shall be the actual area in square meter of Tack Tile strip for ramp, supplied and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.27 Supply and install 0.30m x 0.60m Ceramic Wall Tiles

The quantity to be paid for shall be the actual area in square meter of ceramic wall tiles (0.30m x 0.60m), supplied and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.28 Supply and install 0.60m x 0.60m Ceramic decorative stones

The quantity to be paid for shall be the actual area in square meter of ceramic decorative stones (0.60m x 0.60m), supplied and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.29 Supply and install Granite tile splash board and countertop

The quantity to be paid for shall be the actual area in square meter of Granite tile splash board and countertop, supplied and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.30 Supply and install 50mm x 10mm thk. Stair Nosing (Rigid Type)

The quantity to be paid for shall be the actual length in linear meter of stair nosing (50mm x 10mm thk.), supplied and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.31 Supply and install Aluminum Clip-in Perforated Panel including accessories (1.20 x 0.60 x 0.70m) (C1)

The quantity to be paid for shall be the actual area in square meter of aluminum clip-in perforated panel including accessories (1.20 x 0.60 x 0.70m), supplied and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.32 Supply and install Aluminum Clip-in Perforated Panel including accessories (0.60 x 0.60 x 0.70m) (C2)

The quantity to be paid for shall be the actual area in square meter of aluminum clip-in perforated panel including accessories (0.60 x 0.60 x 0.70m), supplied and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.33 Supply and install 0.40mm thk pre-formed/pre-painted ribbed type spandrel ceiling (C3)

The quantity to be paid for shall be the actual area in square meter of 0.40mm thk pre-formed/pre-painted ribbed type spandrel ceiling, supplied and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price

shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.34 Supply and install 13mm thk. Gypsum board on 0.40mm thk. galvanized steel ceiling suspension system at 0.40m O.C. (furring) carrying channel and suspension rod (C4)

The quantity to be paid for shall be the actual area in square meter of 13mm thk. gypsum board on 0.40mm thk. galvanized steel ceiling suspension system at 0.40m O.C. (furring) carrying channel and suspension rod (C4), supplied and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.35 Supply and install stainless steel and aluminum materials, buffed finish of various sizes including accessories

The quantity to be paid for shall be the actual quantity in lot of stainless steel and aluminum materials, buffed finish of various sizes including accessories, supplied and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.36 Supply and install fabricated 1.5mm thk. Aluminum Framed Doors and Windows including glass and accessories

The quantity to be paid for shall be the actual quantity in lot of fabricated 1.5mm thk. Aluminum Framed Doors and Windows including glass and accessories, supplied and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.37 Supply and install fabricated Cooled rolled steel emergency exit Doors with panic bar lock including jambs and accessories

The quantity to be paid for shall be the actual quantity in set of fabricated cooled rolled steel emergency exit doors with panic bar lock including jambs and accessories, supplied and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.38 Supply and install fabricated Marine Plywood Finish Flush Doors including door jambs, hinges and locksets

The quantity to be paid for shall be the actual quantity in lot of fabricated marine plywood flush doors including door jambs, hinges and locksets, supplied and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.39 **Supply, fabricate and install Phenolic anti-bacterial water proof Toilet partition 20mm thk., including stainless hinges, lock indicators, bottom support door knobs and coat hooks**

The quantity to be paid for shall be the actual quantity in lot of phenolic anti-bacterial water proof toilet partition 20mm thk. including stainless hinges, lock indicators, bottom support door knobs and coat hooks to be supplied, fabricated and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.40 **Supply and install Toilet Fixtures and accessories**

The quantity to be paid for shall be the actual quantity in lot of toilet fixtures and accessories, supplied and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.41 **Supply and install water line pipes and fittings including accessories**

The quantity to be paid for shall be the actual quantity in lot of water line pipes and fittings including accessories, supplied and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.42 **Supply and install sewerage pipes and fittings including accessories**

The quantity to be paid for shall be the actual quantity in lot of sewerage pipes and fittings including accessories, supplied and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.43 **Supply and install drainage pipes and fittings including and accessories**

The quantity to be paid for shall be the actual quantity of drainage pipes and fittings including accessories, supplied and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.44 **Construct septic vault including fittings and accessories**

The quantity to be paid for shall be the actual number of unit of septic vault including fittings and accessories, constructed in accordance with the plans and specifications, measured from the tip of piles to cut-off elevation and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.45 **Construct catch basin including accessories**

The quantity to be paid for shall be the actual number of catch basin including accessories, constructed in accordance with the plans and specifications, measured from the tip of piles to cut-off elevation and accepted by the Engineer. The contract

unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work

Item 3.46 Supply, deliver and install wires and cables of various sizes

The quantity to be paid for shall be the actual quantity in lot of wires and cables of various sizes to be supplied, delivered and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.47 Supply, deliver and install conduit pipe including fittings of various sizes

The quantity to be paid for shall be the actual quantity in lot of conduit pipe including fittings of various sizes to be supplied, delivered and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.48 Supply, deliver and install wiring devices

The quantity to be paid for shall be the actual quantity in lot of wiring devices to be supplied, delivered and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.49 Supply, deliver and install protective devices

The quantity to be paid for shall be the actual quantity in lot of protective devices to be supplied, delivered and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.50 Supply, deliver and install lighting fixtures

The quantity to be paid for shall be the actual quantity in lot of lighting fixtures to be supplied, delivered and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.51 Supply, deliver and install lightning protection and accessories

The quantity to be paid for shall be the actual quantity in lot of lightning protection and accessories to be supplied, delivered and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.52 Supply, deliver and install auxiliary system:

a) Closed Circuit Television (CCTV)
b) Community Antenna Television (CATV)
c) Background Music / Paging Alarm (BGM/PA)
d) Fire Detection Alarm System (FDAS)
e) Telephone System

The quantity to be paid for shall be the actual quantity in lot of auxiliary system to be supplied, delivered and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.53 Supply, deliver and install air conditioning unit

The quantity to be paid for shall be the actual quantity in lot of air conditioning unit to be supplied, delivered and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.54 Construct Pump house including appurtenances

The quantity to be paid for shall be the actual quantity in lot of Pump house including appurtenances, constructed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.55 Supply, spread and compact gravel base course

The quantity to be paid for shall be the actual volume in cubic meter of gravel base course to be supplied, spread and compacted in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.56 Construct Reinforced Concrete for Service entrance post, lamp post and regulatory signages post foundation

The quantity to be paid for shall be the actual quantity in lot of reinforced concrete for Service entrance post, lamp post and regulatory signages post foundation, constructed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.57 Supply, deliver and install Gang-chairs and accessories

The quantity to be paid for shall be the actual quantity in lot of Gang-chairs and accessories to be supplied, delivered and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.58 Supply and deliver office furnitures

The quantity to be paid for shall be the actual quantity in lot of office furniture to be supplied and delivered in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

Item 3.59 Supply and install PPA Logo and regulatory signages including accessories

The quantity to be paid for shall be the actual quantity in lot of PPA Logo and regulatory signages including accessories to be supplied and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work

Item 3.60 Supply, delivery, installation and commissioning of distribution transformer including accessories and other incidental expenses

The quantity to be paid for shall be the actual quantity of distribution transformer including accessories and other incidental expenses to be supplied, delivered, installed and commissioned in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

BILL NO. 4

REIMBURSABLE ITEMS

Item 4.01 Provide reimbursable items necessary in the implementation of the project as determined by the Authority.

