Republic of the Philippines
METROPOLITAN NAGA WATER DISTRICT
40 J. Miranda Avenue, Naga City
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SUPPLEMENTAL/BID BULLETIN
September 3, 2020

ADDENDUM NO. 06

PROJECT: **Supply, Build, Installation, Commissioning, and Process-Proving of 5MLD Bicol River Surface Water Treatment Plant (INFRA 2020-012)**

This addendum is issued to modify or amend items in the Section III. Bid Data Sheet (BDS), Section VI. Specifications, Section VII. Drawings, and Section VIII. Bill of Quantities of the bidding documents of the above stated project.

PER BIDDING DOCUMENTS	PER ADDENDUM
Section III. Bid Data Sheet, Clause 12.1(b)(ii) Project Requirements, which shall include the following: a. Organizational chart for the contract to be bid xxx g. The Bidder shall provide Manufacturer's Certificate of Registration to ISO 9001:Quality Management System to meet high standard in quality in manufacturing of UF Flat-Sheet membrane modules. Such document shall be supported by a notarized affidavit of authenticity or authenticated by Philippine Consul or the Office of the Local Chamber of Commerce within the manufacturer's country of origin. xxx i. The Bidder shall submit the Manufacturer's Standard Brochure indicating the DEFENDER Corrosion Protection System as a standard feature in the in-line booster pump and motor. xxx	Section III. Bid Data Sheet, Clause 12.1(b)(ii) Project Requirements, which shall include the following: a. Organizational chart for the contract to be bid xxx g. The Bidder shall provide Manufacturer's Certificate of Registration to **ISO 9001:2015 Quality Management System** to meet high standard in quality in manufacturing of UF Flat-Sheet membrane modules. Such document shall be supported by a notarized affidavit of authenticity or authenticated by Philippine Consul or the Office of the Local Chamber of Commerce within the manufacturer's country of origin. xxx i. The Bidder shall submit the Manufacturer's Standard Brochure indicating the DEFENDER Corrosion Protection System as a standard feature in the **submersible** pump and motor xxx
Section VI. Specifications Section VII. Technical Specifications TERMS OF REFERENCE Performance Specifications and Parameters I. Brief historical Background of Metropolitan Naga Water District (MNWD) xxx IV. DETAILED DESCRIPTION OF SCOPE OF WORK xxx ➢ Design and Construction Schedule The project shall be carried out in the following phases on the following periods. The period includes approval by the Owner of the Construction Documents.	Section VI. Specifications Section **VI**. Technical Specifications TERMS OF REFERENCE Performance Specifications and Parameters I. Brief historical Background of Metropolitan Naga Water District (MNWD) xxx IV. DETAILED DESCRIPTION OF SCOPE OF WORK xxx ➢ Design and Construction Schedule The project shall be carried out in the following phases on the following periods. The period includes approval by the Owner of the Construction Documents.

