



**LWUA – ADB PROCUREMENT PACKAGE 6
 PROCUREMENT OF GOODS FOR SOURCE DEVELOPMENT AND PIPELINE PROJECTS**

**“ANNEX F”
 PACKAGE 6 LOT 1 LIST OF MATERIALS**

Lot 1. SUPPLY OF PIPES AND FITTINGS:			
No.	Description	QTY	UNIT
1	Adapter 150mmØ MJ/F	51	pcs
2	Adapter 100mmØ MJ/F	5	pcs
3	ARV 50mm D-040 (Combination Air) MT	66	pcs
4	Clamp 100mmØ x 50mmØ Saddle (CI)	4	pcs
5	Clamp 150mmØ x 19mmØ Saddle (CI)	10	pcs
6	Clamp 150mmØ x 50mmØ Saddle (CI)	20	pcs
7	Clamp 200mmØ x 19mmØ Saddle (CI)	30	pcs
8	Clamp 200mmØ x 50mmØ Saddle (CI)	60	pcs
9	Clamp 250mmØ x 19mmØ Saddle (CI)	7	pcs
10	Clamp 250mmØ x 50mmØ Saddle (CI)	11	pcs
11	Clamp 75mmØ x 19mmØ Saddle (CI)	8	pcs
12	Clamp 75mmØ x 50mmØ Saddle (CI)	7	pcs
13	Clamp 50mmØ x 19mmØ Saddle (CI)	5	pcs
14	Coupling Sleeve Type for G.I 150mmØ	2	pcs
15	Coupling Sleeve Type for G.I 250mmØ	15	pcs
16	Coupling Sleeve Type for GI 200mmØ	10	pcs
17	Coupling Sleeve Type for PVC 100mmØ	25	pcs
18	Coupling Sleeve Type for PVC 150mmØ	50	pcs
19	Coupling Sleeve Type for PVC 200mmØ	161	pcs
20	Coupling Sleeve Type for PVC 250mmØ	54	pcs
21	Coupling Sleeve Type for PVC 75mmØ	50	pcs
22	Coupling Sleeve Type for PVC 50mmØ	1	pcs
23	Elbow 150mmØ x 22.5° MJ/MJ (CI)	25	pcs
24	Elbow 150mmØ x 22.5° PVC, Single Hub	10	pcs
25	Elbow 150mmØ x 45° MJ/MJ (CI)	25	pcs
26	Elbow 150mmØ x 45° PVC, Single Hub	10	pcs
27	Elbow 150mmØ x 90° MJ/MJ (CI)	5	pcs
28	Elbow 200mmØ x 22.5° MJ/MJ (CI)	90	pcs
29	Elbow 200mmØ x 22.5° PVC, Single Hub	70	pcs
30	Elbow 200mmØ x 45° MJ/MJ (CI)	104	pcs
31	Elbow 200mmØ x 45° PVC, Single Hub	69	pcs

32	Elbow 200mmØ x 90° MJ/MJ (CI)	13	pcs
33	Elbow 250mmØ x 22.5° MJ/MJ (CI)	48	pcs
34	Elbow 250mmØ x 22.5° PVC, Single Hub	30	pcs
35	Elbow 250mmØ x 45° MJ/MJ (CI)	62	pcs
36	Elbow 250mmØ x 45° PVC, Single Hub	30	pcs
37	Elbow 250mmØ x 90° MJ/MJ (CI)	17	pcs
38	Elbow 75mmØ x 90° MJ/MJ	14	pcs
39	Elbow 75mmØ x 22.5° MJ/MJ (CI)	38	pcs
40	Elbow 75mmØ x 45° MJ/MJ (CI)	56	pcs
41	Elbow 100mmØ PVC, Single Hub	50	pcs
42	End Cap 150mm MJ/MJ (CI)	10	pcs
43	End Cap 200mm MJ/MJ (CI)	30	pcs
44	End Cap 250mm MJ/MJ (CI)	7	pcs
45	End Cap 75mm MJ/MJ (CI)	8	pcs
46	Pipe 100mmØ x 6.0m S-8 w/ Rubber Gasket (PVC)	400	pcs
47	Pipe 150mmØ x 6.0m S-8 w/ Rubber Gasket (PVC)	897	pcs
48	Pipe 150mmØ x 6.0m Sch. 40 G.I	11	pcs
49	Pipe 200mmØ x 6.0m S-8 w/ Rubber Gasket (PVC)	2727	pcs
50	Pipe 200mmØ x 6.0m Sch. 40 G.I	22	pcs
51	Pipe 250mmØ x 6.0m Sch. 40 G.I	36	pcs
52	Pipe 250mmØ x 6.0m S-8 w/ Rubber Gasket (PVC)	412	pcs
53	Pipe 75mmØ x 6.0m S-8 w/ Rubber Gasket (PVC)	668	pcs
54	Reducer 200mmØ x 150mmØ MJ/MJ (CI)	3	pcs
55	Reducer 100mmØ x 50mmØ MJ/MJ (CI)	1	pcs
56	Reducer 250mmØ x 200mmØ MJ/MJ (CI)	1	pcs
57	Tee 100mmØ x 100mmØ MJ/F	4	pcs
58	Tee 150mmØ x 150mmØ MJ/F (CI)	10	pcs
59	Tee 150mmØ x 150mmØ MJ/MJ (CI)	2	pcs
60	Tee 150mmØ x 75mmØ MJ/MJ (CI)	3	pcs
61	Tee 200mmØ x 150mmØ MJ/F (CI)	34	pcs
62	Tee 200mmØ x 200mmØ MJ/MJ (CI)	2	pcs
63	Tee 200mmØ x 75mmØ MJ/MJ (CI)	5	pcs
64	Tee 250mmØ x 150mmØ MJ/F	7	pcs
65	Tee 250mmØ x 100mmØ MJ/MJ (CI)	1	pcs
66	Tee 250mmØ x 100mmØ MJ/F (CI)	1	pcs
67	Tee 50mmØ x 50mmØ MJ/MJ (CI)	1	pcs
68	Valve 100mmØ Check	1	pcs
69	Valve 100mmØ Gate F/F (MS-NRS)	5	pcs
70	Valve 100mmØ Gate MJ/MJ (MS-NRS)	5	pcs
71	Valve 150mmØ Check	7	pcs
72	Valve 150mmØ Gate F/F (MS-NRS)	51	pcs
73	Valve 150mmØ Gate MJ/MJ (MS-NRS)	18	pcs
74	Valve 200mmØ Check	11	pcs
75	Valve 200mmØ Gate MJ/MJ (MS-NRS)	46	pcs
76	Valve 250mmØ Gate MJ/MJ (MS-NRS)	13	pcs
77	Valve 250mmØ Gate Pressure Sustaining	1	pcs
78	Valve 50mmØ Ball w/ Lockwings	61	pcs
79	Valve 75mmØ Check	6	pcs

80	Valve 75mmØ Gate MJ/MJ (MS-NRS)	16	pcs
81	Valve 50mmØ Gate MJ/MJ (MS-NRS)	1	pcs
82	Valve Pad Cover 150mm (Steel)	135	pcs
83	Valve 50mm Ball w/ Lockwings	5	pcs
84	Warning Tape 50mm @250m/roll	165	pcs
85	Wye 200mmØ x 150mmØ MJ/MJ (CI)	1	pcs
86	Wye 200mmØ x 200mmØ MJ/MJ CI	3	pcs
87	Wye 250mmØ x 200mmØ MJ/MJ CI	1	pcs
88	Wye 250mmØ x 250mmØ MJ/MJ CI	1	pcs



**LWUA – ADB PROCUREMENT PACKAGE 6
 PROCUREMENT OF GOODS FOR SOURCE DEVELOPMENT AND PIPELINE PROJECTS**

**“ANNEX G”
 PACKAGE 6 LOT 2 COMPONENTS**

LOT 2. SUPPLY AND INSTALLATION OF EQUIPMENT AND APPURTENANCES			
1	Chlorine Gas Feeder w/ Complete Accessory	3	lot
	Includes spare tools fittings:		
	Lead Gasket (250pcs)		
	Chlorine Resistant Tube (50m)		
	Spare Equipment Fittings (2pcs each)		
	Splitter with Regulator		
2	Ground Modular Steel Tank 1,500 cu.m	1	lot
	Application: Potable Water Storage		
	Capacity: 1,500cu.m.		
	Deck LiveLoad: 1.20 Kpa		
	Wall: 1.8mm wall sheeting (bottom)		
	1.2mm wall sheeting (top)		
	Currogated Zinc and Aluminum Steel		
	Roof: Currogated Dome Roof		
	Liner: Polyethylene (PE), 5 Layers, Food Grade, UV Treated		
	Layer includes: 1 matalocene, 3 polyethylene, 1 wooven scrim		
	Inclusions:		
	FRP Internal Ladder and External Caged Ladder, HDG platform		
	Heavy duty lockable access hatch		
	Inlet Deflectors, Water Level Indicator		
	Bell Mouthed Over Flow, Roof Ventilator		
	Vermin Proofing (Roof to Wall Seal)		
	Tank Bolt Down Brackets, Anti-vortex Outlet Fittings		
	Geotextile Matting under Liner		
	Sacrificial Anodes		
	Concrete Ring Beam and Platform		
	Ground/Base Preparation and Field Density Test		
	Digital Display, Water Volume Indicator		
	External Nozzles w/ Valves:		