The quantity to be paid for shall be the actual quantity of determined items by the Authority deemed necessary in the implementation of the project, supplied, delivered and accepted by the Authority. Payment for said items shall be made only upon complete delivery/acceptance of such. The contract lump sum price shall be full compensation for providing all determined items. The Contractor's Profit and Overhead, Contingencies and Miscellaneous (OCM) should not be included in the cost of said items. The amount of bid should be fixed as indicated in the amount stated in the Bid Data Sheet [ITB Clause 13.1(a)] and as provided in the Bill of Quantities (BOQ). Claims for payment shall be supported by Official Receipt(s) (OR) and at least three (3) canvasses. The amount to be paid for shall be the price indicated in the OR but should not exceed the contract lump sum price. The determined items shall be the property of PPA. Operation and maintenance shall be borne by PPA.

FACILITIES TO BE PROVIDED FOR THE ENGINEER & HIS STAFF

TEMPORARY FACILITIES OF THE CONTRACTOR

The Contractor shall provide and maintain such temporary offices, stores, workshops, latrines, housing and messing accommodations as are necessary. The location, dimension and layout of such buildings and places shall be subject to the approval in writing of the Engineer. By the end of the contract, the Contractor shall remove all buildings and the area shall be cleared and graded as required by the Engineer.

SITE OFFICE AND RESIDENCE FOR THE ENGINEER & STAFF

The Contractor shall provide and maintain a temporary site office and residence with an area of at least 48 square meters for use of the Engineer and staff, including all the necessary electricity, water, communication services and consumables.

MINIMUM EQUIPMENT REQUIREMENTS

2	Unit/s	Air-Compressor (250 cfm, minimum), owned
1	Unit/s	Backhoe (0.40 cu.m., 94.30 hp, minimum), owned
2	Unit/s	Clamshell, owned
2	Unit/s	Concrete Cutter, owned
2	Unit/s	Concrete Mixer (1-bagger, minimum), owned
2	Unit/s	Concrete Bucket, owned
2	Unit/s	Concrete Screeder, owned
2	Unit/s	Concrete Vibrator (3.5 hp, minimum), owned
1	Unit/s	Crane Barge (319 GW, minimum) with 60T crane, owned
1	Unit/s	Crawler Crane (30T, minimum), owned
1	Unit/s	Crawler Crane (20T, minimum), owned/leased
1	Unit/s	Pile Hammer (Diesel, 10,500 kg.m.), owned
1	Unit/s	Diving Equipment (complete), owned/leased
1	Unit/s	Drop Hammer (2T, minimum), owned
2	Unit/s	Dump Truck (8 cu.m., minimum), owned
2	Unit/s	Bar Bender (electric, 25mm dia min.), owned
2	Unit/s	Bar Cutter (electric, 25mm dia min.), owned
1	Unit/s	Forklift (1.36T, minimum), owned/leased
2	Unit/s	Jack Hammer, owned
2	Unit/s	Oxy/Acetylene Cutting Outfit, owned
1	Unit/s	Payloader (80 hp, minimum), owned
2	Unit/s	Plate Compactor (5hp, minimum), owned
1	Unit/s	Road Grader (125 hp, minimum), owned
1	Unit/s	Road Roller (12.05T, vibratory, minimum), owned
2	Unit/s	Transit Mixer (5-6 cu.m. cap., minimum), owned/leased
1	Unit/s	Tugboat (500hp, minimum), owned/leased
1	Unit/s	Water Truck with pump (1,000 gal., minimum), owned
1	Unit/s	Welding Machine (400 amp., minimum), owned
1	units	Cargo Truck (5T, minimum), owned

CONSTRUCTION SAFETY AND HEALTH REQUIREMENT

The Contractor shall implement the construction safety and health program in accordance with the applicable provisions of the Occupational Safety and Health Standards (OSHS) of the Department of Labor and Employment (DOLE).

The Contractor, subject to the approval of the Engineer shall provide and maintain throughout the duration of the contract a medical room with at least 15 square meters together with all necessary supplies to be sited in the Contractor's main area.

The Contractor shall provide the following minimum requirements:

L A B O R

1	no.	Safety Engineer / Officer
1	no.	Nurse / Health Officer

EQUIPMENT / MATERIALS

Personnel Protective Equipment

49	pcs.	Hard Hats
49	pcs.	Gloves
7	pcs.	Goggles
1	pcs.	Aprons
1	pcs.	Safety Belts
49	pcs.	Safety Shoes
1	pcs.	Life Lines

Safety Devices

1	lot	Barricades
1	lot	Warning signs
2	units	Fire extinguisher

Medical and First Aid System - For twenty-two (22) mos.

NOTE:

The Contractor shall provide the above-cited minimum construction safety and health requirements or as required by the Engineer.

PPA MEMORANDUM CIRCULAR
No 02
Series of 2016
Attachment

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REVISED SCHEDULE OF MINIMUM TEST REQUIREMENTS OF CONSTRUCTION MATERIALS FOR PPA INFRASTRUCTURE PROJECTS

Materials/Items of Work	*Required Tests*	*Minimum Incremental Frequency of Tests*
I. Construction of Pier/Wharf, Platform and Ramp		
Structural Concrete (SC)		
A Portland Cement	Quality Test	For every 2,000 bags (40kg) or fraction thereof
B Fine Aggregate	Quality Test for Grading, Elutriation (wash), Bulk Specific Gravity, Absorption, Mortar Strength, Soundness, Organic Impurities, Unit Weight, % Clay Lumps and Shale	For every 1,500 cubic meter or fraction thereof
C Coarse Aggregate	Quality Test for Grading, Bulk Specific Gravity, Absorption and Abrasion	For every 1,500 cubic meter or fraction thereof
D Water	Certificate from the Engineer or Quality Test for Density and Chloride Content	One per source
E Steel Bars	Mill Certificate and Quality Test for Chemical Composition and Mechanical Properties	For every 10,000 kg or fraction thereof
F Concrete	Compressive Strength on cylinder samples	1 set consisting of 3 concrete cylinder samples shall be taken from each day's pouring and to represent not more than 75 cu m of concrete or fraction thereof
	Slump Test	For every mix
G Admixture and Concrete Curing Materials	Quality Test	One per shipment
Piling (P)		
A Concrete Piles	Fabrication Report	One per fabrication
1 Concrete	Same test as for SC (F)	Same frequency as SC (F)
2 Steel Bars	Same test as for SC (E)	Same frequency as SC (E)
3 High Tension Strand	Test for Chemical Composition and Mechanical Properties	For every 20000kg or fraction thereof

