

Report period: Jul – Dec 2018

October 2020

VIE: Water Sector Investment Program - Tranche 2

Buon Ma Thuot and Three Adjacent Districts Water Supply Project - Dak Lak province

NOTES

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Semi-annual report

Jul - Dec 2018

ENVIRONMENT SAFEGUARD MONITORING REPORT

**L2961 – VIE: WATER SUPPLY FOR BUON MA THUOT CITY
AND THREE ADJACENT DISTRICTS OF EA KAR, BUON DON
AND KRONG NANG**

Prepared by Dak Lac Water Supply Company for the Buon Me Thuat People Committee and the Asian Development Bank.

CURRENCY EQUIVALENTS

	(Up to December 2018)	
Currency unit	–	Viet Nam Dong (VND)
\$1.00	=	VND 23,245

UNITS OF MEASUREMENT

ha	–	Hectare
kg	–	Kilogram
km	–	Kilometre
m	–	Meter
t	–	Ton
m ²		Square meter
m ³		Cubic meter
m ³ /d		Cubic meter per day
m ³ /s		Cubic meter per second
mm		millimetre

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ABBREVIATION

ADB	Asian Development Bank
AP	Affected People
PMU	Project management unit
CCGQKNTM	Grievance redress mechanism
DAKWACO	Dak Lak water supply and construction investment one-member limited company
DTTS	Ethnic minority
HH	Household
EMP	Environmental management plan
SEMP	Site environment management plan
RP	Resettlement plan
D.N.	Day-night
QCVN	Technical regulation
CMC	Construction monitoring consultant
EMC	Environmental monitoring consultant
WTP	Water treatment plant
VUWSDP	Vietnam Urban water supply development project
WB	World Bank
TA	Technical Assistance

EXECUTIVE SUMMARY

1. This semi-annual report about water supply project environmental safety implementation policy status was prepared by PMU of Dak Lak water supply joint stock company for the second semi-annual 2018 with the assistance from Eptisa supervision Consultant Contractor (41456-033) (under DL-CS01 contract) This report covers the implementation progress of environmental safeguard and occupational safety activities from July 01, 2018 to December 31, 2018.

2. PMU of Dak Lak water supply joint stock company had 06 packages including 05 construction packages and 01 supervision and institutional strengthening package.

- i. DLCW01 package: Supply and Install of the raw water intake and transmission pipeline 35.000m³/day.
- ii. DLCW02 package: Water treatment plant with capacity 35.000m³/day and treatment water transmission pipeline t booster pumping station.
- iii. DLCW-03 package: Booster pumping station, treated water transmission pipelines to Buon Ma Thuot city water supplying network.
- iv. DLCW-04 package: Construction of Buon Ma Thuot treated water transmission and distribution pipelines.
- v. DLCW-05 package: Raw water intake + pumping station + transmission pipelines, water treatment plant, water treatment plant, treatment water transmission pipeline and distribution network for three districts of Ea Kar, Buon Don and Krong Nang.
- vi. DL-CS-01 package: Construction supervision and institutional strengthening in non-revenue water management (41456-033) that implemented by Eptisa company. Environment + Gender + Resettlement safety policy implementation assistance consultant is under this package.

3. The civil work of the 05 construction packages was started from period of October-November 2017, in which 4 packages (DLCW-01, DLCW02, DLCW03 & DLCW05) of the project commenced on 16 Nov 2017, except DLCW04 commenced on 10 Oct 2017. The project has been in compliance with policies of the Government and of the ADB on environmental protection and occupational safety. The approved reports include: Environmental Protection Commitments (EPC), Initial Environmental Examination (IEE) and Updated Environmental Management Plans (uEMP).

4. The Contractor Environmental Management Plan (CEMP) of 5 packages (DLCW01, DLCW02, DLCW03, DLCW04, DLCW05) have been prepared by Contractor. PMU also approved all Environmental Protection Commitments of Construction Contractor before undertaking of the Project. 100% of Contractor had commitment about implementation of all mitigation measures that mentioned in uEMP /CEMP and submitted to DPC before implementation of all packages' construction. For

environment quality , Eptisa supervision Consultant signed contract with Natural Resource and Environment Observation Centre to take observation samples in the construction sites.

5. In general, the Contractor's implementation of Environmental Safeguard and Occupational Safety under the Project has been compliant with the project requirements. The Contractor has also implemented the environmental impact mitigation measures under the approved CEMP. The project has been mostly compliant with national regulations and policies of the Donor on environmental aspect and occupational safety.

6. However, the environmental compliance needs to be improved under the following points:

- Contractors must undertake the training and communication for workers about HIV/AIDS in all packages. Request workers to regularly wear helmets and labour protection clothes.

1. Project overview, General safeguard matters

1.1 Project Overview

1. According to the letter 240/BKHDT-KTDN dated 14 January 2011 by The Ministry of Planning and investment to ADB director, Dak Lak is one of 12 provinces including Hai Phong, Da Nang, Thua Thien Hue, Bac Giang, Thai Nguyen, Thanh Hoa, Nghe An, Quang Tri, Dak Lak, Quang Nam, Lam Dong and Binh Dinh taking part in stage 02 of water section development program.

2. On 15 February 2011 the ADB letter was sent to the MPI on “Multi-tranche Financing Facility “Water Sector Investment Program” Second Tranche (2011) – Periodic Financing Request 2 (PRF2)” to agree the list of participating provinces in PRF2, namely Hai Phong, Da Nang, Thua Thien Hue, Bac Giang, Thai Nguyen, Nghi Son, Nghe An, Quang Tri, Dak Lak (public and private) Quang Nam, Lam Dong and Binh Duong, with total estimated investment capital of \$540 million.

3. On 8 February 2011, Ministry of Planning and Investment submitted to the Prime Minister letter No 5044/BKHDT-KTDN re “Approval of sub- projects participating the Viet Nam Water Sector Investment Program, ADB Loan” (Program). The Program for 2011 – 2012 financial year is expected to be conducted in 12 provinces including Hai Phong, Da Nang, Thua Thien Hue, Bac Giang, Thai Nguyen, Thanh Hoa, Nghe An, Quang Tri, Quang Nam, Dak Lak, Lam Dong and Binh Duong.

4. The Prime Minister issued letter No 1530/TTg-QHQT dated 5 September 2011 re “Approval list of project components under Program for Viet Nam Water Sector Investment in 2011 – 2012”.

5. Water supply project for Buon Ma Thuot and three adjacent districts of Ea Kar, Buon Don and Krong Nang was officially commenced from 19 Oct 2017; all project components were classified as class B in environment aspects.

1.1.1 Project’s objectives and works

Project Objective:

6. The development objective of the Project is to improve water supply for domestic, industrial and service- commercial use in Buon Ma Thuot City and three district towns having the same names as their districts of Ea Kar, Buon Don and Krong Nang.

7. The Project implementation will bring specific success as follows: ensure quality of clean water supplied to local residents, increase customers from construction of new-piped water supply system and expansion of piped water supply.

8. The overall objective of the Project is to increase water supply coverage for residents in Buon Ma Thuot City and its adjacent areas within the Project service area. That will create favorable conditions for improvements of living conditions and health of residents; for socio-economic, industrial and tourism development of Buon Ma Thuot city and project towns, Dak Lak province and Central Highland region.

9. The specific objective of the Project is to improve access to safe and reliable piped water supply in Buon Ma Thuot city and meet the forecast water demands to 2020 of 13 yards and 8 communes of the City and to meet the demand of safe and reliable piped water supply in three district towns of Ea Kar, Buon Don and Krong Nang to 2020.

10. Project Works: water supply for Buon Ma Thuot city and three adjacent districts of Ea Kar Buon Don and Krong Nang includes subprojects as below:

1.1.2 Water supply system in Buon Ma Thuot city

11. Raw water facilities: construct a water intake and design capacity of 35,000 m³/day raw water pumping station. Install a mid-voltage power line from the electricity grid to the raw water pumping station, transformer sub-station and low voltage line and backup generator. Install a 06km long HDPE DN700 raw water pipeline from the raw water pumping station to the water treatment plant (WTP) which is located on Tan Lap hill.

12. Water treatment: the proposed design capacity of 35,000 m³/day WTP will be constructed on Tan Lap hill, Krong Ana District. The treatment process is conventional including: coagulation, flocculation, sedimentation, rapid sand filtration and disinfection. Install a mid-voltage power line from the national grid to the WTP area, transformer substation, and low-voltage power line. This WTP includes Chemical houses, Sludge settling pond, Laboratory to construct and equip a testing laboratory at the WTP site to control water quality in the WTP, a Supervisory Control and Data Acquisition System (SCADA) at the WTP to monitor and control WTP operation, transmission pipelines from the WTP to the water storage reservoir with booster pumping station and transmission pipelines of treated water to Hoa Phu, Hoa Xuan, Hoa Khanh and Ea Kao communes in the South of the city.

13. Booster pumping station: construct a booster pumping station (capacity 32,000 m³/day) and a 5,000 m³ storage reservoir to pump water to the transmission and distribution pipelines. These will be located in the Hamlet 11, Ea Tam ward.

14. Transmission and distribution network: install totally 130 km transmission mains and distribution pipelines, 80 km DN50-90 service lines and 22,000 service connections.

Table 01: SUMMARIZATION OF ALL WATER SUPPLY ITEMS IN BUON MA THUOT CITY

No.	Item	Capacity
A	DLCW-01 PACKAGE	35,000 m ³ /day
1	Raw water intake and pumping station	
2	DN700 raw water pipeline	
B	DLCW02 PACKAGE	35,000 m ³ /day

1	Water treatment plant, treated transmission pipeline into booster pumping station	
1	Water treatment plant	
2	SCADA	
3	Treated transmission pipeline into booster pumping station	
C	DLCW03 PACKAGE	32,000 m ³ /day and a 5,000 m ³ storage reservoir to pump water to the transmission and distribution pipelines
1	Booster pumping station	
2	22 Kv electricity wire	
3	Treated water transmission pipelines into network	
4	2L – Pipeline crossing stream	
D	DLCW04 PACKAGE	130 km transmission mains and distribution pipelines, 80 km DN 50-90 service lines and 22,000 service connections

1.1.3 Water supply system in three adjacent towns

15. Ea Kar: Construct a 2,500 m³/day WTP on the small Chu Cuc hill. Raw water will be supplied from the Ea Kar dam. Total length of transmission, distribution pipelines and service connection are 44 km. Installation of 3,300 service connections.

16. Buon Don: Construct a 1,000 m³/day WTP in Ea Wer. Raw water will be supplied from Serepok hydro-electric dam. Total length of transmission, distribution pipelines and service connection are 22 km. Installation of 1,400 service connections.

17. Krong Nang: Construct a 1,600 m³/day WTP in Ho Sen park area. Raw water will be supplied from the Dong Ho Lake. Total length of transmission, distribution pipelines and service connection are 34 km. Installation of 2,300 service connections.

18. Summary of land map and water supply capacity in Buon Ma Thuot city and three adjacent districts of project are in figure 1.1.

1.1.3.1 Ea Kar town

Stage	Capacity
Phase I	2,500 m ³ /day
Water resource	Water in Ea Kar lake Offside intake close of Ea Kar dam; Pumped through raw water main to WTP
Treatment and network	WTP is on bottom of Chu Cuc hill. Water treatment scheme: surface water treatment technology: coagulation, flocculation, lamella sedimentation, rapid filtration, disinfection.

	Conditioned pumped on the hill and treated reservoir is on top of hill Backwash water from reservoir
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1.1.3.2 Buon Don town

Stage	Content
Stage	Capacity
Phase I	1. 000 m ³ /day
Water resource development	Surface water source is from hydroelectric lake Serepok 04 Offside intake, submersible pumps into WTP
Water treatment	Location: Ea Wer ward Treatment scheme: coagulation, flocculation, lamella sedimentation, rapid filtration, disinfection, in storage reservoir. Backwash pump. Treated water pumped to distribution network by booster pumps adjusted by inverter, backwash water treatment by a sludge lagoon.
Network	Treated water pumped to distribution network by booster pumps adjusted by inverter.