	2 units 250mmØ Inlet		
	3 units 200mmØ Outlet		
	1 unit 200mmØ Overflow		
	1 unit 200mmØ Drain + Drain Pipe Length		
3	Modular Mechanized Clarifier and Flocculation Tank	1	lot
	a.) Capacity: Q=150 lps (2 units) - Chamber Type		
	b.) Turbidity Level of Raw Water to be Treated=1000 NTU		
	c.) Inlet pipe=250mmØ line		
	d.) Compact Design Inclusion: -Clarifier, flocculation, Filtration System and Water Treatment & Disinfection		
	The treatment plant shall be capable of meeting the mandatory requirements of the Philippine National Standards for Drinking Water (PNSWD) 2017		
	e.) Q (output)=80 lps (per unit)		
	f.) Piping System- provision for tapping point to connect pipeline network- 100meters- 200mmØ (OUTLET)		
	g.) One (1) Hectare Lot-Site Development (concrete fencing and concrete base) with road network		
	h.) Can Withstand Magnitude 8.0 Earthquake		
	i.) Free delivery, installation, commissioning, performance testing and product demonstration/training.		
4	Installation of hydro-electric power facility.	1	lot
	<i>Inclusions:</i>		
	1 unit 10 KW Hydro-electric turbine		
	1 lot Turbine Control Room		
	1 lot Transformer, Panel, and Storage Batteries		
	1 lot installation and configuration services		
	1 lot additional necessary accessories		
5	Safety Provisions	3	lot
	Includes the following		
	Chemical Resistant Rubber Gloves - 5 Pairs		
	Full-Face Gas Mask - 5 sets		
	First Aide Cabinet		
	Rubber Boots - 5 Pairs		



Republic of the Philippines
METRO KIDAPAWAN WATER DISTRICT
Lanao, Kidapawan City
Tel nos. (064)577-1533, 577-1865, Fax no. (064) 572-5555
E-mail Address: metrokidapawan_wd@yahoo.com
Website: www.metrokidapawanwd.gov.ph
Committed to Service, Development and Self-Reliance



ISO 9001:2015
Certified
Cert. No. 66478

LWUA – ADB PROCUREMENT PACKAGE 6 PROCUREMENT OF GOODS FOR SOURCE DEVELOPMENT AND PIPELINE PROJECTS

“ANNEX C” TECHNICAL SPECIFICATIONS AND GENERAL NOTES



TERMS OF REFERENCE

Notongon and Matiboggo Spring Source Development

DESCRIPTION

SPECIFICATION

Labor Cost

- | | |
|--|--|
| <p>1 Solar Power Installation</p> <p>a. Labor and materials</p> <p>b. Installation of 20 units Solar Powered</p> | <p>> Led Solar Power (100watts) High quality / Water Proof</p> <p>> Steel Pole - 4mtr -50mmø G.I Pipe sch-40 from the Finish Grade Line</p> |
| <p>2 Hauling and Mobilization of Materials</p> | <p>> Contractor should provide a brand new 6-wheeler 18 ft-dropside truck vehicle for the hauling of materials to job site. The Contractor should also turn-over the vehicle after the end of the contract to the district through a Deed of Donation.</p> <p>> Contractor should finish hauling of materials two (2) weeks before the project will start.</p> <p>> Contractor will submit materials delivery report after per delivery and be noted by the project facilitator</p> <p>> Sand and gravel materials must be inspected first by the project facilitator before hauling on the job site.</p> <p>> Withdrawal of cement (portland) and water proofing compound will be per monthly requirement of the agency for the duration of the project (the supplier will be informed 7 days before the items are needed).</p> <p>> Lumber and other construction materials must be inspected first by the project facilitator before hauling on the job site.</p> |
| <p>a. Area 1</p> <p>1. Hauling of Construction materials to Notongon Settlement area (Buhay)</p> <p>2. Hauling of Construction materials from Notongon Settlement area to Job Site</p> | |
| <p>b. Area 2</p> <p>1. Hauling of construction materials to Sitio Apoy-Apoy (Buena Vida)</p> <p>2. Hauling of construction materials from Sitio Apoy-Apoy to Job Site</p> | |

c. Area 3

1. Hauling of materials (Pipes and Fittings) @ Brgy. Buhay Brgy. Hall
2. Hauling of materials for concrete works @ Brgy. Buhay Brgy. Hall

d. Area 4

1. Hauling of materials (Pipes and Fittings) @ Brgy. Buena Vida Brgy. Hall
2. Hauling of materials for concrete works @ Brgy. Buena Vida Brgy. Hall

e. Area 5

1. Hauling of materials (Pipes and Fittings) @ Brgy. Garsika Brgy. Hall
2. Hauling of materials for concrete works @ Brgy. Garsika Brgy. Hall

f. Area 6

1. Hauling of materials (Pipes and Fittings) @ Brgy. New Cebu Brgy. Hall
2. Hauling of materials for concrete works @ Brgy. New Cebu Brgy. Hall

g. Area 7

1. Hauling of materials (Pipes and Fittings) @ Makilala Reservoir 1 @ Brgy. Poblacion
2. Hauling of materials for concrete works @ Makilala Reservoir 1 @ Brgy. Poblacion

3 Carpentry, Masonry, Concrete Works, Painting

A.1. Area 1 Notongon Intake Box

a. Foreman

> Contractor should provide the manpower, with minimum requirement of 1 foreman / 5 Skilled Carpenter / 5 Skilled Mason / 20 Laborer

b. Skilled Manson

> Contractor should acquire manpower where the project is implemented.

c. Skilled Carpenter

> Contractor should provide PPE's to the manpower, *(please see attached list)* .

d. Skilled Painter

> Contractor should provide life Insurance to the manpower.

e. Laborer

> Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% accomplishment

> Manpower should provide each personal tools *(Please see attached list)*

> Contractor should provide bunkhouse on the jobsite (storage of materials / visitors area). *Please refer to Sheets No. A/08, A/09, S/02, P/01 and E/01 of the technical drawings.*

> Contractor should start the workforce from 7:00am to 4:00pm

> Contractor should provide signage on the job site like (Safety First / No PPE's no Entry / No Smoking area)

> Contractor should inform the project facilitator for final inspection and report will be prepared for acceptance of the project.

A-2. Area 1 Notongon Utility Shed and Storage Room

> Contractor should provide manpower, with minimum requirement of 1 foreman / 2 Skilled Carpenter / 2 Skilled Mason / 6 Laborer

a. Foreman

> Contractor should acquire manpower where the project is implemented.

b. Skilled Manson

> Contractor should provide PPE's to the manpower, *(please see attached list)* .

c. Skilled Carpenter

> Contractor should provide life Insurance to the manpower.

d. Skilled Painter

e. Laborer

> Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% accomplishment

> Manpower should provide each personal tools *(Please see attached list)* .

- > Contractor should start the workforce from 7:00am to 4:00pm
- > Contractor should provide signage on the job site like (Safety First / No PPE's no Entry / No Smoking area)
- > Contractor should inform the project facilitator for final inspection and report will be prepared for acceptance of the project.

A-3. Area 1 Notongon Treatment Facility

- a. Foreman
- b. Skilled Manson
- c. Skilled Carpenter
- d. Skilled Painter
- e. Laborer

- > Contractor should provide manpower, with a minimum requirement of 1 foreman / 2 Skilled Carpenter / 2 Skilled Mason / 6 Laborer
- > Contractor should acquire manpower where the project is implemented.
- > Contractor should provide PPE's to the manpower, *(please see attached list)* .
- > Contractor should provide life Insurance to the manpower.
- > Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% accomplishment
- > Manpower should provide each personal tools *(please see attached list)* .
- > Contractor should start the workforce from 7:00am to 4:00pm
- > Contractor should provide signage on the job site like (Safety First / No PPE's no Entry / No Smoking area)
- > Contractor should inform the project facilitator for final inspection and report will be prepared for acceptance of the project.