Materials/Items of Work	Required Tests	Minimum Incremental Frequency of Tests
4 Coarse Aggregates	Same Test as for SC (C)	Same frequency as SC (C)
5 Fine Aggregates	Same Test as for SC (B)	Same frequency as SC (B)
B Steel Pipe Piles	Fabrication Report, Mill Certificate and Quality Test for Chemical and Mechanical properties	One per fabrication
1 Steel	Chemical Composition (refer below)	
	- Under 14" (355 60mm) Outside Diameter	2 from 200 pipe of fraction thereof
	- 14" to 36" (355 6 to 914mm) Outside Dia	2 from 100 pipe or fraction thereof
	- Over 36" (914mm) Outside Diameter	2 from 3000ft (914m) or fraction thereof
	Mechanical/Tensile	One (1) tension test shall be made on one length or fraction thereof of each size, or one piece of skelp representing each lot of 200 lengths or fraction thereof of each size
2 Polyurethane Coating	Mill Certificate and Quality Test	One per fabrication
3 Concrete	Same test as for SC (F)	Same frequency as SC (F)
4 Fine Aggregate	Same test as for SC (B)	Same frequency as SC (B)
5 Coarse Aggregate	Same test as for SC (C)	Same frequency as SC (C)
6 Steel Bars	Same Test as SC (E)	Same frequency as SC (E)
7 Water	Same Test as SC (D)	Same frequency as SC (D)
Rubber Dock Fenders (RDF)	Physical Test	All units
	Performance Test for Energy Absorption and Reaction Force	All units
Accessories		
Washer and Fixing Bolt, Anchor Bolt	Physical Test	All units
	Quality Test for Chemical Composition and Mechanical Properties	One per fabrication

Materials/Items of Work	*Required Tests*	*Minimum Incremental Frequency of Tests*
Mooring Bollard (MB) and Accessories (Hexagon Nuts, Plain Washer, Anchor Ring and Anchor Bolt)	Physical Test Quality Test for Chemical Composition and Mechanical Properties	All Units One per fabrication
II. Construction of Back-Up Area, Causeway and Pavement		
Sheet Piling (SP)		
A Concrete Sheet Piles		
1 Concrete	Same test as for SC (F)	Same frequency as SC (F)
2 Steel Bars	Same test as for SC (E)	Same frequency as SC (E)
3 High Tension Strands	Same test as for P (A 3)	Same frequency as P (A 3)
4 Fine Aggregates	Same test as for SC (B)	Same frequency as SC (B)
5 Coase Aggregates	Same Test as for SC (C)	Same frequency as SC (C)
B Steel Pipe Piles		
1 Steel	Same test as for P (B1)	Same frequency as P (B1)
2 Concrete	Same test as for SC (F)	Same frequency as SC (F)
3 Fine Aggregate	Same test as for SC (B)	Same frequency as SC (B)
4 Steel Bars	Same test as for SC (E)	Same frequency as SC (E)

Materials/Items of Work	***Required Tests***	***Minimum Incremental Frequency of Tests***
Rocks	Test for Apparent Specific Gravity and Abrasion	For every 1,500 cubic meter or fraction thereof
Geotextile Filter	Physical and Mechanical Test Mill Certificate	One per batch One per batch
Sand and Gravel Fill	Quality Test for Organic Impurities and Grading	For every 1,500 cubic meter or fraction thereof
Selected Fill	Quality Test for Grading, Plasticity and Laboratory Compaction Test Laboratory California Bearing Ratio (CBR) Field Density Test	For every 1,500 cubic meter or fraction thereof For every 2,500 cubic meter or fraction thereof For every layer of 150mm of compacted depth at least one group of three In-situ density test for every 500 sq m or fraction thereof
Aggregate Base Course	Quality Test for Grading and Plasticity Quality Test for Grading, Plasticity, Abrasion and Laboratory Compaction Test Laboratory California Bearing Ratio (CBR) Field Density Test	For every 300 cubic meter or fraction thereof For every 1,500 cubic meter or fraction thereof Same frequency as Selected Fill Same frequency as Selected Fill
Portland Cement Concrete Pavement (PCCP)		
A Portland Cement	Same test as for SC (A)	Same frequency as SC (A)
B Fine Aggregate	Same test as for SC (B)	Same frequency as SC (B)
C Coarse Aggregate	Same test as for SC (C)	Same frequency as SC (C)
D Water	Same test as for SC (D)	Same frequency as SC (D)
E Steel Bars (Dowels)	Same test as for SC (E)	Same frequency as SC (E)
F Joint Filler	Quality Test	One (1) per shipment

Materials/Items of Work	Required Tests	Minimum Incremental Frequency of Tests
G Admixture and Concrete Curing Material	Same test as for SC (G)	Same frequency as SC (G)
H Concrete	Same test as for SC (F)	Same frequency as SC (F)
	Flexural Test	3 beam samples for every 330 sq m or fraction thereof
I Completed Pavement	Core Test	1 set (3 specimen) for every 2,500 sq m and fraction thereof
Interlocking Concrete Blocks		
A Cement	Same test as for SC (A)	Same frequency as SC (A)
B Fine Aggregate	Same test as for SC (B)	Same frequency as SC (B)
C Coarse Aggregate	Same test as for SC (C)	Same frequency as SC (C)
D Water	Same test as for SC (D)	Same frequency as SC (D)
E Admixture & Concrete Curing Materials	Same test as for SC (G)	Same frequency as SC (G)
F Completed Blocks	Physical Test and Compressive Strength	6 blocks per day of fabrication
Cement Treated Base Course (CTB)		
A Portland Cement	Same test as for SC (A)	Same frequency as SC (A)
B Fine & Coarse Aggregates	Quality Test for Grading, Abrasion and Soundness	For every 1,500 cubic meter or fraction thereof
C Water	Same test as for SC (D)	Same frequency as SC (D)
D Completed CTB	Field Density Test	For every layer of 150mm of compacted depth at least one group of three in-situ density test every 500 sq m or fraction thereof
Retaining Wall/Coping Wall/RC Curb/RC Ditch/Shear Key/Concrete Blocks\Lean Concrete		
A Portland Cement	Same test as for SC (A)	Same frequency as SC (A)
B Fine Aggregate	Same test as for SC (B)	Same frequency as SC (B)

Materials/Items of Work	***Required Tests***	***Minimum Incremental Frequency of Tests***
C Coarse Aggregates	Same test as for SC (C)	Same frequency as SC (C)
D Water	Same test as for SC (D)	Same frequency as SC (D)
E Steel Bars	Same test as for SC (E)	Same frequency as SC (E)
F Admixture and Concrete Curing	Same test as for SC (G)	Same frequency as SC (G)
G Concrete	Same test as for SC (F)	Same frequency as SC (F)
Tie Rod		
A Steel	Same test as for SC (E)	One per batch
B Assembly	Performance Test (Tension)	One per batch
Tie Bars and Dowels	Same test as for SC (E)	For every 10,000 kg or fraction thereof per Tie bars and Dowels
Pipe Culverts and Storm Drains		
A Pipes	Test for Strength, Absorption and Physical	For every 50 pieces
B Mortar or Joint	Same Test as for SC (A,B and D) Alternative Test Same test as for SC (F) and Inspection Report	For every 25 pieces
Concrete Hollow Blocks		
A Portland Cement	Same test as for SC (A)	Same frequency as SC (A)
B Fine Aggregates	Same test as for SC (B)	Same frequency as SC (B)
C Water	Same test as for SC (D)	Same frequency as SC (C)
D Concrete	Same test as for SC (F)	Same frequency as SC (F)
E Completed CHB	Quality Test	One for every 500 pieces or fraction thereof
Construction Joints (CJ)		
A Angle Bars	Test for Physical and Mechanical Properties	One per batch
B Steel Bars	Same test as for SC (E)	One per batch
C Zinc (Hot Dip Galvanizing) Coatings	Physical Test for Appearance, Stripping, Weighing, Adherence and Adhesion	All units
	Coating Thickness Magnetic Thickness Measurement	1 set (3 specimen) for every 100,000 sq mm or fraction thereof

