

Safeguards Monitoring Report

Semi-Annual Report
June 2020

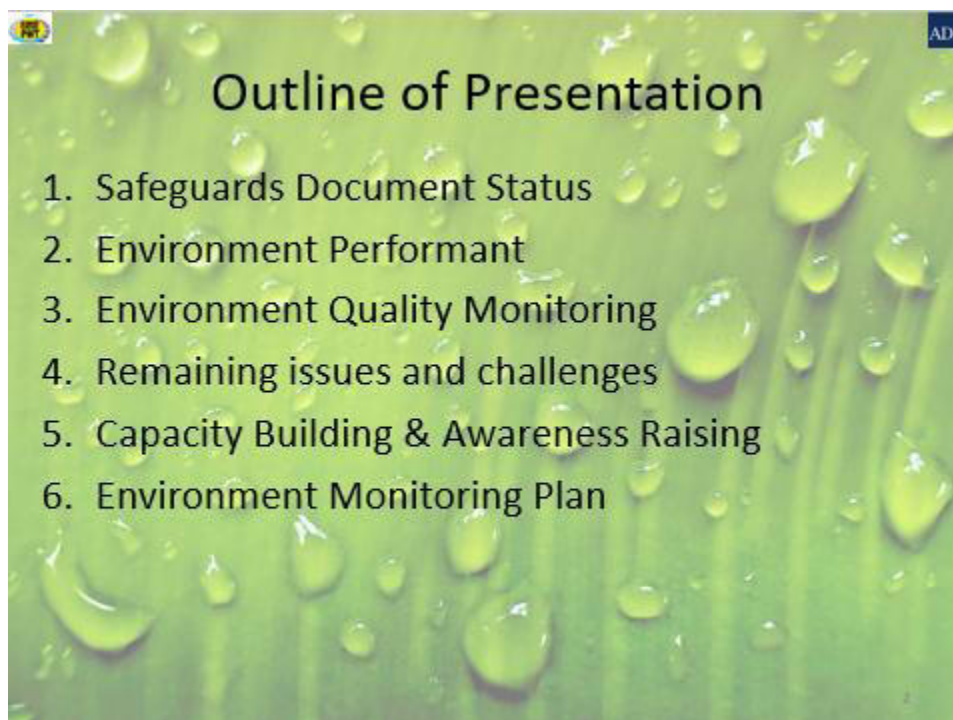
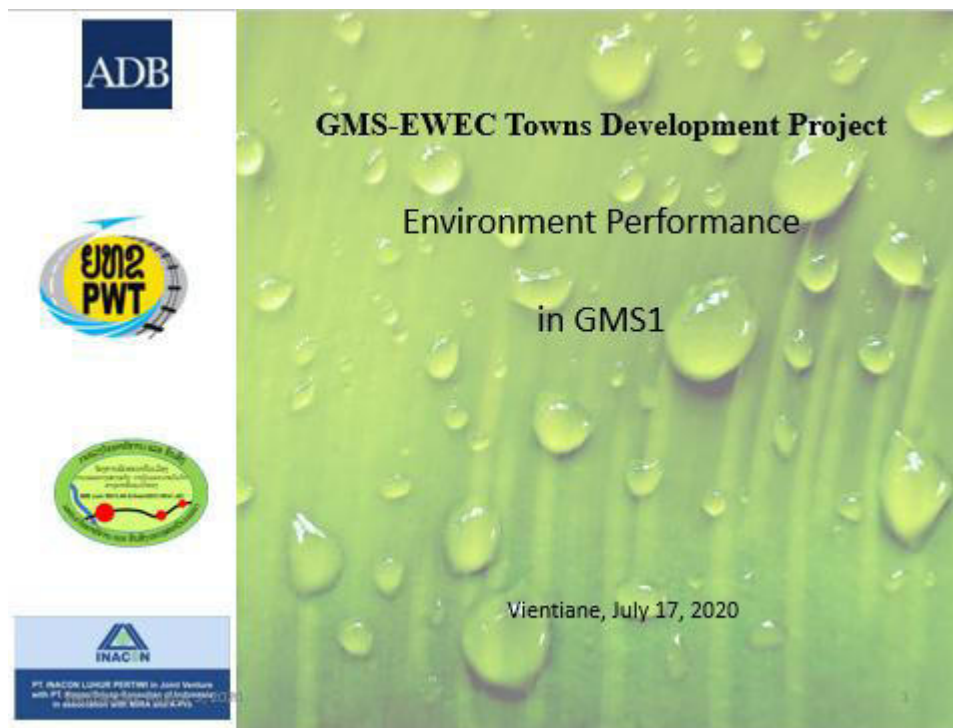
Lao PDR: Greater Mekong Subregion East-West Economic Corridor Towns Development Project (Part 2 of 3)

Prepared by the Project Coordination Unit of Department of Housing and Urban for the Ministry of Public Works and Transport, Lao PDR and the Asian Development Bank

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G. ENVIRONMENT SAFEGUARD PRESENTATION AT VIRTUAL MISSION

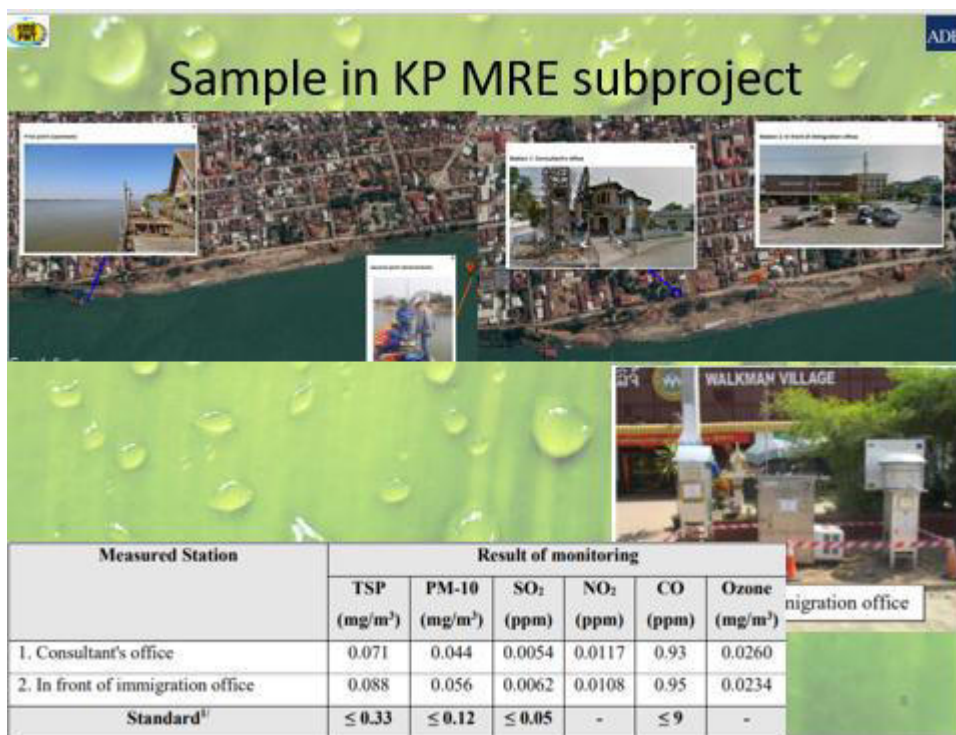


1. Safeguards Documents Status			
NO	SAFEGUARD DOCUMENT NAME	STATUS	REMARK
1	GMS-EWEC TDP Kaysonphomvihan, Phine and Dansavan IEE	Last updated, Sep 2018, it was approved & disclosed It is implemented according	It is available in bank website
2	All 7 EMPs	Last approved EMP of HLK with DEWATS All EMPs are implemented accordingly	All 7 EMPs are available in bank website
3	All 7 CEMPs	Approved and shared with ADB	
4	IEE addendum of additional works	Principle approved	It is required to annex to SMR
5	Semiannual Environment and Social Safeguard Monitoring report (SMR)	SMR June-Dec2019 was submitted and approved	
6		SMR Jan-June2020 is being compiled and written	Planned to submit end July 2020
7			

2. Environmental, Health & Safety Performance		
Key Environment impact Factors	Compliance status	Remark
Established human resources/ Env safeguard/ EHSOs	PMU/CSCS/contractors complied accordingly	
Air/Dust	All contractor complied accordingly	Watering from 2-6 per day Speed limited imposed Truck cover Pre-project survey
Wastewater/sediment/erosion	Complied accordingly	Subproject located in urban areas, septic tanks are installed for worker's camp Not allow to sensitive work in rainy season
Noise emission	Complied accordingly	No working at night time Limited noisy equipment Applied most electricity equipment

Key Environment impact Factors	Compliance status	Remark
Asphalt/bitumen	Complied according	Contractors followed EMP and corrective action/ advice
Concrete	Complied accordingly	PPEs are provided to workers Plant washing has installed
Solid Waste/hazardous	Complied accordingly	Signed contract with urban Regularly clean and remove solid waste from construction Provide garbage bins to construction sites and worker's camp
Biological/loss of vegetation	Complied according	Vegetations are limited to clean/cut specific in the designed location Trees were planted along roadsides to replace with losing

Key Health and Safety Factors	Compliance status	Remark
Traffic Management	Complied according	Related signs, barriers, flag persons, markings are in place, replaced with permanent one, the completed project
Cleanliness, tidiness of construction/camp	Complied accordingly	Daily checked/monitored by EHSOs
Construction risks	Complied accordingly	All risks are removed & mitigated by contractors
First AID, fire prevention, emergency contact list	Complied accordingly	
HIV and other STD and communicable diseases	Complied according	COVID19 will be discussed separately
Emergency	Complied accordingly	All subproject has emergency responded team, cars, contact list






4. Remaining/concerning Issues

- Extend IEE certificate
- Environment, health and Safety Guideline for landfill Operation
- Provide capacity on environment, health and safety to operator, staffs, waste pickers in new landfill operation
- DEWATS construction delay VS rainy season/flooding issues
- Flies/insects and odors from current landfill and new operation landfill.
- COVID19 Prevention Practic







5. Capacity Building & Awareness

Informal	Officially
Induction of Contractor before Commencement of Works	Awareness raising, toolbox meeting among EHSO and workers in each subproject
Field Monitoring with EHSO/contractor	Two days training (27-28 Dec 2018) Two days training (6-7 Nov 2019)
Advise for improving better environmental practice	Environment and Safety Performance Perception Road Safety Awareness Raising in 5 events for 6 schools











6. Environment Monitoring Planning

- Resolve/follow up remain issues
- Monitoring and reporting as usual for ongoing subproject
- Support for completion report on environment session
- COVID19 Prevention follow up



Thank You

H. TRACER STUDY OF 5 VENDORS AT KAYSONE ROAD BUS BAY

GMS-EWEC Towns Development Project (GMS1)

Due Diligence Report: Kayson Phomvihane Bus Bay

Background and introduction

The Kayson Phomvihane Road Subproject includes bus bays at intervals along the road to enable passengers to safely embark and disembark. In November 2018 the Resettlement External Monitor (REM) observed 5 vendors in the vicinity of a planned bus bay at STA 5+540-STA 5+734. REM reminded the Project to undertake a DMS and SESA prior to commencing civil works and to assess compensation for economic displacement. During the External Monitor's next visit in July 2019 construction of the road and bus bay was underway and vendors were no longer present. PMU/CSCS explained that the vendors vacated the area in February 2019 prior to road construction commencing in that area for reasons unrelated to the project: the landowner requested they vacate to make way for land development. The External Monitor queried this explanation and asked for a due diligence assessment with corrective actions as appropriate.

Pre-project situation

Five stalls were noted in the vicinity of the bus bay in November 2018, as shown below:

#1.
Mr. Vongsouvanh

Selling water
melon (seasonal)

Vacant in Nov 2018



#2.
Mr. Phoukhong
Ms. Malaty

Selling basket-weave
/ handicraft



#3.
Mr. Buasay
Mrs Hongsa

Selling food



#4.
Mr Say
Mrs Soukhaykeo

Selling grilled
meats and other
food for takeaway



#5. Ms. Onh

Selling grilled
meats and other
food for takeaway



Assessment and tracer study

At the request of the Resettlement External Monitor a due diligence assessment and tracer study has been undertaken with the purpose of i) determining why vendors left the site and ii) whether or not livelihoods have been affected by the Project.

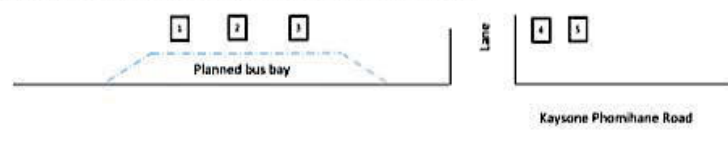
Vendors were interviewed by the PMU/CSCS Resettlement Team (Ms. Dolores; Mr. Bounyadeth and Mrs. Khamkhing) on 19 July 2019. They described the history of land use as follows:

- Vendors have been at this location for approximately 10 years.
- Until 2017 vendors were able to stay rent-free with the consent of the owner of the empty plot adjacent to the road.
- In 2018 the land-owner informed vendors that he would soon be constructing a shop-house on the land and began collecting a rental fee of 300,000 LAK per month.
- One vendor, Mr Voungsouvanh, vacated his stall and relocated to Samakixay market where stalls there are free of charge.
- In February 2019, the landowner instructed the remaining vendors to vacate the area as he intended to start construction on the empty plot.
- Accordingly, when the contractor began site clearance work in April 2019 no vendors were present.

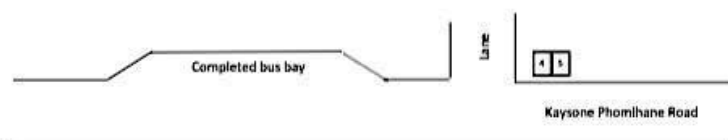
Vendors were interviewed for a second time in 6 February 2020 by the PMU/CSCS Resettlement Team to verify the information provided previously. Vendors confirmed the history of land-use summarized above. It was also explained that two different landowners were involved: vendors #1, #2 and #3 were operating with the consent of one landowner and vendors #4 and #5 were operating with consent of a second landowner. Vendors #1 to #3 did not pay rent until 2018; vendors #4 and #5 had constructed simple storage structures behind their stalls as shown in photos on the previous page. Both landowners withdrew their consent for vendors to continue using this location at the start of 2019, which caused the vendors to leave.

The Resettlement Plan (April 2018) for this Subproject identified impacts on land and structures of 25 small family businesses, one school and two commercial business. The five vendors which are the focus of this assessment were not recorded in the RP because their structures were located on private land outside the construction limits, as illustrated below.

Pre-project location of 5 vendors (November 2018)



Post-project layout of remaining 2 vendors (June 2020)



Based on this review, PMU/CSCS affirms that the 5 vendors in this area were not displaced by the Subproject, but rather moved at the request of landowners who wanted to develop their empty lots. Nonetheless, PMU/CSCS acknowledge that the landowners' interest to develop their land at that time could have been indirectly related to the Subproject. That is to say, because land value and property rental generally increases after road improvements this may have prompted landowners to consider development at this time. Given this possibility, PMU/CSCS concurred with the REM recommendation to conduct a tracer survey of the relocated vendors in order to assess how they were faring.

The PMU/CSCS Resettlement Team collected socio-economic household data twice: in July 2019 and one year later in June 2020. On the first occasion, all vendors were traced and found to have established income generating activities at new locations. On the second occasion, four vendors were found to have continued to improve their livelihoods; one vendor had moved away and could not be traced. The results are summarized below.

Tracer Study Results

Vendor Name	Survey July 2019	Survey June 2020
#1 Mr. Youngsouvanh	At Samakhixay Market, which is government managed and no rental fee is collected.	Unable to trace. Reportedly has moved to Seno Town in another district.
#2 Mr. Phoukhong Ms. Malaty	Mr Phoukhong is a construction worker Ms Malaty is growing and selling flower and vegetable at home in Sanamxay village	Mr Phoukhong is a construction worker, earning 1,800,000LAK/month. Ms. Malaty grows and sells vegetable at home in Sanamxay village, earning 400,000LAK/month.
#3 Mr. Buasay Mrs Hongsa	Mrs Hongsa is an ambulant vendor preparing food at home and selling on a hand cart along Kaysone Road (take away food, grills and steamed rice). Mr Buasay repairs watches.	Ms. Hongsa has a food stall in the Samakhixay market, earning 500,000LAK/day Mr. Buasay is a document agent earning 3,000,000LAK/month.
#4 Mr Say Mrs Soukхайkeo	Selling take-away food in the partially completed bus bay using temporary stalls (day-time only). Average income 1,000,000 LAK per day.	Mr Say and Mrs Soukхайkeo have a food stall on roadside in front of the land they previously rented. Average income 2,400,000 LAK/day.
#5. Ms. Onh	Selling take-away food in the partially completed bus bay using temporary stalls (day-time only). Average income 1,000,000 LAK per day.	Selling food from a stall on the pavement in front of the land they previously rented. Average income 1,200,000 per day.

Conclusion

This due diligence assessment has reviewed available information and conducted follow-up interviews with the vendors previously operating in the vicinity of the bus bay. The assessment affirms the original PMU/CSCS conclusion that these vendors were not displaced by the Subproject, but rather they moved because private landowners requested they vacate to make way for land development. PMU/CSCS is pleased to confirm that all vendors have been able to continue small business activities (the same or modified) with income levels above the national minimum wage.

By: PMU/CSCS Resettlement Team

Appendix 1: Livelihoods Monitoring

ແບບຟອມສໍາພາດ ການຕິດຕາມເສດຖະກິດສິ່ງດຶງ ຫຼັງການຊື້ເຊີຍ
ວັນທີ ສໍາພາດ : 25.6.2022 ຊື່ ຜູ້ສໍາພາດ: 21.6.2022

ການແນະນຳ: ຜ່ານມາທ່ານເກີດໄດ້ຄ້າຂາຍເຄື່ອງປຸງເສັ້ນທາງໄກສອນ ສົມວິຫານ ແລະ ໄດ້ເກືອບທຳມະໄປບ່ອນ
ອື່ນ ເພື່ອການກໍ່ສ້າງເສັ້ນທາງ. ຜ່ານມາບໍ່ດົນທາງໂຄງການໄດ້ຕິດຕາມຊ່ວຍເຫຼືອເພື່ອສືບຕໍ່ຄ້າຂາຍປຸງບ່ອນໃຫມ່. ມີ
ພວກເຮົາຢາກຮູ້ຢາກຖາມສະຖານະກ່ຽວກັບການຄ້າຂາຍ ແລະ ການດຳລົງຊີວິດຂອງຕອນຕົວທ່ານ.

ຂໍ້ມູນພື້ນຖານຂອງຕອນຕົວ

ຊື່ ແລະ ນາມສະກຸນ ຫົວໜ້າຕອນຕົວ: 21.6.2022
ຊື່ບໍລິສັດ : 21.6.2022
ບ້ານ : 21.6.2022
ຈຳນວນສາມະຊິກໃນຕອນຕົວ : 4
ໂທລະສັບ : 95226285 / 96084631

ກິດຈະກຳທີ່ເປັນແຫຼ່ງລາຍຮັບໃຫ້ຕອນຕົວ:

ລ/ດ	ຊື່	ອາຍຸ	ເພດ	ອາຊີບ	ລາຍຮັບກີໂລ/ເດືອນ
1	ທ. ບົວຢຸນ (17)	47	ຊ	1. ຄ້າຂາຍ 2. ຫຸ້ນປຸງ 3. ຫຸ້ນປຸງ (ທຳມະ)	1. 3.000.000 2. / 3. /
2	ທ. ບົວຢຸນ	39	ຍ	1. ຄ້າຂາຍ 2. / 3. /	1. 500.000/3 2. / 3. /
3	ທ. ບົວຢຸນ	44	ຍ	1. / 2. ມັກງຽມ 3. /	1. / 2. / 3. /
4	ທ. ບົວຢຸນ	12	ຍ	1. / 2. ມັກງຽມ 3. /	1. / 2. / 3. /
				1. / 2. / 3. /	1. / 2. / 3. /
				1. / 2. / 3. /	1. / 2. / 3. /
				1. / 2. / 3. /	1. / 2. / 3. /

ຖ້າມີຫລາຍກວ່ານີ້ໃຫ້ໃຊ້ຕາງໃຫມ່.