1.1.3.3 Krong Nang town

Stage	Capacity
Phase I	1.600 m ³ /day
Resource development	Surface water applied from Dong Ho Lake. Raw water intake works, submersible pumps to pump water to WTP.
Water treatment	The WTP will be located at the Lotus Lake Park. Water treatment profile: surface water treatment scheme: coagulation, flocculation, lamella sedimentation, rapid filtration, disinfection in storage reservoir, backwash by pump and air blow, treated water pumped to distribution network under control of an inverter, backwash water treatment by a sludge lagoon.
Network	Treated water pumping will be controlled by inverter

19. Location of each component of the projects and details of each package' items are presented in the figure 1, 2,3,4 as below:

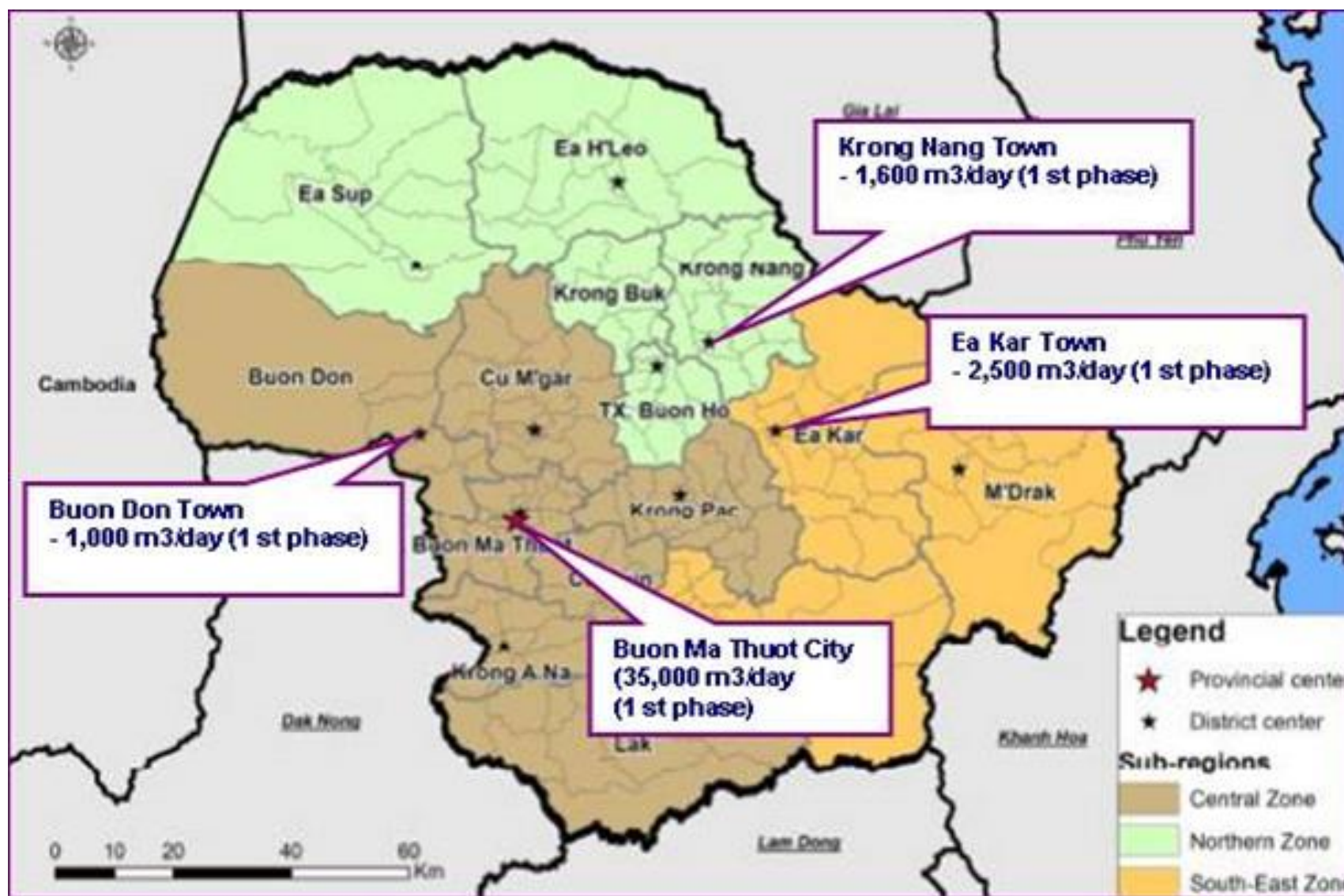


Figure 1: Land map of project package

Buon Ma Thuot city water supply system

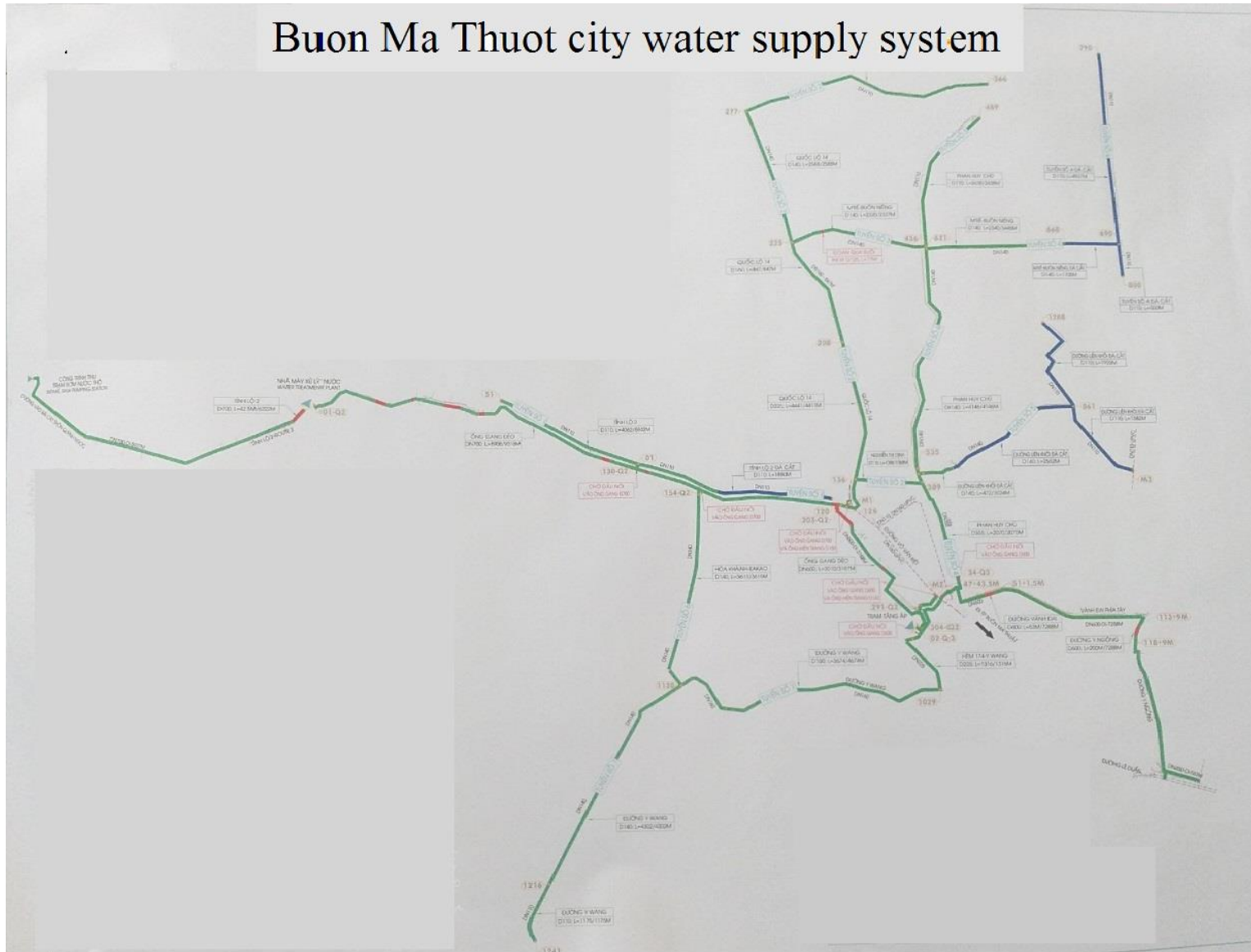


Figure 2: Buon Ma Thuot city water supply system

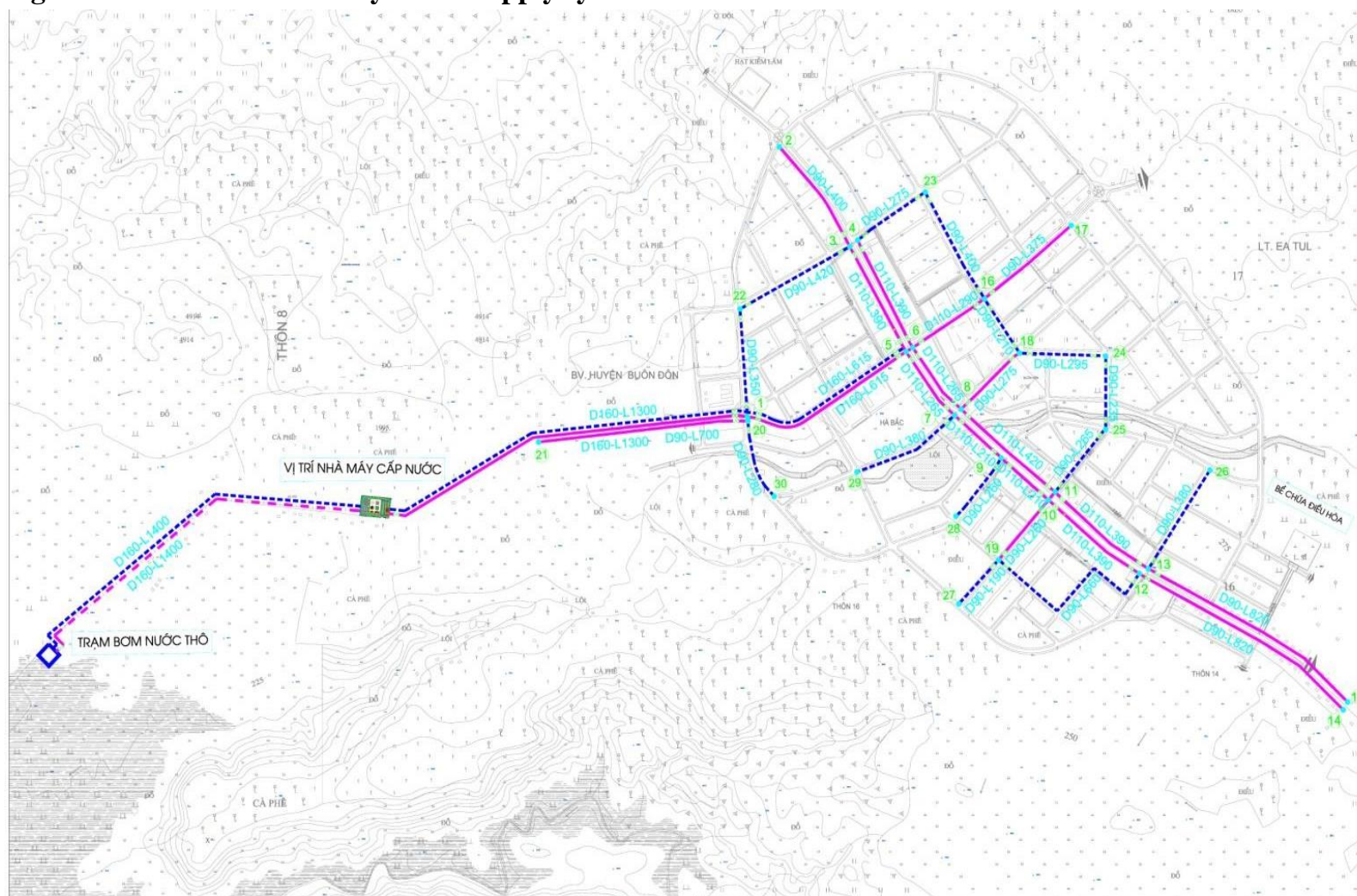


Figure 3: Buon Don district water supply system

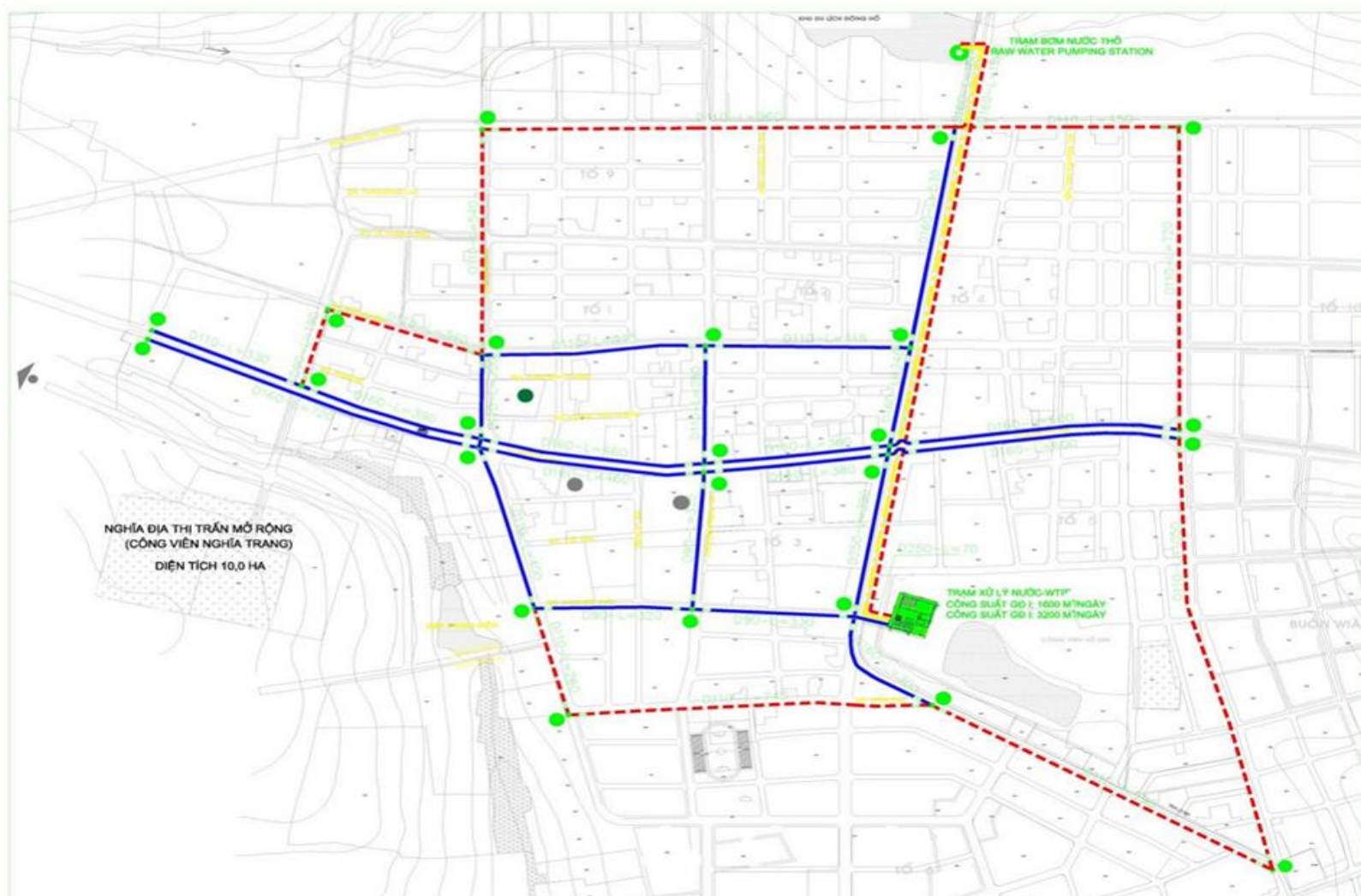


Figure 4: Krong Nang district water supply system

1.2 Project Progress

1.2.1 Contractor and packages

20. The project has 05 packages. All packages, contractors and periods of each package is summarized in below table:

Table 2: Information summary of all construction packages

No	Package	Contractor/Representative	Contract		
			Signed contract date	Commencement date	Period
1	DLCW01: supply and install raw water intake and transmission pipelines with capacity 35.000m ³ /day	Water supply and sewerage construction and investment JSC. (WASECO) Mr. Nguyen Duy Hung - General Director - Address: 10 Pho Quang Street, Ward 02, Tan Binh district, HCMC.	10/08/2017	16/11/2017 (403/TB-BQLDA)	Extended from 360 days to 435 days
2	DLCW-02: WTP with capacity 35.000m ³ /day and transmission pipeline to booster pumping station.	Dai Phu Thinh Co. Ltd. Mr. Ta Trong Huan – Director – Address: 506 CMT8 Street, Ba Ria city, Ba Ria Vung Tau Province.	10/08/2017	16/11/2017 (404/TB-BQLDA)	460 days
3	DLCW-03: booster pumping station and transmission pipeline to network	JV of Europe Pump – Dai Phu Thinh Mr. Nguyen Dinh Nam – Director of Europe Pump JSC - Address – 13G Cao Ba Quat Street, Dien Bien ward, Ba Dinh district, Ha Noi city	31/07/2017	16/11/2017 (405/TB-BQLDA)	Extended from 360 days to 435 days
4	DLCW-04: Construct transmission and distribution pipelines in Buon Ma Thuot city.	JV of Ha Huy Co. JSC and Ha Noi water electricity installation and construction Co. JSC. (HAWEICCO) Mr. Ha Huy Qua – the director of Ha Huy JSC – Address–	11/08/2017	10/10/2017 (344/TB-BQLDA)	520 days