Materials/Items of Work	*Required Tests*	*Minimum Incremental Frequency of Tests*
Sacked Concrete		
A Cement	Same test as for SC (A)	Same frequency as SC (A)
B Fine Aggregates	Same test as for SC (B)	Same frequency as SC (B)
C Coarse Aggregates	Same test as for SC (C)	Same frequency as SC (C)
D Water	Same test as for SC (D)	Same frequency as SC (D)
E Concrete	Same test as for SC (F)	Same frequency as SC (F)
F Sack (jute)	Physical Test	One for every 50 pieces
Rubble Concrete		
A Cement	Same test as for SC (A)	Same frequency as SC (A)
B Fine Aggregates	Same test as for SC (B)	Same frequency as SC (B)
C Coarse Aggregates	Same test as for SC (C)	Same frequency as SC (C)
D Water	Same test as for SC (D)	Same frequency as SC (D)
E Concrete	Same test as for SC (F)	Same frequency as SC (F)
F Rocks	Same test as for ROCKS	Same frequency as ROCKS
Earthworks		
A Sub-grade preparation	Grading Test Plasticity Test (LL,PL,PI) Laboratory Compaction Test	For every 1,500 cubic meter or fraction thereof
	Density Test	For every layer of 150mm of compacted depth at least one group of three in-situ density test every 500 sq m or fraction thereof
B Structure Excavation	If excavated materials shall be used as Backfill Grading Test Plasticity Test (LL,PL,PI) Laboratory Compaction Test	For every 1,500 cubic meter or fraction thereof
	Density Test	For every layer of 150mm of compacted depth at least one group of three in-situ density test every 500 sq m or fraction thereof

Materials/Items of Work	*Required Tests*	*Minimum Incremental Frequency of Tests*
III Port Operations Building/Passenger Terminal Building/Transit Shed/Warehouse		
STRUCTURAL WORKS	Refer to Structural Concrete (SC) and Piling Works (P)	
ARCHITECTURAL WORKS		
Ceramic – Filled Liquid Membrane / Water Proofing, Hydrophobic Poreblocking Ingredients with Superplasticizer	Physical Property, Mechanical and Chemical Property, Leak Test / Flood Test	One per shipment
Paint	Quality Test	One 4-L can for every 100 cans or fraction thereof
Ceramic Tile	Inspection and Evaluation Report from the Engineer	One per shipment
Stainless Steel	Inspection and Evaluation Report from the Engineer	One per shipment
Roofing Materials	Inspection and Evaluation Report from the Engineer	One per shipment
Ceiling Materials	Inspection and Evaluation Report from the Engineer	One per shipment
ELECTRICAL AND MECHANICAL WORKS		
Wires / Cables	Inspection and Evaluation Report from the Engineer Testing and Commissioning	One per shipment
Electrical Devices	Inspection and Evaluation Report from the Engineer Testing and Commissioning	One per shipment
Fire Alarm System	Inspection and Evaluation Report from the Engineer Testing and Commissioning	One per item
Wiring Devices	Inspection and Evaluation Report from the Engineer Testing and Commissioning	One per shipment

Materials/Items of Work	Required Tests	Minimum Incremental Frequency of Tests
Protective Devices	Inspection and Evaluation Report from the Engineer Testing and Commissioning	One per shipment
Telephone System	Inspection and Evaluation Report from the Engineer Testing and Commissioning	One per item
CCTV System	Inspection and Evaluation Report from the Engineer Testing and Commissioning	One per item
CATV System	Inspection and Evaluation Report from the Engineer Testing and Commissioning	One per item
Background Music and Paging System	Inspection and Evaluation Report from the Engineer, Testing and Commissioning	One per item
Air Conditioning Units & Ventilation	Inspection and Evaluation Report from the Engineer Testing and Commissioning	One per item
Conduit Pipes	Inspection and Evaluation Report from the Engineer Testing and Commissioning	One per item
Lighting Fixtures	Inspection and Evaluation Report from the Engineer Testing and Commissioning	One per item
PLUMBING WORKS		
Pipes	Inspection and Evaluation Report from the Engineer Testing and Commissioning	One per item

Materials/Items of Work	Required Tests	Minimum Incremental Frequency of Tests
Fixtures	Inspection and Evaluation Report from the Engineer Testing and Commissioning	One per item
Pipe Culverts	Compression Strength Inspection and Evaluation Report from the Engineer	For every size not more than 25 pipes cast in the field
IV Miscellaneous Materials Fencing A Barbed Wire, Cyclone Wire Mesh, Chain Link B Concrete Post	 Physical Test (Dimensions and Coatings) Refer to Superstructure (SC)	 One per Batch Refer to Superstructure (SC)
Lamp Post A Structural Steel B Zinc (Hot Dip Galvanizing) Coatings	Physical Test (Dimensions) Same test as for SC (E) Same test as for CJ (C)	All units One per batch
Drainage Steel Grating	Same test as for SC (E) Inspection Report	One (1) batch
Metal Pipe (Cast Iron Galvanized, etc)	Physical Test (Dimensions and Coatings)	1 per delivery
Welding Works	Destructive and Non Destructive Test	One (1) per lot

NOTES
1. **Testing of RDF shall be performed only by an independent Testing Laboratory duly accredited by BRS, DOST and PPA**
2. **Testing of other materials shall be performed only by an independent Testing Laboratory duly accredited by BRS and PPA.**
3. **All other issuances which are otherwise inconsistent herewith are hereby revoked or otherwise amended.**

Approved

RAUL T. SANTOS
Officer-In-Charge,
Office of the General Manager

SECTION IX

BIDDING FORMS

Bid Form

Date: _____

ITB No: _____

To: **Philippine Ports Authority**
Bonifacio Drive, South Harbor,
Port Area, Manila

We, the undersigned, declare that:

(a) We have examined and have no reservation to the Bidding Documents, including Addenda, for the Contract **Construction of Back-up Area with Continuous RoRo Ramp and POB, Port of Tubigon, Bohol**;

(b) We offer to execute the Works for this Contract in accordance with the Bid and Bid Data Sheet, General and Special Conditions of Contract accompanying this Bid;

The total price of our Bid, excluding any discounts offered below is:

BILL NO	DESCRIPTION	TOTAL AMOUNT
1	General Expenses	₱
2	Back-up Area with Continuous RoRo ramp on-fill	
3	Port Operations Building	
4	Reimbursable Items	
	TOTAL AMOUNT OF BID (including VAT)	₱

The discounts offered and the methodology for their application are: *insert information]*;

(c) Our Bid shall be valid for a period of 120 days from the date fixed for the Bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

(d) If our Bid is accepted, we commit to obtain a Performance Security in the amount of *[insert percentage amount]* percent of the Contract Price for the due performance of the Contract;

(e) Our firm, including any subcontractors or suppliers for any part of the Contract, have nationalities from the following eligible countries: *[insert information]*;

(f) We are not participating, as Bidders, in more than one Bid in this bidding process, other than alternative offers in accordance with the Bidding Documents;

(g) Our firm, its affiliates or subsidiaries, including any subcontractors or suppliers for any part of the Contract, has not been declared ineligible by the Funding Source;

(h) We understand that this Bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal Contract is prepared and executed; and

(i) We understand that you are not bound to accept the Lowest Calculated Bid or any other Bid that you may receive.