ແບບຟອມສໍາພາດ ການຕິດຕາມເສດຖະກິດສັງຄົມ ຫຼັກການຊົດເຊີຍ
 ວັນທີ ສໍາພາດ : 05/06/2020 ຊື່ ຜູ້ສໍາພາດ : ປ. ແກ້ວວິໄນ

ການແນະນຳ: ຜ່ານມາທ່ານເຄີຍໄດ້ດໍາຂາຍເຄື່ອງປຸງເສັ້ນທາງໄກສອນ ພົມວິຫານ ແລະ ໄດ້ເກືອບບ້ານໄປບ່ອນ
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 ພວກເຮົາຢາກຮູ້ປາກຖາມສະຖານະກ່ຽວກັບການດໍາຂາຍ ແລະ ການດໍາລົງຊີວິດຂອງຄອບຄົວທ່ານ.

ຂໍ້ມູນພື້ນຖານຂອງຄອບຄົວ

ຊື່ ແລະ ນາມສະກຸນ ຫົວຫນ້າຄອບຄົວ: ຕາ. ຄໍາໄຊຍະ... + ນ ອ່ອນ. (ຂໍເອີ້ນພຽງນາມບ່ອນກໍ່ມີ)
 ຊື່ຄູ່ສົມລົດ : ນ. ສົງໄຊຍະ...
 ບ້ານປຸ່ງ : ສົງໄຊຍະ...
 ຈຳນວນສາມະຊົກໃນຄອບຄົວ : 02 ຄົນ
 ໂທລະສັບ : 93111551

ກິດຈະກຳທີ່ເປັນແຫລ່ງລາຍຮັບໃຫ້ຄອບຄົວ:

ລ/ດ	ຊື່	ອາຍຸ	ເພດ	ອາຊີບ	ລາຍໄດ້ປີນ/ເດືອນ
1.	ຕາ. ຄໍາໄຊຍະ	40 ປີ	ຊ	1. ຄົງຂາຍ	1. 1.200.000/ປີ
2.	ນ. ສົງໄຊຍະ	39 ປີ	ຍ	1. ຄົງຂາຍ	1. 1.200.000/ປີ
3.	ນ. ອ່ອນ	37 ປີ	ຍ	1. ຄົງຂາຍ	1. 1.200.000/ປີ
				2.	2.
				3.	3.
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				3.	3.
				1.	1.
				2.	2.
				3.	3.

ຖ້າມີຫລາຍກວ່ານີ້ໃຫ້ໃຊ້ຕາງໃຫມ່.

ແບບຟອມສໍາພາດ ການຕິດຕາມເສດຖະກິດສັງຄົມ ຫຼັກການຊຶດເຊີຍ

ວັນທີ ສໍາພາດ : 25.6.2020

ຊື່ ຜູ້ສໍາພາດ: ສ.ສ.ປ.ປ.ໄທ

ການແນະນຳ: ຜ່ານມາທ່ານເຄີຍໄດ້ດໍາຂາຍເຄື່ອງປະເພັນທາງໄກສອນ ພົມວິຫານ ແລະ ໄດ້ເຄື່ອນຍ້າຍໄປບ່ອນອື່ນ ເພື່ອການກໍ່ສ້າງເສັ້ນທາງ. ຜ່ານມາບໍ່ດົນທາງໂຄງການໄດ້ຕິດຕາມຊ່ວຍເຫຼືອເພື່ອສືບຕໍ່ດໍາຂາຍຢູ່ບ່ອນໃໝ່. ມີນີ້ພວກເຮົາປາຊີປາຖາມສະຖານະກ່ຽວກັບການດໍາຂາຍ ແລະ ການດຳລົງຊີວິດຂອງຄອບຄົວທ່ານ.

ຂໍ້ມູນພື້ນຖານຂອງຄອບຄົວ

ຊື່ ແລະ ນາມສະກຸນ ຫົວຫນ້າຄອບຄົວ: ທ.ພູຊຶ້ງ.../25/6/20
 ຊື່ຄູ່ສົມລົດ : ສ.ສ.ປ.ປ.ໄທ
 ບ້ານຢູ່ : ດວງເສດຖະກິດ
 ຈຳນວນສາມະຊິກໃນຄອບຄົວ :
 ໂທລະສັບ : 030-93644-10 / 91291969

ກິດຈະກຳທີ່ເປັນແຫຼ່ງລາຍຮັບໃຫ້ຄອບຄົວ:

ລ/ດ	ຊື່	ອາຍຸ	ເພດ	ອາຊີບ	ລາຍຮັບກີບ/ເດືອນ
1	ທ.ພູຊຶ້ງ	54	ຊ	1. ກຳລັງກະມ 2. ກຳລັງ 3. (ຮັບເງິນ)	1. 1,800.00 2. 3.
2	ສ.ສ.ປ.ປ.ໄທ	39	ຍ	1. ກຳລັງ 2. ກຳລັງ 3. (ທົ່ວປ)	1. 100.00 2. 100.00 3.
				1. 2. 3.	1. 2. 3.
				1. 2. 3.	1. 2. 3.
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ຖ້າມີຫລາຍກວ່ານີ້ໃຫ້ໃຊ້ຕື່ມໃຫມ່.

I. ADDENDUM TO INITIAL ENVIRONMENT EXAMINATION OF 7 ADDITIONAL WORKS

Lao PDR: Greater Mekong Subregion East-West Economic Corridor Towns Development Project

ADB Loan No.2931 – LAO(SF) and Grant No. 0313 – LAO(SF) and No. 0314 – LAO(UEIF)

Addendum to Initial Environment Examination



for Additional Works

May 2020

Prepared by the Provincial Department of Public Works and Transport, Savannakhet Province,
Lao PDR for the Asian Development Bank.

ABBREVIATIONS

ADB	Asian Development Bank
AIDS	Acquired Immunodeficiency Syndrome
BOD	Biological Oxygen Demand
BORDA	Bremen Overseas Research and Development Association
CEMP	Contractor's EMP
COD	Chemical Oxygen Demand
CSCS	Construction Supervision and Consultant Service
DBST	Double Bituminous Surface Treatment
DED	Detailed Engineering Design
DEWATS	Decentralized Wastewater Treatment System
DMF	Design and Monitoring Framework
DO	Dissolve Oxygen
DPH	Department of Public Health
DPWT	District Public Works and Transport Office
EA	Executing Agency
EC	Electro Conductivity
ECC	Environmental Compliance Certificate
ECO	Environmental Control Officer
EERT	External Emergency Response Team
EHS	Environmental, Health, and Safety
EHSO	Environmental, Health and Safety Officer
EHSO	Environment, Health and Safety Officer
EIA	environmental impact assessment
EMP	environmental management plan
ER	Environmental Representative
ERT	Emergency Response Team
ERTL	Emergency Response Team Leader
ESIA	Environment and Social Impact Assessment
EWEC	East-West Economic Corridor
FS	Feasibility Study
GMS	Greater Mekong Subregion
GoL	Government of Lao PDR
GRM	Grievance Redress Mechanism
HGF	Horizontal Flow Gravel Filter

HIV	Human Immunodeficiency Virus
HLK	HouayLongkong
IA	Implementing Agency
ICB	International Competitive Bidding
IEE	initial environmental examination
INGO	International Non-Government Organization
KP	Kaysone Phomvihan
LAK	Lao KIP Currency
Lao PDR	Lao People’s Democratic Republic
MONRE	Ministry of Natural Resources and Environment
MPWT	Ministry of Public Works and Transport
MRC	Mekong River Commission
MRF	materials recovery facilities
NCB	National Competitive Bidding
O&M	operation and maintenance
PDPWT	Provincial Department of Public Works and Transport
PH	Potential Hydrogen
PIT	Project Implement Team (of District)
PMU	project management unit
PoNRE	Provincial of Natural Resources and Environment
PVC	polyvinyl chloride
REA	Resources and Environment Agency
RP	Resettlement Plan
SDES	Environment and Social Social Safeguard Division
SVK	Savannakhet
TDP	Town Development Project
TSS	Total Suspended Solid
UDAA	Urban Development and Administration Authority
UEIF	Urban Environment Infrastructure Fund
USD	United States Dollar
UV	Ultra-Violet
UXO	Unexploded Ordnance
VO	Variation Order
WREA	Water Resources and Environment Authority

WEIGHTS AND MEASURES

Km	–	kilometer
Kg	–	kilogram
Ha	–	hectare
mm	–	millimeter

CURRENCY EQUIVALENTS

(as of 21 May 2020)

Currency Unit	–	kip (LAK)
LAK1.00	=	\$0.0001
\$1.00	=	LAK8,981

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I. EXECUTIVE SUMMARY

1. The Loan 2931-LAO, Grant 0313-LAO and Grant 0314-LAO: Greater Mekong Subregion (GMS) East-West Economic Corridor (EWEC) Towns Development Project (TDP) (“the Project”) in Lao People’s Democratic Republic (Lao PDR) is implemented by Savannakhet Department of Public Work and Transport (“the Implementing Agency (IA)”). Infrastructure development in the three towns of Kaysone Phomvihane, Phine, and Dansavanh includes upgrading urban roads and drainages, wastewater management, solid waste management and embankment protection.
2. In the course of implementing the GMS-EWEC-TDP, significant savings were generated from competitive bidding and construction contingencies. ADB agreed with the IA’s proposal to use the savings to implement some additional work comprising urban road improvements, a Decentralized Wastewater Treatment System (DEWATS) and improved waste water management at the existing landfill in Kaysone Phomvihane. These additional works are aligned with the Project objective to strengthen the competitiveness of EWEC towns in Savannakhet Province.
3. Previous versions of the Initial Environmental Examination (IEE) are dated September 2018, October 2017 and July 2012. This addendum to IEE is prepared on the basis of the available detailed engineering design (DED) at the time of writing for 7 additional works in 7 subprojects in Kaysone Phomvihane, Phine and Dansavanh as follows: (i) DEWATS, (ii) Savannakhet airport access road, (iii) Soukhavadi road, (iv) Thahae road, (v) Pipe connection among existing landfill and new landfill in Kaysonephomvihane, (vi) Ban Napho access road in Phine and Alone community access road.

A. ADDITIONAL WORK SUMMARY

4. Table 1 presents the 7 additional works, which will be implemented as variation orders to the current contractor.

Table 1: Additional Works Proposed

Additional Work	Description of additional work
DEWATS	Decentralized Wastewater Treatment System which is recreated ponds for treating wastewater in Houaylongkong during the dry season covers 2.7 hectares
Upgrading of Airport Access Road	Asphalt Concrete Pavement 730 meters length with median and drainage both sides, tree planting included
Upgrading of Thahae road (Mekong River road)	Rehabilitation of Concrete pavement road with sidewalk, drainage channels on both sides; 400 meters from beginning of Mekong River Embankment subproject to Nouhack Phoumsavanh Park.
Upgrading of Soukhavadi Road	Concrete Pavement road 292 meters length with drainage channels and sidewalks.

Pipe Installation	Installation of the Drainage connection from old landfill with sharing of the leachate treatment system in landfill construction subproject
Upgrading Ban Na Pho Access road (Phine)	DBST pavement road 619 meters length, drainage channels on both sides from National highway No.9 to by-pass road
Upgrading Ban Alone Access road (Dansavan)	DBST pavement road 637 meters length, drainage channel on both sides from national highway road No. 9 to Police station or Ban Alone

B. POTENTIAL ENVIRONMENTAL IMPACT

5. The additional works will result in environmental impacts of a similar type, scale and significance as the original sub-projects as presented in the approved IEE (2018) paragraphs 10-18.
6. This addendum to IEE is limited to *“only new information related to the additional works, especially information on the rationale or justification for these additional works, work activities, and their potential environmental impacts and mitigation measures and public consultation will need to be included”* as prescribed by ADB.
7. The identified additional impacts, mitigating measures, and actions associated with the additional works are as follows:
8. Preconstruction phase: land acquisition, UXO clearance and public consultation are highlighted as key mitigation, therefore, land and assets impact measurement, environment screening assessment and UXO survey and clearance are standard practice requirement before any construction. UXO clearance is specific requirement in Ban Napho access road and Alone community access road due to geographical location.
9. Specific environmental impacts during construction include livelihood disruption from pollutants, traffic congestion, accidents, and health and safety risk, including material extraction, transportation, and solid waste. These are short term and temporary impacts and can be mitigated through implementing the EMP.
10. During the Operation phase, positive environmental impacts will include better road surfaces, improved drainage, less dust during the dry season and less mud during the wet season. However, improved road conditions will increase the speed of vehicles that can lead to accidents. The traffic signs and safety signs will be installed in high risk areas.
11. During operation: A DEWATS might emit bad odor in the pond 1, where it is accumulated in the sludge from Houaylongkong during the dry season. Water hyacinth and lotus will be considered to be planted to prevent bad odor, and some fish species can live in this pond condition that can support to absorb organic matters.

C. CONCLUSION

12. Considering the available detailed engineering design, the addendum to IEE confirms the conclusion of the 2012, 2017 IEE and 2019 IEE that there are no significant negative environmental impacts and risks associated with the subprojects that cannot

be mitigated and managed through subproject-specific EMPs. The last updated IEE was classified as environment category B, which is also deemed appropriate for the additional works.

13. Details of each additional work has been disclosed to relevant local government agencies and to local villagers during public consultations. From 30 April to 6 September 2019 a total of 7 public consultation events were held involving 155 participants (49 female). Participants were also informed of the Project's existing grievance redress mechanism (GRM) to handle complaints. The villagers have enthusiastically welcomed the additional works since they address local community needs for improved transport infrastructure and wastewater treatment facilities.
14. Adverse environmental impacts from the additional works, which will be temporary and limited to the construction phase, are likely to include noise, dust, solid & liquid waste, construction traffic, and reduced community and commercial access. Most required mitigation measures are already included in previously approved EMPs. The DEWATS mitigation during the operation is also included in the DED and O&M manual.

II. INTRODUCTION

A. OVERVIEW OF ADDITIONAL WORKS

15. A full description of the project is presented in the main IEE (2019), the discussion below is intended only to provide context to the additional works proposed.
16. In the course of implementing the 7 subprojects since 2017 significant savings were generated from competitive bidding and construction contingencies. Therefore, IA/PMU proposed several additional works aligned with the existing project as described in Table 2.
17. Detailed engineering design for all additional works were submitted to ADB, including an environment and social safeguard screening report. ADB provided a letter of no objection on 13 March 2020 for variations to the existing contracts required for the additional works.
18. The environmental screening report for additional works and ADB commented that provided the existing EMPs are adequate to manage and mitigate environmental risks and impacts associated with 6 out of 7 additional works. A revised EMP is required only for the additional works associated with the Houay Longkong wastewater management subproject.

Table 2: additional works investment component

Additional work	Subproject	Description of additional works
Decentralized Wastewater Treatment System (DEWATS)	NCB.1 Kaysonphomvi hane Wastewater Channel, Pumping	DEWATS covers total 2.7 hectares of government land adjacent to Houaylongkong channel on the left site, it included the components below: <ul style="list-style-type: none"> • Concrete sediment pond • Concrete pond after treatment zone

	Station and Flooding Gate Houaylongkong (HLK)	<ul style="list-style-type: none"> • 3 Horizontal Flow Gravel Filter (HGF) • Parking Lots • Walkway • Surrounding road • Tree planting • 3 Ditches • Fence
Upgrading of SVK Airport Access Road	ICB 4.1 Kaysonphomvi Road Subproject	Upgrading Savannakhet airport access road <ul style="list-style-type: none"> • 730m meters length and 2 lanes, 5 meters width each of asphalt concrete pavement • Median 1-meter width • 1-meter drainage for each side • Streetlight installation • Sidewalk both sides • Tree planting on both sides
Upgrading of Thahae and Soukhavadi Concrete pavement Road	ICB. 5.1 Kaysonphomvi Mekong River Embankment Subproject	Rehabilitation of Concrete pavement Thahae road <ul style="list-style-type: none"> • 400 meters length and 7 meters width concrete pavement • 800 mm RC pipe drainage on the right sides with inlet and manholes • 1.5 meters width sidewalk for both sides • Streetlight installation Rehabilitation of Concrete pavement Soukhavadi road <ul style="list-style-type: none"> • 292 meters length and 7.5 meters width concrete pavement road • 1.5 meters width sidewalk for both sides • 800 mm RC pipe drainage both sides with inlet and manholes • Tree planting and • Streetlight installation
Pipe Installation	NCB 2.1 Kaysonphomvi Solid Waste Management Subproject	150 mm radian will be installed to connect the existing landfill to the new landfill and sharing the leachate treatment system in the landfill construction subproject, it was proposed in the variation order with NCB 2.1 Solid Waste Management Subproject.
Upgrading Ban Napho Access Road	ICB. 4.3 Phin Urban Road Subproject	Upgrading DBST pavement of Ban Napho access road. <ul style="list-style-type: none"> • 619 meters length and 5 meters width DBST pavement road • 0.5 meters width U-ditch drainage for both

		sides <ul style="list-style-type: none"> • Solar Panel Streetlight installation • Tree planting, where suitable for both sides
Upgrading Alone community access road VO to NCB 4.2 Dansavan town	NCB 4.2 Dansavan Urban Road Subproject	Upgrading DBST pavement of Alone community access road <ul style="list-style-type: none"> • 637 meters length with 6 meters width DBST pavement road • 1.75 meters with V-shape concrete open drainage • Solar Panel street light installation and • Tree planting on both sides of the road.

B. ADDITIONAL WORKS ASSESSMENT CONTEXT

19. The Project was considered Environmental Category B which requires an initial IEE pursuant to the ADB's safeguard policy⁴, and environmental assessment guidelines⁵. A category B project is one that has potential adverse impacts that are less adverse than those of category A project, are site-specific, largely reversible, and can be mitigated with an environmental management plan.
20. A project IEE was initially developed in July 2012, first updated in October 2017, and again updated in September 2018 in response to project information becoming available through the preliminary and detailed design process. IEEs and EMPs covering all 7 subprojects are in the ADB website. The Project received an Environment Compliance Certificate (ECC) from Savannakhet Province of Natural Resources and Environment (PoNRE) in 2012, extended in 2017 up to 2020 and ECC of each subproject was awarded.
21. An environmental safeguards assessment and due diligence report, which was prepared in September 2019, assessed that all 7 additional works are also classified as category B.
22. This IEE addendum refers specifically to the approved additional works associated with the 6 subprojects. This addendum should be read in conjunction with the full IEE dated September 2018.

III. POLICY, LEGAL AND REGULATORY FRAMEWORK

23. The reader is referred to the previously approved IEE dated September 2018 which is available on the ADB website. This includes information on Lao PDR's environmental laws and policies, environmental standards, environmental assessment procedures and directives, climate change policy and programming, urban environment management, international agreements, and ADB's Safeguards Policy Statement (2009).

⁴ ADB, 2009. Safeguard Policy Statement, ADB Policy Paper

⁵ ADB, 2003, Environmental Assessment Guidelines.

IV.DESCRPTION OF ADDITIONAL WORKS

24. The additional works are associated with the original 7 subprojects (4 urban road subprojects, 1 solid waste management, 1 wastewater management and 1 Mekong river embankment) as described in the full IEE dated September 2018.

A. DEWATS ADDITIONAL WORK

25. The Decentralized Wastewater Treatment System (DEWATS) involves the creation of ponds for wastewater treatment during the dry season period; it will be inactive during the rainy season. DEWATS will process around one-third of wastewater from Kaysone Phomvihane town, particularly from Houaylongkong catchment.