A-4. Area 1 Notongon Guard House

- a. Foreman
- b. Skilled Manson
- c. Skilled Carpenter
- d. Skilled Painter
- e. Laborer

- > Contractor should provide manpower, with a minimum requirement of 1 Skilled Carpenter / 1 Skilled Mason / 4 Laborer
- > Contractor should acquire manpower where the project is implemented.
- > Contractor should provide PPE's to the manpower, *(please see attached list)* .
- > Contractor should provide life Insurance to the manpower.
- > Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% accomplishment
- > Manpower should provide each personal tools *(please see attached list)*.
- > Contractor should start the workforce from 7:00am to 4:00pm
- > Contractor should provide signage on the job site like (Safety First / No PPE's no Entry / No Smoking area)
- > Contractor should inform the project facilitator for final inspection and report will be prepared for acceptance of the project.

A-5. Area 1 Notongon Monitoring Station

- > Contractor should provide manpower, with minimum requirement of 1 Skilled Carpenter / 1 Skilled Mason / 4 Laborer

- a. Foreman
- b. Skilled Manson
- c. Skilled Carpenter
- d. Skilled Painter
- e. Laborer

- > Contractor should acquire manpower where the project is implemented.
- > Contractor should provide PPE's to the manpower (please see attached list).
- > Contractor should provide life Insurance to the manpower.
- > Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% accomplishment
- > Manpower should provide each personal tools (please see attached list) .
- > Contractor should start the workforce from 7:00am to 4:00pm
- > Contractor should provide signage on the job site like (Safety First / No PPE's no Entry / No Smoking area)
- > Contractor should inform the project facilitator for final

A-6. Area 1 Notongon Settlement Bunkhouse

- a. Foreman
- b. Skilled Manson
- c. Skilled Carpenter
- d. Skilled Painter
- e. Laborer

- > Contractor should provide manpower, with minimum requirement of 1 foreman / 4 Skilled Carpenter / 2 Skilled Mason / 10 Laborer
- > Contractor should acquire manpower where the project is implemented.
- > Contractor should provide PPE's to the manpower (please see attached list) .
- > Contractor should provide life Insurance to the manpower.
- > Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% accomplishment
- > Manpower should provide each personal tools (please see attached list) .
- > Contractor should start the workforce from 7:00am to 4:00pm
- > Contractor should provide signage on the job site like (Safety First / No PPE's no Entry / No Smoking area)
- > Contractor should not demolish the bunkhouse , it should be restored any damages during the project. As agree during the MOA signing the bunkhouse will be turn-over to the Settlement to be use as Tribal Hall. Part of the Bunkhouse, construction of Comfort Room and installation of water service line.
- > Contractor should improve the existing water system of the Settlement area as part during the MOA signing.
- > Contractor should inform the project facilitator for final inspection and report will be prepared for acceptance of the project.

B-1. Area 2 Matibogo Intake Box

- a. Foreman
- b. Skilled Manson
- c. Skilled Carpenter
- d. Skilled Painter
- e. Laborer

- > Contractor should provide manpower, with minimum requirement of 1 foreman / 5 Skilled Carpenter / 5 Skilled Mason / 20 Laborer
- > Contractor should acquire manpower where the project is implemented.
- > Contractor should provide PPE's to the manpower (please see attached list) .
- > Contractor should provide life Insurance to the manpower.

- > Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% accomplishment
- > Manpower should provide each personal tools (please see attached list) .
- > Contractor should provide bunkhouse on the jobsite (storage of materials / visitors area), Please refer to Sheets No. A/08, A/09, S/02, P/01 and E/01 of the technical drawings.

- > Contractor should start the workforce from 7:00am to 4:00pm
- > Contractor should provide signage on the job site like (Safety First / No PPE's no Entry / No Smoking area)
- > Contractor should inform the project facilitator for final inspection and report will be prepared for acceptance of the project.

B-2. Area 2 Matibogo Utility Shed and Storage Room

- a. Foreman
- b. Skilled Manson
- c. Skilled Carpenter
- d. Skilled Painter
- e. Laborer

- > Contractor should provide manpower, with minimum requirement of 1 foreman / 2 Skilled Carpenter / 2 Skilled Mason / 6 Laborer
- > Contractor should acquire manpower where the project is implemented.
- > Contractor should provide PPE's to the manpower (please see attached list).
- > Contractor should provide life Insurance to the manpower.

- > Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% accomplishment
- > Manpower should provide each personal tools (please see attached list) .
- > Contractor should start the workforce from 7:00am to 4:00pm
- > Contractor should provide signage on the job site like (Safety First / No PPE's no Entry / No Smoking area)
- > Contractor should inform the project facilitator for final inspection and report will be prepared for acceptance of the project.

B-3. Area 2 Matibogo Treatment Facility

- a. Foreman
- b. Skilled Manson
- c. Skilled Carpenter
- d. Skilled Painter
- e. Laborer

- > Contractor should provide manpower with minimum requirement of 1 foreman / 2 Skilled Carpenter / 2 Skilled Mason / 6 Laborer
- > Contractor should acquire manpower where the project is implemented.
- > Contractor should provide PPE's to the manpower (please see attached list) .
- > Contractor should provide life Insurance to the manpower.

- > Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% accomplishment
- > Manpower should provide each personal tools (please see attached list) .
- > Contractor should start the workforce from 7:00am to 4:00pm

B-4. Area 2 Matibogo Guard House

- a. Foreman
- b. Skilled Manson
- c. Skilled Carpenter

- d. Skilled Painter
- e. Laborer

- > Contractor should provide signage on the job site like (Safety First / No PPE's no Entry / No Smoking area)
- > Contractor should inform the project facilitator for final inspection and report will be prepared for acceptance of the project.

- > Contractor should provide manpower with minimum requirement of 1 Skilled Carpenter / 1 Skilled Mason / 4 Laborer
- > Contractor should acquire manpower where the project is implemented.
- > Contractor should provide PPE's to the manpower (*please see attached list*).
- > Contractor should provide life Insurance to the manpower.

- > Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% accomplishment
- > Manpower should provide each personal tools (*please see attached list*).
- > Contractor should start the workforce from 7:00am to 4:00pm
- > Contractor should provide signage on the job site like (Safety First / No PPE's no Entry / No Smoking area)
- > Contractor should inform the project facilitator for final inspection and report will be prepared for acceptance of the project.

B-5. Area 2 Matibogo Monitoring Station

- a. Foreman
- b. Skilled Manson
- c. Skilled Carpenter

- d. Skilled Painter
- e. Laborer

- > Contractor should provide manpower with minimum requirement of 1 Skilled Carpenter / 1 Skilled Mason / 4 Laborer
- > Contractor should acquire manpower where the project is implemented.
- > Contractor should provide PPE's to the manpower (*please see attached list*).
- > Contractor should provide life Insurance to the manpower.

- > Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% accomplishment
- > Manpower should provide each personal tools (*please see attached list*).
- > Contractor should start the workforce from 7:00am to 4:00pm
- > Contractor should provide signage on the job site like (Safety First / No PPE's no Entry / No Smoking area)
- > Contractor should inform the project facilitator for final inspection and report will be prepared for acceptance of the project.

B-6. Area 2 Matibogo Water Turbine (Power Supply)
Please see Water Turbine Specifications

- a. Foreman
- b. Skilled Manson

- > Contractor should provide manpower with minimum requirement of 1 Foreman / 3 Skilled Carpenter / 3 Skilled Mason / 20 Laborer
- > Contractor should acquire manpower where the project is implemented.

c. Skilled Carpenter

> Contractor should provide PPE's to the manpower (please see attached list).

d. Skilled Painter

> Contractor should provide life Insurance to the manpower.

e. Laborer

> Contractor should hire specialist on water turbine for power supply.

> Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% accomplishment

> Manpower should provide each personal tools (please see attached list).

> Contractor should start the workforce from 7:00am to 4:00pm

> Contractor should provide signage on the job site like (Safety First / No PPE's no Entry / No Smoking area)

> Contractor should inform the project facilitator for final inspection and report will be prepared for acceptance of the project.

4 Pipes and Fittings Installation

a. Earthworks Services (Excavation and

> Contractor should provide PPE's to the manpower (please see attached list).

2. Interconnection and Blow-Offs

> Manpower should provide each personal tools (please see attached list).