(j) We likewise certify/confirm that the undersigned, is the duly authorized representative of the bidder, and granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for the **Construction of Back-up Area with Continuous RoRo Ramp and POB, Port of Tubigon, Bohol** of the **Philippine Ports Authority**.

(k) We acknowledge that failure to sign each and every page of this Bid Form, including the Bill of Quantities, shall be a ground for the rejection of our bid.

Name: _____

In the capacity of: _____

Signed: _____

Duly authorized to sign the Bid for and on behalf of: _____

Date: _____

STATEMENT OF ALL ON-GOING GOVERNMENT AND PRIVATE CONTRACTS, INCLUDING CONTRACTS AWARDED BUT NOT YET STARTED, WHETHER SIMILAR OR NOT SIMILAR IN NATURE

Name of the Contract or Title Of the Project 1]	Owner's Name and Address	Nature/ Scope of Work 2]	Contractor's Role (in percentage) 3]	Total Contract Value At			Date of Award 5]	Value of Outstanding Works	Estimated Time of Completion	% of Accomplishment		Contract Duration 5]	
				Award	Project Completion	Escalated Value to Present Prices 4]				Planned	Actual	Start	Completed
A) Government Contracts i. On-going ii. Awarded but not yet started B) Private Contracts i. On-going ii. Awarded but not yet started													

NOTE:

1] As appearing or defined in the contract entered/executed by the parties
2] With special reference to the Scope of Works as described/enumerated in the advertised Invitation To Bid.
3] Indicate whether as Sole Contractor, Sub-Contractor or Member in a Joint Venture / Consortium
4] Indicate the FOREX used if Contract Value is expressed in a currency other than the Philippine Peso. Specify the "Escalation Factor" used to escalate the Contract Value from completion date to the advertisement date of the Invitation to Bid per section 23.11.2 (3) of R.A. 9184.
5] State Month and Year.

This Statement shall be supported by:
a) Notice of Award and/or Contract
b) Notice to Proceed

Name of Firm/Applicant

Authorized Signing Official

Date

STATEMENT OF THE BIDDER'S SINGLE LARGEST COMPLETED CONTRACT (SLCC) SIMILAR TO THE CONTRACT TO BE BID

Name of the Contract or Title Of the Project	Owner's Name and Address	Nature/Scope of Work	Contractor's Role and Percentage Of Participation	Total Contract Value At			Date of Award	Value of Outstanding Works	Contract Duration	
				Award	Completion	Escalated Value to Present Prices			Start	Completed

NOTE :

1. The prospective bidder must have completed an SLCC that is similar to the contract to be bid, and whose value, adjusted to current prices using the PSA consumer price indices, must be at least fifty percent (50%) of the ABC to be bid.

2. This Statement shall be supported by:

   a. Notice of Award and / or Notice to Proceed.
   b. Project Owner's Certificate of Final acceptance issued by the owner other than the Contractor or Constructors Performance Evaluation System (CPES) Final Rating, which must be at least satisfactory.

Name of Firm/Applicant

Authorized Signing Official

Date

EXPERIENCE RECORD ON SIMILARLY COMPLETED PROJECTS

Similar Major Operations of Work 1]	Unit of Measure	Quantity					Unit of Measure	Quantity
			Title of the Project	Title of the Project	Title of the Project	Title of the Project		
1. RC Pile Driving Works (off-shore)	l.m.	2,096						
2. Reinforced Concrete Works	cu.m.	459						
3. Rockworks (50-1,000 kg/pc.)	cu.m.	7,386						
4. Placing of fill materials	cu.m.	25,435						
5. Construction of Portland Cement Concrete Pavement (PCCP)	sq.m.	649						
6. Construction of medium rise building	sq.m.	1,541						

NOTE: 1] Submit the Certificate of Completion/Certificate of Acceptance by the project owner, Final Recapitulation/Bill of Quantities and/or Constructor Performance Evaluation System (CPES) ratings, 1st, 2nd & Final visit (if applicable). Projects with no Certificate of Completion/Acceptance and Recapitulation/Bill of Quantities shall not be considered.

2] The Owner's Certificate of Final Acceptance; or the Constructors Performance Evaluation Summary (CPES) Final Rating and/or the Certificate of Completion, must be satisfactory.

Name of Firm/Applicant | Authorized Signing Official | Date

(Revised Form : September 2012)

FINANCIAL DATA

A. The prospective bidder's audited Financial Statements, showing, among others, the prospective bidder's total and current assets and liabilities, stamped "RECEIVED" by the Bureau of Internal Revenue (BIR), or its duly accredited and authorized institutions, for the preceding calendar year which should not be earlier than two (2) years from the date of bid submission.

	Year
1. Total Assets	
2. Current Assets	
3. Total Liabilities	
4. Current Liabilities	
5. Net worth (1-3)	
6. Net Working Capital (2-4)	

B. The computation of the bidders Net Financial Contracting Capacity (NFCC) must be at least equal to the ABC to be bid, as follows:

NFCC = [(Current assets minus current liabilities) (15)] minus the value of all outstanding or uncompleted portions of the projects under ongoing contracts, including awarded contracts yet to be started coinciding with the contract to be bid.

NFCC = _____

Attached herewith are certified true copies of the audited financial statements stamped received by the BIR or BIR authorized collecting agent for the latest/immediately preceding calendar year.

_____
Name of Firm/Applicant

_____
Authorized Signing Official

Date:_____

NOTES:

If Partnership or Joint Venture, each Partner or Member Firm of Joint venture shall submit separate financial statements.

LIST OF CONTRACTOR'S PERSONNEL

I hereby declare that the following key personnel enumerated below, with attached resume/bio-data, including valid PRC License, for the various positions / functions, are available for the project applied for:

Position of Key Personnel	Name	No. of Key Personnel	Similar Experience in the Position (Years) 1]	Total Experience in the Position (Years)	Attachment(s)	Annex(es)
Project Manager					PRC License (CE Preferred) Complete Qualification and Experience Data Certificate of Commitment	Annex "_"
Project Engineer					PRC License (CE Preferred) Complete Qualification and Experience Data Certificate of Commitment	Annex "_"
Materials Engineer					PRC License (CE Preferred) Submit Valid and Renewed DPWH Certificate of Accreditation Submit Accreditation Identification Card as Materials Engineer Complete Qualification and Experience Data Certificate of Commitment	Annex "_"
Construction Safety and Health Officer					Certificate of Safety and Health Construction Related Course issued by DOLE Accredited Trainings Complete Qualification and Experience Data Certificate of Commitment	Annex "_"
Foreman					Complete Qualification and Experience Data Certificate of Commitment	Annex "_"
Other Position(s)					Complete Qualification and Experience Data Certificate of Commitment	Annex "_"