(a) Detailed Design Phase - 45 Calendar days (b) Construction Phase (incl. acquisition of permits) - 225 Calendar days (c) Post Construction (Commissioning/Process Proving) Phase - 90 Calendar days Total Project Duration is Three Hundred Sixty (360) Calendar days.	(a) Detailed Design Phase **and Acquisition of Permits** - **75** Calendar days (b) Construction Phase - **255** Calendar days (c) Post Construction (Commissioning/Process Proving) Phase - **30** Calendar days Total Project Duration is Three Hundred Sixty (360) Calendar days.
xxx	xxx
V. CONCEPTUAL DESIGN/SPECIFICATION/ PARAMETERS/REQUIREMENTS WATER TREATMENT FACILITIES	V. CONCEPTUAL DESIGN/SPECIFICATION/ PARAMETERS/REQUIREMENTS **1.** WATER TREATMENT FACILITIES
a. General Information and requirements	a. General Information and requirements
INFLUENT QUALITY / EFFLUENT QUALITY Characteristics | Raw Water | 2017 PNSDW Standards | Design/ Target Objectives 1. Turbidity (NTU) | 500 | 5 | 1.0 or less 2. Apparent Color | (pls indicate value) | 10 | 5.0 or less 3. E. Coli | Positive | Negative/ Absent | Negative/ Absent	INFLUENT QUALITY / EFFLUENT QUALITY Characteristics | Raw Water | 2017 PNSDW Standards | Design/ Target Objectives 1. Turbidity (NTU) | 500 | 5 | 1.0 or less 2. Apparent Color | **500** | 10 | 5.0 or less 3. E. Coli | Positive | Negative/ Absent | Negative/ Absent
	2. Tube Settlers Clarifier System **This shall be inclusive of all electro-mechanical works, appurtenances, installation, star-up and supervision within WTP System. All components of Clarifier System, as delineated below, shall meet the WTP maximum flow capacity of 5MLD.** ▪ **Intake Pump with Soft Starter and Appurtenances** ▪ **Flocculation and Coagulation Tanks** ▪ **Tube Settlers Clarifier Systems** ▪ **Yard Piping, Valves, Fittings, and Accessories** ▪ **Local Control Panel**
2. Solid-Liquid Separation/Filtration Process – use Flat-Sheet Ultrafiltration Membrane Modules	**3.** Solid-Liquid Separation/Filtration Process – use Flat-Sheet Ultrafiltration Membrane Modules
xxx	xxx
VI. SUBMERSIBLE PUMP	VI. SUBMERSIBLE PUMP
xxx	xxx
D. The in-line booster pump and motor shall be horizontally installed inside a steel shroud and submersible in nature. The equipment must have installed a DEFENDER smart device as a standard feature to protect the electric pump and motor from electrochemical corrosion and galvanic currents, passivating the steel so as to create a further safety barrier against corrosion.	~~**D. The in-line booster pump and motor shall be horizontally installed inside a steel shroud and submersible in nature. The equipment must have installed a DEFENDER smart device as a standard feature to protect the electric pump and motor from electrochemical corrosion and galvanic currents, passivating the steel so as to create a further safety barrier against corrosion.**~~
E. The motor shall be of squirrel cage, submersible...	**D.** The motor shall be of squirrel cage, submersible...
xxx	xxx
X. GUARANTEE/WARRANTY	X. GUARANTEE/WARRANTY
xxx	xxx
- END -	**XI. EQUIPMENT/MATERIALS SPECIFICATION** ***As attached***

Section VII. Drawings Site Development Plan (Sheet 1/1), page 93 Bar Chart, page 94	Section VII. Drawings **Site Development Plan (Sheet 1/2)** **Process Flow Diagram (Sheet 2/2)** **Bar Chart** ***As attached***
Section VIII. Bill of Quantities SCHEDULE OF RATES AND PRICES Schedule No. 1 Plant and Equipment Supplied and to be Installed by Contractor xxx C. TREATMENT FACILITY PROCESSES & TECHNOLOGY AND CIVIL WORKS C.1 WTP Treatment Process and Technology 1. 5MLD (Two Trains at 500NTU) Lamella Clarifier System inclusive of all electro-mechanical works, appurtenances, installation, star-up and supervision within WTP System a. Intake Pump with Soft Starter and Appurtenances b. Flocculation and Coagulation Tanks with mixers and Ancillaries c. Lamella Clarifier Systems d. Yard Piping, Valves, Fittings, and Accessories e. Local Control Panel xxx	Section VIII. Bill of Quantities SCHEDULE OF RATES AND PRICES Schedule No. 1 Plant and Equipment Supplied and to be Installed by Contractor xxx C. TREATMENT FACILITY PROCESSES & TECHNOLOGY AND CIVIL WORKS C.1 WTP Treatment Process and Technology 1. 5MLD (Two Trains at 500NTU) **Tube Settlers Clarifier System** inclusive of all electro-mechanical works, appurtenances, installation, star-up and supervision within WTP System a. Intake Pump with Soft Starter and Appurtenances b. Flocculation and Coagulation Tanks with mixers and Ancillaries c. **Tube Settlers Clarifier Systems** d. Yard Piping, Valves, Fittings, and Accessories e. Local Control Panel xxx

This shall form an integral part of the Bid Documents.

For guidance and information of all concerned.

JON LOUIE A. SANCHEZ
Chairperson, BAC

Received by the Bidder

_____

Date _____

XI. EQUIPMENT/MATERIALS SPECIFICATION

The material, for the Supply, Build, Installation, Commissioning & Process Proving of 5MLD Surface Water Treatment Plant at Brgy. Mabolo, Naga City shall conform to the manufacturer's specification which are derived from engineering principles, industry experiences, and the aforementioned standards specification.