3. Pressure and Leak Test Activity

> Contractor should provide 6 personnel per group / 20 group per Barangay

4. ARV Installation

> Contractor should provide life Insurance to the manpower.

5. Concrete Works

> Contractor should acquire manpower where the project is implemented.

> Contractor should finish the project based on the projected project duration.

> Contractor should turn-over the hydrotesting machine to the implementing agency after the project is finished.

> Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% accomplishment

> Contractor should inform the project facilitator during leak test activity by section.

> During leak test activity , the Contractor should maintain the line pressure to 150psi with in 24 hours duration.

> After leak test activity by section ,the Contractor should provide report on the leak test activity and be noted by the project facilitator.

> Pipe river / creek crossing installation will be conformed first to the project facilitator by the contractor before implementation.

> ARV and Blow-Offs installation will be conformed first to the project facilitator by the contractor before implementation.

> Valve Box Cover ,Concrete Pad and other related concrete works will be conformed first to the project facilitator by the contractor before implementation.

> Revision of pipe trench / design plan should conformed first to the project facilitator by the contractor before implementation.

> During pipe trench activity, Contractor should inform the project facilitator before laying the pipeline to ensure the pipe trench is on standard.

> Contractor should inform the project facilitator for final inspection and report will be prepared for acceptance of the project.

> Contractor should provide brandnew Chainblock with Base Plate during pipe installation and other related activity.

> Contractor will turn over the Chainblock after the contract is finished

5 Site Clearing, Preparation and Development
a. Area 1 Notongon Spring

1. Clearing at the job site before project implementation

> Contractor should provide manpower with minimum requirement of 6 personnel per group / 20 group at Notongon area for clearing .

2. Clearing at the job site after the project is finished.

> Contractor should provide PPE's to the manpower (*please see attached list*).

3. Job site should be free from debris / embankment materials

> Contractor should acquire manpower where the project is implemented.

3. Construction of concrete pathway to job site.

> Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% accomplishment

4.. Road restoration from CADT area to Settlement area

> Contractor should provide manpower with minimum requirement of 2 Skilled Carpenter / 4 Skilled Mason / 20 Laborer for construction of pathway

5. Solar Power panel Installation from Settlement area to Job Site

> Contractor should improvement t he water system of Settlement area as part of the MOA.

6. Improvement of water system at Settlement area

> Contractor should Install thirty (30) units of100watts Solar powered from Settlement area to Job Site.

6. Installation of railing / safety gear / safety harness to landside prone area.

> Contractor should construct concrete pathway from Settlement area to Job Site .

6. Installation of warning sign / signages

> Contractor should repair / improve the access road from CADT area to Settlement area.

7. Landscaping at the intake box area

> After the project is finished, Contractor should ensure the job site are free from debris and other embankment materials.

> Contractor should installed warning sign / signages from Settlement area to Job site.

b. Area 2 Matibogo Spring

1. Clearing at the job site before project implementation
2. Clearing at the job site after the project is finished.
3. Job site should be free from debris / embankment materials
3. Construction of concrete pathway to job site.
- 4.. Road restoration from CADT area to Settlement area
5. Solar Power panel Installation from Settlement area to Job Site
6. Improvement of water system at Settlement area
6. Installation of railing / safety gear / safety harness to landside prone area.
6. Installation of warning sign / signages
7. Landscaping at the intake box area

- > Contractor should abide the green program of the MKWD (plants , clean and landscape the area)
- > Contractor should start the workforce from 7:00am to 4:00pm
- > Contractor should inform the project facilitator for final inspection and report will be prepared for acceptance of the project.

- > Contractor should provide manpower with minimum requirement of 6 personnel per group / 20 group at Matibogo area for clearing .
- > Contractor should provide PPE's to the manpower (*please see attached list*).
- > Contractor should acquire manpower where the project is implemented.
- > Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% accomplishment
- > Contractor should provide manpower with minimum requirement of 2 Skilled Carpenter / 4 Skilled Mason / 20 Laborer for construction of pathway
- > Contractor should improvement the water system of Settlement area as part of the MOA.
- > Contractor should Install thirty (30) units of 100watts Solar powered from Settlement area to Job Site.
- > Contractor should construct concrete pathway from Settlement area to Job Site .
- > Contractor should repair / improve the access road from CADT area to Settlement area.
- > After the project is finished, Contractor should ensure the job site are free from debris and other embankment materials.

- > Contractor should installed warning sign / signages from Settlement area to Job site.
- > Contractor should abide the green program of the MKWD (plants , clean and landscape the area)
- > Contractor should start the workforce from 7:00am to 4:00pm
- > Contractor should inform the project facilitator for final inspection and report will be prepared for acceptance of the project.

c. Area 3 Brgy. Buhay / Brgy Buena Vida / Brgy. Garsika / Brgy. New Cebu / Brgy. Poblacion

- a. Clearing on the job site (Pipeline)
- b. Clearing on the job site (Concrete Works)
- c. Free form Debris and other embankment materials

- > Contractor should provide manpower with minimum requirement of 6 personnel per group / 5 group per Barangay
- > After the project is finished, Contractor should ensure the job site are free from debris , construction materials and other embankment materials.
- > Contractor should inform the project facilitator for final inspection and report will be prepared for acceptance of the project.

6 Steel Works

- > The Contractor should provide manpower with minimum requirement of one (1) foreman, five (5) skilled steelman, and twenty (20) laborers.

- > The Contractor should acquire manpower where the project is implemented
- > The Contractor should provide necessary PPE's to the manpower *(please see attached list)*.
- > The Contractor should provide life insurances to the manpower
- > Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% accomplishment
- > The Contractor should provide brandnew welding machine and portable GenSet for the steel work activity.
- > The Contractor should provide Steel H-Frame for scaffolding purposes
- > The Contractor will turn-over the steel H-frame after the contract is finished
- > Construction activities should start from 7:00am to 4:00pm

- > The Contractor will turn-over the welding machine and portable GenSet after the contract is finished
- > Wearing of IDs, proper dress code and PPE's during construction must be strictly observed
- > Any form of gambling, smoking and liquor at job site is strictly prohibited.

- 7 Safety Provisions**
 - a. Road Barricade *(Please see detail)*
 - b. Warning Sign
 - > Contractor should provide warning sign / road barricade during pipe trench activity.
 - > MKWD Standard warning sign design will be provide by MKWD to the Contractor.
 - > Contractor should I turn-over all the warning sign / barricade after the finished of the contract.

- 8 Boulders Hauling and Installation**
 - Area 1: Notongon Spring
 - Area 2: Matibogo Spring
 - a. Hauling of Boulders (For Gabbions)
 - b. Installation of Boulders (For Gabbions)
 - > Contractor should acquire manpower where the project is implemented.
 - > Contractor should provide manpower with minimum requirement of 6 personnel per group / 20 group per area (Notongon / Matibogo)
 - > Hauling of boulders should be located near the job site.

 - > Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% accomplishment

- 9 Equipment and Machineries** *(Please see Summary List for specifications)*
 - a. 1 Bagger Concrete Mixer
 - b. 1 Engine Road Vibratory Plate Compactor
 - c. 1Steel Cutter
 - d. 2 units Backhoe Rental
 - e. 1 Jack Hammer
 - > Contractor should provide brand new bagger concrete mixer, engine road vibratory plate compactor machine, steel cutter, jack hammer during pouring activity and base preparation.

 - > Contractor should turn-over the bagger concrete mixer, Engine Road Vibratory Plate Compactor, steel cutter and jack hammer to the agency after the project is finished.