1. DEWATS Location and Situation

26. The DEWATS area is located on the eastern side of Houay Longkong channel. It is state land with an area of 27,126 square meters as presented in Figure 1. This plot of land has a boundary with the Houay Longkong channel on the West, Phor Ka Douad road on the North and on the east and the south shared boundary with private landowners.
27. Currently, this land is undeveloped. During the rainy season, it becomes marsh and some areas are used for rice growing. In the dry season some local people grow vegetables along the bank of the Houay Longkong channel.
28. A large part of the land is empty without any tree or plants of value. There are 17 parrot trees (*Butea monosperma*) (diameter range from 10-60 centimeters), 3 Pride of India trees (*Lagerstroemia macrocarpa* Wallich), 3 Rain tree (*Samanea saman* (Jacquin) Merrill), and a strangling fig tree (80 centimeters diameter).

Figure 1: DEWATS Location



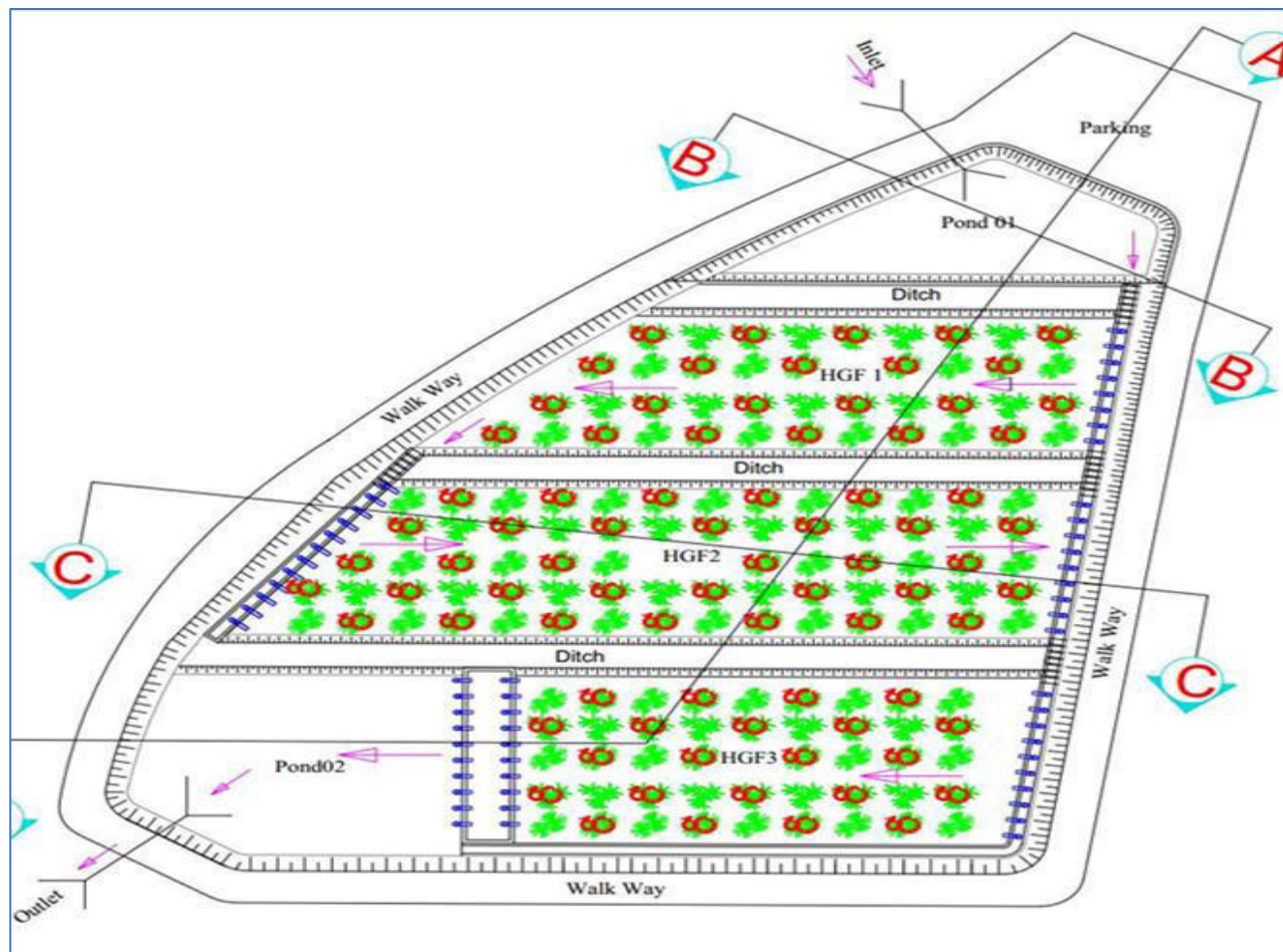
Figure 2: Current Situation of DEWATS Area



2. DEWATS Plan

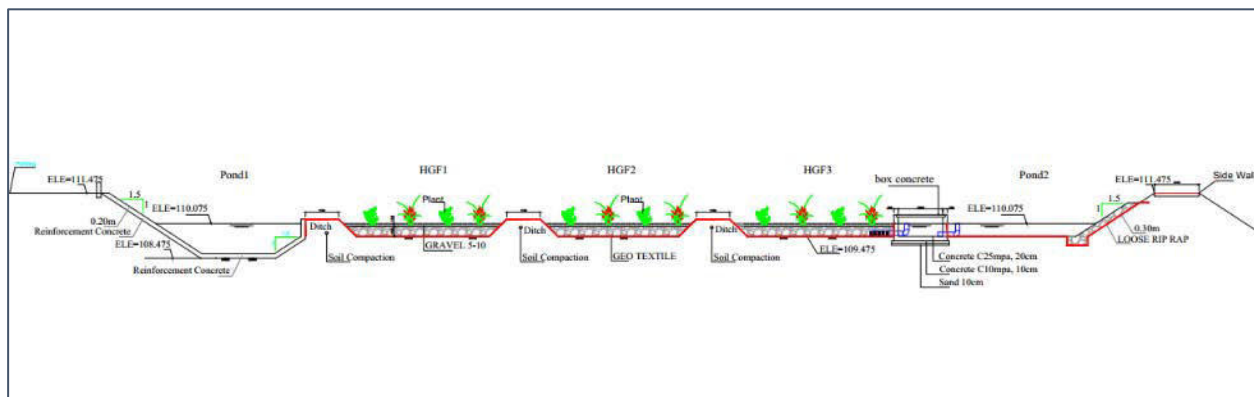
29. Figure 4 below presents DEWATS plan layout. A total area covering 27,000 square meters will be developed for DEWATS, providing a minimum discharge of 4,620 cubic meters per day.

Figure 3: DEWATS Layout



30. As shown in figure 4, water flows from the Houay Longkong channel through an inlet into pond 1, which captures sediment. From pond 1, water flows through a series of 3 Horizontal Flow Planted Gravel Filters (HGF) until it finally reaches pond 2. Pond 2 may include aquatic animals or fish as a demonstration of effective water treatment. From pond 2, water is released back into the Houay Longkong channel from where it flows into the Mekong River.
31. There are three main treatment stages: Pond 1, HGFs and Pond 2. Pond 1 is a sedimentation pond (anaerobic) as pre-treatment. Each Horizontal Gravel Filter unit is a shallow tank filled with graded gravel or pebbles with aquatic plants. The filters clean the wastewater by retaining particles and ingesting them with the help of bacteria growing naturally on the gravel/pebbles. The plants help with transporting oxygen through their roots. The last treatment stage (Pond 2) is aerobic for pathogen removal.

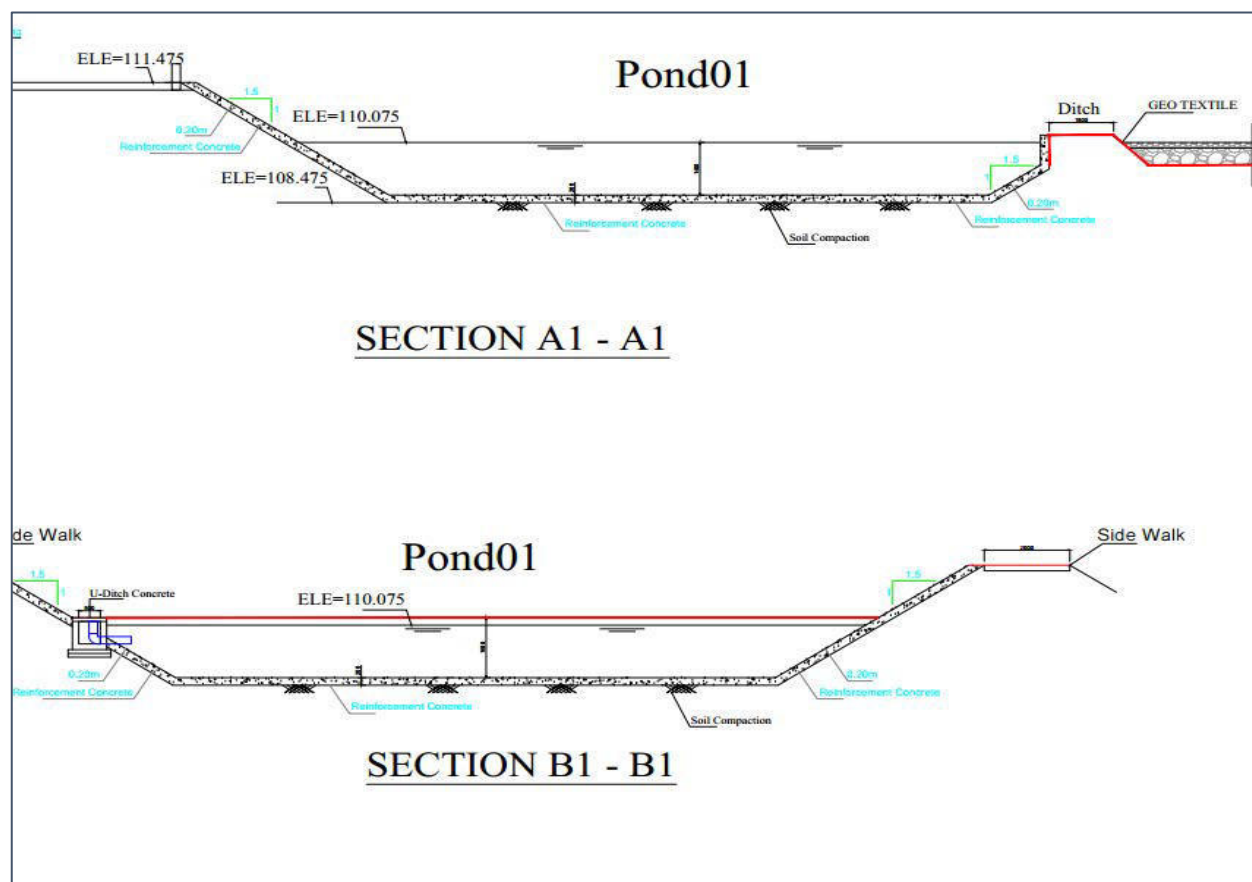
Figure 4: Typical Cross Section of DEWATS



3. Pond 1 & Pond 2

32. The Pond1 is 1.6m deep, has a reinforced concrete bottom slab and covers an area of 2,070 square meters. The main function is sediment storage. This pond will support lotus plants to reduce bad odors. Thus, Pond 1 is a pre-treatment process for sediment from the HLK channel.
33. Pond 1 is estimated to require maintenance approximately every 5 years, when sludged in the pond is covered 50 % or 0.8 meters in height as defined in the O&M Manual. The sludge will be removed and transported to a landfill for treatment. Sludge removing from the pond will require pumping water out to the pond, removal of the lotus plant, excavation of the sludge, and transport to landfill. The lotus plants will be returned to Pond 1 after cleaning is complete. Water quality in pond 1 is expected to be suitable for some fish species (e.g. catfish or Gourami). The cost for maintenance is presented in the estimate budget table in updated EMP of HLK.

Figure 5: Typical Cross Section of Pond 1



34. The Pond 2 is an aerobic pond for the final treatment stage and pathogen removal using UV light. The addition of aquatic plants, algae and fish is effective at removing the majority of nitrogen and phosphorus from the effluent. The pond is constructed from compacted soil with a geomembrane on the bottom, 0.6 meters in depth with a total area of 2,756 square meters.
35. The pond 2 is post treatment process, Oxygen intake also depends on the actual oxygen deficits up to saturation point so may vary at 20°C between 40g O₂ /m²×d for fully anaerobic conditions and 10g O₂ /m²×d in the case of 75% oxygen saturation (Mudrak&Kunst, 1991)⁶. Regarding the performance of UV light, sunlight is one of the most important factors for viral and bacterial pathogen removal in anaerobic ponds. Escherichia coli (*E. coli*) loses viability almost 20 times faster in the aerobic pond with

⁶ Mudrak, K. and Kunst, S., "Biologie der Abwasser-reinigung", 3.Auflage, Gustav Fischer Verlag, Stuttgart, 1991

sunlight exposure compared to dark conditions, and it is also inactivated faster in shallower aerobic pond, (Maiga et al., 2009a)⁷.

36. Pond 2 requires annual maintenance. After annual maintenance, the pond will be re-stocked fingerling to the pond again with adequate numbers.

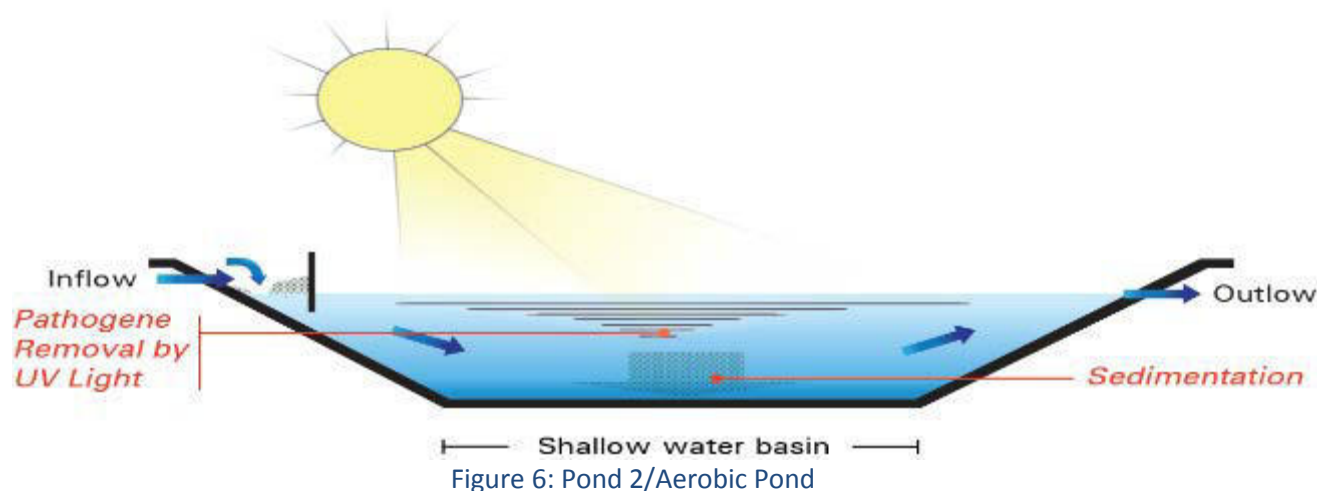
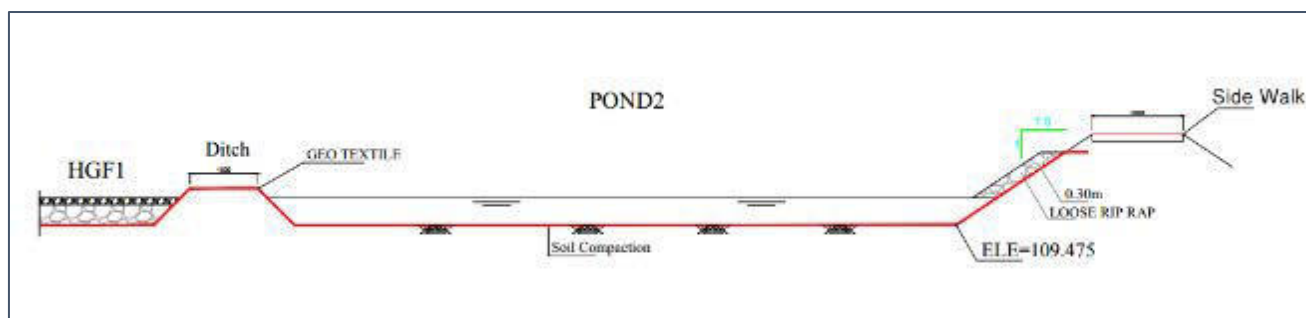


Figure 7: Pond 2 Typical Cross Section



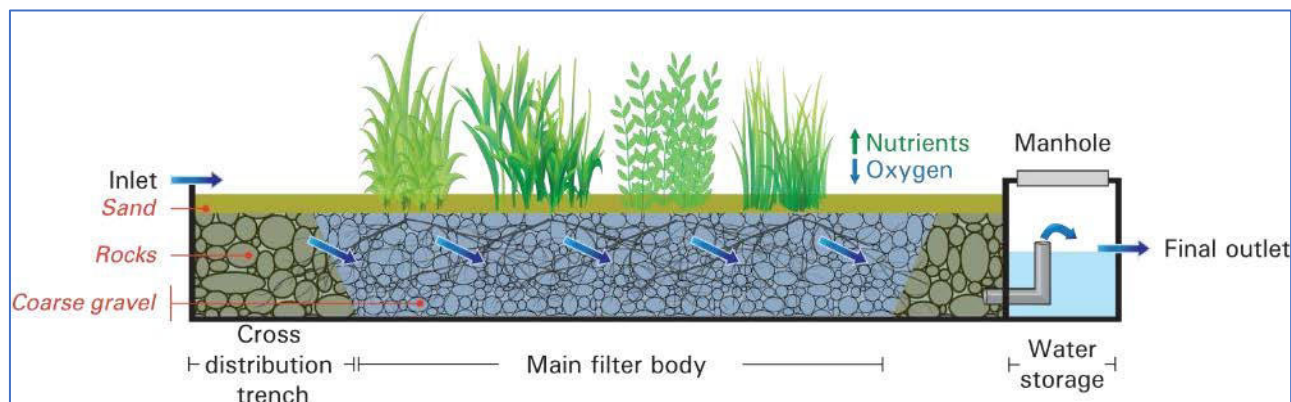
4. Horizon Flow Planted Gravel Filter Zone

37. The HGF plots are filter with small rocks/course gravels, aggregation as different layers, the top layer with sand, and plant with water botany species for absorbing the pollutants or treating the waste water by plant and air as filter from gravels. The HGF1 covers 2,568, HGF2 covers 6,399 and HGF3 covers 4,812 square meters, detail waste water

⁷ Maïga, Y, Denyigba, K, Wethe, J and Ouattara, ASidiki (2009). Sunlight inactivation of *Escherichia coli* in waste stabilization microcosms in a sahelian region (Ouagadougou, Burkina Faso).. Journal of photochemistry and photobiology. B, Biology. 94, Elsevier B.V.pp. 113–9.

treatment function is presented below. The Second treatment state is HGF is a shallow tank filled with graded gravel or pebbles, and special plants are planted in this gravel filter. The filters clean the wastewater by retaining particles and ingesting them with the help of bacteria growing naturally on the gravel/pebbles. The plants help with transporting oxygen through their roots.

Figure 8: Horizon Gravel Filter Function for waste water treatment



38. Three water plant species were proposed for planting the horizon gravel filter as (1) *Arundo donax* (Giant reed), (2) *Typha angustifolia* (*Typha latifolia*, *Typha domingensis*) and (3) *Canna edulis* as presented in the figure below.

Figure 9: Proposed Plant Species (1,2,3 respectively)



5. Ditches

39. Ditches are designed for accessing to the ponds and HGFs for cleaning during the operation, ditches/dikes will be 1.5 meters width, as the Ditch 1 has 103.8 meters length, Ditch 2 has 135.6 meters length and Ditch 3 has 174.02 meters length. The slope of the embankment is estimated at 0.8 meters width for one side, so both sides of the ditch have 1.6 meters width. Thus, Ditches cover 1,281 square meters of surface areas. Sub-base material compacting is designed for installing the ditch/dike, it must be resilient with water and stable for long term operation.