All materials shall be brand new, previously unused, and in first class condition. Bidders must state here either "Comply" or "Not Comply" against each of the specifications stating the corresponding performance parameter of the equipment offered. Statements of "Comply" or "Not Comply" must be supported by evidence in a Bidders Bid and cross-referenced to that evidence. Evidence shall be in the form of manufacturer's un-amended sales literature, unconditional statements of specification and compliance issued by the manufacturer, samples, independent test data etc., as appropriate.

A statement that is not supported by evidence or is subsequently found to be contradicted by the evidence presented will render the Bid under evaluation liable for rejection. A statement either in the Bidders statement of compliance or the supporting evidence that is found to be false either during Bid evaluation, post-qualification or the execution of the Contract may be regarded as fraudulent and render the Bidder or supplier liable for prosecution subject to the provisions of ITB Clause 3.1(a)(iii).

ITEM NO.	SPECIFICATION	STATEMENT OF COMPLIANCE
1	**INTAKE STRUCTURE**	
	CAPACITY: 5.0MLD	
1.a	**SUBMERSIBLE PUMP**	
	Number of units – 1unit	
	Service flow rate – 227m3/hr	
	Service head – 20m	
	Power consumption at duty point – 26kW	
	Maximum power consumption – 26.4kW	
	Max. pump efficiency (Best efficiency point) – 77.6%	
	Rotation speed – 3495 1/min	
	Defender Corrosion Protection System – as a standard feature	
	Minimum Service Factor – 1.15	
2	**CLARIFIER (Two Trains at 500 NTU)**	
	CAPACITY: 5.0MLD	
2.a	**Intake Pump with Soft Starter and Appurtenances**	
2.b	**Flocculation and Coagulation Tanks**	
2.c	**Tube Settlers Clarifier System**	
2.d	**Yard Piping, Valves, Fittings and Accessories**	

2.e	**Local Control Panel**	
	*All components of Clarifier System shall meet the WTP maximum flow capacity of 5MLD.	
3	**FLAT SHEETS ULTRAFILTRATION (Two Trains at 500 NTU)**	
	CAPACITY: 5.0MLD	
3.a	**FLAT SHEET UF MEMBRANE MODULES**	
	Membrane Material – Polymeric	
	Filtration Mode – Outside-in, suction based principle	
	Filter Pore Size – 0.03 micron (minimum) to 0.05 micron (maximum)	
	Membrane Technology – Polymeric materials must be laser welding technology with multiple filtrate outlets and without damage on the membrane layer	
	Minimum Flux Rate – Based on the bidder's design option as long as it meets the WTP maximum flow capacity of 5MLD.	
	Operating Suction Pressure – Uniform pressure distribution over the entire surface of the membrane.	
	Maximum Backwash Pressure – 3 bars	
	Water Recovery Rate – 95% and above for treated water < 25 NTU Turbidity	
3.b	**ON-LINE MONITORING DEVICE AND COAGULANT DOSING SYSTEM**	
	a) Raw Water Turbidity Meter	
	b) Raw Water pH Meter	
	c) Raw Water Flow Meter	
	d) Treated Water Turbidity Meter	
	e) Treated Water Chlorine and pH Meter	
	f) Treated Water Flow Meter	
	g) Level Switch	
	h) Pressure Transmitter	
	i)Control Panel with Chemview Control System	
3.c	**ACH CHEMICAL DOSING EQUIPMENT**	
	Ranges: ±10 Streaming Current Units (SCU)	
	Accuracy: ±1% of full scale	
	Repeatability: 1%	
	Resolution: 0.01 SCU	
	Response Time: 20seconds	
	Operating Temperature: 0-50°C	
3.d	**FLOWMETERS**	
	In conformance to LWUA Standards Specifications for flowmeters.	
3.e	**HYPOCHLORINATOR**	
	Latest model in the market complete with motor and mixing tank including all piping works and accessories.	
3.f	**ULTRAFILTRATION FACILITIES**	
	Fully automated.	