- 10 Slope Stabilization Mesh System**
 - a. Installation of Coir Mesh (Natural Fiber) and assesories
 - > Contractor should acquire manpower where the project is implemented.

b. Installation of Wire Mesh (High Tensile Steel) and assesories	> Contractor should provide PPE's to the manpower (please see attached list).
c. Planting Materials for Soil Erosion (Vetiver Grass / Balete Trees)	> Contractor should provide life Insurance to the manpower.
	> Contractor should hired specialist on Slope Stabilization Mesh System.
	> Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% accomplishment
	> Contractor should start the workforce from 7:00am to 4:00pm
	> Contractor should plant vetiver grass / Balete tree at Notongon and Matibogo Spring at 1 hectare area respectively.
	> Contractor should installed Coir Mesh (Natural Fiber) and Wire Mesh (High Tensile Steel) at Notongon and Matibogo Spring at 1/2 hectare area respectively.
	> Contractor should provide 6 personnel per group / 10 group per area (Notongon / Matibogo)
	> Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% accomplishment
11 Restoration	> Contractor should provide manpower with minimum requirement of 6 personnel per group / 1 group per area (Notongon / Matibogo)
a. Area 1: Notongon Intake Box	> Contractor should restore the pathway used during the construction period.
b. Area 2 : Matibogo Intake Box	> Job site should be free from debris / embankment materials
12 Labor Only Contractors Services	
a. Assistance / facilitate of RROW from the Brgy. Officials of Brgy. Buena Vida	> Contractor should coordinate the brgy. Official s where the project is implemented for the RROW acquisition in the form of monetary assistance amounting to five thousand pesos (Php. 5,000.00) philippine currency per kilometer
c. Assistance / facilitate of RROW from the Brgy. Officials of Brgy. Garsika	> Contractor should conduct inauguration / tribal ceremony before project implementation.
d. Assistance / facilitate of RROW from the Brgy. Officials of Brgy. New Cebu	> Contractor should conduct turn -over ceremony for the project completion.
e. Assistance / facilitate of RROW from the Brgy.	
f. Contengency on the completion of the	



TECHNICAL SPECIFICATIONS

- Description:
1. Construction of 1,500cum Impounding Structure
 2. Construction of Bunkhouse and Guard House
 3. Construction of Perimeter Fence and Comfort Room
 4. Construction of Utility Shed and Storage Room
 5. Construction of Chlorine Gas Feeder
 6. Electrification
 7. Site Development

<u>ITEM</u>	<u>SCOPE OF WORKS</u>	<u>SPECIFICATIONS</u>
1	Hauling of Materials	
	a. Pipes and Fittings 200mm \varnothing and 250mm \varnothing	> Hauling of Materials from Supplier Drop-off to Datu Odo lot area , Brgy. Buena Vida, Makilaia by Truck/Vehicle
	b. Construction Materials	> Contractor should be finished hauling of materials two (2) week before the project will be start.
	c. Other Materials	> Contractor should turn-over the truck vehicle after finished of the contract.
2	Pipes and Fittings Installation	
	a. Interconnection / Blow Off	> Contractor should hired pipes and fitter that has a recommendation from the MKWD.
	b. Thrust Blocking / Concrete Pad	> Contractor should hired manpower where the project is implemented.
	c. Clearing and Restoration	> Installation of 250mm \varnothing ,200mm \varnothing pipes and fittings will be strap by deformed steel bar and be fulfilled weld. > Curved and bend should be install by elbow fittings and will strap by deformed steel round bars and be fulfilled weld. > Pipe installation will be install with out obstruction ,in the event an obstruction on the way the contractor will inform the project facilitator for site evaluation, > Contractor should provide PPE's to the manpower (Please see attached list). > Any obstruction for pipe installation, it should be detour without damages the existing tress / plants. > Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% physical accomplishment > Contractor should install thrust blocking in all the bend / elbow on the pipeline. > Contractor will restore any damage during construction period. Clearing at the job site that free from debris , construction and other embankment materials.
3	Fabrications / Signages	
	a. Fabrication of Barricades (Please see Steel Barricade details)	> Contractor should provide warning devices and signages on the job site.

a. Fabrication of Signages	> Contractor shall conform to the Occupational Safety and Health Administration (OSHA) Requirements on Safety Signages
4 Construction of Impounding Structure	
1. Site Clearing and earthworks services	> Hauling of Materials from Supplier Drop-off to Datu Odo lot area , Brgy. Buena Vida, Makilala by Truck/Vehicle
2. Masonry, Carpentry, Steel and Painting Works	> Contractor should be finished hauling of materials two (2) week before the project will be start.
3. Machining and other related activity	> Contractor should turn-over the truck vehicle after finished of the contract.
4. Hauling of Materials / Mobilization	> Contractor should provide manpower with minimum requirement of 1 foreman / 1 leadman / 5 Skilled Mason / 5 Skilled Carpenter / 5 Skilled Steelman / 20 laborer
5. Equipment Rental	> Contractor should acquire manpower where the project is implemented.
6. Labor Only Contractor Services	> Manpower should have their own personal tools <i>(Please see attached list)</i> .
7. Clearing and Restoration	<p>> Contractor should provide PPE's to the manpower <i>(Please see attached list)</i>.</p> <p>> Contractor should provide life Insurance to the manpower.</p> <p>> Contractor should provide one- bagger concrete mixer during concrete works activity.</p> <p>> During schedule of pouring activity ,Contractor should inform the project facilitator for final inspection.</p> <p>> Contractor should inform the project facilitator for final inspection on the installation of tiebars and reinforcement bars.</p> <p>> Any modification of the approved design plan, Contractor should inform the project facilitator for evaluation.</p> <p>> Contractor should start the workforce from 7:00am to 4:00pm</p> <p>> Construction of bunkhouse for materials storage and visitor's receiving area. <i>(Please see Sheet No. A/08, A/09, S/02, P/01, E/01 of shop drawings)</i></p> <p>> Contractor should use welding machine during steel works activity</p> <p>> Contractor should provide heavy equipment during compaction activity.</p> <p>> Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% physical accomplishment</p> <p>> Contractor will restore any damage during construction period. Clearing at the job site that free from debris , construction and other embankment materials.</p> <p>> Contractor will turn-over the one (1) unit one bagger concrete mixer after the contract is finished.</p> <p>> Contractor will turn-over the one (1) unit one welding machine after the contract is finished.</p> <p>> Contractor should conduct soil density test and be noted by the project facilitator for results.</p>

> Contractor should conduct tribal ritual (pama-as) ceremony before the project will be start.

> Contractor should conduct blessing ceremony after the project is completed.

5 Construction of Perimeter

> Hauling of Materials from Supplier Drop-off to Datu Odo lot area , Brgy. Buena Vida, Makilala by Truck/Vehicle

> Contractor should be finished hauling of materials two (2) week before the project will be start.

> Contractor should provide manpower with minimum requirement of 1 foreman / 1 leadman / 3 Skilled Mason / 3 Skilled Carpenter / 2 Skilled Steelman or welder/ 20 laborer

> Contractor should acquire manpower where the project is implemented.

> Manpower should have their own personal tools *(Please see attached list)*.

> Contractor should provide PPE's to the manpower *(Please see attached list)*.

> Contractor should provide life Insurance to the manpower.

> Contractor should provide one- bagger concrete mixer during concrete works activity.

> During schedule of pouring activity ,Contractor should inform the project facilitator for final inspection.

> Contractor should inform the project facilitator for final inspection on the installation of tiebars and reinforcement bars.

> Any modification of the approved design plan, Contractor should inform the project facilitator for evaluation.

> Contractor should start the workforce from 7:00am to 4:00pm

> Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% accomplishment

> Contractor will restore any damage during construction period. Clearing at the job site that free from debris , construction and other embankment materials.

5 Construction of Guardhouse

> Hauling of Materials from Supplier Drop-off to Datu Odo lot area , Brgy. Buena Vida, Makilala by Truck/Vehicle

> Contractor should be finished hauling of materials two (2) week before the project will be start.

> Contractor should provide manpower with minimum requirement of 1 foreman / 1 leadman / 2 Skilled Mason / 2 Skilled Carpenter / 10 laborer

> Contractor should acquire manpower where the project is implemented.

> Manpower should have their own personal tools *(Please see attached list)*.

> Contractor should provide PPE's to the manpower *(Please see attached list)*.

> Contractor should provide life Insurance to the manpower.

- > During schedule of pouring activity ,Contractor should inform the project facilitator for final inspection.
- > Contractor should inform the project facilitator for final inspection on the installation of tiebars and reinforcement bars.
- > Any modification of the approved design plan, Contractor should inform the project facilitator for evaluation.
- > Contractor should start the workforce from 7:00am to 4:00pm
- > Construction of bunkhouse for materials storage and visitor's receiving area.
- > Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% physical accomplishment
- > Contractor will restore any damage during construction period. Clearing at the job site that free from debris , construction and other embankment materials.