NOTE: 1. Minimum qualification requirements: (work experience is similar in nature and complexity to the project to be bid with regard to Registration Particulars of the Contractor's License)

Project Manager - Five (5) years
Project Engineer - Three (3) years
Foreman - Five (5) years

Materials Engineer – One (1) year
Materials Engineer I – for projects costing up to 100M
Materials Engineer II – for projects costing more than 100M

Name of Firm/Applicant

Authorized Signing Official

Date

REVISED FORM (September 2012)

LIST OF CONTRACTOR'S EQUIPMENT UNITS

I hereby declare that the following equipment listed below which are owned, leased or under purchase agreement are in good operating condition and are available for the duration of the project:

DESCRIPTION (Type, Model, Make)	No. of Unit(s)	Capacity Output 2]	Owned, Leased and/or under purchase agreement 1]	Submitted Proof of Ownership/Leased/ Purchase Agreement (Mark as Annex "A……Z")	OTHER INFORMATIONS (As Applicable)				
					Manufacturer	Engine Serial No.	Chassis No./ Name of Vessel	Location	Status

1] Indicate if owned or leased as listed in the Checklist/Bidding Documents. For owned equipment, as required, submit proof of ownership (i.e. deed of sale, sales invoice, official receipt). For Water Truck, Dump Truck and Transit Mixer submit LTO Certificate of Registration and valid Official Receipt. For owned barge/tugboat, submit Marina Certificate of Ownership and valid Cargo Ship Safety Certificate. For newly purchased barge/tugboat, submit Deed of Sale together with an application for Marina Certificate of Ownership duly received/authenticated by Marina with corresponding valid Cargo Ship Safety Certificate. For leased equipment, submit duly notarized copy of lease contract together with a copy of the Marina Owner's (Lessor's) Certificate and valid Cargo Ship Safety Certificate.

2] The unit of each equipment shall be as indicated in the Checklist/Bidding Documents, i.e GW (for crane barge), DWT (for deck barge and hopper barge), TON (for crane, road roller and drop hammer), kg.-m/blow (for diesel hammer), cu.m (for dump truck), hp. (for tugboat, road grader, bulldozer and concrete vibrator), cfm (for compressor), gal. (for water truck with pump), amp. (for welding machine), bagger (for concrete mixer).

Name of Firm/Applicant

Authorized Signing Official

Date

REVISED FORM (January 2011)

OMNIBUS SWORN STATEMENT FOR SOLE PROPRIETORSHIP

REPUBLIC OF THE PHILIPPINES)
CITY OF _____)SS

AFFIDAVIT

I (Name), of legal age, (Civil Status), (Nationality), and residing at (Address), after having been duly sworn in accordance with law, do hereby depose and state that:

1. I am the sole proprietor or authorized representative of (Name of Bidder) with office address at _____:

2. As the owner and sole proprietor or authorized representative of (Name of Bidder), I have full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for (Name of Project) of the Philippine Ports Authority, (as shown in the attached duly notarized "Special Power of Attorney" for the authorized representative);

3. (Name of Bidder) is not "blacklisted" or barred from bidding by the Government of the Philippines or any of its agencies, offices, corporations, or Local Government Units, foreign government / foreign or international financing institution whose blacklisting rules have been recognized by the Government Procurement Policy Board;

4. Each of the documents submitted in satisfaction of the bidding requirements is an authentic copy of the original, complete, and all statements and information provided therein are true and correct;

5. (Name of Bidder) is authorizing the Head of the Procuring Entity or its duly authorized representative(s) to verify all the documents submitted;

6. The owner or sole proprietor is not related to the Head of Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management office or the end – user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

7. (Name of Bidder) complies with existing labor laws and standards; and

8. (Name of Bidder) is aware of and has undertaken the following responsibilities as a Bidder:

   a) Carefully examine all of the Bidding Document:
   b) Acknowledge all conditions, local or otherwise, affecting the implementation of the contact;
   c) Made an estimate of the facilities available and needed for the contact to be bid, if any; and
   d) Inquire or secure Supplemental / Bid Bulletin(s) issued for the *Construction of Back-up Area with Continuous RoRo Ramp and POB, Port of Tubigon, Bohol.*

9. (Name of Bidder) did not give or pay directly or indirectly, any commission, amount, fee, or any form of consideration, pecuniary or otherwise, to any person or official, personnel or representative of the government in relation to any procurement project or activity.

IN WITNESS WHEREOF, I have hereunto set my hand this ___ day of _____ 20__ at _____, Philippines.

_____
Bidder's Representative / Authorized Signatory

SUBSCRIBED AND SWORN to before me this ___ day of *[month] [year]* at *[place of execution]*, Philippines. Affiant/s is/are personally known to me and was/were identified by me through competent evidence of identity as defined in the 2004 Rules on Notarial Practice (A.M. No. 02-8-13-SC). Affiant/s exhibited to me his/her [insert type of government identification card used], with his/her photograph and signature appearing thereon, with no. _____ and his/her Community Tax Certificate No. _____ issued on ____ at _____.

Witness my hand and seal this ___ day of *[month] [year]*.

NAME OF NOTARY PUBLIC
Serial No. of Commission _____
Notary Public for _____ until _____
Roll of Attorneys No. _____
PTR No. _____ *[date issued], [place issued]*
IBP No. _____ *[date issued], [place issued]*

Doc. No. _____
Page No. _____
Book No. _____
Series of _____

OMNIBUS SWORN STATEMENT FOR PARTNERSHIP OR COOPERATIVE

REPUBLIC OF THE PHILIPPINES)
CITY OF _____)SS

AFFIDAVIT

I (Name), of legal age, (Civil Status), (Nationality), and residing at (Address), after having been duly sworn in accordance with law, do hereby depose and state that:

1. I am the duly authorized and designated representative of (Name of Bidder) with office address at (Address);

2. I am granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for (Name of Project) of the Philippine Ports Authority, accompanied by the duly notarized Special Power of Attorney, Board/Partnership Resolution or Secretary's Certificate (whichever is applicable);

3. (Name of Bidder) is not "blacklisted" or barred from bidding by the Government of the Philippines or any of its agencies, offices, corporations, or Local Government Units, foreign government / foreign or international financing institution whose blacklisting rules have been recognized by the Government Procurement Policy Board;

4. Each of the documents submitted in satisfaction of the bidding requirements is an authentic copy of the original, complete, and all statements and information provided therein are true and correct;

5. (Name of Bidder) is authorizing the PPA General Manager or its duly authorized representative(s) to verify all the documents submitted;

6. None of the officers and members of (Name of Bidder) is related to the PPA General Manager, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management office or the end- user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

7. (Name of Bidder) complies with existing labor laws and standards; and

8. (Bidder) is aware of and has undertaken the following responsibilities as a Bidder:

   a) Carefully examine all of the Bidding Document:
   b) Acknowledge all conditions, local or otherwise, affecting the implementation of the contact;
   c) Made an estimate of the facilities available and needed for the contact to be bid, if any; and
   d) Inquire or secure Supplemental / Bid Bulletin(s) issued for the *Construction of Back-up Area with Continuous RoRo Ramp and POB, Port of Tubigon, Bohol.*

9. (Name of Bidder) did not give or pay directly or indirectly, any commission, amount, fee, or any form of consideration, pecuniary or otherwise, to any person or official, personnel or representative of the government in relation to any procurement project or activity.