**the equipment and corresponding specifications indicated above are minimum requirements and may be modified, or replaced, with justifications included in the bid documents. The final equipment and specifications proposed in the bid will still be subject to the evaluation of the bids and awards committee (BAC).*

This is to certify that we/I have prepared and /or checked and reviewed the Technical Specifications stated

Very truly yours,

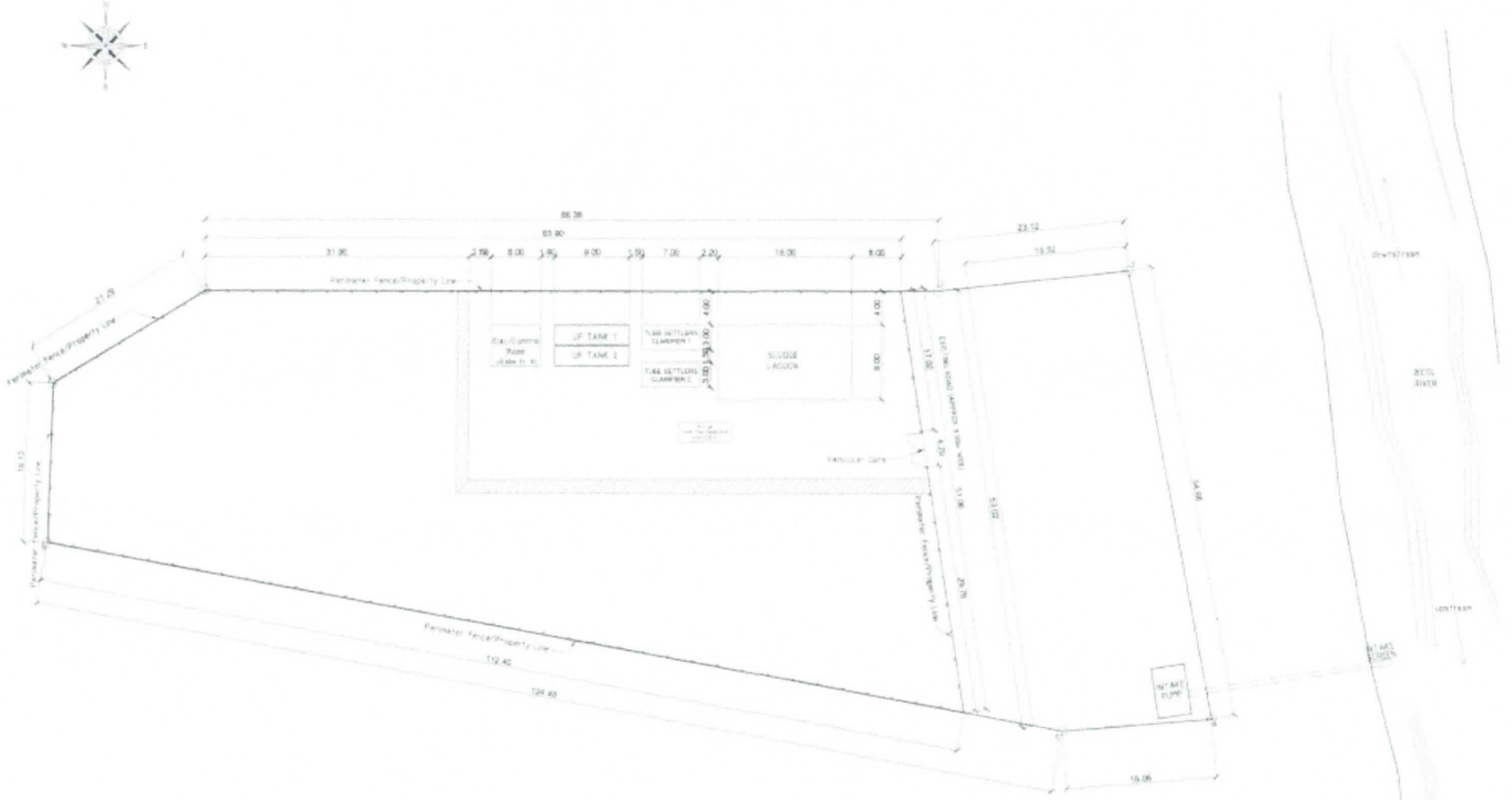
_____
Authorized Representative
Signature Over Printed Name