6 Construction of Comfort Room

- > Hauling of Materials from Supplier Drop-off to Datu Odo lot area , Brgy. Buena Vida, Makilala by Truck/Vehicle
- > Contractor should be finished hauling of materials two (2) week before the project will be start.
- > Contractor should provide manpower with minimum requirement of 1 foreman / 1 leadman / 2 Skilled Mason / 2 Skilled Carpenter / 10 laborer
- > Contractor should acquire manpower where the project is implemented.
- > Manpower should have their own personal tools (*Please see attached list*).
- > Contractor should provide PPE's to the manpower (*Please see attached list*).
- > Contractor should provide life Insurance to the manpower.
- > During schedule of pouring activity ,Contractor should inform the project facilitator for final inspection.
- > Contractor should inform the project facilitator for final inspection on the installation of tiebars and reinforcement bars.
- > Any modification of the approved design plan, Contractor should inform the project facilitator for evaluation.
- > Contractor should start the workforce from 7:00am to 4:00pm
- > Construction of bunkhouse for materials storage and visitor's receiving area (*please see Sheet no. A/08,A/09, S/02, P/01, E/01 of the shop drawings*)
- > Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% physical accomplishment
- > Contractor will restore any damage during construction period. Clearing at the job site that free from debris , construction and other embankment materials.

- 7 Construction of Utility Shed and Storage R
- > Hauling of Materials from Supplier Drop-off to Datu Odo lot area , Brgy. Buena Vida, Makilala by Truck/Vehicle
 - > Contractor should be finished hauling of materials two (2) week before the project will be start.
 - > Contractor should provide manpower with minimum requirement of 1 foreman / 1 leadman / 2 Skilled Mason / 2 Skilled Carpenter / 10 laborer
 - > Contractor should acquire manpower where the project is implemented.
 - > Manpower should have their own personal tools *(Please see attached list)*.
 - > Contractor should provide PPE's to the manpower *(Please see attached list)*.
 - > Contractor should provide life Insurance to the manpower.
 - > During schedule of pouring activity ,Contractor should inform the project facilitator for final inspection.

 - > Contractor should inform the project facilitator for final inspection on the installation of tiebars and reinforcement bars.
 - > Any modification of the approved design plan, Contractor should inform the project facilitator for evaluation.
 - > Contractor should start the workforce from 7:00am to 4:00pm
 - > Construction of bunkhouse for materials storage and visitor's receiving area.
 - > Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% physical accomplishment
 - > Contractor will restore any damage during construction period. Clearing at the job site that free from debris , construction and other embankment materials.

8 Construction of Chlorine Gas Feeder

> Hauling of Materials from Supplier Drop-off to Datu Odo lot area , Brgy. Buena Vida, Makilala by Truck/Vehicle

> Contractor should be finished hauling of materials two (2) week before the project will be start.

> Contractor should provide manpower with minimum requirement of 1 foreman / 1 leadman / 2 Skilled Mason / 2 Skilled Carpenter / 10 laborer

> Contractor should acquire manpower where the project is implemented.

> Manpower should have their own personal tools *(Please see attached list)*.

> Contractor should provide PPE's to the manpower *(Please see attached list)*.

> Contractor should provide life Insurance to the manpower.

> During schedule of pouring activity ,Contractor should inform the project facilitator for final inspection.

> Contractor should inform the project facilitator for final inspection on the installation of tiebars and reinforcement bars.

> Any modification of the approved design plan, Contractor should inform the project facilitator for evaluation.

> Contractor should start the workforce from 7:00am to 4:00pm

> Construction of bunkhouse for materials storage and visitor's receiving area. *Please see Sheet No. A/08, A/09, S/02, P/01, E/01 of the shop drawings*

> Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% physical accomplishment

> Contractor will restore any damage during construction period. Clearing at the job site that free from debris , construction and other embankment materials.

8 Electrification *Please see GenSet Specifications*

> Contractor will provide lighting system and the Generator Set with the facility and its perimeter.

> Contractor will shoulder all necessary documents involving for electrification activity.

9 Site Development

> Contractor should provide manpower with minimum requirement of 1 foreman / 1 leadman / 2 Skilled Mason / 2 Skilled Carpenter / 2 landscaper / 10 laborer

a. Construction of Pathway

> Contractor should acquire manpower where the project is implemented.

b. Installation of Signages

> Manpower should have their own personal tools *(Please see attached list)*..

c. Landscaping of the area

> Any modification of the approved design plan, Contractor should inform the project facilitator for evaluation.

> Contractor will construct pathway with in the perimeter area.

> Contractor will restore and landscape the facility area and its perimeter.



TECHNICAL SPECIFICATIONS

Installation of Transmission Line

- Description:
1. Installation of 250mm \varnothing Pipes and Fittings
 2. Installation of 200mm \varnothing Pipes and Fittings
 3. Installation of Blow-Off and other appurtenances

<u>ITEM</u>	<u>SCOPE OF WORKS</u>	<u>SPECIFICATIONS</u>
1	Hauling of Materials	<ul style="list-style-type: none">> Hauling of Materials from Supplier Drop-off to Datu Odo lot area , Brgy. Buena Vida, Makilala by Truck/Vehicle> Contractor should be finished hauling of materials two (2) week before the project will be start.> Contractor should turn-over the truck vehicle after the end of the contract.
2	Pipes and Fittings Installation	<ul style="list-style-type: none">> Contractor should hire pipes and fitter that has a recommendation from the MKWD.> Contractor should hired manpower where the project is implemented.> Installation of 250mm\varnothing ,200mm\varnothing pipes and fittings will be strap by deformed steel bar and be full weld.> Curved and bend should be install by elbow fittings and will strap by deformed steel round bars and be full weld.> Pipe installation will be install with out obstruction ,in the event an obstruction on the way the contractor will inform the project facilitator for site evaluation,> Contractor should provide PPEs to the manpower (Please see attached list).> Any obstruction for pipe installation, it should be detour without damages the existing tress / plants.> Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% physical accomplishment> Contractor should provide brandnew Chainblock (Please see Summary List for specifications) with Base Plate during pipe installation and other related activity.

> Contractor will turn over the Chainblock after the contract is finished

3 Interconnection and Blow-off

> Contractor should hire pipes and fitter that has a recommendation from the MKWD.

> Contractor should hire manpower where the project is implemented.

> Contractor should inform the project facilitator the location of the blow-off

> 250mmø / 200mmø for Interconnection and blow-offs activity

> Interconnection and blow-off should be install without damage the existing tress / habitat on the job site

> Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% physical accomplishment

> Contractor should inform the project facilitator the location of Air Release Valve.

> 50mmø ARV will be install at 250mmø Steel Pipe / Using welding machine for boring the pipe.

> ARV should be install in the inclined elevation

4 Clearing and Restoration

> Contractor should acquire manpower where the project is implemented.

> Contractor will restore any damage during construction period. Clearing at the job site that free from debris , construction and other embankment materials.



TECHNICAL SPECIFICATIONS

Provision for Treat Plant Facility

- Description:
1. Construction of Treatment Plant Facility
 2. Carpentry/ Masonry & Steel Works
 3. Site Development
 4. Clearing and Restoration

<u>ITEM</u>	<u>SCOPE OF WORKS</u>	<u>SPECIFICATIONS</u>
1	Hauling of Materials	
	a. Pipes and Fittings 250mm \varnothing / 200mm \varnothing	> Phase 1-Hauling of Materials from Supplier Drop-off to Datu Odo lot area , Brgy. Buena Vida by Truck/Vehicle
	b. Contruction Materials	> Contractor should be finished hauling of materials two (2) week before the project will be start. > Contractor should turn-over the truck vehicle after finished of the contract.
2	Pipes and Fittings Installation	
	a. Pipes and Fittings 250mm \varnothing / 200mm \varnothing	> Installation of 200mm \varnothing / 250mm \varnothing Pipes and Fittings for treatment plant facility. > Curved and bend should be install by elbow fittings and will strap by deformed steel round bars and be fulled weld. > Pipe installation will be install with out obstruction ,in the event an obstruction on the way the contractor will inform the project facillitator for site evaluation, > Any obstruction for pipe installation,It should be detour without damages the existing tree / plant (Rubber / Coconut / Mahogany / Gemelina Tree) > Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% physical accomplishment
3	Interconnection	
	a. 250mm / 200mm / 150mm Fittings	> Contractor should inform the project facilitator the location of the blow-off > 250mm \varnothing for interconnection and blow-offs activity

Interconnection and blow-off should be install without damages existing tress / habitat on the job site

> Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% accomplishment

4 Interconnection and Other Appurteannces

> Contractor should inform the project facilitator the location of the blow-off

> 200mmø / 250mmø for Interconnection

> Interconnection and appurtenances should be install without damage pf existing tress / habitat on the job site

> Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% physical accomplishment

5 Thrust Block/Concrete Pad/Restoration

> Contractor should install thrust blocking in all the bend / elbow on the pipeline.

