

TERMS OF REFERENCE (TOR)

PLARIDEL ACCESS ROAD PIPE-LAYING PROJECT 2026

I. BACKGROUND

The Plaridel Water District (PLAWD) continuously undertakes infrastructure development projects to improve the reliability, sustainability, and efficiency of its water supply system. As part of the Water Supply Improvement Program, the District shall install approximately 3,104 linear meters of 150 mm PVC-O transmission pipeline traversing Barangays Banga 2nd, Parulan, and Bulihan, Plaridel, Bulacan.

The project also includes excavation, pipeline installation, interconnection works, hydrostatic testing, and the restoration of affected roadways where the pipeline crosses concrete roads.

II. APPROVED BUDGET FOR THE CONTRACT (ABC)

The Approved Budget for the Contract (ABC) is Php 3,170,000.00 Inclusive of all taxes, labor, materials, equipment, permits, overhead, contractor's profit, testing, commissioning, and all incidental expenses necessary to complete the project.

III. OBJECTIVES

The project aims to:

1. Install approximately 3,104 linear meters of 150 mm diameter PVC-O distribution pipeline.
2. Improve the reliability of the water distribution system.
3. Restore all affected roads and properties after construction.
4. Complete the project safely, efficiently, and in accordance with approved plans and specifications.

IV. SCOPE OF WORK

The Contractor shall furnish all labor, supervision, equipment, construction tools, transportation, testing equipment, permits, utilities, materials, and incidentals necessary to complete the project.

The work shall include but shall not be limited to the following:

A. PRELIMINARIES

- Mobilization and Demobilization
- Necessary Permits and Clearances

- Construction Signboards
- Traffic Management
- Construction Safety and Health Program
- Environmental Management Program

B. SURVEY AND LAYOUT

The Contractor shall:

- Verify all interconnection points.
- Conduct construction staking.
- Verify elevations and alignments.
- Coordinate all field layout with the Water District.

C. PIPELAYING WORKS

The Contractor shall perform:

- Installation of approximately 3,104 linear meters of owner-supplied 150 mm diameter PVC-O distribution pipeline.
- Trench excavation.
- Bedding preparation.
- Pipe laying.
- Jointing.
- Installation of fittings and appurtenances.
- Selected backfilling.
- Mechanical compaction.
- Disposal of unsuitable excavated materials.
- Site restoration.

D. ROAD CUTTING, DEMOLITION AND RESTORATION

Approximately 100 linear meter of existing concrete roadway shall be affected.

The Contractor shall undertake the following:

1. Concrete Pavement Demolition

The Contractor shall:

- Break existing PCC pavement.
- Remove concrete debris.
- Haul and dispose of waste materials at approved disposal sites.

Estimated Quantity:

- 25 Square Meters

2. Pavement Restoration

Restoration shall include:

- Compacted subgrade
- Aggregate Subbase Course
- Portland Cement Concrete Pavement (200 mm thick)
- Reinforcing steel or welded wire mesh (if specified)
- Dowel bars
- Tie bars
- Curing compound
- Concrete finishing
- Joint sealing

Estimated Quantity:

- 5 Cubic Meters

3. Dowel Bars

Supply and installation including:

- Drilling
- Epoxy anchoring
- Alignment
- Grouting

Estimated Quantity:

- 80 kilograms

E. INTERCONNECTION WORKS

The Contractor shall:

- Connect the newly installed transmission line to the existing distribution system.
- Install all required fittings, valves, couplings, reducers, and accessories.
- Coordinate shutdown schedules with the Water District.

F. TESTING AND COMMISSIONING

The Contractor shall conduct:

- Hydrostatic Pressure Test
- Leakage Test
- Flushing

- Disinfection
- Final Commissioning

Testing shall be witnessed by representatives of the Plaridel Water District.

G. STANDARD SPECIFICATION

The “LWUA Standard Specifications for Water System Construction shall be part of the Technical Specifications.

Any applicable provision/s on the “LWUA Standard Specifications for Water System Construction” consistent with this Employer’s Requirement shall remain valid and binding.

V. CONTRACTOR’S RESPONSIBILITIES

The Contractor shall:

- Assign one (1) full-time Licensed Civil Engineer as Project Engineer.
- Assign a full-time Safety Officer in accordance with DOLE regulations.
- Provide sufficient skilled labor and equipment.
- Maintain traffic flow during construction.
- Protect existing utilities.
- Restore all damaged properties.
- Maintain daily housekeeping.
- Submit weekly progress reports.
- Coordinate continuously with the Water District.