_____
Position Title

Name of Firm: _____

Address: _____

Date Accomplished: _____

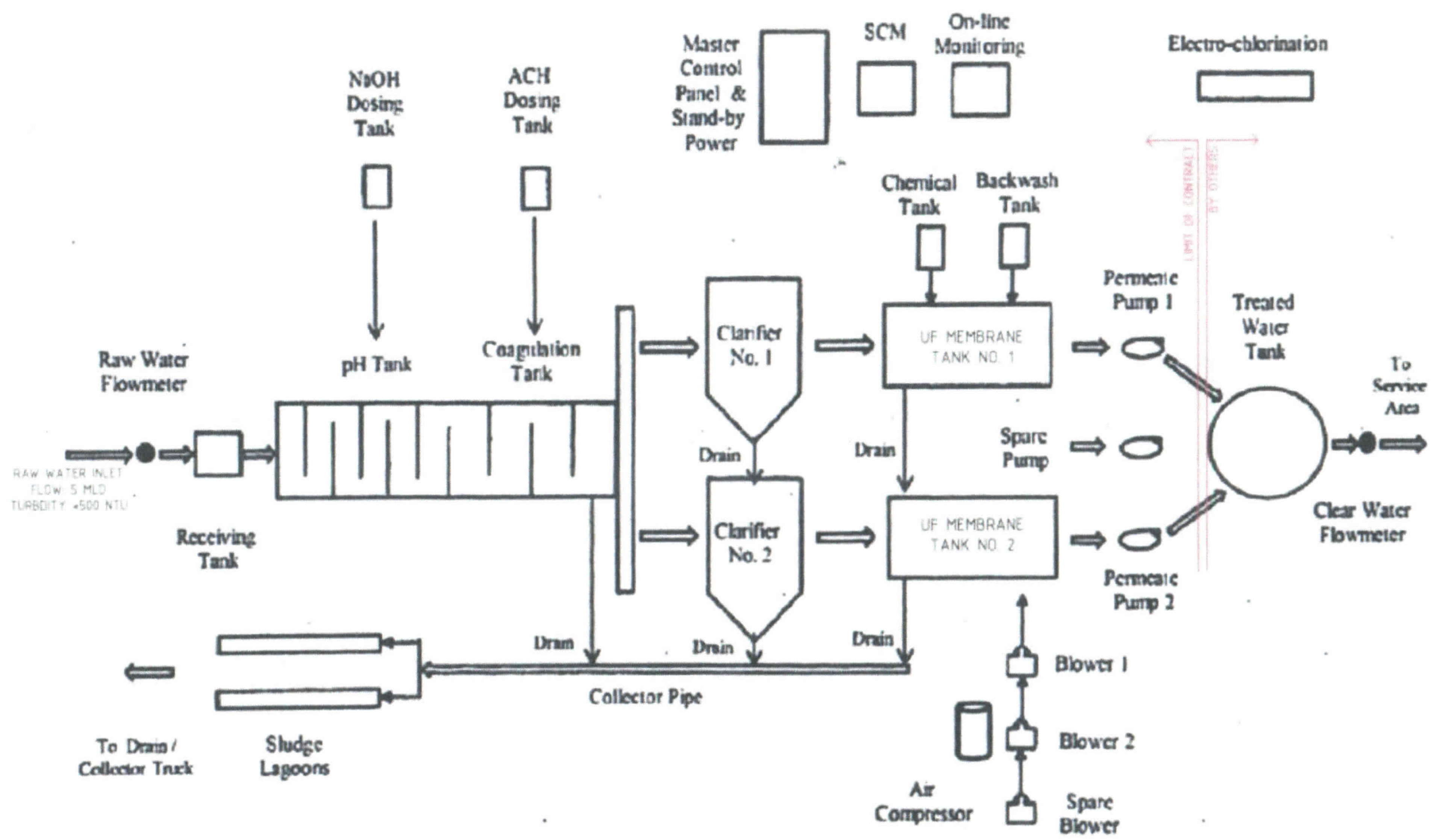


Site Development Plan

Scale: 1:500M

Republic of the Philippines **METROPOLITAN NAGA WATER DISTRICT** 40 J. Miranda Avenue, Naga City	PREPARED BY: SHARMAINE E. BRACIA PPOO-A, PDCD	CHECKED BY: SONJUN O. MILLARES OIC - SMA, PDCD	RECOMMENDING APPROVAL: VICENTE ANDRETO D. RUBIO OIC-EED, OIC-AGM-OTS	APPROVED: VIRGILIO B. LUANSING I General Manager A	PROJECT TITLE/LOCATION: PROPOSED SUPPLY, BUILD, COMMISSIONING AND PROCESS PROVING OF FIVE (5) MLD BICOL RIVER SURFACE WATER TREATMENT PLANT Sitio Pagdasiw, Barangay Mabolo, Naga City	SHEET CONTENTS: Site Development Plan	SHEET NO.: 1/2 08-24-2020