		18 Duy Tan Street, Hung Dung district, Vinh city, Nghe An Province			
5	DLCW-05: Intake, raw water pumping station, transmission pipelines, WTP, treated transmission pipelines and distribution network of three districts Ea Kar, Buon Don and Krong Nang	Vietnam water and environment Investment Corporation – JSC Mr. Ngo Van Dung – the director – 52 Quoc Tu Giam Street, Van Mieu ward, Dong Da district, Ha Noi city	15/08/2017	16/11/2017 (401/TB- BQLDA)	540 days
6	DL-CS01: Construction supervision & Institutional strengthening in no-revenue water management (41456-033)	Joint Venture of EPTISA SERVICIOS DE INGENIERIA S.L. and CEN joint stock company (as called Eptisa Contractor)	08 Nov 2016		30 months

21. Detailed content of packages' items will be shown in appendix A.

1.2.2 Construction work progress

22. Summary of construction progress, time and cumulative volume of main construction activities from July 2018 to December 2018 will be shown in table 3. Total detailed cumulative volume of construction activities of each construction package up to 31/12/2018 will be listed as following:
23. **Package DLCW01:** By December 31st 2018, the raw water intake and pumping station was completed of 92.73% and the total length of the pipeline DN700 is 5,200.00m (83.58%). In the last 6 months of 2018, the construction of raw water intake and pumping stations is 30.51%; construction of the pipeline DN700 in this period is 1,880.00m long (30.22%).
24. **Package DLCW02:** By December 31st 2018, a water treatment plant was built and completed of 67.63%; total length of the pipeline was 11,267.502m (92.36%). In the last 6 months of 2018, the construction of water treatment plant was 23.9%; construction of the pipeline DN700 in this phase crossing Ea Na commune is 5,119.212m long (56.65%), construction of the pipeline DN600 in this phase crossing Ea Na commune was 1,821.660m long (57.59%); Construction of the pipeline crossing the stream in this phase is 99.857m long (32.01%), in which:

- + Construction of the DN700 pipeline crossing the stream: Total length is 287.000m; construction in this phase is 81.000m (28.22%)
 - + Construction of the DN600 pipeline crossing the stream: Total length is 25.000m; construction in this phase is 18.857m (reaching 75.43%).
 - + Construction of the pipeline through the stream DN700: Total length 287.000m, construction of this phase is 81.000m (reaching 28.22%)
 - + Construction of the pipeline through the stream DN600: Total length 25.000m, construction of this phase is 18.857m (reaching 75.43%).
25. **Package DLCW03:** Total cumulative volume of construction of package DLCW03 up to 31/12/2018 is following: construction of booster pumping station was 85.45% and the total length of pipeline was 7,278.875m (93.02%). In the last 6 months of 2018, the booster pumping station was constructed of 25.45%; Construction of this pipeline crossing Ea Tam ward is 4,299.205m long (54.94%).
26. **Package DLCW04:** until December 31st 2018, only Y Wang Street- Line 07 pipeline will be constructed with the total length of 9,072.21m (77.89%). In the last 6 months of 2018, this pipeline has been constructed of 5,464.21m long (46.91%).
27. **Package DLCW05:** Total cumulative volume of construction of package DLCW05 to December 31st, 2018 is following:
- + Ea Kar district water supply system: construction of a treatment plant was 18.37% and the total length of the raw water pipeline was 1,552.000m (51.53%), the total length of the water distribution pipeline was 5,164.770m (39.92%). In the last 6 months of 2018, construction of the treated water distribution pipeline in this phase was 4,138.770m long (31.99%)
 - + Krong Nang district water supply system: the total length of the raw water pipeline was 854.530 m long (52.09%), the total length of the water distribution pipeline was 7,681.530m (90.76%). In the last 6 months of 2018, construction of this raw water pipe line is 134.930m long (8.22%).
 - + Buon Don district water supply system: construction of a treatment plant was 13.68% and the total length of the raw water pipe line was 1,388.90m long (88.02%), the total length of the water distribution pipeline was 7,669.320m (92.97%). In the last 6 months of 2018, the construction of the treatment plant was 13.68%, the construction of the raw water pipeline in this phase was 1,388.900m long (88.02%), construction of clean water distribution pipeline in this phase was 7,669.320m long (92.97%).

Table 3: Summary construction progress of 5 packages

No.	Item	Unit	Quantity				Construction Date		Actual Progress	Remark
			Contract	Constructed up to end of June, 2018	Constructed June- Dec, 2018	Constructed up to end of Dec, 2018	Start	End		
A	PACKAGE DLCW-01		100%	59.52 %	38.80%	98.32%	Nov 16th 2017	24 Jan 2019		Extended
1	Raw water intake and pumping station	%	100%	62.22%	30.51%	92.73%	11/2017	01/2019	Constructing	
2	Transformer supporter and generator houses.	%	100%	60.32%	39.68%	100.00%	04/2018	05/2018	Constructing	
3	Fence, gate and foundation grading	%	100%	63.83%	34.53%	98.36%	11/2017	11/2018	Constructing	
4	Electricity estimation	%	100%	0.00%	86.28%	86.28%	09/2018	12/2018	Constructing	
5	22 kV electrical wires	%	100%	0.00%	0.00%	0.00%	09/2018	12/2018	Constructing	
6	DN 700 raw water pipelines	% m	100% 6,222	79.14% 3,320	11.48% 1,880	90.62% 5,200	11/2017	01/2019	Constructing	
B	PACKAGE DLCW-02		100%	43.73%	23.90%	67.63%	Nov6th 2017	18th Feb 2019		
1	Water treatment plant	%	100%	43.73%	23.90%	67.63%	12/2017	07/2018	Constructing	
2	22 kV electrical wire	%	100%	0.00%	70.00%	70.00%	06/2018	08/2018	Constructing	
3		%	100%	34.96%	53.23%	88.19%	04/2018	01/2019	Constructing	

	Treated water transmission pipeline to the booster	m	12,200	4,326.630	6,940.872	11,267.502				
4	Pipeline crossing over stream	%	100%	0.00%	36.28%	36.28%	01/2019	02/2019	Constructing	
		m	312	0	100	100				
C	PACKAGE DLCW-03	%	100%	42,36%	46.34%	88,70%	Nov 16 th 2017	24 May 2019		Ext Cont App 01
1	Booster station (Technique and construction)	%	100%	60.00%	25.45%	85.45%	04/2018	5/2019	Constructing	
2	22 kV electrical wire	%	100%	0.00%	0.00%	0.00%	11/2017	12/2019	Not constructed	
3	Treated water transmission pipeline to distribution net	%	100%	63.00%	15.50%	78.50%	04/2018	5/2019	Constructing	
		m	7,825	2,982	4,299	7,279				
4	Stream crossing over pipeline	%	100%	0.00%	45.61%	45.61%	06/2018	5/2019	Constructing	
D	PACKAGE DLCW-04	%	100%	54,25%	26,67%	80,92%	Oct 20 th 2017	14 Mar 2019		Extended
1	Laying pipeline along PR. 2 - line 1	%	100%	43.20%	0.00%	43.20%	11/2017	03/2018	Constructing	
		m	5,942	2,567	0	2,567				
2	Laying pipeline along NR14- Dray H'ling - line 2	% m	100% 13,385	59.49% 5,531	0.00% 0	59.49% 5,531	12/2017	12/2018	Constructing	
3	Laying pipeline along M're Buon Nieng road-Phan Huy Chu str - line 3	% m	100% 4,958	76.33% 2,319	0.00% 0	76.33% 2,319	12/2017	12/2018	Constructing	

4	Laying pipeline along Phan Huy Chu str- Hoa Xuan, Hoa Phu - line 4	% m	100% 15,098	53.37% 6,336	0.00% 0	53.37% 6,336	12/2017	06/2018	Constructing	
5	Laying entire pipeline - line 5	% m	100% 6,531	8.45% 472	0.00% 0	8.45% 472	12/2017	11/2018	Constructing	-
6	Laying pipeline on inter-commune roads Hoa Khanh-Ea Kao - line 6	% m	100% 3,615	91.54% 3,451	0.00% 0	91.54% 3,451	12/2017	05/2018	Constructing	
7	Laying pipeline along Y wang str - line 7	% m	100% 11,648	55.44% 3,605	23.03% 5,464	78.47% 9,072	07/2018	02/2019	Constructing	
E	PACKAGE DLCW05		100%	10,83%	21,91%	32,740%				
I	<i>Ea Kar district water supply Construction & Technology)</i>									
1	Raw water intake and pumping station	%	100%	0.00%	0.00%	0.00%	4/2018	10/ 2018	Not constructed	
2	Raw water pipeline	%	100%	0.00%	48.78%	48.78%	11/2017	8/ 2018	Constructing	
3	Treated water distribution pipeline	%	100%	6.52%	20.28%	26.80%	3/2018	2/2019	Constructing	
4	Treated water treatment station	%	100%	0.00%	18.37%	18.37%	3/2018	1/2019	Constructing	
II	<i>Krong Nang district water supply Construction & Technology)</i>									
1	Raw water intake and pumping station	%	100.00%	0.00%	0.00%	0.00%	3/2018	12/2018	Not constructed	
2	Raw water pipeline	%	100.00%	46.03%	5.85%	51.88%	1/2018	6/2018	Constructing	

3	Treated water distribution pipeline	%	100.00%	54.17%	13.75%	67.92%	1/2018	2/2019	Constructing	
4	Treated water treatment station	%	100.00%	0.00%	0.00%	0.00%	3/2018	4/2019	Constructing	
III	<i>Buon Don district water supply Construction & Technology)</i>									
1	Raw water intake and pumping station	%	100.00%	0.00%	0.00%	0.00%	3/-2018	11/2018	Not constructed	
2	Raw water pipeline	%	100.00%	0.00%	83.21%	83.21%	4/2018	12/2018	Constructing	
3	Treated water distribution pipeline	%	100.00%	10.05%	66.59%	76.64%	3/2018	4/2019	Constructing	
4	Treated water treatment station	%	100.00%	0.00%	13.68%	13.68%	4/2018	4/2019	Constructing	

Note: Information is from December 2018 report provided by construction supervision contractors

Table 4: Project Overview, Snapshot of Project Progress

Project Number and Title:	WATER SUPPLY FOR BUON MA THUOT CITY AND THREE ADJACENT DISTRICTS OF EA KAR, BUON DON AND KRONG NANG ADB No.2961-VIE	
Safeguards classification	Environment	Category B
	Involuntary Resettlement	Category B
	Indigenous Peoples	Category C
Reporting period:	Second semi-annual monitoring 2018 – (report No 02)	
Last report date:	July 2018	
Key sub-project activities:	Contract awarding: Appx.24,59 million USD	
	Main construction activities	
	The Project includes 05 construction packages. The project as of 31 of December 2018 is given as below:	
	Item	Construction completion progress
	DLCW01 Package	98.320%
	DLCW02 Package	88,430%
	DLCW03 Package	88,700%
	DLCW04 Package	80,920%
	DLCW05 Package	32,740%
	Contract award and ground-breaking on August, 2017 and construction began from October and November 2017.	
Main environmental activities	IEE, EMP, uEMP, EPP (environmental protection plan), SEMP i) 04 EPPs for 04 water supplying structures were approved by Buon Ma Thuot CPC and 03 DPC in project areas in 2016. The details are: EPP was approved by Buon Ma Thuot CPC on 14 Jun 2016; Buon Don DPC on 13 May 2016; Ea Kar DPC on 17 May 2016 and Krong Nang DPC on 04 May 2016. ii) 01 IEE for the whole project was approved by ADB in 2012 iii) 01 updated environment management plan was approved by ADB in December 2016.	