> Thrust Blocking shall be strap with a deformed steel round bar

6 Construction of Treatment Plant Facility

a. Site Clearing and Eatrhworks Services

> Phase 1-Hauling of Materials from Supplier Drop-off to Datu Odo lot area , Brgy. Buena Vida by Truck/Vehicle

b. Carpentry , Masonry , Steel Works and Painting Works

> Contractor should be finished hauling of materials two (2) week before the project will be start.

c. Hauling of materials / Mobilization

> Contractor should provide manpower with minimum requirement of 1 foreman / 1 leadman / 5 Skilled Mason / 5 Skilled Carpenter / 5 Skilled Steelman / 20 laborer

d. Construction of Bunkhouse

> Contractor should acquire manpower where the project is implemented.

e. Equipment Rental

> Contractor should provide PPE's to the manpower (Please see attached list).

e.. Clearing and Restoration

> Contractor should provide life Insurance to the manpower.

> Any modification of the approved design plan, Contractor should inform the project facilitator for evaluation.

> Contractor should provide one- bagger concrete mixer during concrete works activity.

> During schedule of pouring activity ,Contractor should inform the project facilitator for final inspection.

- > Contractor should inform the project facilitator for final inspection on the installation of tiebars and reinforcement bars.
- > Any modification of the approved design plan, Contractor should inform the project facilitator for evaluation.
- > Contractor should start the workforce from 7:00am to 4:00pm
- > Construction of bunkhouse for materials storage and visitors receiving area. *Please see Sheet No. A/08, A/09, S/02, P/01, E/01 of the shop drawing)*
- > Contractor should use welding machine during steel works activity
- > Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% physical accomplishment
- > Contractor will restore any damage during construction period. Clearing at the job site that free from debris , construction materials and other embankment materials.
- > Contractor will turn-over the one (1) unit one bagger concrete mixer after the contract is finished.
- > Contractor should use compactor equipment for compaction of the base.
- > Contractor will turn-over the one (1) unit one welding machine after the contract is finished.
- > Contractor should conduct tribal ritual (pama-as) ceremony before the project will be start.
- > Contractor should conduct blessing ceremony after the project is completed.

7 Site Development

- > Phase 1-Hauling of Materials from Supplier Drop-off to Datu Odo lot area , Brgy. Buena Vida by Truck/Vehicle
- 1. Construction of Pathway
 - > Contractor should be finished hauling of materials two (2) week before the project will be start.
- 2. Landscapping of the area
 - > Contractor should provide manpower with minimum requirement of 1 foreman / 1 leadman / 3 Skilled Mason / 3 Skilled Carpenter / 2 Skilled Steelman or welder/ 1 Landscaper / 20 laborer
- 3. Labor Only Contractors Services
 - > Contractor should acquire manpower where the project is implemented.
- 4. Electrification
 - > Contractor should provide PPE's to the manpower *(Please see attached list)*.

4. Signages

- > Contractor should provide life Insurance to the manpower.
- > Contractor should provide one- bagger concrete mixer during concrete works activity.
- > During schedule of pouring activity ,Contractor should inform the project facilitator for final inspection.
- > Contractor should provide / install signages on the job site (No Smoking / No Enter and etc.
- > Contractor should provide / installation -4 units - 100watts solar powered for Electrification.

- > Contractor should start the workforce from 7:00am to 4:00pm
- > Contractor will restore any damage during construction period. Clearing at the job site that free from debris , construction and other embankment materials.
- > Contractor will landscape the perimeter area of the treatment facility
- > Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% physical accomplishment
- > Contractor should conduct tribal ritual (pama-as) ceremony before the project will be start.
- > Contractor should conduct blessing ceremony after the project is completed.



TECHNICAL SPECIFICATIONS

Installation of Transmission Line

Description: Installation of 132m - 200mm \varnothing / 180m-250mm Pipeline \varnothing with appurtenances

<u>ITEM</u>	<u>SCOPE OF WORKS</u>	<u>SPECIFICATIONS</u>
1	Hauling of Materials	<ul style="list-style-type: none">> Phase 1-Hauling of Materials from Supplier Drop-off to Datu Odo lot area , Brgy. Buena Vida by Truck/Vehicle> Contractor should be finished hauling of materials two (2) week before the project will be start.> Contractor should turn-over the truck vehicle after finished of the contract.
2	Pipes and Fittings Installation	<ul style="list-style-type: none">> Installation of 200mm\varnothing / 250mm\varnothing Pipes and Fittings for treatment plant facility.> Curved and bend should be install by elbow fittings and will strap by deformed steel round bars and be full weld.> Pipe installation will be install with out obstruction ,in the event an obstruction on the way the contractor will inform the project facilitator for site evaluation,> Any obstruction for pipe installation, it should be detour without damages the existing tree / plant (Rubber / Coconut / Mahogany / Gemelina Tree)> Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% physical accomplishment> Contractor should provide brandnew Chainblock (please see Summary List for Specifications) with Base Plate during pipe installation and other related activity.> Contractor will turn over the Chainblock after the contract is finished> The Contractor should provide Steel H-Frame for scaffolding purposes> The Contractor will turn-over the steel H-frame after the contract is finished

3 Interconnection and Other Appurtenances

> Contractor should inform the project facilitator the location of the blow-off

> 200mmØ / 250mmØ for Interconnection

> Interconnection and appurtenances should be install without damage pf existing tress / habitat on the job site

> Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% physical accomplishment

5 Thrust Block/Concrete Pad/Restoration

> Contractor should install thrust blocking in all the bend / elbow on the pipeline.

> Thrust Blocking shall be strap with a deformed steel round bar

5 Construction Works

a. Carpentry Works

> Contractor should provide manpower with minimum requirement of 1 foreman / 1 leadman / 5 Skilled Mason / 5 Skilled Carpenter / 5 Skilled Steelman / 20 laborer

b. Steel Works

> Contractor should acquire manpower where the project is implemented.

c. Masonry Works

> Contractor should provide PPE's to the manpower (Please see attached list).

d. Restorations

> Contractor should provide life Insurance to the manpower.

> Contractor should provide one- bagger concrete mixer during concrete works activity.

> During schedule of pouring activity ,Contractor should inform the project facilitator for final inspection.

> installation of tiebars, and reinforced bars , Contractor should inform the project facilitator for final inspection.

> Any modification of the approved design plan, Contractor should inform the project facilitator for evaluation.

> Contractor should start the workforce from 7:00am to 4:00pm

> Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% accomplishment

> Contractor will turn-over the one (1) unit one bagger concrete mixer after the contract is finished.

> Concrete Boring by Cutting and Chiseling of Existing Intake Box to Allow Installation of Additional 1-unit 250mmØ Fabricated Spool and Stainer

b. Construction of Reinforced Concrete Pedestal Pipe Support (80-Units @ 10m Span)

Construction of Temporary Makeshift Pipe Support using wooden scaffoldings

> Soil Excavation and Backfill of Pipe Support Foundation

> Construction of Forms and Scaffoldings for 250mmØ Steel Pipe Pedestals

> Fabrication of Steel Reinforcements for Steel Support

> Fabrication of Steel Reinforcements for Steel Support

> Construction of Valve Box Cover for Blow-Off and ARV

> Contractor will restore any damage during construction period. Clearing at the job site that free from debris, construction and other embankment materials.

> Contractor will provide bunkhouse for storage of materials and receiving of visitors.

> Retrieval of existing pipelines, Construction materials at the job site to Dam 1 area.

6 Other Services

> Fabrication of ARV Compartment

> Fabrication of 250mmØ Steel Pipe Straps

> Fabrication of Chain Block Metal Stand

> Machining of 250mmØ Fittings

> Removal of Boulders

7 Equipment Rentals

> Contractor should provide / rental of vehicle for hauling purposes.

> Contractor should provide / rental of mechanical excavator for road clearing and restoration purposes.



TECHNICAL SPECIFICATIONS

Installation of Pipeline

<u>ITEM</u>	<u>SCOPE OF WORKS</u>	<u>SPECIFICATIONS</u>
1	Hauling of Materials	<p>a.) Phase 1-Hauling/Withdrawal of Materials from Manongol Reservoir, to Project Site</p> <p>The Contractor should finish hauling of materials in two (2) week before the commencement of the project.</p> <p>The Contractor will submit materials delivery report after per delivery and be noted by the project facilitator</p>
2	Pipes and Fittings Installation <i>(Please see General Notes for complete specifications)</i>	<p>Curved and bend should be install by elbow fittings and will strap by deformed steel round bars and be fullled weld.</p> <p>Pipe installation will be install without obstruction. In the event that an obstruction will be on the way, the contractor will report and inform the project facilitator for site evaluation,</p> <p>If any obstruction for pipe installation is found, pipelines will be detoured without damaging any existing tress.</p> <p>The Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% accomplishment</p> <p>Contractor should provide brandnew Chainblock <i>(please see Summary List for specifications)</i> with Base Plate during pipe installation and other related activity.</p> <p>Contractor will turn over the Chainblock after the contract is finished</p>

3 Interconnection and Blow-off

(Please see General Notes for complete specifications)

The Contractor should inform the project facilitator the location of blow-off.

