

PROJECT TITLE

PURCHASE OF ASSORTED SIZES OF CEMENT COATED/CEMENT LINED (CC/CL) AND SHOP PRIME/CEMENT LINED (SP/CL) SPIRAL WELDED STEEL PIPES

OWNER

GENERAL SANTOS CITY WATER DISTRICT

Approved Budget for the Contract (ABC): PHP 9,104,185.00

TECHNICAL SPECIFICATIONS

GSCWD Requirements	Bidder's Conformance
<p>GENERAL SCOPE</p> <p>This specification covers the supply and delivery of assorted sizes of Cement Coated/Cement Lined (CC/CL) and Shop Prime/Cement Lined (SP/CL) Spiral Welded Steel Pipes. These pipes are designed for water conveyance under normal conditions, with a maximum operating temperature of 90°F (32°C).</p>	
<p>BIDDER'S CONFORMANCE</p> <p>GENERAL REQUIREMENTS</p> <ol style="list-style-type: none">1. Quality Assurance<ul style="list-style-type: none">○ All manufacturing tolerances must adhere to LWUA, AWWA, and other applicable standards unless otherwise specified. 2. Bidder/Manufacturer Qualification<ul style="list-style-type: none">○ Bidders must be reputable, experienced, and fully qualified to supply the specified products.○ The pipes must be supplied from a single manufacturer with at least five (5) years of experience in manufacturing similar products in the Philippines.○ The manufacturer must have a certified quality assurance program.	

PROJECT DELIVERABLES**2.1 CEMENT COATED/CEMENT LINED (CC/CL) PIPES**

Description	Quantity	Thickness (mm)
500mm x 6m CC/CL Spiral Welded Steel Pipes	15 pcs	6.35
300mm x 6m CC/CL Spiral Welded Steel Pipes	20 pcs	4.78
250mm x 6m CC/CL Spiral Welded Steel Pipes	100 pcs	4.78
200mm x 6m CC/CL Spiral Welded Steel Pipes	55 pcs	4.78
150mm x 6m CC/CL Spiral Welded Steel Pipes	15 pcs	4.78

2.2 SHOP PRIME/CEMENT LINED (SP/CL) PIPES

Description	Quantity	Thickness (mm)
250mm x 6m SP/CL Spiral Welded Steel Pipes	10 pcs	4.78
200mm x 6m SP/CL Spiral Welded Steel Pipes	30 pcs	4.78
150mm x 6m SP/CL Spiral Welded Steel Pipes	30 pcs	4.78

MATERIAL SPECIFICATIONS

CEMENT COATED/CEMENT LINED (CC/CL) PIPES

- **Reinforcement:** ASTM A82 mesh wire or gauge wire.
- **Portland Cement:** ASTM C150, Type I or II.
- **Sand:** ASTM C33-compliant, inert, and durable.
- **Mixing Water:** Clean, free of harmful substances.
- **Curing Compound:** ASTM C309 compliant.
- **Paint:** Free from contaminants harmful to potable water.

SHOP PRIME/CEMENT LINED (SP/CL) PIPES

- Pipes must be red-oxide prime coated and cement-lined.
- Cement mortar lining should be uniform in thickness and meet AWWA and ASTM standards.

SURFACE PREPARATION & APPLICATION

1. **Surface Cleaning:** All pipe surfaces should be cleaned to remove loose particles before coating or lining.
2. **Mortar Lining & Coating:**
 - Cement mortar should be a uniform mixture of cement, sand, and water.
 - Applied using a spinning machine to ensure even distribution.
3. **Coating:**
 - Reinforced cement-mortar coating should be applied externally.
4. **Curing:**
 - Linings should be accelerated or moist cured.
 - Alternative methods must provide equivalent results.
5. **Inspection for Cracks:**
 - Any cracks found upon delivery must be repaired by the supplier at no additional cost.
6. **Test Cylinders:**
 - Testing must comply with ASTM C31 and ASTM C39 standards.

HANDLING & TRANSPORTATION

1. **Delivery:**
 - Pipes must be carefully handled to avoid damage.
 - Pipes must have **plastic end caps** that should remain in place until installation.
2. **Transportation:**
 - Proper stowing is required to prevent shifting or rolling.

3. Equipment:

- Handling equipment must include nylon straps, padded slings, or skids to prevent coating damage.

TESTING & INSPECTION

- Pre-production and pre-delivery testing will be conducted with **five (5) representatives** from the procuring entity.
- The winning bidder is responsible for the cost of transportation, meals, accommodations, and other inspection-related expenses.
- Required sample testing includes:
 - **6.35 mm thickness: 3 samples**
 - **4.78 mm thickness: 3 samples**
- All samples must meet the testing requirements.

Mechanical Properties (ASTM A36)

Property	Value
Ultimate Tensile Strength	400-550 MPa (58,000-79,800 PSI)
Minimum Yield Strength	250 MPa (36,300 PSI)
Thickness	4.78 mm & 6.35 mm
Elongation (200 mm gauge length)	20% (min)
Unit Weight of Steel	7,850 kg/m ³

DELIVERY SCHEDULE


- Delivery must be completed within **90 calendar days** from the issuance of the Purchase Order including testing and inspection.
- Pipes should be delivered to the designated site specified by GSCWD.

LIQUIDATED DAMAGES (LD)

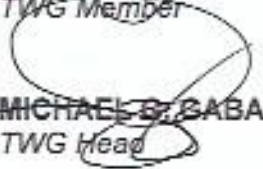
- The supplier will be liable for liquidated damages in case of delivery delays.
- The applicable rate is one tenth (1/10) of one (1) percent of the cost of the undelivered portion for every day of delay.
- Computation of the said liquidated damages shall conform to the provision of RA 9184.

Prepared by:

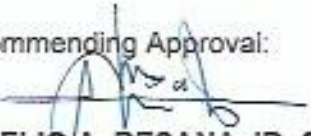
TECHNICAL WORKING GROUP FOR PVC AND STEEL PIPES


MARIA CELIA N. DANDAN, CE
TWG Member


CALVIN FRANS ANGELO N. GALLA, CE
TWG Member


MICHAEL B. SABALES, REE
TWG Head

Recommending Approval:


ROGELIO A. BESANA JR. C.E., R.M.P
AGM-Operation & Technical Services

Approved:


FRANCISCO R. ALOLOD, JR., CPA/CESE
Acting General Manager