6. Walkway, Parking and Fence

40. The Parking Lot is designed near pond 1, this parking lot aims for parking the vehicle of maintenance during the DEWATS operation, gravels pavement was designed for constructing the parking lot areas as similar to base course foundation, it covers 925 square meters. The parking is not just for maintenance vehicles, but it is proposed for citizen's vehicles, who will exercise around the DEWATS or HLK Channel in the future.
41. Fence approximately 632 meters length will be installed surrounding the DEWATS areas, except the HLK channel roadside. The fence aims to prevent cattle or other animals from entering the DEWATS areas. It is designed as a barbed wire fencing system for protecting the animal only.
42. Walkway is designed at the roadside around the DEWATS areas, it has 706 meters length with 6 meters width, the slope of embankment is 7.5 meters inside and outside slope embankment is 3 meters. This roadside is designed for DBST pavement. The roadside aims for light vehicles required for operation and maintenance.

7. DEWATS Maintenance and Operation

43. . A manual for operation and maintenance will be developed and handed over which can be used to review the requirements and steps. The manual includes standard operating procedures that shall be followed by operating personnel. The topics shall include the following:
 - 1) **Overall DEWATS areas:**
 44. Monthly checking and cleaning of overall DEWATS areas are required, weeds and shrubs, where not necessary will be removed and cleaned, this monthly check and clean can combine with HGF check and clean or remove biomass. The solid waste that will be separated at the inlet requires manual support in collecting and segregating the solid waste. Solid waste at the inlet will be regularly checked and removed on a weekly basis.
 - 2) **Sediment Pond (Pond 1)**
 45. Sediment in pond 1 will be regularly checked at least once a year, if the sediment pond is covered with sludge 50% total sediment pond or 0.8 meters height of sludge, the sludge should be removed. Based on initial estimate, in approximately 5 years, the sediment volume will reach 50% of total pond volumes. Sludge removal procedure: (i) Pump water out from the pond to the channel, (ii) Temporary remove lotus plants (iii) excavate sludge to the dump truck (iv) transport sludge to landfill for treating the sludge at the sludge building for turning it to bio-fertilizer, and (v) replant the lotus plan to pond again. Detail cost for removal of the sludge in sediment pond is presented in estimate budget table.
 - 3) **Horizontal Flow Planted Gravel Filter**
 46. Monthly checking and removal of dead leaves or weeds including the roots from the HGFs areas, these work require two laborers for two days per month. The monthly check and maintain also includes replanting of dead plants, waterflow-in and flow-out among pipes and HGFs. Monthly obtain water levels, water flow and adjust them to adequate level.

47. The major cleaning is required when the filter materials are clogged and make inadequate function of HGFs. It is estimated around 7-10 years depending on the quality of HLK wastewater. The major cleaning steps includes (i) removing out the plants temporarily (ii) remove sand on the top of the layer (iii) spray water to clean the gravels (iv) re-installed gravel layer, sand and replanting it again.

4) Aerobic Pond (Pond 2)

48. As mentioned above, some aquatic plants will be planted in this pond, particularly the hyacinth species and algae, in the same time, fish will be released to this pond as well, both fish and plants can obtain some economic benefit for the laborers, who will maintain the DEWATS. Hyacinth will be regularly obtained with adequate amount, in the same time, fishes also monitored and taken cared regularly, the algae can be food for the fishes.
49. Aerobic ponds will be regularly checked and cleaned on a weekly basis removing the dead leaves and adjusting the suitable plants to be adequate and provide extra food for fishes in the pond. The major cleaning will be conducted annually as (i) remove plant temporary, (ii) fishing/remove fishes from the pond (iii) clean the ground (iv) obtain water level and re-plant the hyacinth and algae again (v) release new fishes to the pond again.

5) Water Quality Monitoring

50. The water quality monitoring is an environment quality control procedure to ensure that the treatment system is functional and effective. Two locations will be selected as permanent sample locations. (i) inlet of DEWATS will be selected for monitoring the waste water quality before treatment system, (ii) outlet of DEWATS will be selected for monitoring the water quality after treatment system.
51. The water quality monitoring will be contracted to a reliable institute such as university or laboratory, this water quality monitoring will be conducted specifically for the dry season, because this treatment objective focuses on waste water treatment in the dry season only. The main substance will be monitored, included (i) PH, (ii) COD, (iii) BOD, (iv) TSS, (v) Fat, Oil & Grease, (vi) Electro-conductivity (EC) and (vii) Dissolve Oxygen (DO).

B. SAVANNAKHET AIRPORT ACCESS ROAD

1. Current Situation and location

52. The Savannakhet Airport access road is 730m long and connects with Kaysone Phomvihane road at KM04+860. It is DBST pavement in poor condition and with pot holes in many sections. The roadside drainage is not standardized as it has been constructed by roadside land owners, so runoff water does not flow well during the rainy season and stagnant water is a problem.

Figure 10: Current Situation of Savannakhet Airport Access Road



53. The Savannakhet airport access road is mainly used by airport passengers. However, there are several smaller side roads along its length as well as access to road side properties. On the right hand side of the road are two important access roads and access to empty residential lands. On the left-hand side are three access roads and access for households and offices. One important access road connects to Ban Dongdamdouan and Ban Phonsavan.

Figure 11: Overview of KP road and SVK Airport Access Road



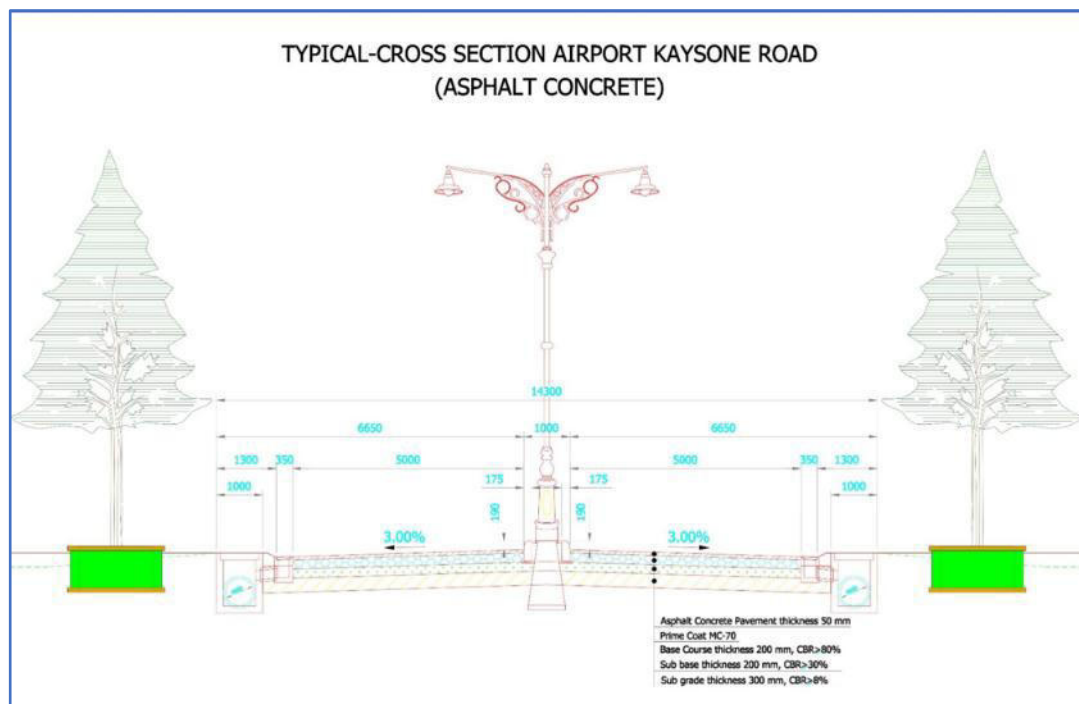
2. Savannakhet Airport Access Road Upgrading Design

54. The Figure 13 presents Typical Cross Section of Savannakhet Airport Road, the proposed road was designed to be two lanes of asphalt concrete pavement as 5 meters width each lane, 1meter median, 1meter RC pipe drainage for both sides and tree planting 2 meter after drainage and the streetlights will be installed in the median.

Figure 12: Savannakhet airport access road plan view



Figure 13: Typical Cross Section of Savannakhet Airport Road



C. THAHAE AND SOUKHAVADI ROAD

1. Current Thahae road Condition and Location

55. Thahae road is currently DBST pavement starting at KM00 from the current embankment subproject to the north with 400 meters length. This road has been paved many years ago, it was last repaired in 2017, however, after many rainy seasons, this road has many holes, with inadequate pavement surface.
56. On the left side is a concrete embankment wall for flooding protection and erosion protection, it started 100 meters from the starting point to the north until curve shape areas or Public Park. On the right side, there is an existing natural drainage in some sections and concrete drainage in other sections. There is only one access road on the right side, residential houses, including restaurants and stores. At the end of the Thahae road section is a public park area on the left side. There are many people exercising during the evening, there are also seasonal stores on the left side particularly during pre-boat racing and racing festivals.
57. The Figure 14 illustrates the Thahae road locations, but are not updated photos, photos were taken since 2016. The Figure 15 presents current road condition in 2019, photos were taken in July 2019. Photos show that the existing road is damaged with small holes around the main road, and the drainage is not standardized for all sections. It can be easily damaged from this rainy season.

Figure 14: Overview of the Existing Thahae Road



Figure 15: Current Thahae Road Condition



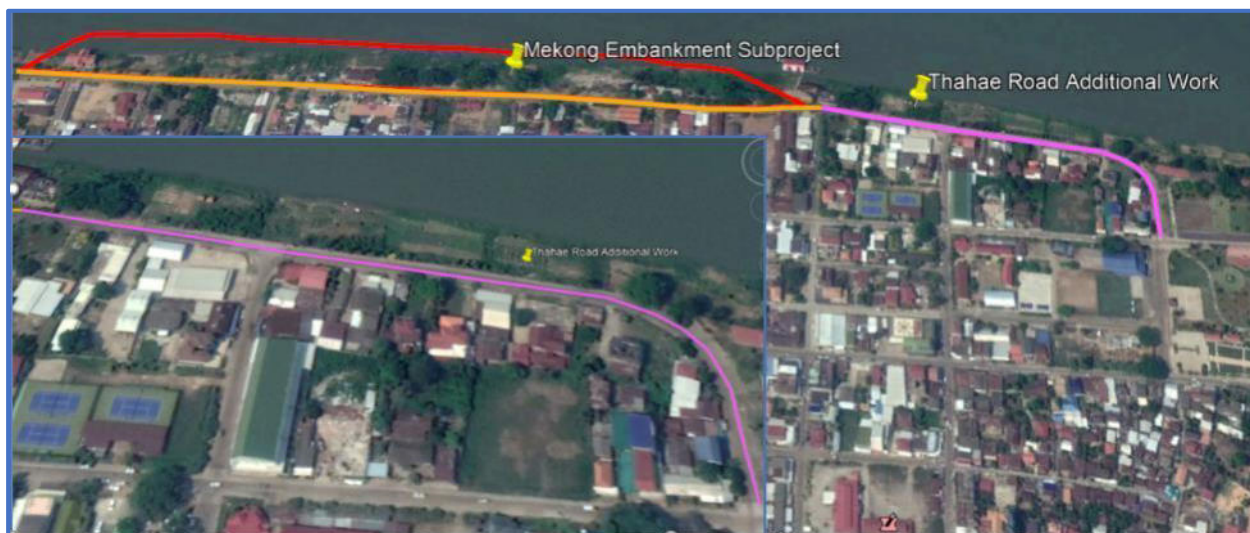
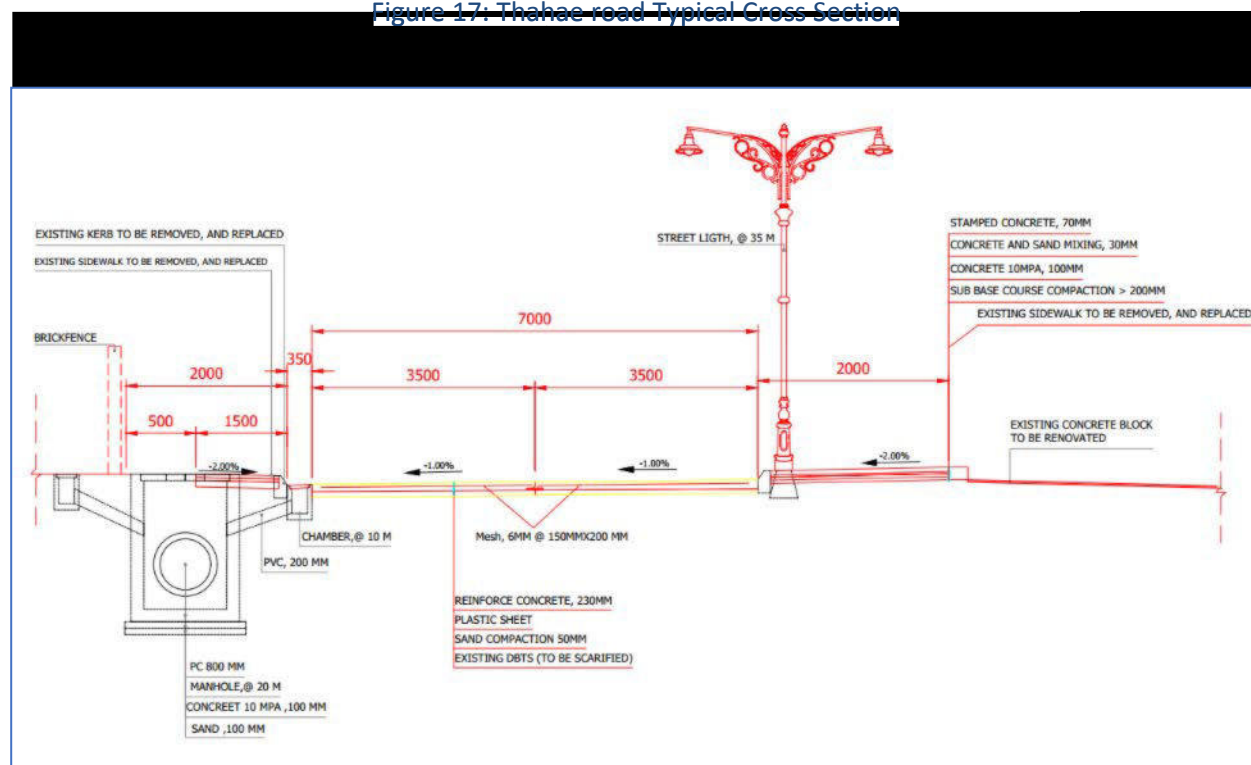


Figure 16: Overview of Thahae road location & Mekong Embankment Subproject

2. Thahae Road Upgrading Design

58. The **Error! Reference source not found.** presents typical cross section. (i) concrete pavement road with 7 meters width, with 230 millimeters thickness and 400 meters length. (ii) The sidewalk 2 meters width on both sides. (iii) The RC pipes will be removed and replaced with 800 mm RC pipes with a manhole every 20 meters. (iv) the standard streetlight will be installed on the Mekong riverside.

Figure 17: Thahae road Typical Cross Section



3. Current Soukhavadi Road Condition and Location

59. The Soukhavadi road is located along Sysavangvong road and Santiphab road, where the road direction is towards Fa Ngum road at the beginning of road F1 section crossing the Santiphab road. The Figure 18 presents the location of Soukhavadi road, general overview and connections.
60. Currently Soukhavadi road is DBST pavement, no drainage system, but there are natural drainages on both sides. The beginning of the road is terribly damaged as presented in Figure 19, however, most parts are still in good condition. During the rainy season, both sides of the road are full of stagnant water, where mosquitos are laying eggs and spreading dengue.
61. Both sides are residential land, but there are only 2 building structures on the left side and another one on the right side at the end of the road section. Both sides are dominated with grass and shrubs, both sides used to be wetland or watercourse, nowadays, water is found only in the rainy season and wastewater or stagnant water.
62. Figure 19 presents current condition of the road, damage and no drainage system and Figure 20 presents overview of the landscape surrounding the Soukhavadi road.

Figure 18: Location of Soukhavadi Road



Figure 19: Current Soukhavadi Road Condition



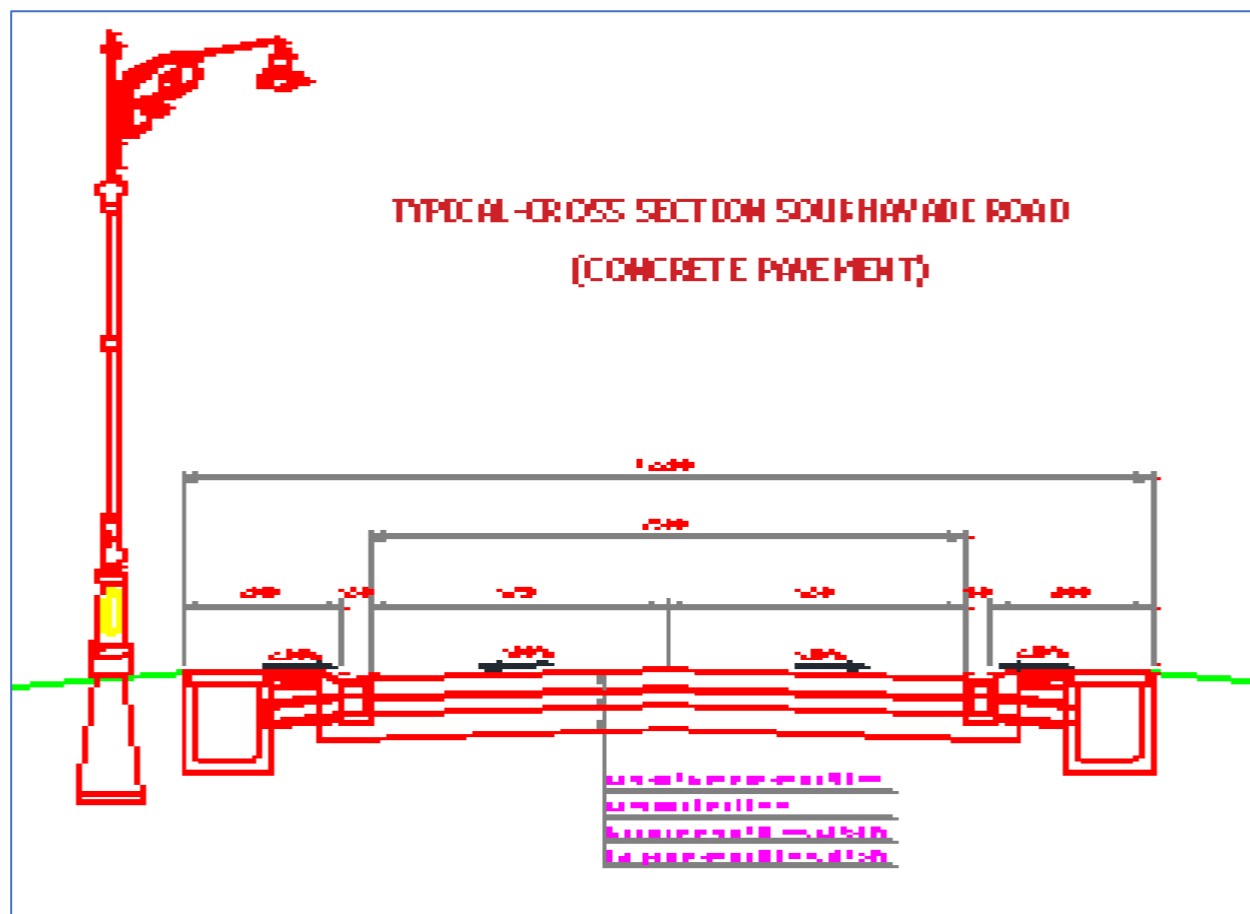
Figure 20: Overview of the Soukhavadi Road



4. Soukhavadi Road Upgrading Design

63. Soukhavadi road will be upgraded to concrete pavement with a total 192 meters length, 7.5 meters width, and 230 mm thickness concrete. Concrete U-Ditch size (80 centimeters width and 100 centimeters depth) will be installed on both sides of the road as same with sidewalk, however, the streetlight will be installed on only one side, a typical cross section of Soukhavadi road is presented in Figure 21.