IN WITNESS WHEREOF, I have hereunto set my hand this ___ day of _____ 20__ at _____, Philippines.

_____
Bidder's Representative / Authorized Signatory

SUBSCRIBED AND SWORN to before me this ___ day of *[month] [year]* at *[place of execution]*, Philippines. Affiant/s is/are personally known to me and was/were identified by me through competent evidence of identity as defined in the 2004 Rules on Notarial Practice (A.M. No. 02-8-13-SC). Affiant/s exhibited to me his/her [insert type of government identification card used], with his/her photograph and signature appearing thereon, with no. _____ and his/her Community Tax Certificate No. _____ issued on ____ at _____.

Witness my hand and seal this ___ day of *[month] [year]*.

NAME OF NOTARY PUBLIC
Serial No. of Commission _____
Notary Public for _____ until _____
Roll of Attorneys No. _____
PTR No. _____ *[date issued], [place issued]*
IBP No. _____ *[date issued], [place issued]*

Doc. No. _____
Page No. _____
Book No. _____
Series of _____

OMNIBUS SWORN STATEMENT FOR CORPORATION OR JOINT VENTURE

REPUBLIC OF THE PHILIPPINES)
CITY OF _____)SS

AFFIDAVIT

I (Name), of legal age, (Civil Status), (Nationality), and residing at (Address), after having been duly sworn in accordance with law, do hereby depose and state that:

1. I am the duly authorized and designated representative of (Name of Bidder) with office address at _____;

2. I am granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for (Name of Project) of the Philippine Ports Authority, accompanied by the duly notarized Special Power of Attorney, Board Resolution or Secretary's Certificate;

3. (Name of Bidder) is not "blacklisted" or barred from bidding by the Government of the Philippines or any of its agencies, offices, corporations, or Local Government Units, foreign government / foreign or international financing institution whose blacklisting rules have been recognized by the Government Procurement Policy Board;

4. Each of the documents submitted in satisfaction of the bidding requirements is an authentic copy of the original, complete, and all statements and information provided therein are true and correct;

5. (Name of Bidder) is authorizing the PPA General Manager or its duly authorized representative(s) to verify all the documents submitted;

6. None of the officers, directors, and controlling stockholders of (Name of Bidder) is related to the PPA General Manager, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management office or the or end- user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

7. (Name of Bidder) complies with existing labor laws and standards; and

8. (Name of Bidder) is aware of and has undertaken the following responsibilities as a Bidder:

   a) Carefully examine all of the Bidding Document:
   b) Acknowledge all conditions, local or otherwise, affecting the implementation of the contact;
   c) Made an estimate of the facilities available and needed for the contact to be bid, if any; and
   d) Inquire or secure Supplemental / Bid Bulletin(s) issued for the *Construction of Back-up Area with Continuous RoRo Ramp and POB, Port of Tubigon, Bohol.*

9. (Name of Bidder) did not give or pay directly or indirectly, any commission, amount, fee, or any form of consideration, pecuniary or otherwise, to any person or official, personnel or representative of the government in relation to any procurement project or activity.

IN WITNESS WHEREOF, I have hereunto set my hand this ___ day of _____ 20__ at _____, Philippines.

_____
Bidder's Representative / Authorized Signatory

SUBSCRIBED AND SWORN to before me this ___ day of *[month] [year]* at *[place of execution]*, Philippines. Affiant/s is/are personally known to me and was/were identified by me through competent evidence of identity as defined in the 2004 Rules on Notarial Practice (A.M. No. 02-8-13-SC). Affiant/s exhibited to me his/her [insert type of government identification card used], with his/her photograph and signature appearing thereon, with no. _____ and his/her Community Tax Certificate No. _____ issued on ____ at _____.

Witness my hand and seal this ___ day of *[month] [year]*.

NAME OF NOTARY PUBLIC
Serial No. of Commission _____
Notary Public for _____ until _____
Roll of Attorneys No. _____
PTR No. _____ *[date issued], [place issued]*
IBP No. _____ *[date issued], [place issued]*

Doc. No. _____
Page No. _____
Book No. _____
Series of _____

REPUBLIC OF THE PHILIPPINES)
CITY OF _____)S.S.

BID-SECURING DECLARATION
Invitation to Bid No. _____

To : Philippine Ports Authority
Bonifacio Drive, South Harbor,
Port Area, manila

I, the undersigned, declare that:

1. I understand that, according to your conditions, bids must be supported by a Bid Security, which may be in the form of a Bid-Securing Declaration.

2. I/We accept that: (a) I/we will be automatically disqualified from bidding for any contract with any procuring entity for a period of two (2) years upon receipt of your Blacklisting Order; and, (b) I/we will pay the applicable fine provided under Section 6 of the Guidelines on the Use of Bid Securing Declaration, within fifteen (15) days from receipt of the written demand by procuring entity for the commission of acts resulting to the enforcement of the bid securing declaration under Sections 23.1 (b), 34.2, 40.1 and 69.1, except 69.1(f), of the IRR of RA 9184; without prejudice to other legal action the government may undertake:

3. I understand that this Bid-Securing Declaration shall cease to be valid on the following circumstances:

   (a) Upon expiration of the bid validity period, or any extension thereof pursuant to your request;

   (b) I am declared ineligible or post-disqualified upon receipt of your notice to such effect, and (i) I failed to timely file a request for reconsideration or (ii) I filed a waiver to avail of said right;

   (c) I am declared as the bidder with the Lowest Calculated Responsive Bid, and I have furnished the performance security and signed the Contract.

IN WITNESS WHEREOF, I have hereunto set my hand this _____ day of _____ 20 ____ at _____, Philippines.

_____
Name of Bidder's Authorized Representative
(Signatory's Legal Capacity)
AFFIANT

SUBSCRIBED AND SWORN to before me this __ day of *[month] [year]* at *[place of execution]*, Philippines. Affiant/s is/are personally known to me and was/were identified by me through competent evidence of identity as defined in the 2004 Rules on Notarial Practice (A.M. No. 02-8-13-SC). Affiant/s exhibited to me his/her *[insert type of government identification card used]*, with his/her photograph and signature appearing thereon, with no. _____.

Witness my hand and seal this ___ day of *[month] [year]*.

NAME OF NOTARY PUBLIC

Serial No. of Commission _____
Notary Public for _____ until _____
Roll of Attorneys No. _____
PTR No. __, *[date issued], [place issued]*
IBP No. __, *[date issued], [place issued]*
Doc. No. ___
Page No. ___
Book No. ___
Series of ____.