Interconnection and blow-off should be installed without damaging any existing trees and habitat on the job site.

The Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% accomplishment.

4 Installation of Air-Releasing Valve

(Please see General Notes for complete specifications)

The Contractor should inform the project facilitator the location of Air Release Valve.

Air Release Valve (ARV) should be install in an inclined elevation area.

5 Construction Works

(Please see General Notes for complete specifications)

a. Carpentry Works

The Contractor should provide or hire at least one (1) foreman, one (1) leadman, five (5) skilled mason, five (5) skilled carpenter, five (5) skilled steelman and twenty (20) laborers, or as needed per project.

b. Steel Works

The Contractor should acquire manpower where the project is implemented.

c. Masonry Works

The Contractor should provide PPE's to the manpower *(Please see attached list)*.

d. Restorations

The Contractor should provide life Insurance to the manpower.

The Contractor should provide one- bagger concrete mixer during concrete works activity.

During schedule of concrete pouring activity ,the Contractor should inform the project facilitator for final inspection.

During installation of tiebars, and reinforced bars , Contractor should inform the project facilitator for final inspection.

In case of any modification of the approved design plan, the Contractor should inform the project facilitator for evaluation.

Construction activities should start from- Time in at 7:00am and Time out at 4:00pm

The Contractor should inform the project facilitator on 15%,30%,50%,75% and 90% accomplishment.

The Contractor will turn-over the one (1) unit one bagger concrete mixer after the contract is finished.

Construction of Temporary Makeshift Pipe Support using wooden scaffoldings

Construction of Valve Box Cover for Blow-Off and ARV

The Contractor will restore any damage/s during construction period. Clearing at the job site that free from debris , construction and other embankment materials.

The Contractor will provide bunkhouse for storage of materials and receiving of visitors.

Provision for retrieval of existing pipelines , construction materials at the job site to Dam 1 area.

Wearing of IDs, proper dress code and PPEs during construction must be strictly observed.

Any form of gambling, smoking and liquor at job site is strictly prohibited.

6 Equipment Rentals

> Contractor should provide / rental of vehicle for hauling purposes.

> Contractor should provide / rental of mechanical excavator for road clearing and restoration purposes.

7 Thrust Block/Concrete Pad/Restoration

The Contractor should install thrust blocking in all the bend / elbow on the pipeline.

> Thrust Blocking shall be strap with a deformed steel round bar.

8 Pressure Leak Test and Disinfection

Service Fee

Hydrotesting Machine Rental

The Contractor should inform the project facilitator on the schedule of the leak activity.

During leak test activity , the Contractor should maintain the line pressure to 150psi within 24 hours duration.

After the leak test activity ,the Contractor should provide report on the leak test activity conducted and be noted by the project facilitator.

The Contractor should turn-over the hydrotesting machine to the implementing agency after the project/contract is finished.

9 Fabrications

Fabrication of Barricades

The Contractor should provide warning devices and signages on the job site.



Republic of the Philippines
METRO KIDAPAWAN WATER DISTRICT
 Lanao, Kidapawan City

Tel nos. (064)577-1533, 577-1865, Fax no. (064) 572-5555
 E-mail Address: metrokidapawan_wd@yahoo.com
 Website: www.metrokidapawanwd.gov.ph

"Committed to Service, Development and Self-Reliance"



ISO 9001:2015 Certified
 Cert. No. 66478

SUMMARY OF VEHICLE, EQUIPMENT, MACHINERIES, TOOLS AND FACILITY

The provided list of equipment and machineries are all subject for turn-over to Metro Kidapawan Water District through a Deed of Donation after project completion.

ITEM	DESCRIPTION	QTY
1	Truck / Vehicle 6-wheeler truck 18 feet Dropside 6 Speed Manual Transmission Max Torque 370 Nm at 1600 RPM Max Power Output of 134HP at 2900 RPM 4.90Liter Diesel Engine Up to 6 Ton Chassis Load Capacity	1 unit
2	Bagger Concrete Mixer Concrete Mixer Manual Loading Capacity (unmixed) = 300 ltrs Capacity (mixed) = 200 ltrs Drum Speed (rev/mm) = 20-22 RPM Power Electric Motor = 3 HP Power Diesel Engine = 6.5HP Production Rate =6.8 m ³ /hr	3 units
3	Engine Road Vibratory Plate Compactor Power = 5 HP Weight = 65-90 kg Centrifugal Force = 12-16 kN Vibrating Frequency = 4750 – 4900 VPM Max. Travel Speed = 20 to 25 m/min Plate Size = 510 x 450 mm	2 units
4	Steel Cutting Machine Motor Power = 4 HP Motor Speed = 2880 R/min Diameter of Bar = 6mm – 36mm No Load Speed = 1440 RPM Phase = Single Phase High Durability Optimal Rotational Speed High Load Bearing Capacity	1 unit

5	<p>Welding Machine</p> <p>ARC Welder Type Complete with Electrode Holder, Welding Mask and Ground Clamp with Cable Input Supply = 380 – 440 V Welding Current = 20 – 500 A O.C = 65 – 75V DC Max. Rated = 17 – 25 KVA Input Amps (Max) = 23-30 Class of Protection IP – 21 Class of Insulation = F</p>	1 unit
6	<p>Chain Block</p> <p>Heavy Duty With Tripods Capacity = 3 Tons Standard Lifting Height = 3 meters Test Load = 39.2N Headroom, Hmin = 486mm Chain Pull to full lift load = 343N No. of load chain fall lines = 2 Diameter of Load Chain = 8mm</p>	3 units
7	<p>Air Compressor</p> <p>Power = 2 HP Voltage = 220V 60Hz No. of Cylinder = 1 Phase = 1 Pressure = 70psi Capacity = 36 liters</p>	1 unit
8	<p>Jack Hammer</p> <p>Voltage = 220V 60Hz Input Power = 1600 watts Impact Power = 65 J Impact Frequency = 1900 bpm Heavy Duty</p>	1 unit
9	<p>Portable Generator Set</p> <p>Gasoline Generator 3kW 100% Copper Winding Rated 2800W Max 3000W Single Phase 15 Liters Capacity 4 Strokes Single Phase Recoil Start Ultra-lightweight design Stable Power Built in Inverter technology</p>	1 unit

10	Bunkhouse Total Area = 9.0m x 6.0m Ceiling Height = 3.0m <i>Please refer to Sheet No. A/08, A/09, S/02, P/01 and E/01 for technical details</i>	4 units
----	---	---------



Republic of the Philippines
METRO KIDAPAWAN WATER DISTRICT

Lanao, Kidapawan City

Tel nos. (064)577-1533, 577-1865, Fax no. (064) 572-5555

E-mail Address: metrokidapawan_wd@yahoo.com

Website: www.metrokidapawanwd.gov.ph

"Committed to Service, Development and Self-Reliance"



ISO 9001:2015 Certified
Cert. No. 66478

PROPER PERSONAL PROTECTIVE EQUIPMENT (PPE) IN THE CONSTRUCTION SITE

PPEs on Site: Hard Hat, Safety Footwear, Welding Mask/Proper Eye Protection, Rubber Gloves, Safety Vests, Harness.





Republic of the Philippines
METRO KIDAPAWAN WATER DISTRICT
Lanao, Kidapawan City

Tel nos. (064)577-1533, 577-1865, Fax no. (064) 572-5555
E-mail Address: metrokidapawan_wd@yahoo.com
Website: www.metrokidapawanwd.gov.ph

"Committed to Service, Development and Self-Reliance"



ISO 9001:2015 Certified
Cert. No. 66478

PERSONAL MANPOWER TOOLS

- Hand tools, such as; screwdrivers, pliers, hammer, brushes, trowels, wrenches, putty knife, crimpers, clamps, tape measures, handsaw, utility knife, duct tape, socket set, crowbars, extension cords, hand drill, grinder, tie bar, spade shovel and so on.
- Power tools, which may be powered by electricity, compressed air, liquid fuel, hydraulic power, or powder-actuated and might include; mixers, saws, cutters, drills, grinders, guns, breakers, and so on.
- Machine tools, used for shaping materials into components by cutting, boring, grinding, and so on.