VI. SAFETY REQUIREMENTS

The Contractor shall strictly comply with:

- DOLE Occupational Safety and Health Standards
- Construction Safety and Health Program
- Republic Act No. 11058 and its Implementing Rules and Regulations
- Traffic Management Plan
- Emergency Response Procedures

Personal Protective Equipment (PPE) shall be mandatory for all personnel.

VII. REPORTING REQUIREMENTS

The Contractor shall submit:

- Weekly Progress Reports
- Monthly Accomplishment Reports
- Updated Work Schedule

- Manpower Deployment
- Equipment Utilization Report
- Inspection Reports
- As-Built Drawings
- Testing and Commissioning Reports

VIII. MODE OF PAYMENT

Payment shall be based on actual work accomplished and measured quantities, subject to inspection, verification, and approval by the PLAWD.

Progress billings shall be supported by:

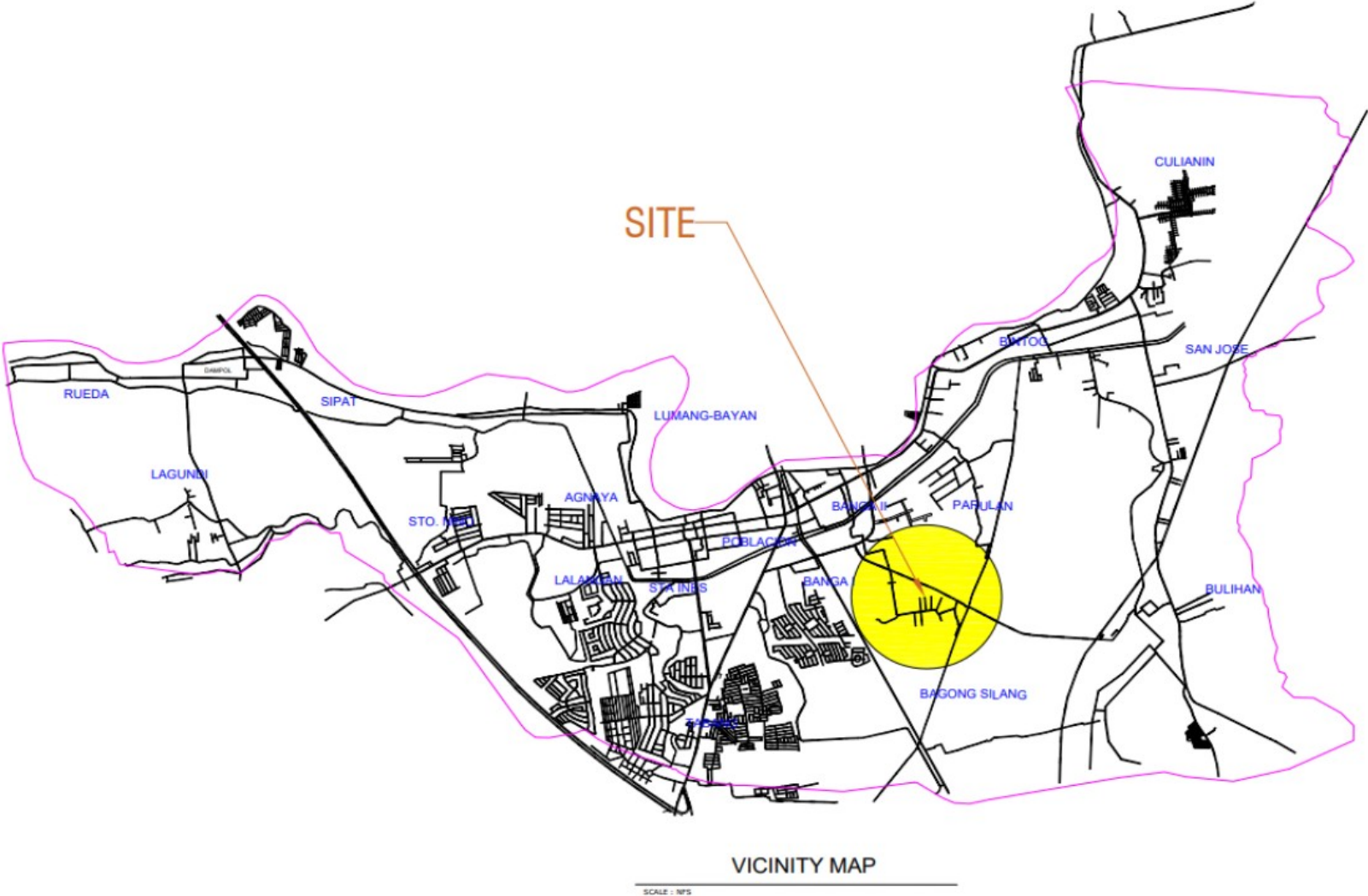
- Statement of Work Accomplished
- Progress Photographs with Geo-tag
- Inspection Reports