EEDP18, REV. 00, APRIL, 2019



Process Flow Diagram

Republic of the Philippines METROPOLITAN NAGA WATER DISTRICT 40 J. Miranda Avenue, Naga City	PREPARED BY: SHARMAINE E. BRACIA PPDO-A, PDCD	CHECKED BY: SONJUN D. MILLARES DIC - DMA, PDCD	RECOMMENDING APPROVAL: VICENTE ANICETO D. RUBIO DIC-EED, DIC-AGM-OTS	APPROVED: VIRGILIO B. LUANSING I General Manager A	PROJECT TITLE/LOCATION: PROPOSED SUPPLY, BUILD, COMMISSIONING AND PROCESS PROVING OF FIVE (5) MLD BICOL RIVER SURFACE WATER TREATMENT PLANT	SHEET CONTENTS: Process Flow Diagram	SHEET NO: 2 / 2

EEDF18, REV. 00, APRIL 2019

Republic of the Philippines
METROPOLITAN NAGA WATER DISTRICT
40 J. Miranda Avenue, Naga City

ENGINEERING AND ENVIRONMENT DEPARTMENT
IMPLEMENTATION SCHEDULE (BAR CHART)

SUPPLY, BUILD, INSTALLATION, COMMISSIONING AND PROCESS PROVING OF FIVE (5) MLD BICOL RIVER SURFACE WATER TREATMENT PLANT
(INFRA 2020-012)
Sitio Pagdaicon, Bgy. Mabolo, Naga City

IMPLEMENTATION SCHEDULE (BAR CHART)

DESCRIPTION	QUANTITY	2020-2021											
		MONTH 1	MONTH 2	MONTH 3	MONTH 4	MONTH 5	MONTH 6	MONTH 7	MONTH 8	MONTH 9	MONTH 10	MONTH 11	MONTH 12
1 SUPPLY, BUILD AND INSTALLATION OF FIVE (5) MLD BICOL RIVER SURFACE WATER TREATMENT PLANT													
A. General Requirements													
1 Mobilization/Demobilization	1 lot												
2 Permits and Regulatory Compliance	1 lot												
3 Temporary/Engineer's Facilities	1 lot												
4 Health & Safety Requirements	1 lot												
5 Engineering Design	1 lot												
6 Project Management	1 lot												
B. Site Development Works -WTP Area													
1 Site Clearing, Grubbing and Ground Preparation	1 lot												
2 Perimeter Fence (6" CHB combination with Cyclone Wire)	1 lot												
3 Entrance Gate and Utility Gate (5.0m width Light Steel, Fully Welded)	1 lot												
4 Internal Site Drainage (interconnection to existing outfall - by others)	1 lot												
5 Gravel Surfacing (50mm thk)	1 lot												
6 Care of Water (Dewatering, etc)	1 lot												
C. Intake Structure													
1 Intake Structure 5MLD Capacity	1 lot												
D. WTP Treatment Process and Technology													
1 5MLD (Two Trains at 500NTU) Tube Settlers Clarifier System inclusive of all electro-mechanical works, appurtenances, installation, start-up and supervision within WTP System													
a. Procurement and Delivery	1 lot												
b. Installation	1 lot												
2 5MLD (Two Trains at 500NTU) Flat Sheets UF (Using Flat-Sheet Ultrafiltration Membrane Modules with Filter Pore Size ranges from a minimum of 0.03micron up to 0.05micron) - fully automated, inclusive of all electro-mechanical works, appurtenances, installation, start-up and supervision within WTP system	1 lot												
a. Procurement and Delivery	1 lot												
b. Installation	1 lot												
D. Civil Works													
1 Clarifier Foundation (2 units)/UF Tank (2 units)	1 lot												
2 Sludge Canal/Lagoon/Drain Vault	1 lot												
3 Power and Control House(30sq.m.)	1 lot												
E. Commissioning and Process-Proving	1 lot												

LEGEND: Planned

Prepared by:
SHARMAINE E. BRACIA
PPDO-A

Checked by:
SONJUN D. MILLARES
OIC, PDCD

Recommending Approval:
VICENTE ANICETO D. RUBIO
OIC, EED & OIC-AGM, O&TS

Approved:
VIRGILIO B. LUANSING I
General Manager A