	<p>iv) the updated environment management plan was integrated as one part in bid documents in 2017.</p> <p>v) 05 construction contractors of 05 packages prepared 05 CEMP and submitted for PMU after contract signature and before Notice to Proceed.</p> <p>vi) 01 semi-annual environmental monitoring report submitted in 2018 and approved by ADB</p> <p>vii) EMC, CMC conduct inspections and spot checks in monitoring performance of the Contractors on implementation of activities/mitigation measures on environmental protection and occupational safety at site during construction in accordance with the approved CEMPs, uEMPs / EPPs.</p> <p>viii) Review results of air quality monitoring conducted by Dak Lak Environmental Monitoring Center Contractors every 3 month in the second semi- annual part of 2018</p> <p>- Consultation community was conducted in September 2018.</p>
Assistance PMU to prepare reports	<p>Environmental monitoring + contract management + construction monitoring by joint venture of Eptisa to support PMU in preparation of reports to submit to ADB bi-annually.</p>

1.3 Environmental monitoring Plans and implementation arrangements

28. Dak Lak Construction Investment Water Supply One Member Limited Company(DAKWACO) who is the project owner (PO) and sub-executing agency (EA);2) a designated project management unit (PMU) to support DAKWACO who will implement the subproject components and the EMP; and 3) a Construction Supervision Consultant¹ (CSC) who will assist to update EMP to ensure EMP meets the final subproject designs. The ADB is responsible for monitoring to ensure subproject meets the environmental safeguards of the SPS (2009).

29. The EA (DAKWACO) has the ultimate responsibility for implementation of the entire subproject, including finance and administration, technical and procurement matters, monitoring and evaluation, and environmental safeguards compliance. The DAKWACO will operate the completed water supply system (WS).

30. The Department of Natural Resources and Environment (DoNRE) is the provincial agency which oversees environmental management of Dak Lak. The DoNRE with District staff provides direction and support for environmental protection-related matters including application of the Law on Environmental protection (LEP 2014), and on use of the environmental policy and standards that are in place protect the environment (see Table 4).

31. Dak Lak water supply construction and investment project management unit (PMU) signed contract with Eptisa (thereby consultant) on 8 November 2016 to provide consultant service (construction supervision and environment– society – gender + ethnic minority safeguard policy implementation monitoring). Consultant will be a team including international and national consultant to implement tasks in 30 months in which

¹CSC contract expected to include construction supervision.

construction supervision consultant engineers will work full time and environment monitoring, society and ethnic minority consultants will work part-time.

32. The relationship among parties: all participants related to the project including the DAKWACO/PMU, design consultant, CSC and construction contractors must incorporate firmly with each other to ensure that the project in compliance with design, current state standards. Eptisa Consultant supports PMU to monitor the implementation of all Project contractors, in which construction supervision consultant undertook the full-time monitoring of all problems related to construction + environment at the sites; environment monitoring consultant supervised once per three months during construction stages and support PMU to prepare the reports and submit to ADB.

33. The supervision results of implementing mitigation measures by construction contractors have been updated in general periodic progress report of project prepared by Eptisa consultant. Second semi-annual 2018 environment monitoring report made by environment monitoring consultant (EMC) under Eptisa will include results of quarterly environment monitoring by third party (center of natural resource and environment monitoring of Dak Lak DONRE) and supervision of implementation of all mitigation measurement based on environment management plan committed by construction contractors.

Table 5: Project Implementation Organization

No	Agencies	Responsibilities of environmental management implementation	Current compliance status
1	PMU	<p>To support DAKWACO who will implement the subproject components and the EMP</p> <p>will be responsible for the detailed engineering and preparation of construction plans, and construction monitoring with support from the CSC.</p> <p>It will be responsible for overseeing the overall procurement process as well as for the overall financial monitoring of the project. Taking responsibilities for updating of the environmental monitoring plan (uEMP), management, monitoring, supervision and preparation of environmental monitoring reports to submit ADB every 6 months.</p>	<p>Be, responsible for:</p> <ul style="list-style-type: none"> - Detailed engineering design and construction plans, construction monitoring - Updating EMP; include uEMP on construction contractors' contracts - Disclosure project information - Continuing public consultation, responding to complaints from communities/stakeholders affected by subproject implementation - Implementing of the uEMP

No	Agencies	Responsibilities of environmental management implementation	Current compliance status
	Construction supervision (Eptisa)	Provide consultant service team in 30 months in which construction supervision consultant engineers will work full time and environment, social and gender will work part time.	Provide engineering consultants and CMC fulltime on sites- Environmental, social and gender consultants was mobilized part time for supervision and assistance when necessary
	Environmental monitoring consultant (EMC) under Eptisa	Assistance PMU to do: (i) Update the EMP reports. (ii) Review the design document + contract + CEMP to assure the mitigation measures on environmental impact that mentioned in uEMP to be integrated in bid document and detail of implementation commitment in CEMP. (iii) Assistance PMU in selection of authorized agencies, which of taking periodical environment observation samples to evaluate the impacts of construction activities on surrounding environment. (iv) Field visiting around construction sites in sub-project areas to check, remind contractors to do the environment safety policies; listen and record of local and community opinions that living surrounding the construction sites. (v) Taking part in project internal monitoring groups; meet all relevant parties regularly; consultancy with local authority community. Support PMU and contractor to implement of detailed requirements in uEMP.	uEMP was approved by ADB in December 2016. Completion of the first semi annual monitoring report in 2018. Review environmental samples undertaken twice by monitoring centre under Department of Dak Lak Natural Resource and Environment in October 2018 Field visiting at the construction sites was done when mobilization on July and October 2018 to do community consultancy. Reviewing the quarterly monitoring reports by construction supervision consultant and on behalf of PMU to draft the second semi-annual environment monitoring report for PMU to submit ADB.

34. PMU and Consultation organization flowchart is presented in the figure 5 as below:

CONSULTANT ORGANIZATION CHART

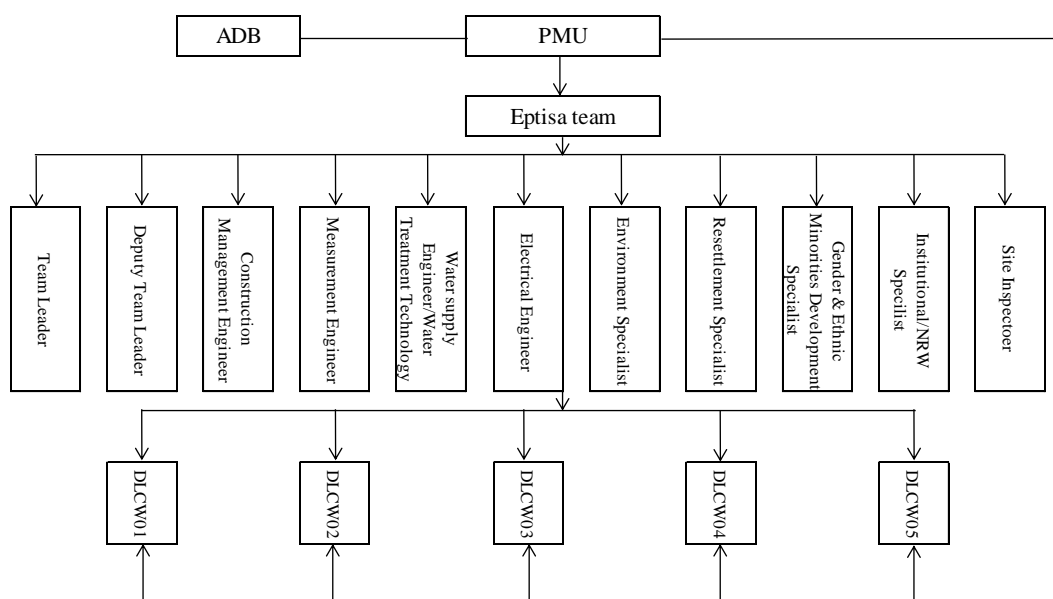


Figure 5: PMU and Consultation organization flowchart

1.4 Updated EMPs, Incorporation of Safeguards Requirements into Project Contractual Arrangements

35. The original EMP report was updated, submitted and approved by ADB on December 2016.

36. All uEMP's contents (mitigation measures, environmental management plan) were integrated into bidding documents and economic contracts with construction contracts.

37. All construction contractors submitted CEMP for PMU and sent commitments about implementation of all mitigation measures that mentioned in uEMP/CEMP to DPC before construction.

38. The first semi-annual monitoring report about implementation of all mitigation measures that mentioned in uEMP/CEMP was approved by ADB

2. Environmental Monitoring Implementation Results

2.1 Status of EMP implementation (mitigation measures)

39. PMU assigned technicians and construction supervision consultants to check site regularly. An EMC under Eptisa checked the construction sites every 3-month. The EMC with construction supervision consultants in charge of monitoring of environmental safeguard policy implementation of all construction contractors. Every three months, a sample monitoring unit is rent to take site monitoring samples. Monthly, PMU, construction contractors and Eptisa Supervision Consultant organized meetings to discuss about environmental and safety issues needing to be resolved (if having).

40. During construction, contractors are requested to implement all requirements of updated environment management plan that mentioned in bidding documents, contractor's environment management plans (CEMP). By supervision results, contractors are followed environment hygiene assurance, labor safety or changed after reminding. Summary of supervision results of environment safety policy compliance activities, implementation of

mitigation measurements in initial environmental examination/updated EMP will be shown in table 6.

Table 6: Compliance with EMP Requirements

EMAP requirements	Compliance status (Yes, No, Partly)	Remark – reason of non-compliance	Further action
Construction Phase – For Raw Water Intakes, Mains, WTPs, and Boosted Treated Water Networks Buon Ma Thuot, EaKar, Krong Nang, & Buon Don			
Prepare of detailed design	Partly - All environment problems in UEMP were integrated in detail design - O&M instruction was combined with EMP request was done in this stage.	- EMC under Eptisa wasn't mobilized to review the detailed design before construction. - O&M instruction wasn't ready in this stage	- EMC under Eptisa has reviewed the detailed design and suggested to add a sprinkler system in chlorine house for safety purposes - Propose PMU to mobilize to review the O&M manual before approval. - The PMU is responsible for monitoring the working of EMC
Worker camp operation	Partly - Hire adequate housing and waste disposal facilities including pit latrines and garbage bins, adequate drainage. - solid waste collection by commune's garbage collection groups (in the 3 districts and by BMT Urenco of BMT PC) and maintains a clean worker camps - Workers must be registered with local authorities - AIDS education has not yet given to workers.		HIV AIDS education should be given to workers by experienced experts hired by contractors. Eptisa will have responsibilities for supervising the conduction of HIV AIDs education Deadline: in July 2018/
Training & capacity	Yes - EMC under Eptisa implemented training and building capacity directly for DAKWACO / PMU (Environmental staff), CSC and contractors at the sites within Quarter 03 2018		

EMAP requirements	Compliance status (Yes, No, Partly)	Remark – reason of non-compliance	Further action
Contractor's information disclosure	Yes - Monthly/regular inform to local commune authority the project's implementation date. - Construction contractors have put the starting and ending date and hotline phone number on the instruction board at project site		
Tree and vegetation removal, and site restoration sub-plan	Yes - Agreement with local farm company on how to minimize damage to trees and vegetation. - Restrict tree and vegetation removal to within designated RoWs. - Install protective physical barriers around trees that do not need to be removed. - All RoWs to be re-vegetated and landscaped after construction completed.		
Civil works	Yes - All construction sites are located away plantation, & agricultural areas as much as possible. - No unnecessary cutting of trees. - All construction fluids such as oils, and fuels stored and handled well away plantation areas. - No waste of any kind is to be discarded on land or in plantations.		
Civil works for intakes	Yes - Iron sheet fencing, silt curtains is placed between all earthworks and surface waters in Srepok river. The protective berm was done for All existing irrigation canals. - Erosion channels is built around aggregate stockpile areas to contain rain-induced erosion. - Earthworks conducted during dry periods. - All construction fluids such as oils,		

EMAP requirements	Compliance status (Yes, No, Partly)	Remark – reason of non-compliance	Further action
	<p>and fuels are stored and handled well away from surface waters.</p> <p>- No waste of any kind is to be thrown in surface waters. No washing or repair of machinery near surface waters.</p> <p>- Pit latrines to be located well away from all surface waters.</p>		
Cultural chance finds	<p>Yes</p> <p>- All civil works located away from all cultural property and values including cemeteries and pagodas.</p> <p>- No report of finds of valued relics and cultural values during construction</p>		
Construction materials acquisition, transport, and storage sub-plan	<p>Partly</p> <p>-Package DLCW03: Needs to put unused water pipes orderly, clearly and assure safety for transportation for locals in the pavements.</p> <p>- Other packages: No accident and grievance that related to temporal material storage action; slow period in transportation period due to action of temporal material storage areas from locals' residents; all company/organization.</p> <p>- No complain related to the pollution issues, injury, increased traffic, disrupted access during construction</p>	<p>The construction contractor put some new unused water pipes on the pavements along crowded road; Locals worry for safety for locals in the pavements.</p>	<p>Contractor of package DLCW03 was requested for moving unused water pipeline out from the pavements to assure safety for locals along the road.</p> <p>After 1 weeks (in July 2018), all unused pipelines were removed by the contractor</p>
Excavation spoil management sub-plan	<p>Yes</p> <p>- Almost of excavated soil is reused to backfill construction land.</p> <p>- The excess excavated soil has been used for leveling or transported to landfill as the contractors has signed the contract with the service unit for collection, transport, and treatment of excess soil.</p>		
Construction Drainage sub-plan	<p>Yes</p> <p>- Have adequate short-term drainage to prevent ponding and flooding on construction sites.</p>		

EMAP requirements	Compliance status (Yes, No, Partly)	Remark – reason of non-compliance	Further action
Solid and liquid construction waste sub-plan	<p>Yes</p> <ul style="list-style-type: none"> - Construction contractors have signed contracts with service units of Buon Me Thuot city and districts to collect, transport and transport solid waste and hazardous waste out of the site in accordance with Government regulations. - All waste created from construction activities and worker force is covered, daily/3 time a week collected, transport, recycling, and disposal by Buon Me Thuot URENCO or commune group as contractors have contracted with commune on waste collection; - Construction sites have large garbage bins ensures construction sites are as clean as possible... - Hazardous waste such as used oils, gasoline, paint, stored above ground in closed, well labeled in good condition well away from construction activity areas, all surface water, water supplies, and sensitive receptors. 		
Noise and dust	<p>Yes</p> <ul style="list-style-type: none"> - Regularly apply wetting agents to exposed soil and construction roads especially in high density areas. - Cover or keep moist all stockpiles of construction aggregates, and all truckloads of aggregates - Minimize time that excavations and exposed soil are left open/exposed. - Maintain registries equipment in proper working order or turned off when not in use. 		
Utility and power disruption sub-plan	<p>Yes</p> <ul style="list-style-type: none"> - No loss or disruption of utilities and services such as water supply and electricity during construction 		

EMAP requirements	Compliance status (Yes, No, Partly)	Remark – reason of non-compliance	Further action
Erosion sub-plan	Yes - No land erosion		
Worker and public safety sub-plan	Yes - Fencing, protective barriers, speed limit sign provided around all construction sites or on all roads used by construction vehicles. - Standing water suitable for disease vector breeding is filled in. - Arrange at least 02 officers (flags) at each affected road end, from eight o'clock to five o'clock in the afternoon and during overtime with flags and signs. - Access locks are provided with alternative safety access ways. - Do not have to pause work due to a work-related accident; - There are no complaints from local people regarding the construction workers' actions. -		
Construction and local vehicle traffic sub-plan	Yes - No traffic accidents or complaints from neighboring communities related to construction activities; - There are signs boards of construction works and limit speed on the construction site - - Construction activities did not cause traffic congestion ..		
Environmental monitoring <i>Sampling to observe environmental parameters 3 months / time</i>	- Yes - Monitoring noise and air quality at construction sites of water treatment plant and raw water pumping station for Buon Ma Thuot city, water treatment of Ea Kar, Krong Ana and Buon Don districts, along water transmission pipelines sites in Buon Me Thuot city, and 3 districts.		