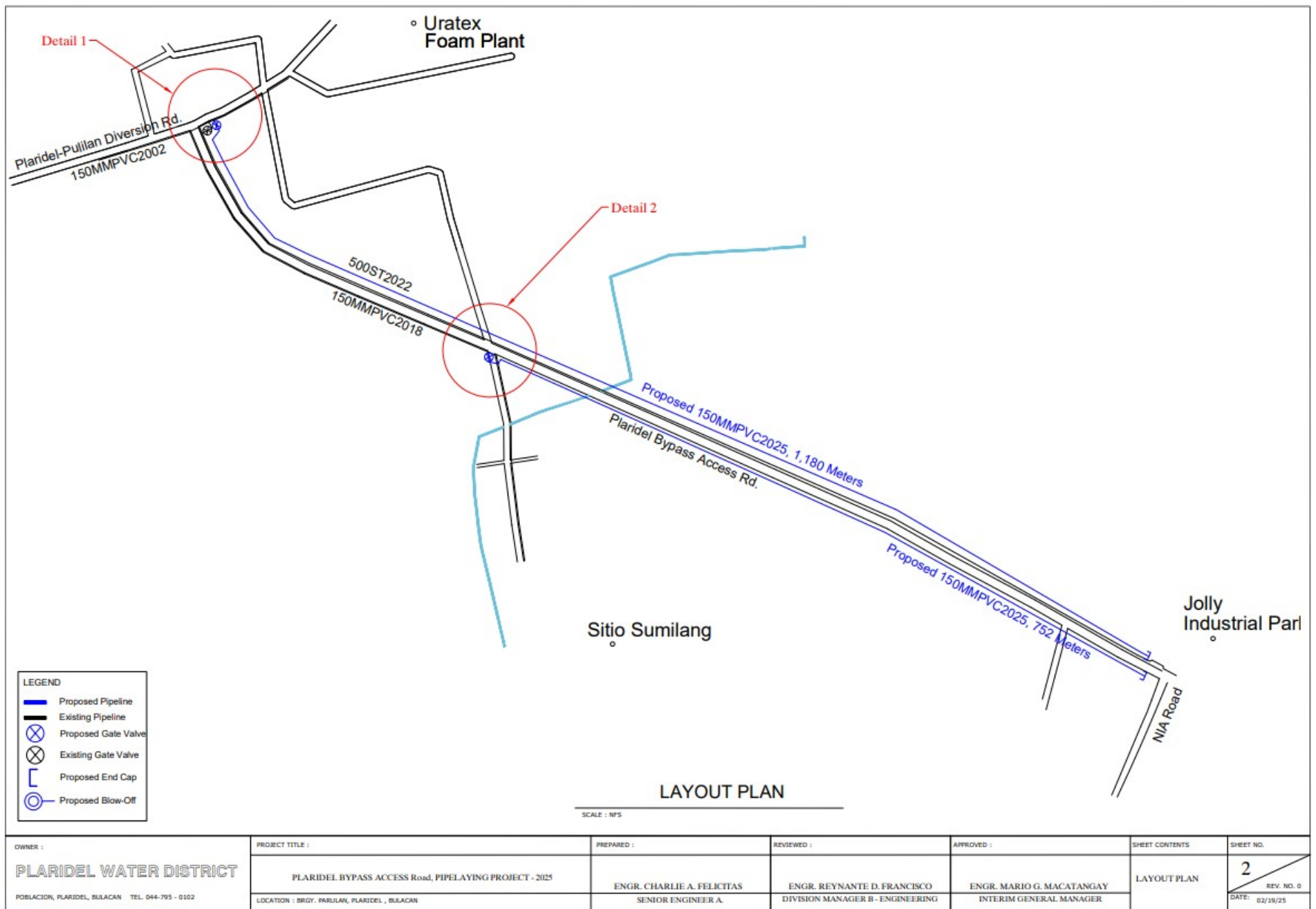
IX. WARRANTY

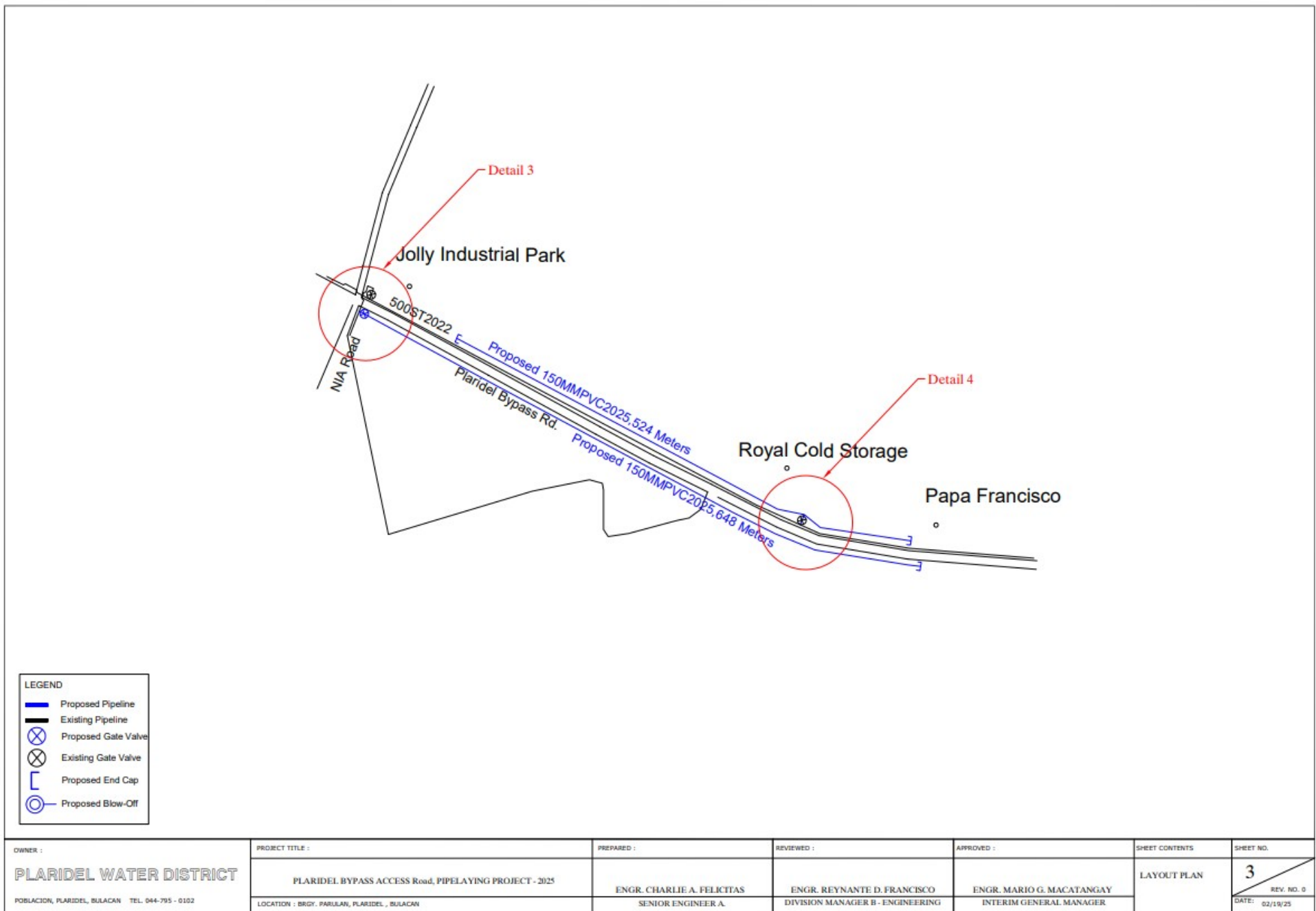
The Contractor shall warrant all completed works in accordance with the applicable provisions of Philippine procurement laws and the Contract Agreement.