Figure 21: Soukhavadi Road Typical Cross Section



D. PIPE INSTALLATION

64. Basically, the existing landfill operation is unpredictable, it is hardly confirmed for future of existing landfill operation, however, physical appearance of the existing landfill is fully covered with solid waste, located close to the new landfill. The operator excavated so many cells for dumping the solid waste.
65. The operator has excavated the new cell in front of their shed or storage of recycle waste. The cell was excavated deeper over 8 meters depth, and this cell will be a dumping cell. The new cell is absolutely isolated from the cells near the new landfill.

66. Although existing cell is near the new landfill fully covered with solid waste, there is unclear plan for properly closing the cell. The surface is still covered with solid waste. When there is rain or in the rainy season, the liquid waste/leachate from solid waste leaks and runs off from this cell to the new landfill.
67. The Figure 22 presents the situation on liquid waste/leachate flows from existing landfill to new landfill, liquid waste is surface runoff, it contains rain water, it is not from bottom of the existing landfill, it is over flow from surface along the slope.

Figure 22: Wastewater Flow from Existing Landfill

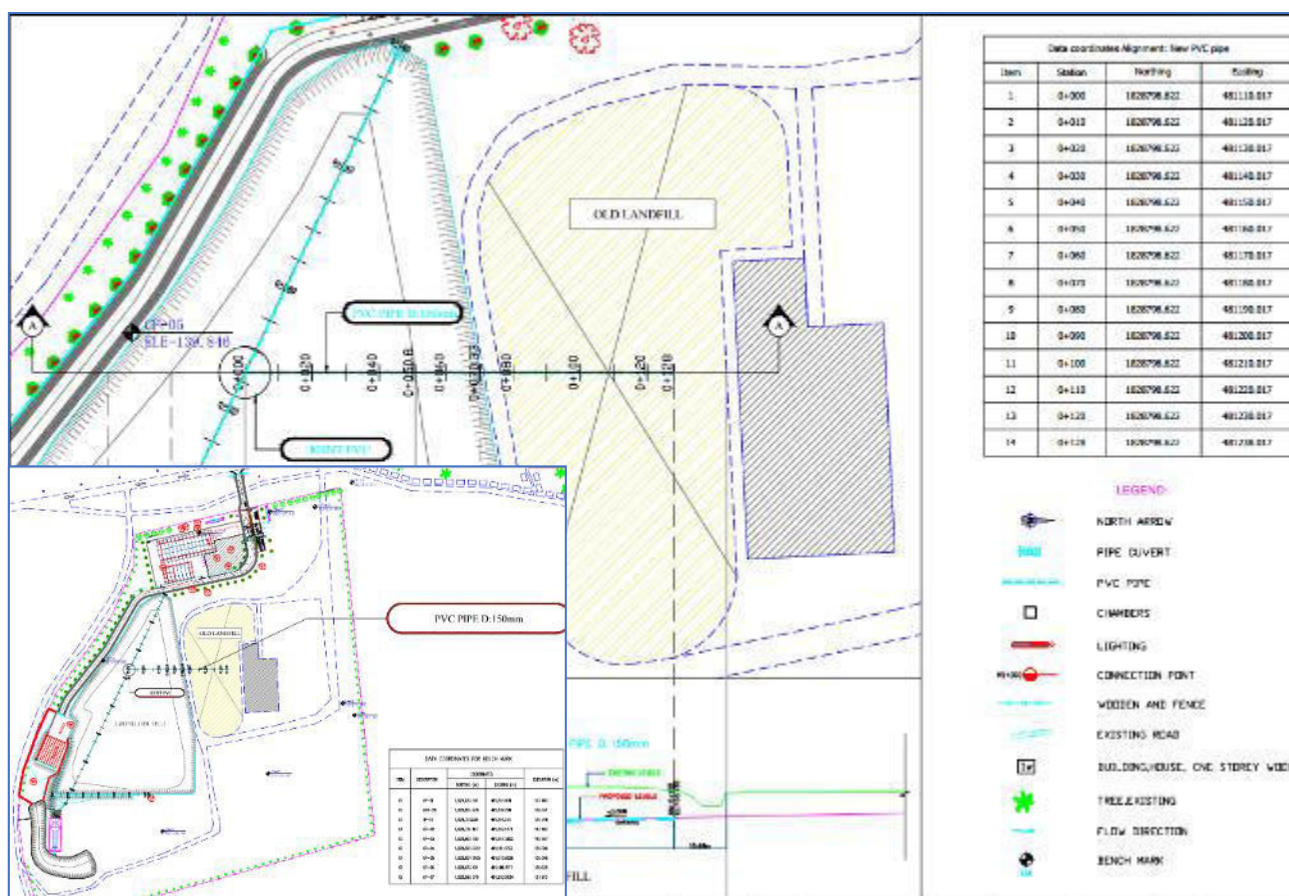




Figure 23: Direction of leachate Flows Over surface

68. During the midterm review mission, ADB has commented wastewater treatment ponds, wetland leachate ponds should be shared with the existing landfill leachate. It means to connect the leachate drainage system to the existing landfill and new landfill and to ensure that leachate does not leak to the underground water.
69. PMU and CSCS have elaborated ABD's comments and issues on leachate from the existing landfill, therefore, the pipe installation for connecting the existing landfill to new landfill is designed.
70. The PVC 150 mm diameters will be installed to connect the existing landfill to new landfill 128 meters length, the leachate in the bottom of old/existing landfill will be leaked to inside PVC pipe and flowed to the drainage system and discharged to treatment ponds, and leachate wetland.

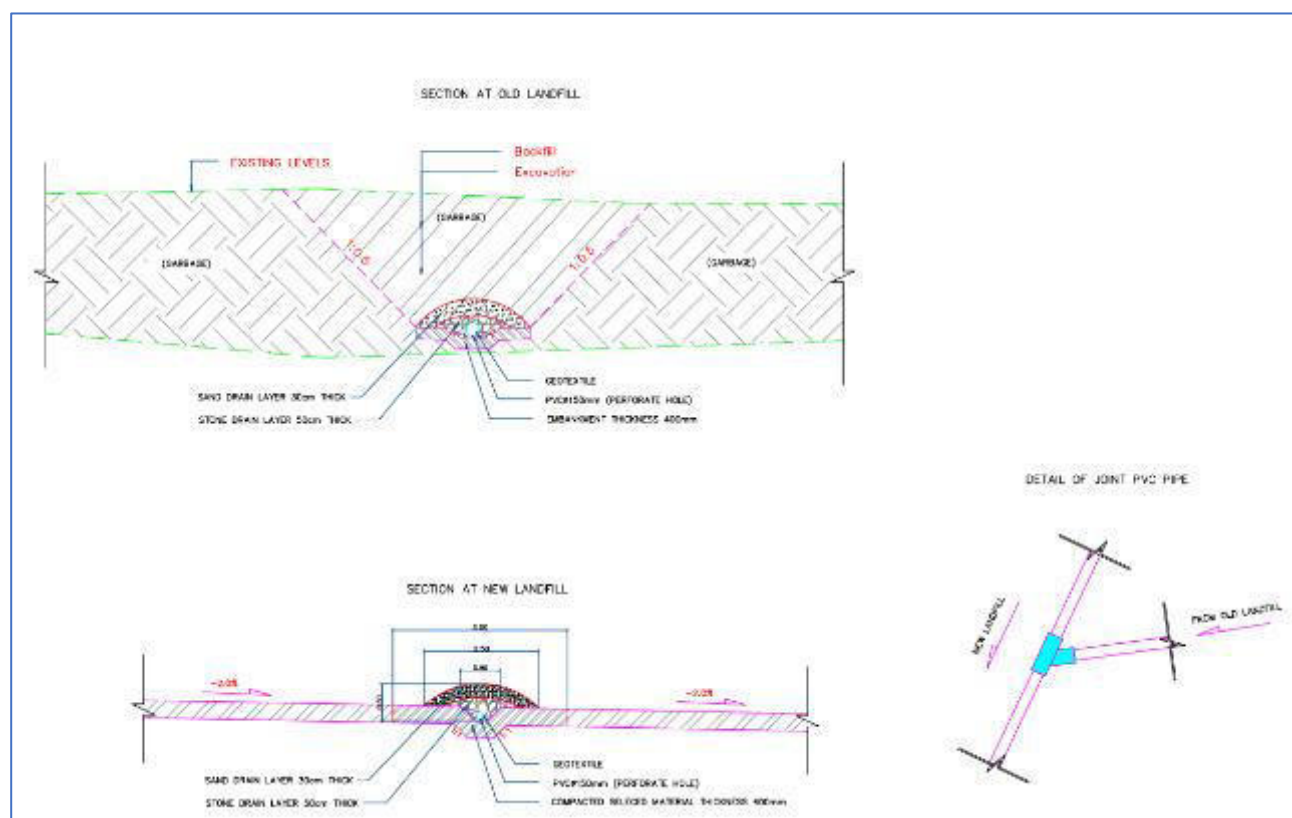
Figure 24: Overview of Pipe Installation Plan



71. The Figure 25 presents a typical cross section of pipe installation of 128 meters length, the ground will be compacted with specific material 40 centimeters thickness, the 150 mm PVC pipe will be perforated holes and wrapped with Geotextile, the top parts will be covered with gravel stones 50 centimeters thickness and another layer with sand 30

centimeters thickness, and it is installed approximately 9 meters depth in the existing landfill.

Figure 25: Typical Cross Section of Pipe Installation



E. BAN NAPHO ACCESS ROAD

72. Ban Napho Access road is located at the center of Napho village, Phine District, it crosses the Napho village from National Highway Road No.9 to road No. A bypass, which is under Phine Urban Road Subproject, is approximately 619 meters in length, both sides are resident areas. The Figure 26 presents the overview of the Ban Napho access road, it shows the feature of residents around the road and it connects with Road No.9 and Phine Urban road.
73. It is unpaved road, without proper grading, in the dry season, it is so dusty and in the rainy season, it is slippery and muddy, rainwater flows in the middle of the road and erodes as a small channel. It is hard to travel this road particularly for students to go to school during the rainy season.
74. It is inadequate natural drainages of this road; it is small channel in the centerline of the road. Both sides are resident fences, so that this road is narrow, it is approximately 6-8 meters width as current condition.

75. This road has three access roads on the right side and three access roads on the left side, the second access road on the right is an access road to primary school. It is also proposed to include in this additional work 40 meters length from Napho access road.

Figure 26: Overview of Ban Napho Access Road

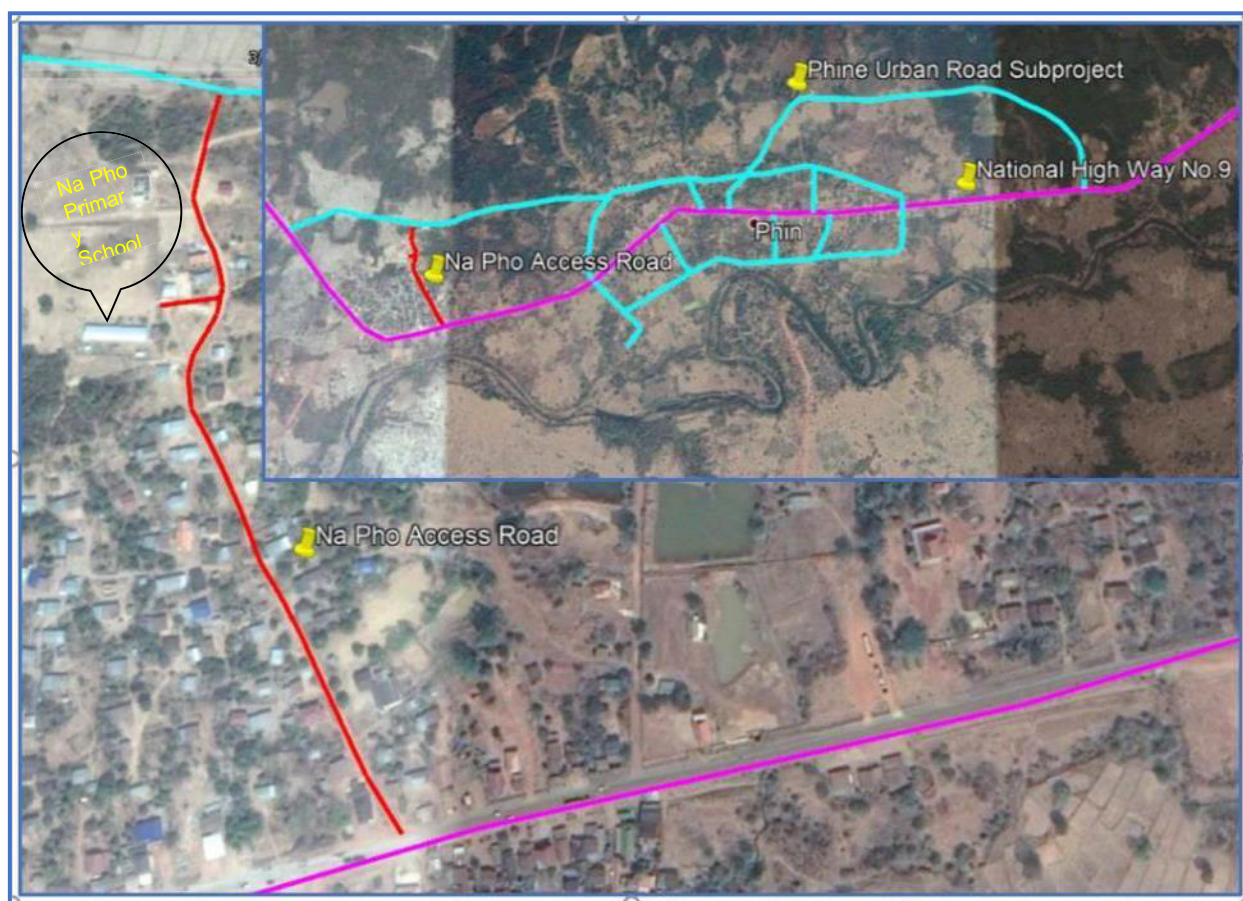


Figure 27: Ban Napho Access Road Rainy Season Condition



Figure 28: Ban Napho Access Road Condition in Dry Season



76. Ban Napho Access road will be upgraded to DBST pavement road with U-ditch on both sides of the road with total 619 meters length and 5 meters width. The typical cross section drawing of Ban Napho access road is presented in Figure 29, included drainage 0.5 meters drainage on both sides and streetlight one side.
77. The DBST pavement road will be constructed from ground level, as subgrade thickness 300 mm, subbase thickness 200 mm, base course thickness 200 mm, prime coat MC70 and DBST 25 mm.
78. All households access and sub-access roads will be installed concrete slab to cover the U-ditch drainage and streetlight will be used Solar Panel Street Light System.

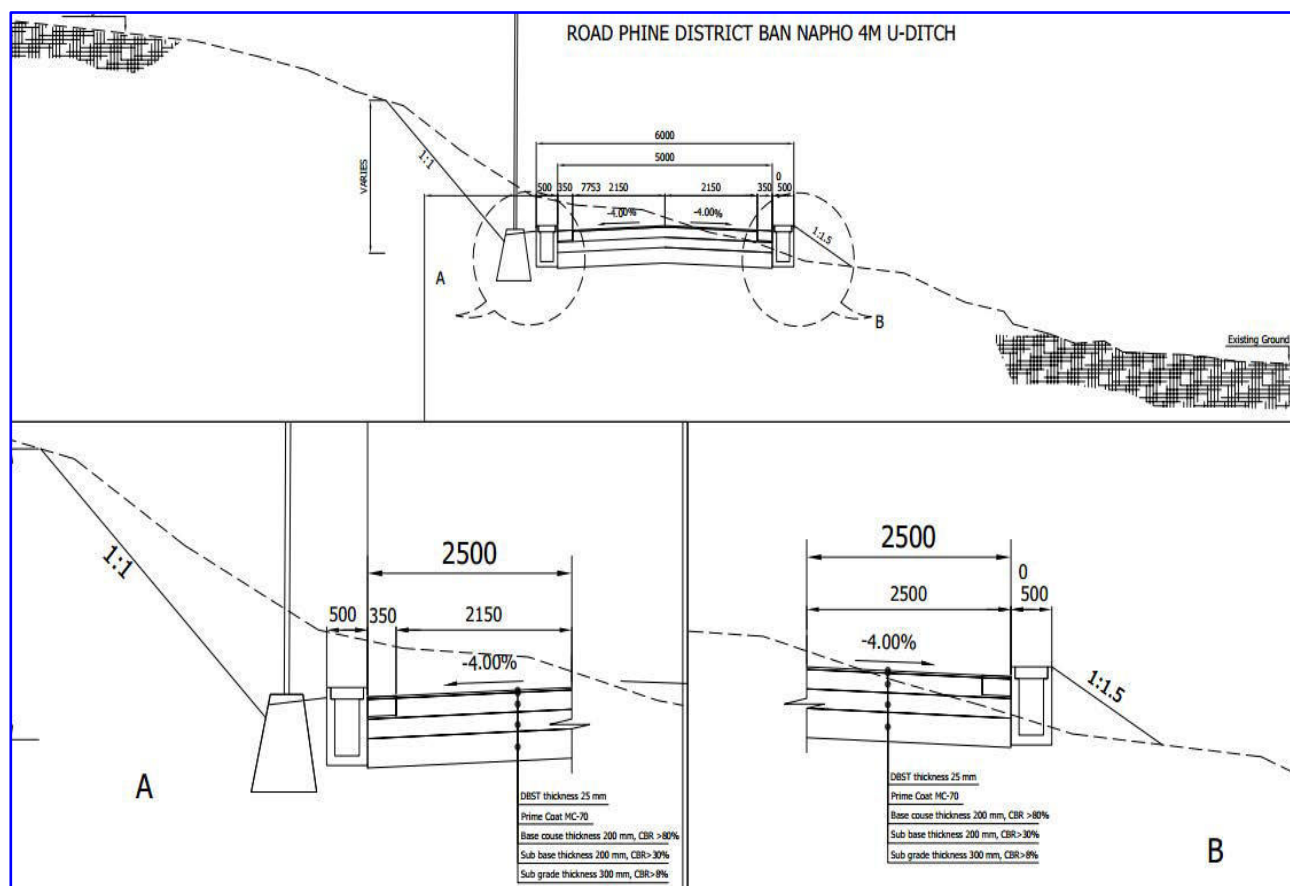


Figure 29: Ban Napho Access road Typical Cross Section

F. ALONE COMMUNITY ACCESS ROAD

79. Alone community access road is currently unpaved as similar condition with others unpaved road, it has total 637 meters length, it starts from national highway No. 9 to police station and turn left at the school to Alone community residents.
80. The roads do not have drainage system, natural drainages are dependence on the surface. Alone Access Road section R01 is quite wide, both sides of the beginning sections are resident areas, after the consultant office on the right side is shrubs and worship. There are residents on the left side, but not dense, the most areas are free space. There is a primary school on the right side at the corner with R02 and a police station at the end of the road section.
81. R02 road section is currently quite narrow and directly accessed to Alone community, on the right side covers with shrubs and trees where it is classified as worship areas, on left side is school and residential areas but shrubs and trees are still covered in some parts.

Figure 30: Overview Dansavan Urban Road & Alone Access Road



Figure 31: Specific View of Ban Alone Access Road



Figure 32: Condition of Ban Alone Access Road



83. The Alone community Access road is designed for DBST pavement road, including V-shape drainage on both sides and streetlight installation. The Figure 33 and Figure 34 present as R01 and R02 typical cross section respectively, R01 has 514 meters and R02 has 123 meters length, R01 and R02 sections are designed 6 and 5 meters width respectively. The road embankment and slope have been defined 0.5 and 0.6 meters respectively for each side with 1.75 meters V-shape drainage for each side.