CONSTRUCTION METHODOLOGY

Name of Project : _____

Proposed Project Description : _____

Location : _____

MINIMUM SCOPE OF CONSTRUCTION METHODOLOGY

A. BACK-UP AREA WITH CONTINUOUS RORO RAMP ON-FILL

1. Demolition and disposal of existing concrete pavement covered walkway (108 sq.m.)
2. Demolition and disposal of existing fence (36 l.m.)
3. Excavation of existing seabed (12,820 cu.m.)
4. Supply, driving and chipping of PSC square piles (3,966 l.m.)
5. Supply, driving and chipping of PSC sheet piles and corner piles (5,812 l.m.)
6. Supply and placing of 3,500 psi concrete (917 cu.m.)
7. Supply and installation of steel reinforcement (103,334 kg.)
8. Supply and placing of 50 to 1,000 kg/pc rocks (44,588 cu.m.)
9. Supply and installation of tie-rods (98 sets)
10. Supply and placing of geotextile fabric filter (6,997 cu.m.)
11. Supply and placing of fill materials (50,869 cu.m.)
12. Supply and installation of Interlocking Concrete Paving Blocks (13,104 sq.m.)
13. Construction of Portland Cement Concrete Pavement (1,298 sq.m.)
14. Supply and installation of rubber dock fenders (17 sets)
15. Supply and installation of mooring bollards (6 sets)
16. Construction of Perimeter security fence (379 l.m.)
17. Construction of Lateral drainage (206 l.m.)
18. Supply and installation of single bar floodlight steel lamp post (8 sets)

B. PORT OPERATIONS BUILDING

1. Supply, driving and chipping of 400mm x 400mm PSC foundation piles (1,176 l.m.)
2. Construction of 2-storey Port Operations Building, complete (3,082.5 sq.m., 1,000 pax)
3. Construction of Pump House and appurtenances (17.84 sq.m.)
4. Supply and installation of PPA logo and regulatory signage (1 lot)
5. Supply, delivery and installation of gang chairs (1 lot)
6. Supply, delivery of office furniture (1 lot)
7. Supply, delivery and installation of distribution Transformer and accessories (1 lot)

NOTES:

The narrative construction method will guide and familiarize the contractor and the PPA on how the project shall be carried out in accordance with the highest standard of workmanship.

The construction method shall be consistent with the Bar Chart / S-Curve Schedule, Equipment Schedule and Manpower Schedule.

_____
Signature
(Authorized Signing Official)

MANPOWER SCHEDULE

Name of Project : _____

Proposed Project Description : _____

Location : _____

MANPOWER (Minimum)	CONTRACT DURATION (_____ Calendar Days)																					
	MONTHLY																					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Project Manager																						
Project Engineer																						
Materials Engineer																						
Construction Safety and Health Officer																						
Foreman																						
Specify other applicable positions, ie.:																						
- Carpenter																						
- Steelman																						
- Mason																						
- Electrician																						
- Rigger																						
- Others																						

_____
Signature
(Authorized Signing Official)

EQUIPMENT UTILIZATION SCHEDULE

Name of Project : _____

Proposed Project Description : _____

Location : _____

EQUIPMENT (Minimum)	No. of Units	CONTRACT DURATION (_____ Calendar Days)																					
		M O N T H L Y																					
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22

_____
Signature
(Authorized Signing Official)

CASHFLOW BY QUARTER AND PAYMENT SCHEDULE

Name of Project: : _____

Proposed Project Description : _____

Location : _____

Project Duration (days or months)	Payment Schedule (Monthly, in Pesos)	Cash flow (Quarterly, in Pesos)

SECTION X

CONTRACT FORM

Republic of the Philippines
PHILIPPINE PORTS AUTHORITY
PPA Building, Bonifacio Drive, South Harbor,
Port Area, Manila, Philippines

CONTRACT
FOR THE CONSTRUCTION OF BACK-UP AREA WITH CONTINUOUS RORO RAMP AND POB PORT OF TUBIGON, BOHOL

This Contract made and entered into this _____ day of _____ 2019, in Manila, Philippines, by and between:

PHILIPPINE PORTS AUTHORITY, a government instrumentality created under Presidential Decree No. 857, as amended, with principal office at PPA Building, Bonifacio Drive, South Harbor, Port Area, Manila, represented herein by its duly authorized General Manager, **JAY DANIEL R. SANTIAGO**, and hereinafter referred to as "PPA";

- and -

_____, duly organized and existing in accordance with Philippine laws, with office and business address at _____, represented in this act by its _____, as evidenced by _____, a copy of which is hereto attached and made an integral part hereof as Annex "A", and hereinafter referred to as "CONTRACTOR."

W I T N E S S E T H:

WHEREAS, in accordance with Republic Act No. 9184 and its 2016 Implementing Rules and Regulations (IRR), PPA advertised and posted on the PPA website and PhilGEPS, as well as on its bulletin board, an Invitation to Bid for the _____;

WHEREAS, in response to the said advertisement _____ bidders submitted their respective bids for the foregoing project;

WHEREAS, after the opening of bids on _____ and the conduct of bid evaluation and post-qualification, the bid submitted by the CONTRACTOR at its unit and lump sum prices set forth in its proposal was found to be the _____ Bid in the amount of _____PESOS ( ), Philippine Currency;

WHEREAS, pursuant to Head Office BAC Resolution No. _____ Series of _____, award of contract was made to the CONTRACTOR in a Notice of Award dated _____, in the amount of _____ PESOS ( ), after submission of the required documents within the prescribed period and compliance to the conditions stipulated in the IRR;

WHEREAS, the CONTRACTOR duly accepted the award by signing its Conforme on the said Notice of Award;

NOW, THEREFORE, for and in consideration of the foregoing premises and the mutual stipulations herein contained, PPA and the CONTRACTOR have agreed, as follows:

1. In this Contract, words and expressions shall have the same meanings as are respectively assigned to them in the attached Contract Documents.

2. The following documents shall form part of this Contract:

   A. Bid Documents consisting of the following:

      A.1 Invitation to Bid;
      A.2 Instructions to Bidders;
      A.3 Bid Data Sheet;
      A.4 General and Special Conditions of Contract;
      A.5 Specifications
      A.6 Drawings/Plans;
      A.7 Addenda and/or Supplemental/Bid Bulletins, if any;

   B. Technical and Financial Proposals;
   C. Performance Security;
   D. Notice of Award of Contract with the Contractor's Conforme thereto; and
   E. Other contract documents that may be required by existing laws and PPA, such as:

      E.1 Construction Schedule and S-Curve;
      E.2 Manpower Schedule;
      E.3 Construction Methods;
      E.4 Equipment Utilization Schedule;
      E.5 Construction Safety and Health Program approved by the DOLE;
      E.6 Pert/CPM
      E.7 Duly Approved Program of Works and Cost Estimates;
      E.8 Certificate of Availability of Funds;
      E.9 Abstract of Bids; and
      E.10 Resolution of Award

3. In consideration of the payments to be made by PPA, the CONTRACTOR commits to complete the Works and remedy any defects therein in conformity with the provisions of this Contract and Contract Documents.

4. In consideration of the execution and completion of the Works and remedying any defects therein, PPA commits to pay the Contract Price or such other sum as may become payable under the provisions of this Contract and Contract Documents.

5. This Contract shall become effective after the same shall have been signed by the Parties hereof.

IN WITNESS WHEREOF, the Parties have hereunto signed this Contract on the date and place first hereinabove written.

PHILIPPINE PORTS AUTHORITY
TIN No. _____
By:

JAY DANIEL R. SANTIAGO
General Manager

_____

WITNESSES:

_____ _____

ACKNOWLEDGMENT