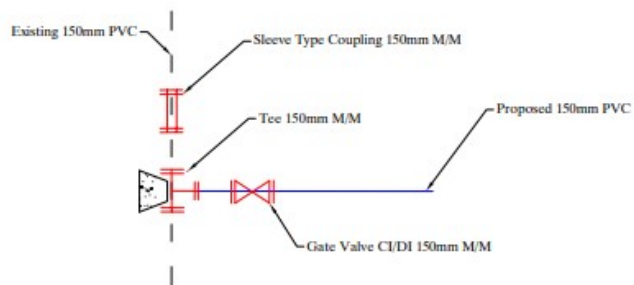
Any defects identified during the warranty period shall be corrected at the Contractor's expense.

X. CONSTRUCTION DRAWINGS

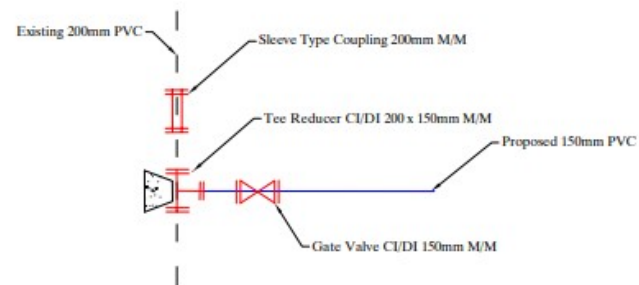




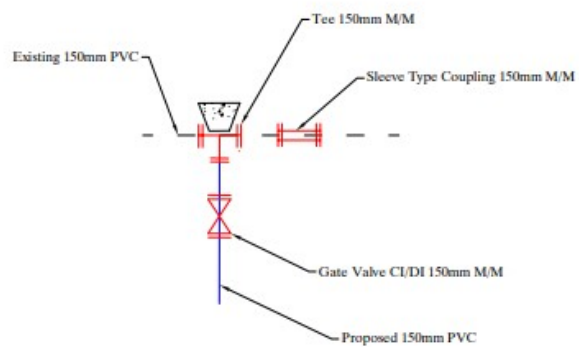




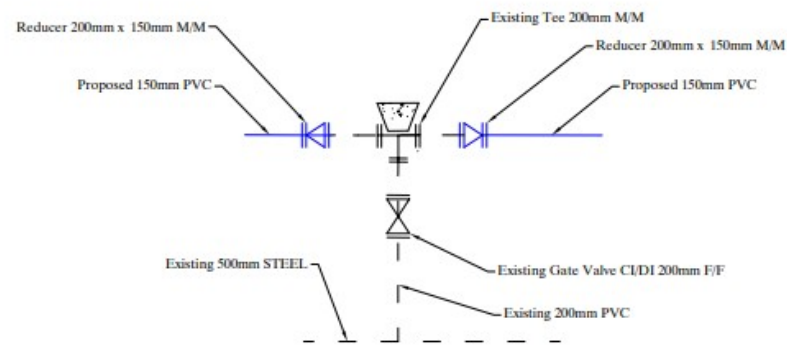
DETAIL 1



DETAIL 3



DETAIL 2

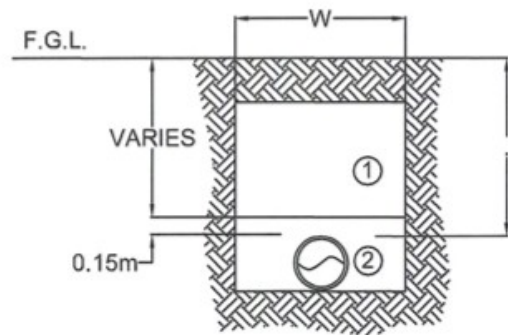


DETAIL 4

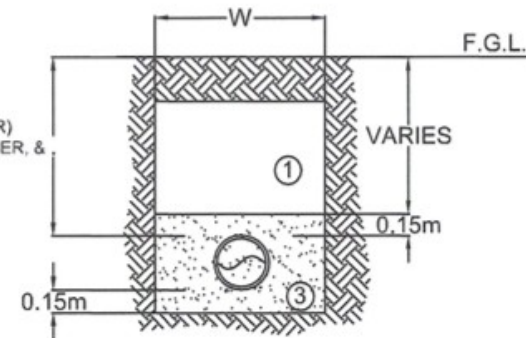
OWNER :	PROJECT TITLE :	PREPARED :	REVIEWED :	APPROVED :	SHEET CONTENTS	SHEET NO.
PLARIDEL WATER DISTRICT	PLARIDEL BYPASS ACCESS Road, PIPELAYING PROJECT - 2025	ENGR. CHARLIE A. FELICITAS	ENGR. REYNANTE D. FRANCISCO	ENGR. MARIO G. MACATANGAY	INTERCONNECTION DETAILS	4