EMAP requirements	Compliance status (Yes, No, Partly)	Remark – reason of non-compliance	Further action
<i>in construction period</i>			

2.2 Issue for further action

Table 7: Issues for Further Action

Issue	Required Action	Responsibility and Timing (implementation/ supervision)	Resolution
Old Issues from Previous Reports			
CEMPs are prepared but not detailed as requirements in uEMP.	CEMPs must be updated in line with requirements setting in uEMP and submitted to PMU for approval	Construction contractors/ Eptisa Implemented in Sep 2018;	CEMPs were updated in line with requirements setting in uEMP and submitted to PMU for approval.
Information in signboards.	Package DLCW-03: must fills hotline number and project start/end dates on the project sign boards at the entrance of the project site	The contractor of DLCW-03/ Eptisa Implemented in July 2018.	Done in July 2018 for package DLCW-03
Contractor's monitoring report and CMC's monitoring report have got not enough detailed information.	Contractors' and CSC notebooks must add the monitoring tables that have all information about mitigation measures implemented on sites. PMU to mobilize the EMC under Eptisa to conduct training and capacity building at the sites for CSC and contractors.	Contractor and CSC add HSE's information to completed tables. Deadline: 3rd Quarter, 2018	Quarter reports, contractor and CSC notebooks templates revised and added more details of all mitigation measures and completed in July 2018 PMU mobilized the EMC under Eptisa to conduct training and building capacity directly for CSC and contractors at the sites within Quarter 03 2018 (July and October 2018)
Non-compliance labour safety, traffic	Package DLCW03: Needs to put unused	Construction Contractor	Immediately CMC have required workers fully follow

safety regulations (gathering pipes along roadway, signboards, backfilling soil after construction...)	water pipes orderly, clearly and assure safety for transportation for locals in the pavements. Package DLCW01: Put speed/construction area signboards	implemented; CMC under Eptisa monitored Deadline: the first of July, 2018	assure safety and it had done immediately within one week latter.
New Issues from This Report			
None			

3. Health and Safety

Table 8: Health and Safety Issues

Issue	Required Action	Responsibility and Timing	Resolution
Old Issues from Previous Reports			
Workers have not attended any training courses/ dissemination on HIV/ AIDS and infectious diseases in the community.	The Contractors need to organize training course and dissemination	Contractors hold a training for all workers in July 2018/ Eptisa is responsible for supervising this action	Contractors should provide on-site training to workers or invite local health officers to disseminate to workers
Sometimes, construction workers have not worn fully safety clothing and footwear	Contractors must provide appropriate safety clothing and footwear and require all workers equipped during working time in July 2018.	Implemented by Contractor Supervised by CMC under Eptisa Deadline: right after being reminded by CMC.	Done right after being reminded by CMC. CMC requested the Contractor to regularly remind workers fully PPE wearing on the site and have to punish those who don't wear protection when working.
New Issued from this report			
Contractor of package DLCW03 was requested for moving unused water	Contractor must remove all unused pipelines out of traffic roads	Implemented by contractor	Done, the contractor completed the removal of unused pipes out of traffic road in July 2018

pipeline out from the pavements to assure safety for locals along the road.		Supervised by CMC under Eptisa Deadline After: 15 July 2018,	
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4. Environment Effect Monitoring

41. From the official commencement date of project, based on actual construction progress, Eptisa rent Dak Lak environment monitoring center (Villas 667) to implement periodical environment monitoring at the places having many construction activities or impacts to environment. Environment analysis sample were taken in October 2018 at 12 points. Detailed environmental monitoring locations and monitoring results can be seen in the tables 9, 10 as below.

42. Environment monitoring samples, locations were selected on actual construction activities and project's uEMP. The detail of environment monitoring sample taking positions of all packages will be shown in table 9.

43. All monitoring parameter are selected on initial environment examination (IEE) report's requirements, updated environment management plan (uEMP) and actual construction activities. Detail of environment data observation are shown in table 10.

44. Evaluation of environment quality results in October 2018

- Because of construction in daytime, observation results are compared with noise standards of normal place in daytime. The results show that measured noise level around construction areas is not higher than the permitted limit regulated in QCVN 26:2010/BTNMT on national technical regulation on noise.
- Similarly, vibration level of excavators, rollers in construction areas (against QCVN 27:2010/BTNMT - on national technical regulation on vibration) and other related data of emission concentration like NO₂, SO₂, CO is lower than permitted level of pollution concentration that measured average in one hour, regulated in QCVN 05:2013/BTNMT - on national technical regulation on surrounding air quality. However, dust level at some periods during transmission pipeline construction along the main road is nearly equally limit. So, contractor must notice not to operate all construction machines at the same time not to increase vibration in construction areas.
- The environmental quality monitoring results in October 2018 show that the project construction activities have not affected environment surrounding project areas.

Table 9: Environment observation positions in October 2018.

No.	Package	Sample	Sample position	Address	Coordinate X, Y	Weather	Time
<i>Air sample points for Buon Me Thuot water supply subproject</i>							
1	DLCW03	KK1	Pile 152, pipeline DN600.	Y Ngong Road, Tp. Buon Ma Thuot.	X=0449287 Y=1401591	Sunny	18/10/2018
2	DLCW03	KK2	Booster pump station DLCW03, Buon Ma Thuot city.	Phường Ea Tam, Buon Ma Thuot city.	X=0447788 Y=1397864	Sunny	18/10/2018
3	DLCW02	KK3	Pile 21, pipeline DN700, Ea Na commune, Krong Ana District	Ea Na commune, Krong Ana District	X=0443652 Y=1388882	Sunny	19/10/2018
4	DLCW02	KK4	In front of the pump station of a water treatment plant	Ea Na commune, Krong Ana District	X=0443807 Y=1387983	Sunny	19/10/2018
5	DLCW01	KK5	Pile 91 – 16, raw water pipeline.	Ea Na commune, Krong Ana District	X=0443843 Y=1386106	Sunny	22/10/2018
6	DLCW01	KK6	Raw water pumping station	Ea Na commune, Krong Ana District	X=0442543 Y=1383625	Sunny	22/10/2018
<i>Air sample points for 3 districts water supply subproject</i>							
7	DLCW05	KK7	Buon Don Water treatment plant	Commune Ea Wer, Buon Don District	X=0433979 Y=1417142	Sunny	23/10/2018

No.	Package	Sample	Sample position	Address	Coordinate X, Y	Weather	Time
8	DLCW05	KK8	Pile F13, distribution pipeline DN110	Xã Ea Wer, huyện Buôn Đôn district	X=0481823 Y=1432405	Sunny	23/10/2018
9	DLCW05	KK9	Pile C29, Pipeline DN160, in Nguyen Tat Thanh.	Nguyễn Tất Thành road, Krông Năng district.	X=0482935 Y=1432185	Sunny	24/10/2018
10	DLCW05	KK10	Clean water treatment plan in Krong Nang district	Tue Tinh road, Krông Năng district	X=0494186 Y=1416599	Sunny	24/10/2018
11	DLCW05	KK11	Clean water pipeline on Nguyen Tat Thanh street.	Nguyễn Tất Thành road, Ea Kar district.	X=0493872 Y=1416324	Sunny	25/10/2018
12	DLCW05	KK12	Clean water treatment plan in Ea Kar	Cư Cúc Hill, Ea Kar District	X=0481823 Y=1432405	Sunny	25/10/2018

Table 10: Analysis results of air quality in October 2018

No.	Criteria	Unit	Result						Compared Vietnamese conformity	Permitted limit
I	Six air samples on 18-22 of October 2018 for Buon Me Thuot water supply subproject									
			Air 1	Air 2	Air 3	Air 4	Air 5	Air 6		
1	Temperature	°C	30.8	31.07	34.3	33.4	33.3	33.7		

2	Wind speed	m/s	0.8-1.6	0.6-1.5	1.3-2.0	0.6-1.4	0.6-1.5	0.5-1.5		
3	Noise - Leq	dBA	69.2	64.3	64.9	64	65.3	64.2	QCVN 26:2010 (6-21h)	70
4	Vibration	dB	60.7	61.2	65.5	61.6	62.7	59.7	QCVN 27:2010 (6-21h)	75
5	Dirt	mg/m ³	0.29	0.137	0.3	0.116	0.31	0.146	QCVN 05:2013	0,3
6	NO ₂	mg/m ³	0.193	0.0857	0.169	0.094	0.194	0.092	QCVN 05:2013	0,2
7	SO ₂	mg/m ³	0.221	0.094	0.18	0.106	0.224	0.131	QCVN 05:2013	0,35
8	CO	mg/m ³	6.32	3.31	7.15	3.22	5.77	3.88	QCVN 05:2013	30
II	Six air samples on 23-25 October 2018 for 3 districts water supply subproject									
			Air 1	Air 2	Air 3	Air 4	Air 5			
1	Temperature	⁰ C	29.9	30.1	30.9	29.8	27	26.2		
2	Wind speed	m/s	0.5-1.2	0.8-1.6	0.6-1.5	0.8-1.7	0.7-2.0	1.0-2.4		
3	Noise - Leq	dBA	54.6	64.9	67.3	65	68.6	68.8	QCVN 26:2010 (6-21h)	70
4	Vibration	dB	57.7	63.6	64.7	60.3	66.2	59.7	QCVN 27:2010 (6-21h)	75
5	Dirt	mg/m ³	0.09	0.12	0.22	0.107	0.16	0.2	QCVN 05:2013	0,3
6	NO ₂	mg/m ³	0.052	0.14	0.178	0.08	0.187	0.105	QCVN 05:2013	0,2
7	SO ₂	mg/m ³	0.12	0.16	0.189	0.071	0.225	0.127	QCVN 05:2013	0,35
8	CO	mg/m ³	<3.5	7.52	8.77	<3.5	10.4	4.76	QCVN 05:2013	30

(Source: Dak Lak Environment Monitoring Center, 2018)

5. Information Disclosure, Community Consultancy and grievance redress

5.1 Public consultation

45. All community consultancy and project information disclosure presented to authority and locals in project areas by the PMU and construction contractor regularly. Detail of community and information disclosure is implemented by the PMU as below:

- During second semi-annual of project implementation in 2018, the PMU hosted multi-sector supervision team in 07/09/2018. The supervision team includes representatives of the PMU, Eptisa consultants (construction supervisor, and the environment expert) and contractor to host meetings with representatives of local authorities (DPC in project areas) and other organizations such as Representatives of Father Front Land, Youth Group with contents:
 - o Describe the project scale, construction scale in the local area (where the project's clean water distribution network intends to be expanded).
 - o Construction work execution plan and mitigation measures to minimize impacts during construction phase. Summary announcement of results and construction progress;
 - o Listen, record and answer all opinions of locals, households, women, ethnic minority lived nearly project areas (water supply plants and raw/clean water pipeline) about pending problems related to construction implementation.
 - o Discuss about the roles, responsibilities and cooperative mechanism among related parties to improve pending problems and implement effectively next activities in latter month of 2018.
 - o Visit site of construction areas
- In 26-29 of July and 17-18 of October 2018, EMC under Eptisa surveyed actual construction at the site and discussion with local authority and locals in project areas to record and answers all responses to be better in project implementation.
- PMU, supervision consultant and contractor hosted meetings and resolve all arising matters (if having) with locals and local authority in project areas in project areas monthly.

Summary of activities for information disclosure, community consultancy that undertook by representatives of Dak Lak PMU and contractors will be presented in 13

Table 11: Summary of activities for information disclosure, community consultancy and all relevant parties to the Project.

No	Activity	Responsible party	Time
1	Meeting with DAKWACO, Representative of some communes belong to three DPC of Ea Kar, Buon Don and Krong Nang where the	PMU, EMC, Construction supervisor under Eptisa and Construction Contractor	September 2018

	Project was started/ being constructing and recorded additional opinions.		
2	Send a letter informing the commencement date of the project to CPC of three districts of Ea Kar, Buon Don and Krong Nang before the construction commencement date.	PMU/Construction Contractors	July-November 2018
3	Meetings with representative of DPC, communes, locals in project areas.	Internal monitoring team (PMU+ EM resettlement-environment safety policy consultant) and contractor representative.	October 2018
4	Combination of environmental safety policy into project meetings with relevant parties.	PMU, contractors, CSC, representatives of local authority and community monitoring boards.	Monthly and when requested by PMU or local authorities (detail will be shown in consultant report by Eptisa)

Result summary of community consultancy will be shown in Table 14 and detailed minutes of all meeting will be available in Appendix C in this report.