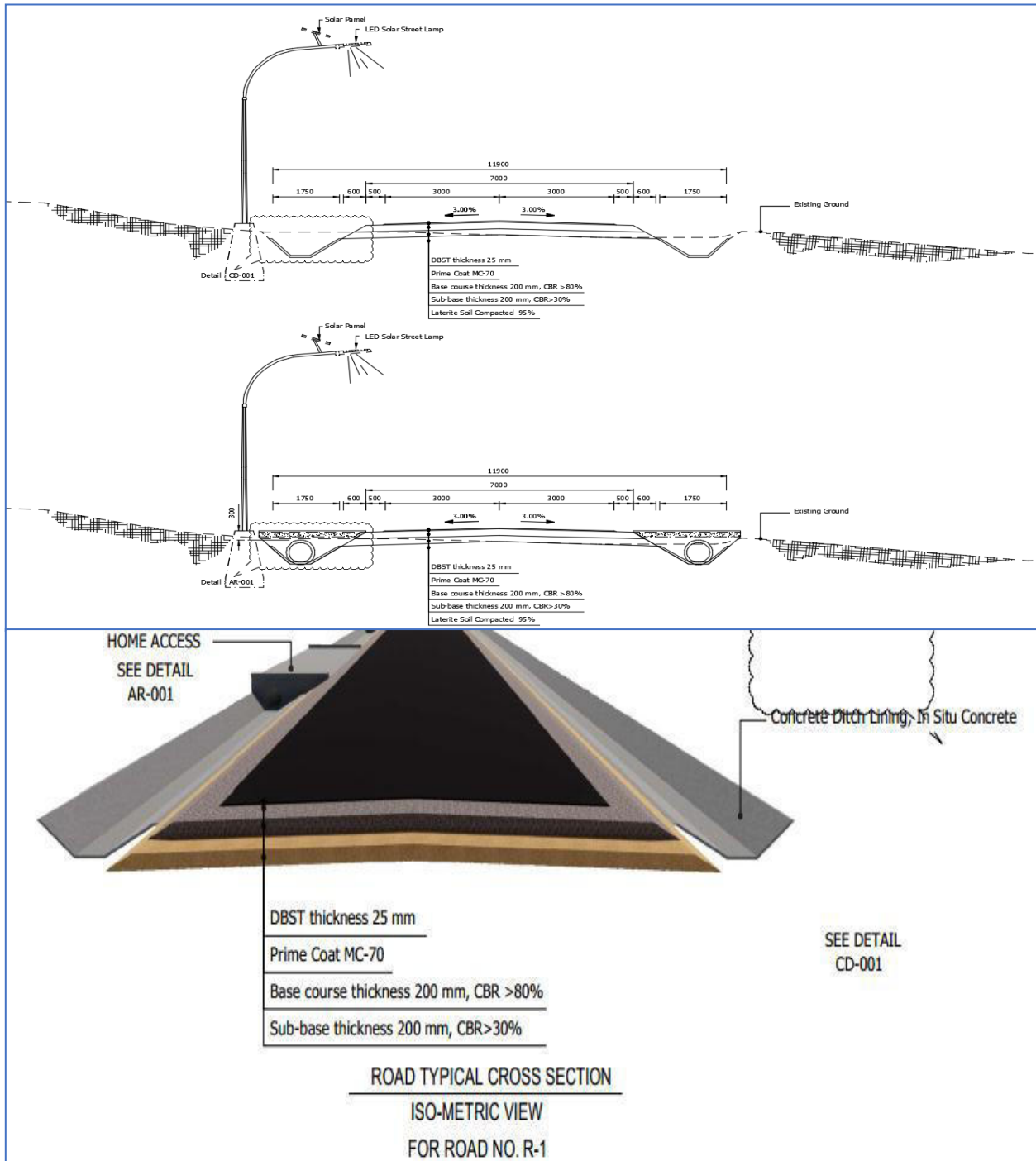
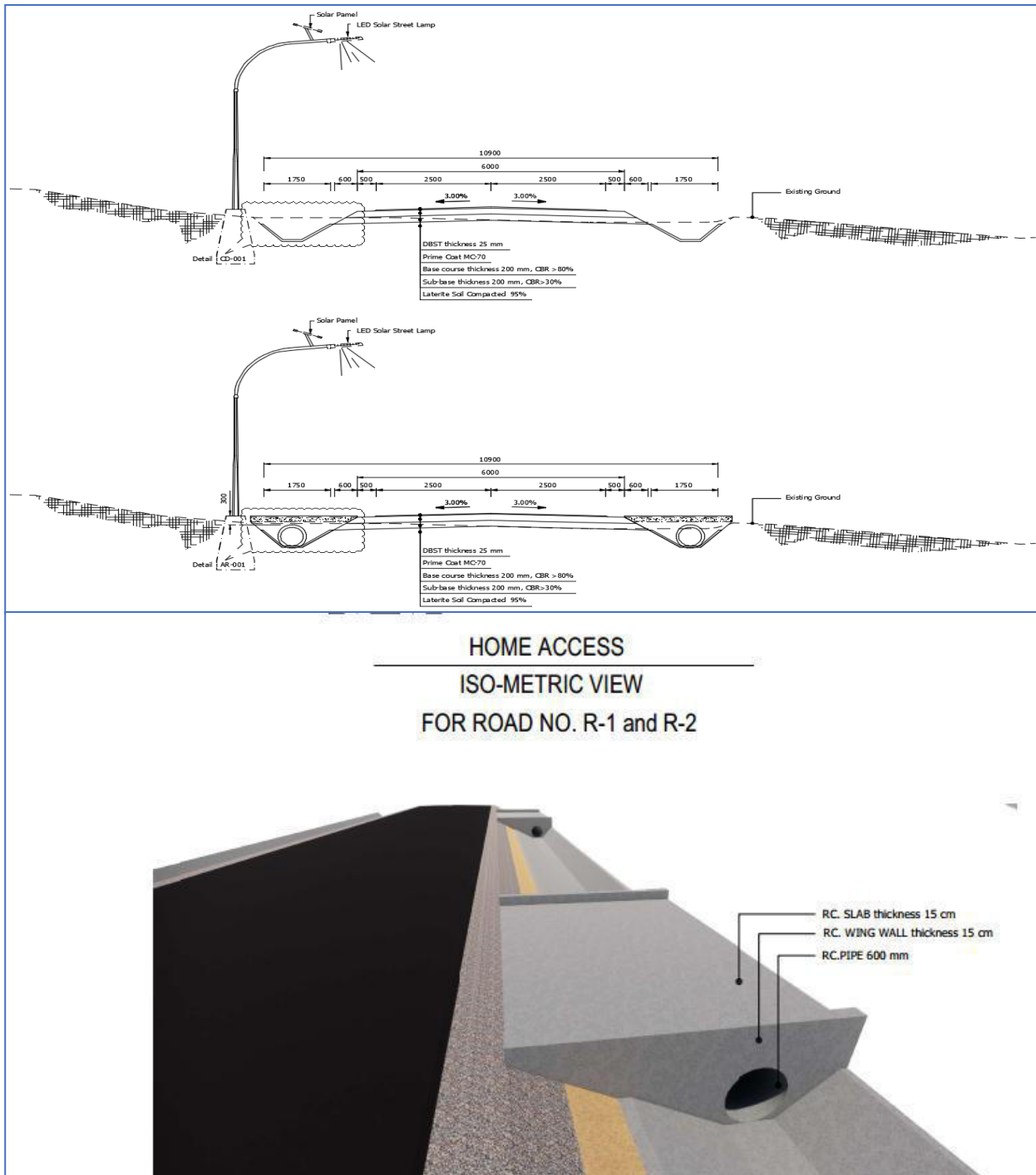


Figure 33: Ban Alone Access Road: R1 Typical Cross Section

Figure 34: Ban Alone Access Road: R2 Typical Cross Section



V. DESCRIPTION OF THE BASELINE ENVIRONMENT

A. FEATURES COMMON TO KAYSONEPHOMVIHAN, PHINE AND DANSAVAN

84. The features common to Kaysonephomvihan, Phine and Dansavan towns are presented in the approved IEE version updated September 2018, there are covered climate and climate change; terrestrial characteristic; protected areas, rare, and endangered species; natural hazard; and unexploded ordnances.
85. The UXO surveying and clearance were conducted in Napho access road and Alone Community Access road in October-November 2019. These proposed access roads were certified with UXO clearance detail in APPENDIX C.

B. KAYSONEPHOMVIHAN, PHINE & DANSAVAN

86. This session refers to the updated IEE, which covers the information of three towns, included (i) water environment and surface water; (ii) aquatic ecology characteristic; (iii) social economic and culture setting; (iv) poverty incidence and vulnerable group; (v) economic activities and employment; (vi) land use and zoning; (vii) physical and culture resources; (viii) social service and infrastructure; and (ix) livelihoods.

C. SPECIFIC ENVIRONMENT FEATURE OF ADDITIONAL WORKS

87. The specific environment feature of additional work will be presented below and limited only new information for additional works

1. Additional Work's Areas

88. The 7 additional works for 6 VOs to each subproject are located in three towns same with original subprojects, 5 additional works/4VOs are located in Kaysonephomvihan municipality, 3 urban roads and a DEWATS are located in Urban areas, and pipe installation is located within landfill boundary.
89. Ban Napho access road is located in the urban town of Phine District, and Alone community access road is located in Dansavan town, Sepon District, in Savannakhet Province.
90. The additional works are located in the urban areas, have regular traffic and surrounded with residential areas, these additional work constructions are located with Key sensitive receptors as (1) Dansavan Primary school at corner of road section R01 and R02 in Alone access road, (2) Napho Primary School at the end road that is an access to primary school in the Ban Napho access road, (3) worship area located on the right side along the Alone community access road that is not far from Dansavan consult office until the Alone community residents, (4) Savannakhet International airport located at the end of the Savannakhet airport access road, (5) Mekong river on the left side of Thahae road from embankment around 50 meters, (4) Donhor shrine house, where is located around 20-30 meters away on the right side of Soukhavadi road, (5) all residential houses are located adjacent proposed construction areas are also classified as sensitive areas.

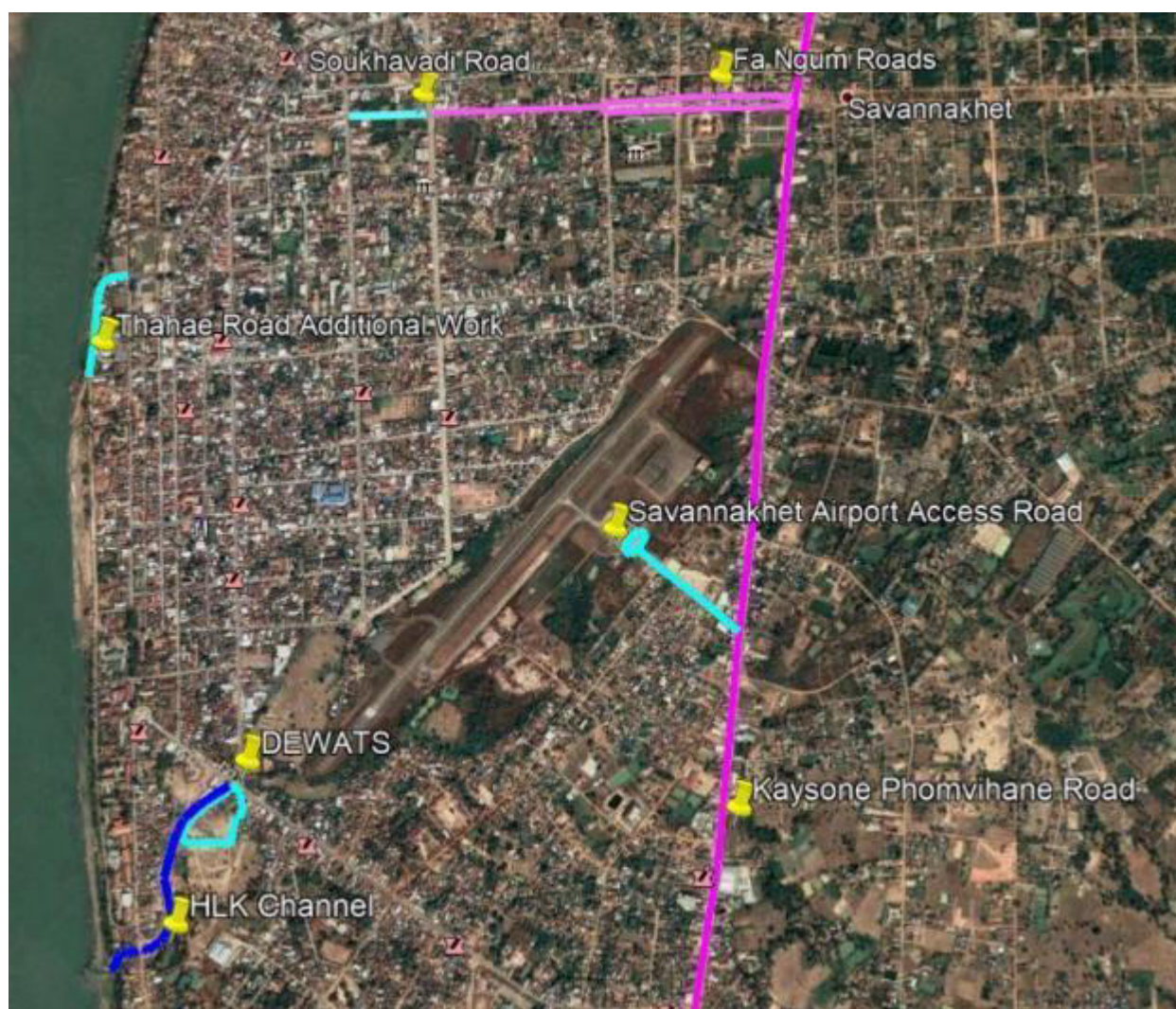


Figure 35: Overview of Additional Works in Urban Kaysonephomvmvihan

2. Surface Water Quality

91. The common feature on surface water quality is presented in the approved IEE, there is updated for DEWATS for additional work only.
92. DEWATS design uses two water quality parameters to determine surface water quality as Biological Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) in the surface water quality. This surface water baseline was applied as the result of surface water monitoring date March 12, 2019 at the upstream point and compared with baseline in December 2018 result. The result is shown that BOD is equivalence 39 Mg/L & 49 Mg/L in baseline; and COD is equivalence 75 Mg/L and 121 Mg/L in the baseline. According to Lao PDR national environment standard for wastewater discharged BOD is 30 Mg/L for natural creek and COD = 60 Mg/L for discharged from septic tank/sludge.

The design of DEWATS will be improved water quality by reducing amount of BOD and COD that suitable for general surface water is presented in the table below

93. HLK Channel was estimated to have a flow rate of 4,619.9 cubic meter per daily, the average hourly flow rate is 192.5 cubic meter per hour and peak hourly flow rate is 543.5 cubic meters per hour. The filter volume is approximately 9,210.618 cubic meters⁸It was designed as waste water will be increased and discharged more wastewater in the future.

Table 3: Efficiency of Treatment System

Organic load reduction	COD	BOD	Unit
Treatment efficiency	24%	26%	%
Effluent concentration	92	36	mg/L
<i>Minimum effluent conc.</i>	64	25	mg/L
<i>Maximum effluent conc.</i>	119	47	mg/L
<i>National Environment Standard for Discharge to open channel (No. 81/GoL, 2017)</i>	NA	30	mg/L

94. DEWATS technology treatment efficiency of COD is 24% and BOD treatment is 26%, thus, effluent concentration will remain 92 mg/L and 36 mg/L respectively. The minimum effluent concentration in the table means high efficiency of the treatment system and opposite, maximize effluent concentration means lowest efficiency of the treatment system. If the DEAWATS performed minimum effluence concentration, COD and BOD will remain 64 and 25 mg/l respectively.

3. Flora and fauna

95. The additional works are in the urban areas and characterized as a modified habitat. There were only few defined trees that will be removed from the right of way on the road construction, but trees will be planted after road construction completion. Trees were found in the construction alignment in two additional works in DEWATS and Alone community access road.
96. There are not any sensitive habitats or rare or endangered of flora or fauna are recorded from the additional work areas, however, the adjacent areas on the right side of Alone Access Road is shrubs and trees, during construction phase, all heavy equipment or machineries should not be encroached to that area. And it is similar on the left side of the Thahae road, it is a high slope that is connected with the Mekong river

⁸ BORDA, July 2019. Engineering Design Report-subproject wastewater treatment (Horizontal Flow Planted Gravel Filter at Houay Longkong), Lao PDR GMS-EWEC

embankment, so during construction, contractors should avoid to load any construction waste to the Mekong embankment areas.

4. Physical Cultural and Social Resources

97. The additional works are not classified in the heritage areas, however, The Alone community access road on the right sides in both road sections R01 & R02 are near to worship areas, which is respected and believed by the Alone community to be a sacred place that protects their community. Soukhavadi road is adjacent to village shrine house on the right side of the road around 20-30 meters.

5. Other Environment Factors

98. The other environment factors such climate change, land use, geography, aquatic ecology, social and economic, included poverty incidence and vulnerable groups are referring to the approved updated IEE.

VI. PUBLIC CONSULTATION & INFORMATION DISCLOSURE

A. NATIONAL REQUIREMENT AND ADB PUBLIC COMMUNICATION POLICY

99. National requirement and ADB public communication policy description is referred to the approved IEE, which is covered from Paragraph 266-271 and approved EMP from each subproject.

B. INFORMATION DISCLOSURE, CONSULTATION AND PUBLIC PARTICIPATION PROCESS

100. Information disclosure and stakeholder consultations were conducted as part of the environmental assessment process and resettlement assessment. There are two stages of public consultation during the detailed engineering design and future public consultation. The DED phase of additional works organized public consultations with relevant agencies, village authorities and villagers as presented in the result of project background, DED of additional works, environment assessment with grievance and resettlement assessment. The future public consultation will be organized during the pre-construction and construction phase, including completion interview.

101. The consultations aimed on environmental issues, resettlement and concerns affecting the community. Specifically, the objectives of the consultation meetings are the following:

- (i) To present the project background & proposed additional work to the stakeholders;
- (ii) To present the potential environmental impacts, mitigation and GRM procedure, included in the public feedback form
- (iii) To Present the assessment of the resettlement to affected person
- (iv) To open free space for discussing the additional construction works, environment, grievance redress mechanism and resettlement.

102. Subsequent information dissemination, consultation with and participation of affected people and involved agencies will reduce the potential for conflicts and minimize the risk of project implementation. Further information and consultations will be carried out for pre-construction stage and during construction, if necessary.

C. SUMMARY OF ADDITIONAL WORK PUBLIC CONSULTATION

103. These information disclosures and public consultations were organized from April 30, 2019 to September 6, 2019 with 7 events with 7 additional works. There are 155 participants, which included 49 females (31.61%). The public consultation events are presented in Table 4.