POBLACION, PLARIDEL, BULACAN TEL. 044-795 - 0102	LOCATION : BRGY. PARULAN, PLARIDEL , BULACAN	SENIOR ENGINEER A.	DIVISION MANAGER B - ENGINEERING	INTERIM GENERAL MANAGER		REV. NO. 0 DATE: 02/19/25

XI. STANDARD DRAWINGS

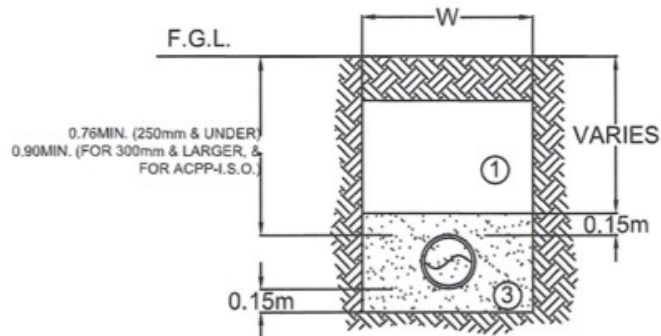
A. TRENCH EXCAVATION DETAILS



NORMAL INSTALLATION WHERE SAND
BEDDING/BACKFILL NOT REQUIRED



IN ROCK OR WHEN
ORDERED BY ENGINEER



ACP & PVC INSTALLATIONS IN
NON-GRANULAR SOIL AS
DETERMINED BY ENGINEER

LEGEND:

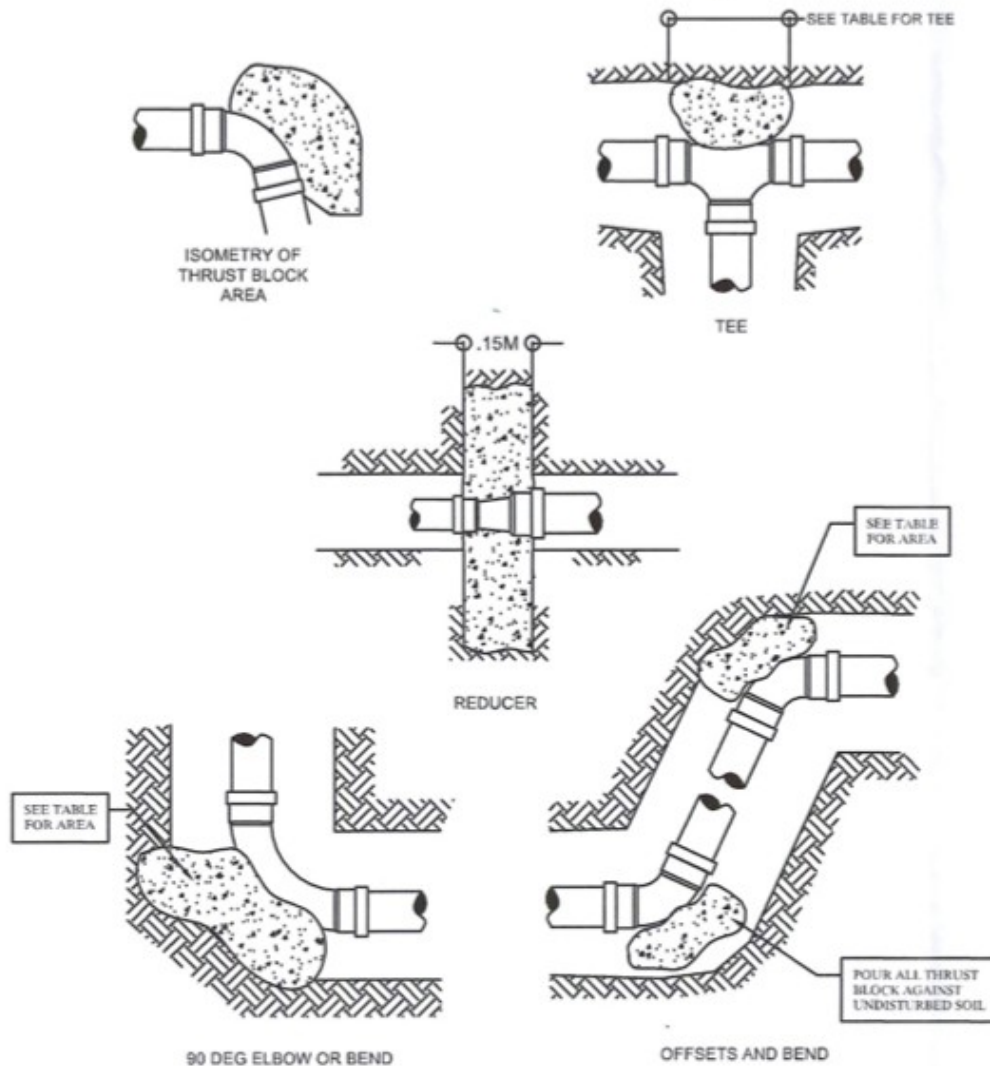
1. COMPACTED SELECTED NATIVE MATERIAL BACKFILL
2. COMPACTED SELECTED NATIVE MATERIAL IN 0.15 LAYERS
3. APPROVED SAND BEDDING & BACKFILL HAND PLACED AND COMPACTED.
4. PAYMENT FOR ANY RESURFACING WILL BE BASED ON MAXIMUM TRENCH WIDTHS PER SIZE PIPE, SHOWN BELOW