Table 12: Result summary of community consultancy

Issues	Compliance status (Yes/No/Partly)	Comment or reason of non-compliance	Issues for further action
July 2018			
Package DLCW-04: Package DLCW04: return land in daytime, locals are satisfactory	Yes, good, no complaint		No
September/October 2018			

Package DLCW01: communes residents and authority agree with construction activities, no new complaint	Yes, no complaints, all issues have been solved immediately		
Package DLCW02: No complaint from locals residents and commune authority	Yes, good contact with locals		
Package DLCW03: No Complaint from locals residents. Complaint from local authority on the unused water pipeline on the pavement was solved immediately after few day.	Yes, good contact with locals, all issues have been solved immediately		
Package DLCW-04: authority highly evaluated the construction contractor and supervision board about progress, quality hygiene, environment, traffic safety and combination with local authority and people.	Yes, good, no complaint		No

5.2 Grievance Redress mechanism

- Project information as well as contact numbers is posted publicly with local authorities and in consultancy meetings so that people can respond and complain if necessary.
- In the second semi-annual of 2018, no complaints significantly on the Environmental safeguard or Occupational Safety was recorded.

Table 13: Summary of Grievance Redress

Type of Grievance	Details (Date, person, address, contact details, etc.)	Required Responsibility Timing	Action, and Resolution
Old Issues from Previous Reports			
No			
New Issues from This Report			
No			

6. Conclusion and recommendation

6.1 Conclusion

46. The DAKWACO/PMU, Eptisa Consultant and construction contractors, in general, follow ADB safeguard policies and commitments in environment management plans/contractors' environment management plans of the uEMP as well as the Government regulations.

All defects: CEMPS must add more details to submit for PMU to approve; construction contractor must place enough signboards with names of work + the Client + construction contractor but in these signboards, there was no hotline phone number + commencement and completion date of the civil work packages. Contractor hasn't trained about occupational and health safety for all workers.

47. Public consultation and information disclosure are fully implemented by the PMU. PMU closely coordinated with local authorities in resolving complaints and accelerate construction progress. PMU and supervision consultants regularly visit the project sites; organize monthly meetings with contractors to remind related issues.

48. All construction activities of all packages haven't cause impact/effects on around environment. All contractors implemented labor safety and environment hygiene in compliance with project requirements that mentioned in uEMP/CEMP and re-correct mistakes after reminding in the first stage of project implementation.

49. There is no grievance from community. All grievances were resolved immediately.

6.2 Recommendation

50. PMU and Eptisa consultants (CMC) observe, monitor fully all contractors' commitment of labour safety assurance, environment hygiene for project to achieve high efficiency about quality as well as environment requirements and locals in construction areas.

51. Contractors: implement full commitments in environment management plans/contractors' environment management plans about environment impact mitigation measurements, ADB safeguard policies, environment hygiene at the site; firm combination with local authority in announcement of construction progress and propaganda locals to acquire corridors.

- Contractors should provide training on HIV/AIDS for all the workers, supervisor should request workers regularly wear safety clothes and hat.

Appendix A: Water supply system in Buon Ma Thuot city and three adjacent districts