Table 4: Summary of Public Consultation

Date, Venue, Participants & title	Summary of discussion
Date: April 30, 2019 Venue: Savannakhet DPWT Meeting Hall, Participant: 18 persons-included 3 Females- Title: DEWATS Preliminary Design	<p>BORDA is German INGO, an engineering design team that presented preliminary design of DEWATS</p> <p>(2) the consultation workshop has invited different stakeholders, experts from different fields, engineers, environment specialist, management and participants from DPWT, PMU, CSCS, and other departments as PoNRE, Governance Office, UDAA, and Kaysone Phomvihane Municipality governor office.</p> <p>(3) the key discussion results at the workshop are presented below</p> <p>A. Workshop agreed to apply the concept/approach of DEWATS for HLK-Channel in the temporary wastewater pond, before releasing to Mekong River.</p> <p>B. Agreed to allow BORDA to design DEWATS based location environments such as deeper bottom ponds and dikes for diversion wastewater to ensure that there will be no stagnant water surrounding the community.</p> <p>C. BORDA should closely cooperate with GMS EWEC TDP Office to collect more information to support detail engineering design</p> <p>D. GMS-EWEC TDP office should cooperate with PoNRE to define accurate location and land will be installed DWETS, if it is state land, the project should make documents on behalf of DPWT to the relevant organization.</p> <p>E. BORDA/designer should cooperate with PoNRE for water quality after treatment, to ensure that it is matched with standard.</p> <p>F. Designer team should complete detail engineering design with suitable times as (2-3 weeks)</p> <p>G. after DEWATS detail engineering design completed, technical consultation workshop should be organized for finalizing or commencing for further improvement of design.</p>
Date: July 8, 2019 Venue: Savannakhet DPWT Meeting Hall, Participant: 18 persons-included 3 Females- Title: DEWATS Detail	<p>(1) Detailed engineering design consultation workshops of DEWATS are presented by the designer team from BORDA.</p> <p>(2) the consultation workshop has invited different stakeholders, experts from different fields: engineers, environment specialist, management. The participants from DPWT, PMU, CSCS, and other departments such as PoNRE, Governance Office, UDAA, and Kaysone Phomvihane Municipality governor office, especially, contractor of HLK was also participated.</p> <p>(3) The DEWATS detailed engineering design team agreed in general and minor comments at the workshop are presented below</p> <p>A. Integrate fence surrounding the DEWATS areas for protecting people and</p>

engineering Design workshop	<p>animals to enter the areas.</p> <p>B. integrate tree plantation in suitable areas for shade and green areas.</p> <p>C. The wastewater from households, exclusive from DEWATS should continue design and included in the water treatment system.</p>
<p>Date: August 28, 2019</p> <p>Venue: Dongdamdouan Village Office</p> <p>Total: 19 Persons</p> <p>Female: 7 persons</p> <p>Additional work: Upgrading International Savannakhet Airport access road</p>	<ol style="list-style-type: none"> 1. Villagers, who live along the Savannakhet International airport road are potential impacts from air pollution, noise pollution and erosion during construction. The villagers who are unsatisfactory related to environment mitigation, they/he/she can complain to concerned parties: contractor, village authority and the project owner, the detailed contact is displayed in the sign post contact. During the construction, unforeseen impact may happen from using the heavy equipment which leads to lost structure, assets or land, including environment disruption, villagers can also submit the grievance letter to grievance points for solving the issues. 2. Households, who have RC Pipe and concrete slab in the household access, during construction contractor will provide temporary access for each household, the current drainage will be replaced with design drainage standard, villagers can claim the piles and concrete slabs that belong to them during the removal. After completion, the concrete slab will be re-installed with access road designed 3. The households who can't attend the meeting today, the village authority will distribute the meeting document that technical staff disseminated today to all households. 4. Villagers agreed with road construction, environment and resettlement assessment.
<p>Date: September 2, 2019,</p> <p>Venue: Ban Saphantai meeting hall</p> <p>Participant: 12 persons, included 4 females.</p> <p>Title: DEWATS DED public consultation at community level</p>	<p>(1) The public consultation was organized for information disclosure on environment, health, safety, included grievance procedure and result of resettlement assessment.</p> <p>(2) There are participants from Ban Saphantai village, where DEWATS is located that included villager authorities and villagers, and affected persons from resettlement assessment.</p> <p>(3) The Key discussions during the public consultation are presented below</p> <p>Q: a household asked for a state land for his access and daily route use, if the government does not agree on this, no choice will be made.</p> <p><i>The answer and implementation will be given after consulting with the Department of Natural Resources and Environment.</i></p> <p>Q: the residents will get bad odors from wastewater treatment ponds.</p> <p><i>The design has included a gravel filter, water planting, it will reduce the bad smell during operation, and it will be flowed all the time and regular maintenance.</i></p> <p>Q: Request to construct an access road to Huay Longkong directly for people who live near the left side of the DWATS or on the main road. This means that the project workers can travel via this way into the construction site during the construction period as well.</p> <p><i>it will not matter if the governmental property is used by several households in common. The implementation will be discussed with the PoNRE before giving a final answer.</i></p> <p>Q: the Huay Longkong bridge which is planned to construct at two points. One point is proposed to be constructed on the opposite side of the market, so people from Thahae can cross conveniently.</p> <p><i>inform the project after agreeing by most voices.</i></p> <p>Q: the contractor made a verbal agreement to use the land for excavation for drainage conversion, when it is completed, the drainage will be re-surfaced. It is required to be-official agreement, to eliminate the concern whether the contractor might not comply with verbal agreement.</p> <p><i>the project will force the contractor company to re-surface drainage as agreed. If</i></p>

	<p><i>not, there will be measures against the contractor.</i></p> <p>Q: There is drainage between Mr. Okhuanchai and Mr. Bounthoua's land next to the wastewater treatment area, is it possible for project to lay pipes and villagers will use their pipes in their land areas.</p> <p><i>The project has pipelines which dug out from the A1 road, if the residents are interested in using, they can put where they want to.</i></p> <p>Q: families who live in this area proposed to continue farming</p> <p><i>A: the project team will discuss with each family the solutions whether about occupations and living pattern in the future</i></p>
<p>Date: September 4, 2019</p> <p>Venue: Thamueng village Office</p> <p>Total: 27 Persons</p> <p>Female: 6 persons</p> <p>Additional work: Upgrading Thahae & Soukhavadi road</p>	<p>Q: As the drainage excavation along the road sides, business will not be able to be continued by the families in that area. Will the project provide the compensation?</p> <p>The compensation on the business lost is to be paid to the affected household who relocated and the structured dismantled relocating the business to another location. In this case, your business can operate regularly, after excavation, the contractor will provide the temporary access road/ bridge that you can operate your business.</p> <p>Q: the impacted current land is not from this town development project. Will the project issue the new land title?</p> <p>According to the survey, no land has been impacted (landowner did not participate, only village authority provided information), the resettlement team will coordinate with landowner and village authority checking again. In case the land is affected from the previous project, the project will discuss with the Provincial and Department of Public Works and Transport.</p> <p>Q: During the construction, if the water pipe was broken by excavation, can the pipe be repaired timely?</p> <p>The project has invited the water technicians to provide information on pipes in order to deal with the pipe problems. If this occurs, the project will repair immediately.</p> <p>Q: During the construction period, accidents may happen such as wall damage. Will the project grant compensation?</p> <p>The project will grant compensation for the damage.</p> <p>Q: Can the project remedy the environmental problems immediately, example dump trucks are speeding too fast, without cover, too dusty?</p> <p>yes. The dust can be minimized with mitigation options as trucks will be covered, limited speed and regular watering.</p> <p>Q: will the project install the warning sign?</p> <p>The project has assigned the contractor company to install warning signs on all the risky and dangerous areas and regular safety inspection.</p> <p>Q: Many roads were built, after that local people left sand, rocks without responsible authorities and no authority to enforce them?</p> <p>the maintenance of post-construction is still a state issue that needs to be addressed.</p> <p>The summary of discussion found that there are potential environmental impacts during construction, and mitigation will address those impacts, if there are any issues during construction, affected person, concerned person can complain to the project grievance for solving the issues immediately as similar to any individual/entity property damaging can raise the issue to grievance points as well. Village authorities agreed that hand out material will be distributed to villagers, who are absent from this consultation.</p>
<p>Date: September 5, 2019</p> <p>Venue: Ban Na Pho Temple</p> <p>Total: 36</p>	<p>1. Villagers, who live along the Ban Na Pho Access road are potential environment impacted during construction, and mitigation will address those impacts, if there are any issues during construction, affected person, concerned person can complain to the project grievance for solving the issues immediately as similar to any individual/entity property damages can be raised to the</p>

Persons Female: 14 persons Additional work: Upgrading Ban Na Pho Access Road	grievance points as well and all complaints will be recorded, justified or solved as soon as possible. 2. Village authorities agreed that hand out material will be distributed to villagers, who are absent from this consultation. 3. Villagers agreed with road construction, environment and resettlement assessment.
Date: September 6, 2019 Venue: Dansavanh Village Office Total: 25 Persons Female: 12 persons Additional work: Upgrading Ban Alone Access Road	1. Villagers, who live along the Ban Alone access road can have potential impacts from air pollution, noise pollution and erosion during construction. The villagers who are feels unsatisfied with environment mitigation, they/he/she can complain to concerned parties such as contractor, village authority and the project owner, the detailed contact is displayed in the sign post contact. During the construction, unforeseen impact may happen from using the heavy equipment which leads to lost structure, assets or land, including environment disruption, villagers can also submit the grievance letter to grievance points to solve the issues. 2. The households who can't attend the meeting today, the village authority will distribute the meeting document that technical staff disseminated today to all households. 3. Villagers agreed with road construction, environment and resettlement assessment.

D. FUTURE INFORMATION DISCLOSURE AND PUBLIC CONSULTATION

104. Consultation and participation activities will be continued in the future to ensure project success. Public consultations and information disclosures were done previously in the various villages of each additional construction works, except the drainage installation in landfill. After contractor has completed work plan for additional work, pre-construction consultation should be organized as jointly among PMU and contractor as specific consultation activities were: (i) introduction of the contractors to the villagers, (ii) public informed of construction schedule, potential impacts, potential for temporary disruptions, and (iii) GRM implementation.
105. Prior to the start of the construction, consultation will be carried out in all the areas where the proposed project activities are anticipated. The objective will be to provide the local population with accurate information on activities to be undertaken, on the schedule of these activities and on the potential nuisances for them during construction. This information stage, which concerns all the project sites, will be carried out jointly with the team in charge of RP preparation in those areas concerned by compensation and/or resettlement.
106. During the construction stage, consultation will be carried out with the local population in specific areas where construction activities are expected to start within 1 month. This will be carried out through focus group discussion with residents and key stakeholders (police station, ward heads) on possible nuisances (noise, dust, traffic/access constraint, temporary suspension of public utility, etc.), on safety measures they will have to respect (regarding engines under activity, risks of fall in excavations, risks specific to children etc.) and on the detailed schedule of activities.
107. At the end of the construction activities in a dedicated site, inspection of site to ensure cleaning and rehabilitation has been done by the Contractor will include interview of residents to possibly identify non-compliance in the rehabilitation of the site.

VII. POTENTIAL ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

108. The approved IEE and EMPs have already presented the general context of screening and analyzing the impacts of roads, drainage, HLK channel, and landfill. Similarly, this Addendum to the IEE additional work also examines the potential environmental impacts associated with road & drainage, DEWATS and Pipe Installation in the same general context as below:

- Pipe Installation for connecting existing/old landfill (Solid Waste Management and Material Recovery Facility in Kaysonephomvihane)
- Upgrading the Savannakhet airport access road, Soukhavadi road, Thahae road, (KaysonePhomvihane) Ban Napho access road (Phine) and Alone community access road (Dansavan, Sepon district)
- DEWATS (HLK Channel, Kaysonephomvihane)

A. OVERVIEW BENEFIT OF ADDITIONAL WORKS

109. The additional work impacts level is referred to approved IEE, additional road and drainage will improve transport infrastructure and wastewater flow, including preventing stagnant water in the urban and immediate flooding protection during the rainy season as well. Road conditions will be improved, easy to travel and safe with less disruption from dust, mud and holes. The DEWATS additional work is highly impacted to improve the environment to surface water, the wastewater will be naturally treated during the dry season, before being discharged to Mekong river. The pipe installation for connecting the existing landfill to new landfill, it will absolutely prevent the leachate leakage to ground water and prevent dike collapse, leachate in both landfills will be flowed to treatment pond and evaporation ponds.

110. The physical benefits of additional works include 2.7 hectares of recreation ponds for wastewater treatment during the dry season, it has a capacity of approximately 9,210 cubic meters per day, urban roads will be upgraded 2,678 meters length, and drainage system will be improved 5,184 meters length.

B. ADDITIONAL WORK IMPACTS AND MITIGATION MEASURES

111. The general mitigation measures were already included in the approved EMP of each subproject, and contractor also developed CEMP that included the specific mitigation; therefore, contractor from each subproject are required to refer to EMP that was approved and similar to CEMP from each subproject that was approved previously.

1. Pre-construction phase

112. Negative impacts associated with the pre-construction phases of the infrastructure developments concern land acquisition or resettlement. Following the detailed engineering design, the need for local resettlement and compensation for loss of land or structures is identified in the Social Safeguard Screening Report of additional works as separated cover.

113. The road and drainage additional work construction is located in the existing road, where there is limited existing road width. Therefore, detail engineering design for each additional work was specified on the existing road width. To confirm with limited

impacts, the resettlement team has conducted a detailed survey in each additional work and found non-impact on land acquisition on road and drainage additional works. The pipe installation additional work in landfill is located in the existing landfill boundary; and the DEWATS additional work, is located in state owned land with 2.7 hectares of land area, which is allocated for DEWATS construction. Even though it is state land, one family has operated a farm and built a house on the state land, therefore, the affected household received cash allowance of 3,681\$ for dismantling structures and livelihood restoration. The household member will get priority for applying positions with DEWATS operation, when project completion, in the same time, they can apply as DEWATS construction worker as well during the construction phase.

114. The contractor of each subproject is not required to update or develop new CEMP, but the contractor is required to submit the subplan to avoid the impact to the sensitive recipient that is located in proposed additional work location and strictly follow the approved EMP/CEMP.
115. UXO clearance is another important issue during pre-construction phase, PMU and contractor had cooperated with UXO clearance agency and UXO agency has conducted UXO surveying and clearance in the construction alignment in the Alone community access road and Ban Napho access road. Both access roads were certified that 3 meters depth are free of UXO.
116. Information disclosure and public consultation was conducted regarding DED, environment assessment, resettlement assessment, grievance mechanism in each additional work during April-September 2019 as detailed presented in session of information disclosure and public consultation.

2. Construction Phase

117. The common environment impacts and mitigations are referred to approved IEE and EMPs of each subproject, which has included almost every dimensions.
118. The impacts and mitigations during the construction phase is limited to only additional works construction activities and others associated to construction. The urban roads and drainages construction impact and mitigation are also referred to approved IEE and EMP/CEMP of each subproject, the contractors should apply the same source of material and the method of construction are almost the same.
119. As presented in the session on environment baseline, Savannakhet airport access road should pay more attention to health and safety during the construction, particularly passengers from Savannakhet airport, and local resident offices along the access road. The physical culture Shine house in Soukhavandi road, Mekong River Embank in the Thahae road, Ban Napho Primary school in the Ban Napho access road, Dansavanh primary school, Dansavanh health center and forest worship in Alone community access road.
120. The DEWATS is significantly concerned regarding the spoil management, the large volume of soil excavation is estimated at about 115,000 cubic meters, contractor is required to submit detail spoil management. Contractor is required to strictly follow the dust, traffic management, health & safety, surface and groundwater mitigation, which are provided in the Approved IEE and EMP.

121. The approved EMP from each subproject will be applied with proposed additional work based on location and VO to subproject. (1) upgrading of Savannakhet International airport access road applied same requirement of EMP of Kaysone Phomvihane Road Subproject; (2) upgrading Thahae and Soukhavadi road additional work is required to apply same standard with EMP of Mekong River Embankment Subproject, (3) Pipe installation in landfill is applied with EMP of Solid Waste Management Subproject, (4) upgrading Napho access road is subjected to apply with EMP of Phine Urban Road Subproject, (5) upgrading the Alone community access road is subjected to apply with EMP of Dansavanh Urban road subproject and (6) DEWATS additional work was already updated to EMP of HLK subproject and it was approved and be available in bank website.
122. Monthly environment monitoring report is still required to submit to CSCS regularly, as stated in the signed contract and approved EMPs. Contractor has to monitor environment impacts and mitigations daily, any issues found in the field should be solved and justified.
123. The GRM at the subproject level, contractor/EHSO is still a key actor to monitor, solve and record the complaint from the affected person. The signpost with detailed contact of grievance channel will be regularly obtained and monitored accordingly. The GRM at the project level is included in EMP and GRM at the subproject/contractor is included in the CEMP.
124. These additional works were not defined to marginalize cost from the construction cost, all environment mitigation and environment monitoring are associated with construction cost. So that any issues raised are responsible for the contractor of that subproject, and budget is included in the construction cost.

3. Operation phase

125. **DEWATS:** large humid area is potential place for mosquito breeding, bad odor in the first pond and second pond and quality of surface water, these impacts can be mitigated through (i) regular cleaning and removal of dead leaves in HGFs, sediments/sludge in the first pond and second pond (ii) grow water plant like lotus plant, the second pond will be provided with aquatic plant and fish (iii) Mosquito killer spray will be used during wet season with support from Public health office, (iv) The surface water in the DEWATS will be monitored semiannually
126. to certify the quality of surface water and treatment efficiency that have been installed.
127. **Urban road and open drainage:** Increased risk of road accidents. Providing pavements to the presently unpaved roads will normally increase the travel speed of the vehicles and vehicular traffic. This situation will also increase the risks of road accidents. Pedestrians and non-motorized vehicles are at a greater risk since they use the road together with the motorized traffic. Mitigating measures for this situation includes: (i) the adequate and appropriate traffic laws, warning signs and road markings will be provided, (ii) road safety awareness raising campaign will be provided to students and community. Sediments and debris will be accumulated in the drainage system, if there were poor management, the mitigations include residents responsible in

front of their land/residence to regularly clean at community level, training for operation and maintenance will be provided to community level.

C. INCLUDED AND CUMULATIVE IMPACTS

128. Included and cumulative impacts are referred to in the approved IEE, which has provided the impact levels of the project and the additional works are the same in urban infrastructure development.

VIII. ANALYSIS OF ALTERNATIVES

129. The scenarios for additional works are similar to the urban infrastructure development as referred to approved IEE, without additional works scenarios, the poor and inadequate infrastructure continued as usual but with the additional works the road transportation will be improved to better condition and wastewater will be treated.

IX. GRIEVANCE REDRESS MECHANISM

130. The Grievance Redress Mechanism (GRM) is referred to approved IEE, there are the same procedure and implementation, in addition during the public consultation of additional works, GRM has been presented to communities and also provided detail contact person for contractor, consultant and project owner.

X. ENVIRONMENTAL MANAGEMENT PLANS

131. EMPs are updated according to the original subproject and approved from ADB and Savannakhet DoNRE, the EMP of HLK channel was updated with DEWATS

APPENDIX A: PUBLIC CONSULTATION MINUTES

A. DEWATS PUBLIC CONSULTATION

Lao People's Democratic Republic
Peace, Independence, Democracy, Unity, Prosperity

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Savannakhet Province

Department of Public Works and Transport

Town Development Project

Minutes of Meeting

Village consultation on possible environmental impact during construction, safety and grievance;
and result of detailed measurement survey in Decentralization Water Treatment System
DWATS, Kaysone Phomvihane Municipality.

In the meeting room of Saphantai village, Kaysone Phomvihane Municipality at 14:30 PM of 2 September 2019, the consultation meeting was held on possibility environmental impact during construction, safety and grievance; and the result of detail measurement survey in DWATS of the GMS East-West Corridor Town Development Project. Mr. Phomma Vongphachit Director of the Project and Mr. Sengpanh Sinilath Village Head Man were co-chairmen of this village consultation with participation of the village authority, PIT of Kaysone Phomvihane Municipality, villagers who live along the DWATS area and technical staff, all 11 participants which 4 women (list of participants).

The topics discussed in the meeting as below:

1. The overview of the situation of Town Development Project of 7 sub projects, the progress of the sub projects and the budget. Due to the cost savings, the project has some budget remaining, therefore the project had considered 7 additional sub projects, the construction of the DWATS in Kaysone Phomvihane Municipality is one sub project had been considered. The plan starting the construction of this project is by the late of October 2019.
2. The result of the detail measurement survey conducted on 7 August 2019 was presented (result attached), overall 6 items, there are 5 land plots on the left side of the DWATS and 1 household conducts cultivation for a long time.
3. From the survey finding that:
 - a. Mr. Xeum extended the wooden house with iron sheet roofing in state land.
 - b. Mr. Thongseng uses state land for the family's access
 - c. Mr. Sifong, two temporally wooden houses and animal pens built in the project area
4. The possibility of environmental impact happened during construction, safety and grievance was presented (presentation attached).

Questions and Answers:

1. Q: a household asked for a state land for his access where they use daily, if the government does not agree on this, no choice will be made.

A: The answer and implementation will be given after consulting with the Department of Natural Resources and Environment.

2. Q: the residents will inhale smelly odors from the working of wastewater treatment.

A: the design of the treatment tank will cause the contaminated water to flow through the filler.

3. Q: offering access for people who live near the left side of the DWATS straight down to Huay Longkong or onto the route. This means that the project workers can travel via this way into the construction site during the construction period.