NOTES:

ALL DIMENSIONS IN METERS EXCEPT WHERE OTHERWISE SHOWN, SPACE SHALL BE PROVIDED FOR PIPE JOINTS TO PREVENT BRIDGING.

TABLE OF TRENCH DIMENSION (IN METERS)											
	MM	75MM & UNDER	100	150	200	250	300	350	400	450	500
MINIMUM 'W'		0.2000	0.4000	0.4500	0.5000	0.5500	0.6000	0.6500	0.7000	0.7500	0.8000
MAXIMUM 'W'		0.3000	0.7000	0.7500	0.8000	0.8500	0.9000	0.9500	1.0000	1.0500	1.1000

B. THRUST BLOCK DETAILS



NOTES:

1. ABOVE AREAS BASED ON AN ASSUMED SOIL BEARING PRESSURE OF 96k Pa (2000 psf.)
2. REDUCE OR INCREASE AREAS PROPORTIONATELY TO SUIT ACTUAL FIELD CONDITIONS UPON APPROVAL OF ENGINEER.
3. CONCRETE FOR THRUST BLOCK SHALL BE 13.8M Pa (2000psi)
4. ALL CONCRETE SHALL BE POURED TO AVOID INTERFERENCE WITH JOINTS
5. THRUST BLOCKS NOT REQUIRED ON STEEL PIPELINE WITH WELDED OR FLANGED JOINTS OR ON SOLVENT WELDED PVC PIPE
6. WHERE PIPE CONNECTS TO A FITTING IN A STEEL PIPELINE, THE STEEL PIPELINE SHALL BE BLOCKED AS SHOWN HEREON.
7. BEARING AREAS BASED ON INTERNAL PRESSURE OF 106M (130psi)

*SEE PLANS FOR BEARING AREAS

TABLE OF MINIMUM THRUST BLOCK BEARING AREAS IN SQUARE METERS FOR PIPE SIZES 75MM - 600MM DIAMETER				
PIPESIZE (MM)	TEE & DEAD END	90 DEG BEND	45 DEG BEND	22 1/2 DEG BEND
75	0.0500	0.0700	0.0400	0.0200
100	0.0900	0.1200	0.0700	0.0400
150	0.2000	0.2800	0.1500	0.0800
200	0.3500	0.5000	0.2700	0.1400
250	0.5500	0.7700	0.4200	0.2100
300	0.7900	1.1100	0.6000	0.3100
350	1.0700	1.5200	0.8200	0.4200
400	1.4000	1.9800	1.0700	0.5500
450	1.7700	2.5100	1.3600	0.6900
500	2.1900	3.1000	1.6800	0.8500
600	3.1500	4.4600	2.4200	1.2300

C. GATE VALVE DETAILS