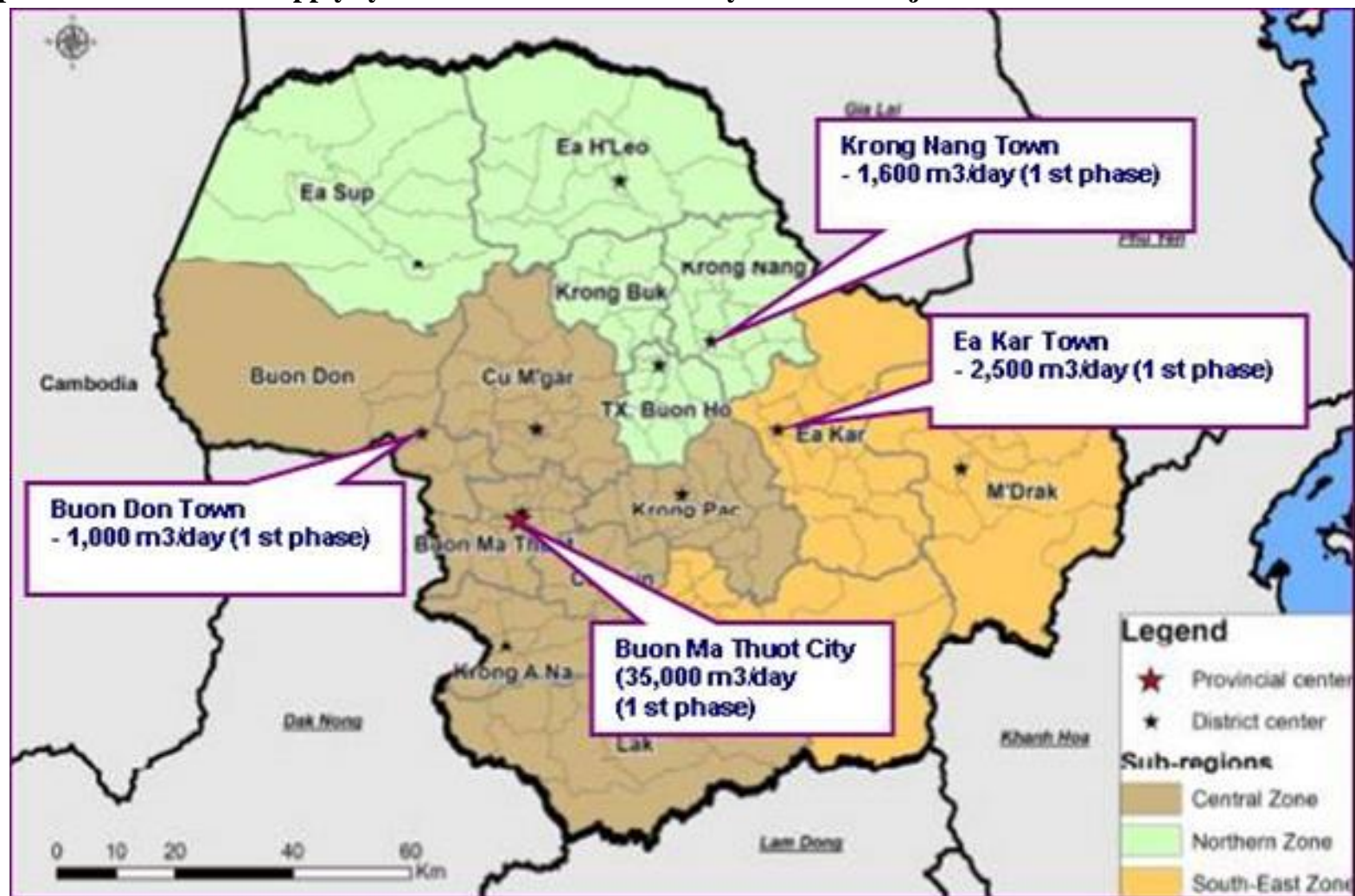


Figure A1: Land map of project package

Buon Ma Thuot city water supply system

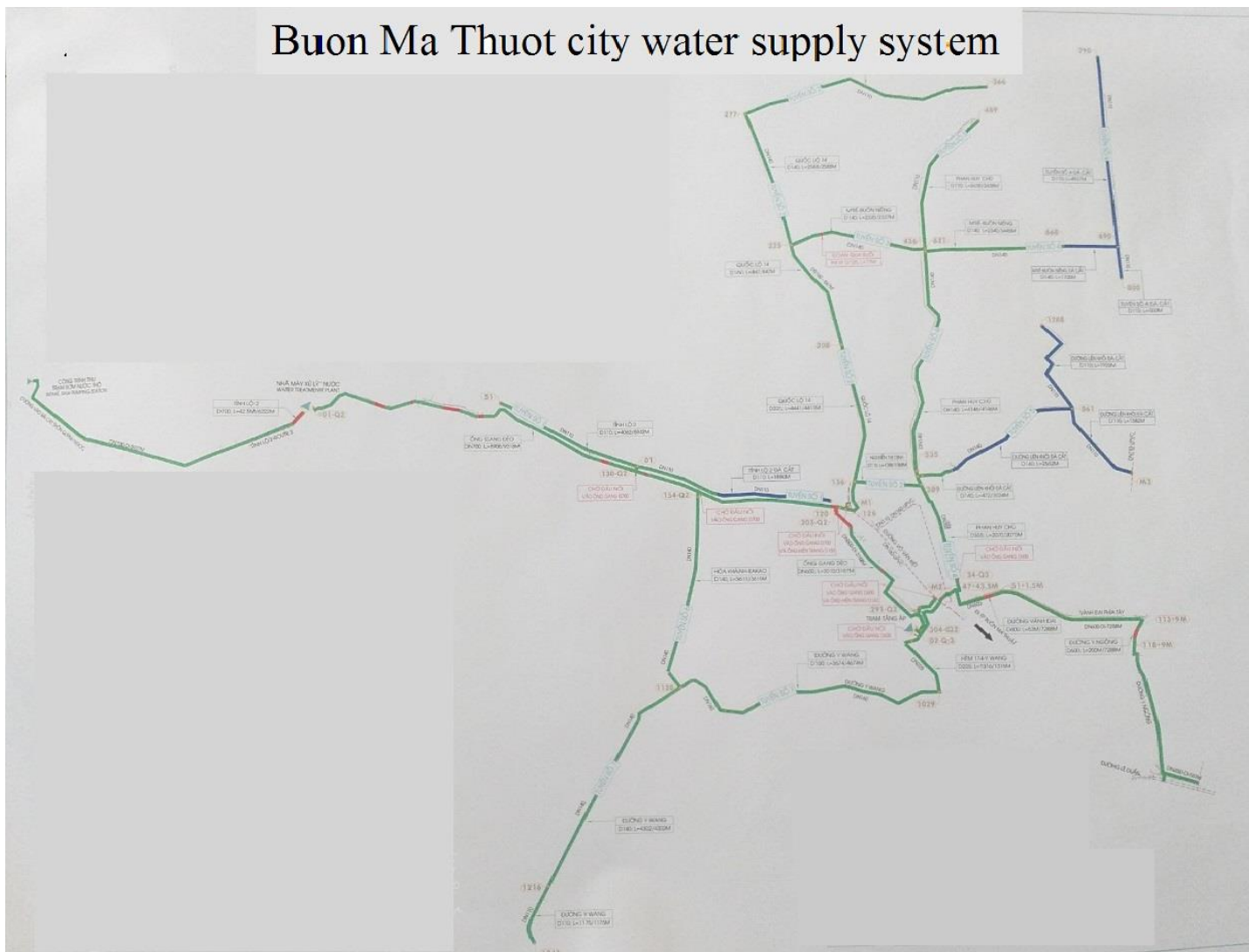


Figure A2: Buon Ma Thuot city water supply system

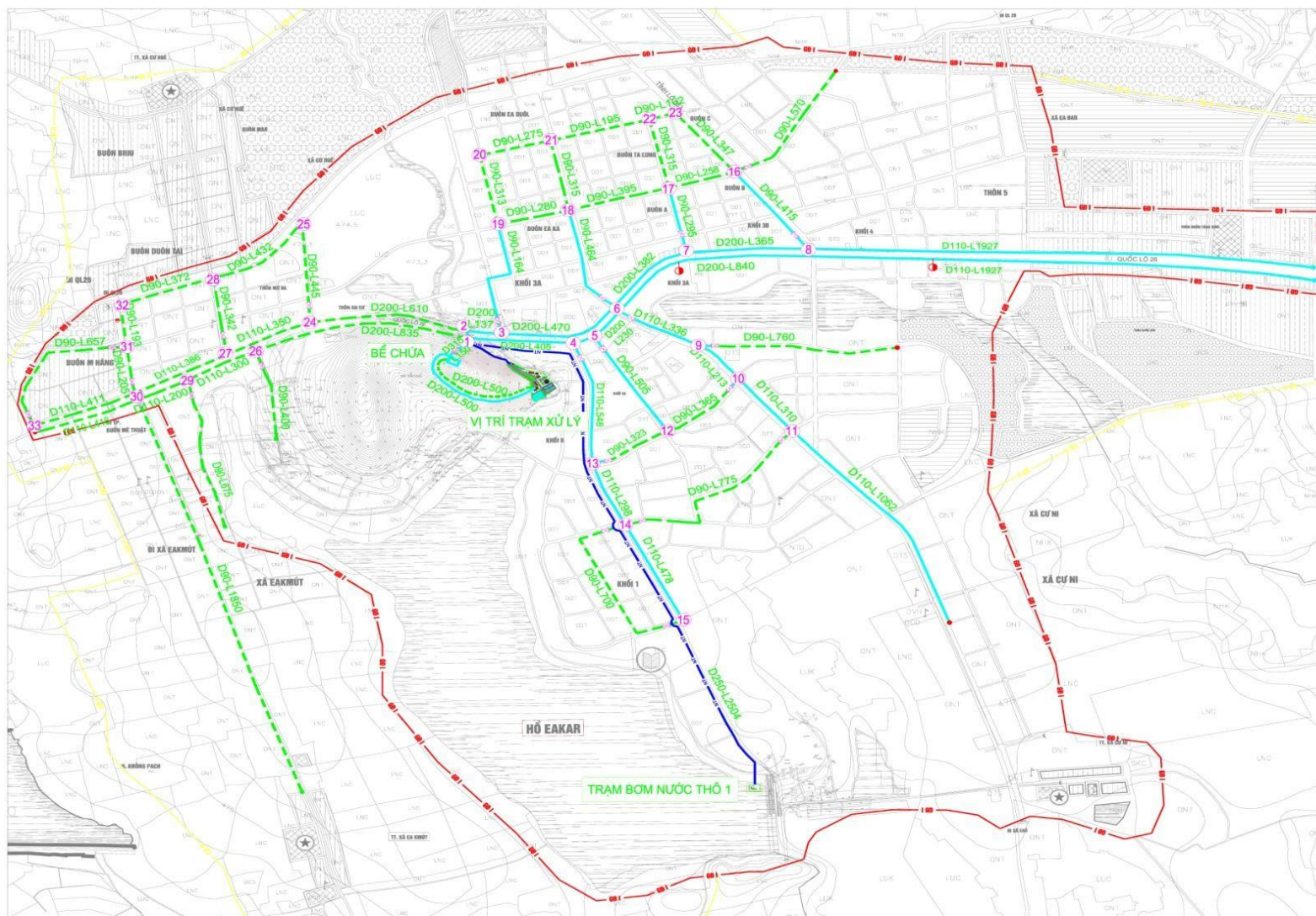


Figure A3: Ea Kar district water supply system

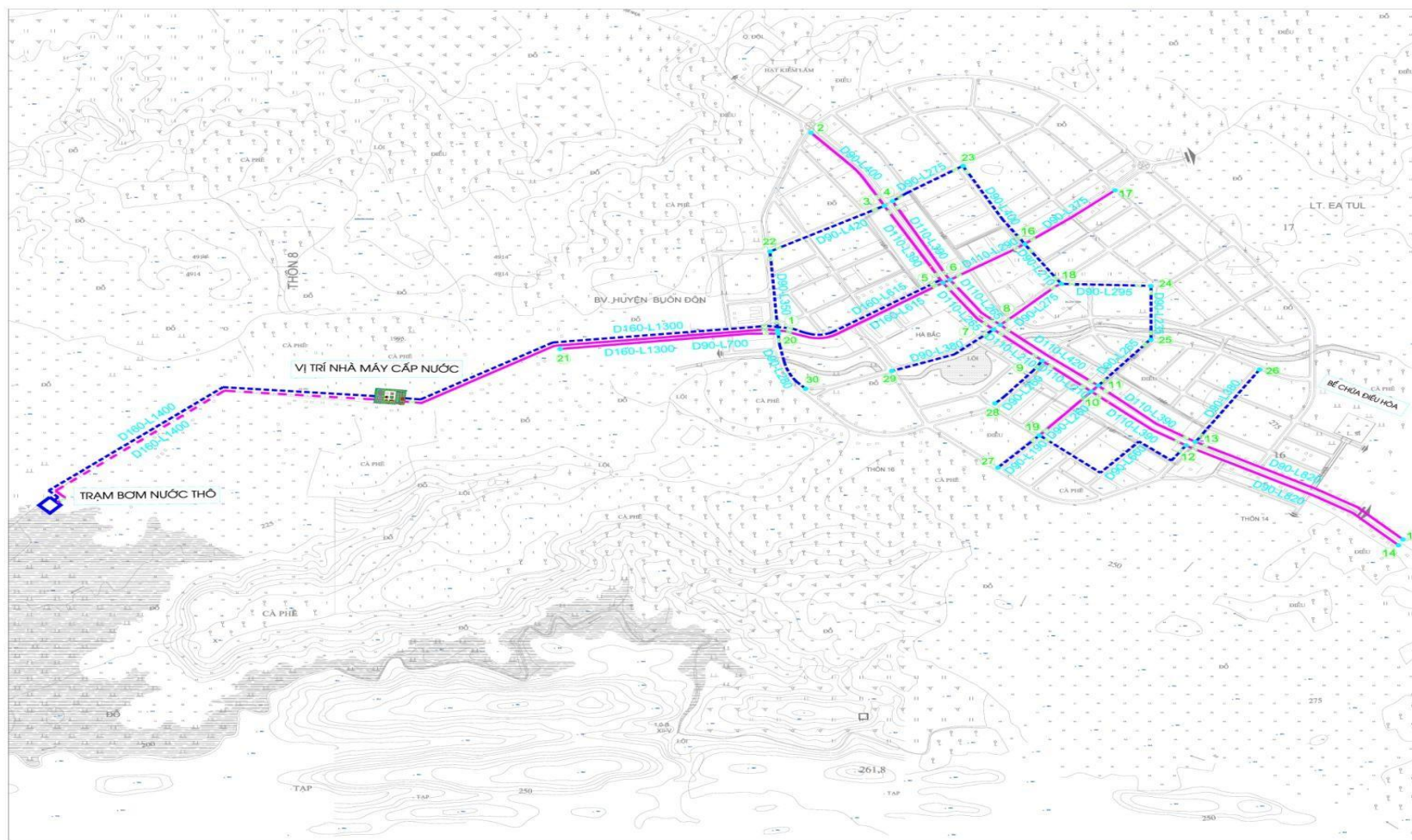


Figure A4: Buon Don district water supply system

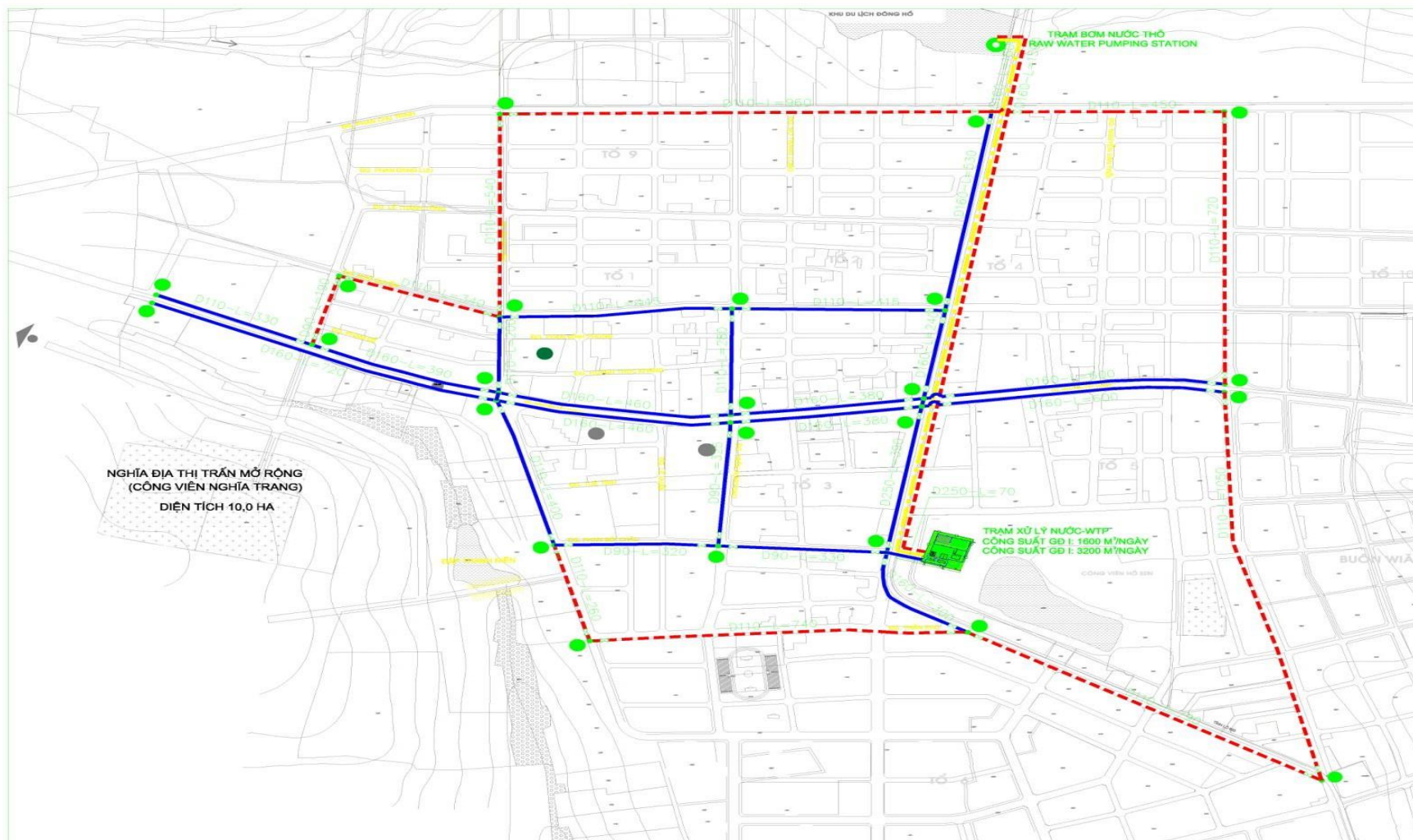


Figure A5: Krong Nang district water supply system

Detail of packages' divisions:

➤ **Package DLCW-01**

- Intake structure construction: offshore manmade lagoon water intake type, masonry structure, water intake estimated for 02 phases 70,000 m³/day, length of water intake lagoon is 127.22, width is 4.36m.
- Raw pumping station construction: designed capacity for the first phase is 35,000 m³/day, second phase is 70,000 m³/day;
- Pumping station type: half on land haft submerge structure, submerged part is RC, on land part which is bricked with RC heat-insulation tile roof, contains 05 pumping unit separators of each one sized 4.65x2.1m. In the phase 01 there are 03 submerged pumping units Q=730 m³/h, H=70m.
- Raw water pipeline dimension is DN700-DI, total pipe length 6.222 km. Material is ductile iron pipe and fitting products.

➤ **Package DLCW02:**

Construct the phase I WTP with capacity of 35,000 m³/day including major items:

- WTP system, administration house, chemical house, pumping station:
- Reservoir 3,300 m³: built by RC, haft emerged haft submerged with dimension is 30x30m, submerged part height is 2.05m, emerged part height is 2.2m divided into 02 compartments which is 750m³ per each one, treated water compartment volume is 2,550m³.
- Backwash washing water tank: by RC, dimension 15.85x16.6m, high 3.7m; separated into 02 compartments with 02 submerged pumping units Q=50m³/h, H=15m placed inside.
- Sludge drying bed: masonry, 02 separated tanks; dimension per each tank is 38.6x14.6m, high 2.8m.
- Garage: steel frame, iron roof, area 14.4x4.6m.
- Transformer unit capacity 500 KVA, placed on RC foundation dimension 4.5x3.1m.
- Fence - guard booth: Major gate is 8.42m, sub-gate is 2.1m, fence length is 576,6m; guard booth built by brick and RC, heating insulation iron tile size 3.3x3.3m.
- Material of the treated water pipeline to the booster:
- Ductile iron pipe DN700 PN16 (connecting Tee) long L= 8,798 m.
- Ductile iron pipe DN700 PN16 (connecting Tee) long L= 3.163 m.
- Steel pipe DN700 wall thickness 10mm long L=239m.

➤ **Package DLCW03:**

Building the booster pumping station with details as below:

- Reservoir 4,500 m³;
- Booster pumping station combined chemical house capacity 25,000 m³.

- Substation capacity 1,000 KVA, backup generator capacity 1,256 KVA;
- Fence, guard booth.
- Treated water pipeline to distribution net.
- Ductile iron pipe DN700 PN16 (connecting K) long L= 5.230 m.
- Ductile iron pipe DN700 PN16 (connecting Tee) long = 2.005 m.
- Ductile iron pipe DN450 PN16 (connecting Tee) long L= 563 m.
- Steel pipes DN600 wall thickness 8mm, long L=69m.
- HDPE pipe DN280 PN12, 5 L=27m long

➤ **Package DLCW04**

Supply and install treated water transmission and distribution HDPE pipeline 61,527m long totally, divided into 07 lines as below:

- Line 01: Provincial road (PR) No. 02 (node 130-Q2 to node 51, node 01 to node 120), DN110-HDPE pipeline length is 5,920m and DN140-HDPE pipeline is 22m, pressure capacity is minimum PN 10.
- Line 02: PR2 (node 203-Q2 to node 136); National Road (NR)14 (node 136 to node 277); Road to Dray H'Ling Hydropower Station (from node 277 to node 366); path 545 (node 136 to node 530) Pipe dimensions are DN225-HDPE long 4,411m; DN160- HDPE long 847m; DN140-HDPE long 2,588m and DN110-HDPE long 39m. Minimum pressure capacity is PN10.
- Line 03: Roads of Buon M'rê-Buon Niêng (node 225 to node 453); Phan Huy Chu Street (node 453 to node 489) pipe dimension is DN110-HDPE long 2,638m and DN140-HDPE long: 2,320m. Minimum pressure capacity is PN10.
- Line 04: Phan Huy Chu Street (node 34-Q3 to node 621); Roads of Buon M're-Buôn Nieng (node 621 to node 690); inter-commune roads of Hoa Xuan and Hoa Phu (node 690 to node 790 and node 790 to node 800) pipe dimension is DN110-HDPE long 5,437m Minimum pressure capacity PN10; DN140-HDPE long 7,591m and DN355-HDPE long 2,070m Minimum pressure capacity PN16.
- Line 05: Inter-blocks' road (node 535 to node 861, node 861 to node 893 and node 861 to node 913) pipe dimension is DN110-HDPE long 3,507m Minimum pressure capacity PN10 and DN140-HDPE long 3,024m Minimum pressure capacity is PN10.
- Line 06: inter-commune roads of Hoa Khanh and Ea Kao (node 154-Q2 to node 1128) pipe dimension is DN140-HDPE. Total line length is 3,615m. Minimum pressure capacity PN10.
- Line 07: Y Wang Street (node 15-Q3 to node 1269); path 03- Vo Van Kiet Street (node 233-Q2 to node 1241) pipe dimensions are DN110-HDPE long 1,175m. Minimum pressure capacity PN10; DN140-HDPE long 4,302m, Minimum pressure capacity is

PN10; DN160-HDPE long 5,127m. Minimum pressure capacity is PN16; DN225-HDPE long 1.316m. Minimum pressure capacity is PN16.

➤ **Package DLCW05:**

Building water supply system to Ea Kar town capacity 2,500m³/day including major structures:

- Raw water intake structure is offshored 98,5m, pier leading to pumping station is concreted, wide 1,6m, area size is 3.5x3.5m, 02 submerged pumping units Q=105m³/h, H=55m. Raw water pipeline DN225-HDPE long 3,012m with pressure capacity PN16.
- Treatment system: RC vertical sludge drying includes 04 tanks with per each capacity is 4.8x4.8m and 7.6m high. One RC rapid sand filter compartment includes 04 tanks with per each capacity is 2.4x2.375m and 5.0m high.
- Reservoir 580 m³: RC, half emerge half submerge, area 13.2x13.2m, merged part is 1.35m high, emerged part is 2.1m high divided into 02 compartments: washed water compartment capacity 75m³ and treated water compartment capacity 505 m³.
- 02 level pumping station and backwashing structures: bricked, RC frame, half emerged half submerged structures dimension is 4.2x9.9m. Emerged part is 4.2x16.5m, contained 02 horizontal axis centrifugal pumping units Q=75m³/h, H=35m. 01 pumping unit Q=107 m³/h, H=15m; 01 ventilation Q=4,5m³/h, H=5m; 01 dewatering pump Q=2m³/h, H=10m for leaking water.
- Chemical house chlorine: 01 story, bricked, RC frame with heating insulation iron tile, area 4.2x16.5m; Space of Chlorine container 4.2x3.3m includes 05 chlorine tanks 50kg, 02 controllers of vacuum, 01 automatic transform device, 02 clorators, 02 ejectors 0-1 kg/g; Chemical house area is 4.4x13.2m, contained the equipment: 02 alum stirring machines 0.55kw-100v/p, 02 determiners 100l/h-40m, 02 soda stirring machines 0.55kW-100 v/p, 02 determined pumpers 50l/h-40m.
- Sludge drying bed: masonry, 02 containers, each one is 14.55x8.0m, 2.6m high
- Administration house: 02 stories, bricked, reinforced frame with heating insulation tile, area 12.9x11.7m.
- Guard booth and fence: guard booth is bricked, reinforced roof with insulation tile 3.3x3.3m
- Technical pipeline
- Electrical station: substation 250kV.
- Treated water pipeline dimension is from DN90-HDPE to DN280-HDPE, total length is 12.939km. Pipeline design.

Building water supply system capacity is 1,600m³/day in Krong Nang town including major items:

- Electrodynamics system;

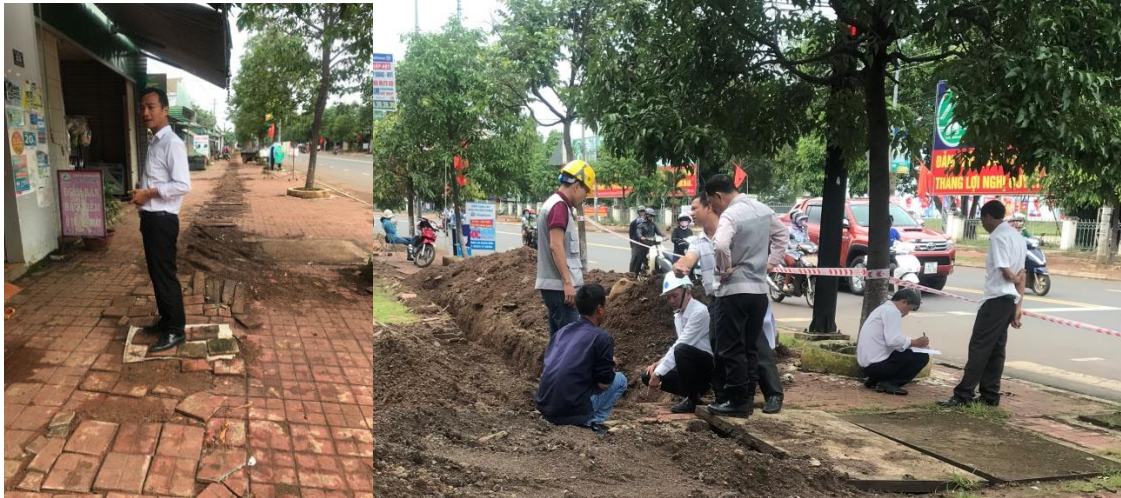
- Lighting system;
- Treated water distribution pipelines.

Build water supply system 1,000m³/day in Buon Don District with major items as below:

- Building WTP including major structures: raw water intake, pumping stations, combination of treatment system, second level pumping station, treated water reservoir, chemical house, sludge container, administration house, garage, guard booth, store.
- Electrodynamics system;
- Lighting system;
- Treated water distribution pipeline

Appendix B: Photograph of environment observation

1. Community consultancy






Consultancy in package DLCW05



Consultancy in package DLCW04

2. Site visiting

No.	Construction division:	Comment
1	Package DLCW01	
	<p>Raw water intake</p> <p>Construction signboards and fences</p> 	<p>Enough fences and signboards</p>
	<p>Water channel</p> 	<p>Good environment hygiene</p>
2	Package DLCW02	
	Construct pipeline	

	 <p>Return land after construction</p> 	<p>Place fences and signboards, combine construction and reinstatement</p>
	<p>WTP</p> 	<p>Signboards with information Fences around construction areas.</p>
<p>3</p>	<p>Package DLCW03</p>	
	<p><i>Construct at the booster pumping station</i> Not assurance of electricity safety for workers</p>  <p>Not clean up construction materials</p>	<p>Lift electricity wires were put above people's head</p>  <p>Clean hygiene within one week after reminding</p>



Construction signboard



Construction signboards with enough information at booster pumping station








Construct pipeline



Enough signboards when installation pipeline

Retun land after construction; damaged roadway was caused by rainy weather and many transportation

Road recovered after construction

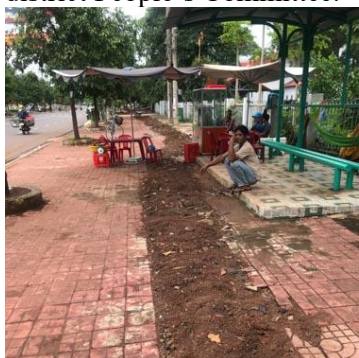
		
4	Package DLCW04 Digging roadway and install pipeline	Recover road/paveway after construction in daytime
	 	
5	Package DLCW05 <i>WTPs at three districts</i> Not constructed land of WTP	No construction activities yet at water treatment plant in Buon Don
	  Site management board office	
		
	Construct pipeline Signboard and no impact on transportation.	Return land after construction



Return land in daytime after installing pipeline



Not reinstalled brick because of waiting types of brick from district People's Committee.



Re-install pavement with brick in district People's Committee's requirements



Appendix C: Summary minute meetings on third Quarter 2018

**DỰ ÁN CẤP NƯỚC THÀNH PHỐ BUÔN MA THUỘT VÀ 03 THỊ TRẤN:
THỊ TRẤN EA KAR, HUYỆN EA KAR; THỊ TRẤN KRÔNG NĂNG,
HUYỆN KRÔNG NĂNG VÀ THỊ TRẤN BUÔN ĐƠN, HUYỆN BUÔN ĐƠN,
TỈNH ĐẮK LẮK THUỘC CHƯƠNG TRÌNH PHÁT TRIỂN NGÀNH
NƯỚC CHO NĂM 2011-2012**

BIÊN BẢN THAM VẤN

V/v: *Tham vấn công tác môi trường, tại tỉnh*
C2 khi xây dựng từng ống cấp nước cho xã Ea Na & Dray Sáp
Đắk Lắk, ngày.....tháng.....năm 2018

I. THÀNH PHẦN THAM DỰ:

Số người tham dự: *25*.....gồm.

Đại diện chủ đầu tư: Ban QLDA ĐTXD Công trình cấp nước tỉnh Đắk Lắk:

- Nguyễn Khắc Dân*..... *Phó giám đốc ban*
- Nguyễn Đình Việt*.....
- Nguyễn Hữu Vũ*.....

Đại diện chính quyền và cộng đồng xã Ea Na, huyện Krông Ana:

- Y. P. E. ban*..... *PCT xã Ea Na*
- Nguyễn Ngọc Anh*..... *Chủ tịch MTTQ xã*
- Hoa Thị Hằng*..... *Đoàn thanh niên*

Và(số lượng) đại diện các hộ gia đình tham gia cuộc họp. Danh sách đại diện các hộ tham gia cuộc họp tham vấn được đính kèm theo biên bản này.

Đại diện chính quyền và cộng đồng xã Dray Sáp, huyện Krông Ana:

- Uông Dương Trường*..... *PCT xã*
- V. Ng. Bằng*..... *PCT MTTQ*
- Nguyễn Thái Quang*..... *Đoàn thanh niên*

Và(số lượng) đại diện các hộ gia đình tham gia cuộc họp. Danh sách đại diện các hộ tham gia cuộc họp tham vấn được đính kèm theo biên bản này.

II. THỜI GIAN, ĐỊA ĐIỂM:

Từ *8h30'* đến, ngày *07* tháng *9* năm 2018.

Tại: *Hội trường UBND xã Ea Na*.....

III. NỘI DUNG THAM VẤN:

- Chủ đầu tư cung cấp thông tin cho người tham dự cuộc họp tham vấn, bao gồm:
 - Mô tả quy mô dự án, quy mô xây dựng tại địa phương.

- Chính sách, biện pháp giảm thiểu các tác động khi triển khai xây dựng.
- Kế hoạch thực hiện công việc xây dựng.
- 2. Chủ đầu tư đã cung cấp cho những người tham gia cuộc họp tham vấn các tài liệu sau:
 - a. *Mô tả dự án, quy mô xây dựng*
 - b. *Biện pháp giảm thiểu khi triển khai xây dựng*
 - c. *Kế hoạch thực hiện công việc xây dựng*

IV. KẾT QUẢ THAM VẤN:

1. Ý kiến quy mô xây dựng tuyến ống cấp nước sạch cho địa phương:

ĐD UBND xã Ea Na: Thống nhất cao khi xây dựng tuyến ống cấp nước, xã sẽ thống báo tên các thôn buôn

ĐD UBND xã Ea Na: Thống nhất cao, trước khi thi công đến thôn buôn nào kết hợp với chính quyền địa phương để việc thi công thuận lợi, hiện tại vẫn còn một số buôn rất cần có nước sạch do nguồn nước người dân dùng rất ô nhiễm.

2. Ý kiến Chính sách, biện pháp giảm thiểu các tác động khi triển khai xây dựng:

Thống nhất với biện pháp giảm thiểu trước khi xây dựng: thi công chiều chiều, hoàn trả mặt bằng trong ngày, hoàn trả lại mặt bằng theo đúng hiện trạng

Trước khi thi công bắt hợp với xã thành lập tổ dân đồng, tuyên truyền cho các hộ dân ủng hộ dự án.

3. Ý kiến Kế hoạch thực hiện công việc xây dựng:

Thống nhất kế hoạch thi công

Cuộc họp kết thúc lúc ...11 giờ 00...giờ cùng ngày.

Người lập biên bản

Nguyễn Đình Việt

ĐD. Chủ đầu tư

ĐD. Chính quyền xã Ea Na

ĐD. Chính quyền xã Đray Sáp



KT CHỦ TỊCH
PHÓ CHỦ TỊCH



KT CHỦ TỊCH
PHÓ CHỦ TỊCH

Pil Ê Ban




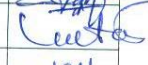

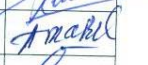




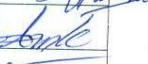

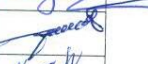
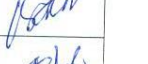







ĐD. Cộng đồng xã Ea Na

ĐD. Cộng đồng xã Đray Sáp

Nguyễn Đình Việt

Nguyễn Đình Việt

Danh sách các thành viên tham dự cuộc họp tham vấn cộng đồng

Stt	Họ và tên	Chức danh/ đơn vị	Địa chỉ	Dân tộc	Giới		Chữ ký
					Nam	Nữ	
1	Y. Pít t. Baw	PCT xã	Ea Na	Êđê	X		
2	Nguyễn Ngọc Anh	CT. MT xã	Ea Na	Kinh	X		
3	Trần Trung Hậu	TT. Thành công	Ea Na	Kinh	X		
4	Y. Daniel Baw	Buôn Tour B	Dray Sap	Êđê	X		
5	Liêng Miết Hải	Thôn Tân Lợi	Ea Na	Kinh	X		
6	Hoa Thi Hằng	Đ. thôn xã	Ea Na	Kinh		X	
7	Vũ Đức Bìn	Thôn Thôn	Ea Na	Kinh	X		
8	Y. Nga Baw	PCT. MT	Dray Sap	Êđê	X		
9	Cao Mỹ Hỷ	T. thôn	Lấp Mỵ	Kinh	X		
10	Nguyễn Văn Lành	T. thôn	Tân Thang	Kinh	X		
11	Trần Văn Lê	T. thôn	Dray Sap	Kinh	X		
12	Nguyễn Thái Cường	Xã Hòa	UBND Dray Sap	Kinh	X		
13	Y. Tâm An	Trưởng Buôn	B. Tô Lo	Êđê	X		
14	Trần Quốc Việt	TRƯỞNG THÔN	Tân Tiến	Kinh	X		
15	H. M. H. H. H.	TRƯỞNG THÔN	Buôn D. K.	Êđê		X	
16	Đặng Thị Lê	Trưởng thôn	Quỳnh Ngọc	Kinh		X	
17	H. Ngọc N. N.	Hội LHM xã	Xã Ea Na	Êđê		X	
18	Y. N. B. B.	Trưởng thôn	Ea Na	Êđê	X		
19	Nguyễn Văn Chính	Thôn Tân Thang	Ea Na	Kinh	X		
20	Nguyễn Bá Phong	Ea Na	Ea Na	Kinh	X		
21	Uông Dương Trường	PCT UBND Dray Sap	Dray Sap	Kinh	X		
22							
23							
24							
25							
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29							