A: it will not matter if the governmental property is used by several households in common. The implementation will be discussed with the Department of Natural Resources and Environment before giving feedback.

4. Q: the Huay Longkong bridge which is planned to construct at two points. One point is proposed to be constructed on the opposite of the market, so people from Thahae can commute conveniently.

A: inform the project after agreeing by most voices.

5. Q: the contractor made a verbal agreement to use the land for digging the converted drainage, once completed, the surface will be adjusted. This can be changeable that the contractor did not comply with the contract.

A: the project will force the contractor company to adjust the land surface as agreed. If not, there will be measures against the contractor.

6. Q: there is drainage between Mr. Okhuanchai and Mr. Bounthoua next to the wastewater treatment area, the project is offered to lay pipes by villagers, since they have a number of pipes.

A: The project has pipelines which dug out from the A1 road, if the residents are interested in using, they can put where they want to.

7. Q: families who live in this area proposed to continue farming

A: the project team will discuss with each family the solutions whether about occupations and living pattern in the future

Through discussion and comments to the topics discussed above, the meeting agreed as below:

1. The households who live near the DWATS have the possibility to face disturbances such as air pollution, noise pollution and erosion pollution during construction. The villagers who are unsatisfied with the road construction have the right to complain to concerned parties as contractor, village authority and the project the number is displayed in the project sign on the project area. During the construction unforeseen impact may happen from using the heavy equipment which leads to lost structure, assets or land villagers will also submit the grievance letter through grievance process to concerned parties.

2. The households who can't attend the meeting today, the village authority will distribute the meeting document that technical staff disseminated today to all households.
3. The households who live near the DWATS agree on the construction, the project will begin.


The meeting closed at 16:00PM of the same day. Therefore, issuing the Minutes of Meeting as for reference in the future implementation.

Kaysone Phomvihane Municipality, 2 September 2019


Meeting Chairman Acknowledged by Village Authority Minutes Taken




Attendant List of DEWATS Preliminary Design Consultation

 <p>ສາທາລະນະລັດ ປະຊາທິປະໄຕ ປະຊາຊົນລາວ</p> <p>ສັນຕິພາບ ເອກກະລາດ ປະຊາທິປະໄຕ ເອກກະພາບ ວັດທະນະຖາວອນ</p> <p>໑໙໗໕ ໒໐໑໕ ໑໙໙໑</p> <p>ຜູ້ເຂົ້າຮ່ວມປະຊຸມ</p> <p>ກອງປະຊຸມ: ຜ່ານແຜນແບບລະບົບບໍາບັດນໍ້າປົ່ນດ້ວຍລົງກົງ ແບບດິວັດ (DWAT)</p> <p>ສະຖານທີ່: ຫ້ອງປະຊຸມພະແນກ ບທຂ ແຂວງ</p> <p>ຄັ້ງວັນທີ: 30 ເມສາ 2019</p> <p>ເວລາ: 09 : 00 ໂມງ</p>				
ລ/ດ	ຊື່ ແລະ ນາມສະກຸນ	ໜ້າທີ່ສັບສົດຊອບ	ເບີໂທ	ລາຍເຊັນ
1	ທ. ສຸວັນ ພະຍາພິດ	ທ. ພະຍາພິດ ສຸວັນ	55642062	
2	ທ. ນາງ ສິນທິພອນ ພິມມະວິໄລ	ນາງ ສິນທິພອນ ພິມມະວິໄລ	97559999	
3	ມ. ພອນ ພິມມະວິໄລ	ພອນ ພິມມະວິໄລ	55641661	
4	ທ. ວິໄລ ພະຍາພິດ	ທ. ວິໄລ ພະຍາພິດ	55640488	
5	ທ. ນາງ ສິນທິພອນ ພິມມະວິໄລ	ນາງ ສິນທິພອນ ພິມມະວິໄລ	59556053	
6	ພ. ສິນທິພອນ ພິມມະວິໄລ	ພ. ສິນທິພອນ ພິມມະວິໄລ	55642262	
7	ທ. ສິນທິພອນ ພິມມະວິໄລ	ທ. ສິນທິພອນ ພິມມະວິໄລ	22310603	
8	ທ. ສິນທິພອນ ພິມມະວິໄລ	ທ. ສິນທິພອນ ພິມມະວິໄລ	55339555	
9	R. Daria	Team leader - CSC	55403691	
10	Mr. Somphone Xongthongthong	DTL	9537772	
11	ມ. ພອນ ພິມມະວິໄລ	ພອນ ພິມມະວິໄລ	95372662	
12	ມ. ສິນທິພອນ ພິມມະວິໄລ	ສິນທິພອນ ພິມມະວິໄລ	22306655	
13	ທ. ສິນທິພອນ ພິມມະວິໄລ	ທ. ສິນທິພອນ ພິມມະວິໄລ	9919228	
14	ທ. ສິນທິພອນ ພິມມະວິໄລ	ທ. ສິນທິພອນ ພິມມະວິໄລ	55641111	
15	ທ. ສິນທິພອນ ພິມມະວິໄລ	ທ. ສິນທິພອນ ພິມມະວິໄລ	55962666	

Attendant list of DEWATS DED Stakeholder Consultation

 ສາທາລະນະລັດ ປະຊາທິປະໄຕ ປະຊາຊົນລາວ ສັນຕິພາບ ເອກກະລາດ ປະຊາທິປະໄຕ ເອກກະພາບ ວັດທະນະຖາວອນ ໑໙໗໕-໒໐໐໘-໑໙໙໙ ຕູ້ເຂົ້າຮ່ວມປະຊຸມ				
ກອງປະຊຸມ: ຜ່ານແຜນແບບລະບົບບໍາບັດນໍ້າເປື້ອນຫ້ວຍລົງກົງ ແບບດິວັດ (DWAT) ຕັ້ງທີ 02				
ສະຖານທີ່: ຫ້ອງປະຊຸມພະແນກ ມທຊ ແຂວງ				
ຕັ້ງວັນທີ: 08 ກໍລະ 2019				
ເວລາ: 14 : 00 ໂມງ				
ລ/ດ	ຊື່ ແລະ ນາມສະກຸນ	ໜ້າທີ່ສັບສົດຊອບ	ເບີໂທ	ລາຍເຊັນ
1	ທ. ພິມມາ ຈັນວົດ	Project director	55153666	
2	ທ. ວິຣະວິໄລ ສິວສິນ	DD-PCU-DHU	55127678	
3	ທ. ສິມສອນ ດີສະພາ	PET	55602263	
4	ທ. ສິມສອນ ສິມສອນ	DD	22310663	
5	ທ. ສິມສອນ ສິມສອນ	Head of Section of Water Ways	55966666	
6	ທ. ສິມສອນ ສິມສອນ	DD	55645678	
7	ທ. ສິມສອນ ສິມສອນ	BORDA LAOS	28231829	
8	ທ. ສິມສອນ ສິມສອນ	BORDA Laos	22228931	
9	ທ. ສິມສອນ ສິມສອນ	construction work	99792298	
10	ທ. ສິມສອນ ສິມສອນ	ສິມສອນ	95377772	
11	Mr. Daria		55483688	
12	Mr. Somphit	TSC	91557788	
13	MR Thi	NSC-TSC JV	75034888	
14	ທ. ສິມສອນ ສິມສອນ	ທ. ສິມສອນ ສິມສອນ	55643660	
15	ທ. ສິມສອນ ສິມສອນ	ຂ. ສິມສອນ ສິມສອນ (ອຸປະກອນ)	93375788	
16	ທ. ສິມສອນ ສິມສອນ	ສິມສອນ ສິມສອນ	91488888	
17	ທ. ສິມສອນ ສິມສອນ	ທ. ສິມສອນ ສິມສອນ	22310759	
18	ທ. ສິມສອນ ສິມສອນ	ສິມສອນ ສິມສອນ	55867078	

Attendant List of DEWATS Public Consultation at Community level



ສາທາລະນະລັດ ປະຊາທິປະໄຕ ປະຊາຊົນລາວ
ສັນຕິພາບ ເອກກະລາດ ປະຊາທິປະໄຕ ເອກກະພາບ ວັດທະນະຖາວອນ

ກະຊວງໂຍທາທິການ ແລະ ຂົນສົ່ງ
ພະແນກ ຍທຂ ປະຈຳແຂວງສະຫວັນນະເຂດ
ໂຄງການພັດທະນາຕົວເມືອງ

ລາຍຊື່ຜູ້ເຂົ້າຮ່ວມກອງປະຊຸມ ແຈ້ງຜົນສຳຫລວດສິ່ງກົດຂວາງ, ການປຶກສາຫາລືດ້ານສິ່ງແວດລ້ອມ ແລະ ຄວາມປອດໄພ
ໂຄງການຍ່ອຍ ກໍ່ສ້າງ ບໍ່ທຳບັດນ້ຳເປືອນ ສຳລັບໂຄງການພັດທະນາຕົວເມືອງ ຕາມແລວທາງເສດຖະກິດຕາເວັນອອກ-ຕາເວັນຕົກ ອະນຸພາກພື້ນແມ່ນ້ຳຂອງ
ຄັ້ງວັນທີ: 2 ກັນຍາ 2019 ເວລາ 14:00 ສະຖານທີ່ ຫ້ອງການບ້ານ ສະພານໄຕ້

ລ/ດ	ຊື່ ແລະ ນາມສະກຸນ	ຊື່ ຄູ່ສົມລົດ	ໜ້າທີ່ສັບຟິດຊອບ	ຈາກພາກສ່ວນ	ເບີໂທລະສັບ	ລາຍເຊັນ
1	ນ. ຈິດວອນ				95958484	
2	ທ່ານ ພິງສິດ ເພັດພະ ຈັນ	ນ. ວະລາສະ ຈາກ	ເຈົ້າໜີ້ສິດ	ນ. ສະພານໄຕ້	91777741	
3	ທ່ານ ສິທາ					
4	ທ່ານ ເຊືອມ				96699518	
5	ທ່ານ ທອງເສັງ			ນ. ສະພານໄຕ້	020 23623690	
6	ທ່ານ ສິພອງ	ນາງ ຍາບ		ນ. ສະພານໄຕ້	98554039	
7	ນາງ ໂອລົມພິ ອິມສິດທິພິ		ນາງ ເວີນ	ນ. ສະພານໄຕ້	88664589	
8	ນ. ພະຈິກ ສິມສິດ		ນາງ ຍາບ	ນ. ສະພານໄຕ້	5586172	
9	ນ. ພະຈິກ ສິມສິດ		ນາງ ຍາບ	ນ. ສະພານໄຕ້	2216986	
10	ນ. ພະຈິກ ສິມສິດ		ນາງ ຍາບ	ນ. ສະພານໄຕ້	020 9679780	
11	ນ. ພະຈິກ ສິມສິດ		ນາງ ຍາບ	ນ. ສະພານໄຕ້	96781444	
12	ນ. ພະຈິກ ສິມສິດ		ນາງ ຍາບ	ນ. ສະພານໄຕ້	77699987	
13	ນ. ພະຈິກ ສິມສິດ		ນາງ ຍາບ	ນ. ສະພານໄຕ້	55408849	
14	ນ. ພະຈິກ ສິມສິດ		ນາງ ຍາບ	ນ. ສະພານໄຕ້	55753666	
15	ນ. ພະຈິກ ສິມສິດ		ນາງ ຍາບ	ນ. ສະພານໄຕ້	22316885	
16						

B. SAVANNAKHET AIRPORT ACCESS ROAD PUBLIC CONSULTATION MINUTE

Lao People's Democratic Republic

Peace, Independence, Democracy, Unity, Prosperity

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Savannakhet Province

Department of Public Works and Transport

Town Development Project

Minutes of Meeting

Village consultation on possible environmental impact during construction, safety and grievance; and result of detailed measurement survey in Kaysone, Airport road, Kaysone Phomvihane Municipality. _____

In the meeting room of Dongdanduane village, Kaysone Phomvihane Municipality at 14:15 PM of 28 August 2019, the consultation meeting was held on potential environmental impact during construction, safety and grievance; and the result of detail measurement survey in Kaysone, Airport road of the GMS East-West Corridor Town Development Project. Mr. Phomma Vongphachit and Mrs. Khanthavysouk Nettavong were co-chairmen of this village consultation with participation of the village authority, PIT of Kaysone Phomvihane Municipality, villagers who live along the Airport road and technical staff, all 19 participants which 7 women (list of participants).

The topics discussed in the meeting as below:

5. The overview of the situation of Town Development Project of 7 sub projects, the progress of the sub projects and the budget. Due to the cost savings, the project has some budget remaining, therefore the project had considered 7 additional sub projects, the construction of the Airport road from Kaysone to Airport in Kaysone Phomvihane Municipality is one sub project had been considered. The plan starting the construction of this project is by the late of October 2019. It is the asphalt with two lanes, sidewalk, drainage and street lights.
6. The possibility of environmental impact happened during construction, safety and grievance was presented (presentation attached).
7. The result of the detail measurement survey conducted on 23 July 2019 was presented (result attached), overall 23 items including 5 land plots on the right side of the road, 16 land plots on the left side of the road and 2 sign boards. There are 13 concrete driveways where the villagers constructed in the (public land) not in their own land.
8. Identifying the impact or nonimpact, the villagers' assets on both sides of the road are not impacted by the project. The 13 driveways constructed in the public lands, the project will reconstruct replacing the old ones with similar standards, and during the construction the villagers will access their houses as normal.

Through discussion and comments to the topics discussed above, the meeting agreed as below:

4. The households who live along the road to the Airport have the possibility to face disturbances such as air pollution, noise pollution and erosion pollution during construction. The villagers who are unsatisfied related to the road construction have the right to justify to concerned parties as contractor, village authority and the project the number is displayed in the project sign on the road. During the construction unforeseen impact may happen from using the heavy equipment which leads to lost structure, assets or land villagers will also submit the grievance letter through grievance process to concerned parties.
5. Households who have the concrete ring in their driveway and wish to use the concrete rings again for other purposes are able to inform the contractor about removing carefully and keeping the right place.
6. The households who can't attend the meeting today, the village authority will distribute the meeting document that technical staff disseminated today to all households.
7. As soon as the households who live along the road to the Airport road agree on the road construction, the project will begin.



The meeting closed at 16:00PM of the same day. Therefore, issuing the Minutes of Meeting as for reference in the future implementation.

Kaysone Phomvihane Municipality, 28 August 2019

Meeting Chairman

Acknowledged by Village Authority Minutes Taken

Attendant list of Savannakhet International Airport Public Consultation

<div style="text-align: center;">  <p>ສາທາລະນະລັດ ປະຊາທິປະໄຕ ປະຊາຊົນລາວ</p> <p>ສັນຕິພາບ ເອກະລາດ ປະຊາທິປະໄຕ ເອກະພາບ ວັດທະນະຖາວອນ</p> </div>						
<div style="display: flex; justify-content: space-between; align-items: center;"> <div>  <p>ກະຊວງ ໂຍທາທິການ ແລະ ສົນສົ່ງ ພະແນກ ຍທຂ ປະຈຳຂອງສະຫວັນນະເຂດ ໂຄງການສົດທະນາຄົວເມືອງ</p> </div> <div style="text-align: center;"> <p>ລາຍຊື່ ຜູ້ເຂົ້າຮ່ວມກອງປະຊຸມ ແຈ້ງຜົນການສຳຫຼວດສິ່ງກົດຂວາງ ແລະ ການປຶກສາຫາລືສິ່ງແວດລ້ອມ ແລະ ຄວາມປອດໄພ ໂຄງການບ່ອຍ ກໍ່ສ້າງ ທາງເຂົ້າສະໜາມບິນ ສຳລັບໂຄງ ການສົດທະນາຄົວເມືອງ ຕາມແລວທາງ ເສດຖະກິດຕາເວັນອອກ-ຕາເວັນຕົກ ອະນຸພາກທີ 1 ແມ່ນ້ຳຂອງ</p> <p>ຄັ້ງວັນທີ 28 ສິງຫາ 2019 ເວລາ 14:00 ໂມງ ສະຖານທີ່: ຫ້ອງການ ບ້ານດົງດຳດວນ</p> </div> </div>						
ລ/ດ	ຊື່ແລະນາມສະກຸນ	ຊື່ແລະນາມສະກຸນລິຂະສິດ	ຕຳທີອັບເປີດຊອບ	ຈາກສະຖານີ	ເບີໂທລະສັບ	ລາຍເຊັນ
1	ທ້າວ ສະນະແດດ ບຸນມິໄຊ	ນາງ ສຸລິສະສະໄລ ບຸນມິໄຊ		ດົງດຳດວນ	020 97449999	
2	ໂອງງານສະລິດເສັ້ນໄຟທາງກວາງດຸ້ງ			ດົງດຳດວນ	030 9913502	
3	ທ່ານ ອິດສະຫຼະ (ບໍລິສັດອາລາປາລິມບຸນ ການຄ້າ)	ນາງ ຄຳພູກ		ດົງດຳດວນ	55540333	
4	ທ່ານ ສິນໂທ ຈະເລີນ ວົງວິໄຊ			ດົງດຳດວນ		
5	ດິນດ້າຍທະຫານ ກອງຮ້ອຍ 818	ກິດຕິລາດ ໄພສິສານ		ດົງດຳດວນ	55447893	
6	ບ້າຍໂດສະນາ			ດົງດຳດວນ		
7	ທ້າວ ຫຼຸຍອນ	ນາງ ແສງງິນ		ດົງດຳດວນ		
8	ທ້າວ ວົງສະໄຫວ ວິໄລແສງ	ນາງ ວັນ		ດົງດຳດວນ	55563111	
9	ສິນໂທ ບຸນມາ (ຊື່ເດີມ) ຂາຍແລ້ວ			ດົງດຳດວນ		
10		ນາງ ອາລີ		ດົງດຳດວນ	22662888	
11	ທ້າວ ດ້ອມ	ນາງ ນິທາ		ດົງດຳດວນ	030 5291818	
12	ນາງ ວຽງແກ້ວ ສຸດທະວົງ			ດົງດຳດວນ	916676075	
16	ທ້າວ ບຸນບົງ			ດົງດຳດວນ		
17	ທ້າວ ລ່ອງ	ນາງ ເພັງ		ດົງດຳດວນ	55606993	
18	ທ້າວ ບຸນຕີ ຊິວສິວິໄລ			ດົງດຳດວນ		
19	ທ້າວ ອິດ ອາໄສ	ນາງ ແກ້ວ		ດົງດຳດວນ		
20	ສິນໂທ ບຸນມາ ສອນໄຊທະວົງ	ນາງ ບິດຄຳ		ດົງດຳດວນ		
21	ທ້າວ ວຽງທອງ ສິຫາລາດ	ນາງ ດຸ່ນແກ້ວ		ດົງດຳດວນ	030 4771703	
22	ທາງ ເຂົ້າສາງນ້ຳມັນເຮືອບິນ	ນ. ສິນທະນາ		ດົງດຳດວນ	041 231664	
23	ທ. ພົມວິໄລ ວົງພະເສີ	ທ. ພົມວິໄລ ວົງພະເສີ	ຜູ້ບໍລິຫານ	GM5		
24	ທ. ພະຍາເສດ ສິດພາໄຊ	ທ. ພະຍາເສດ ສິດພາໄຊ	ຜູ້ບໍລິຫານ	GM5	823/665	
25	ທ. ພົມວິໄລ ວົງພະເສີ	ທ. ພົມວິໄລ ວົງພະເສີ	ຜູ້ບໍລິຫານ	GM5	28072008	
26	ທ. ພົມວິໄລ ວົງພະເສີ	ທ. ພົມວິໄລ ວົງພະເສີ	ຜູ້ບໍລິຫານ	PMU	96676095	
27	ທ. ພົມວິໄລ ວົງພະເສີ	ທ. ພົມວິໄລ ວົງພະເສີ	ຜູ້ບໍລິຫານ	PMU	55289482	
28	ທ. ພົມວິໄລ ວົງພະເສີ	ທ. ພົມວິໄລ ວົງພະເສີ	ຜູ້ບໍລິຫານ	PMU	99987452	
29	ທ. ພົມວິໄລ ວົງພະເສີ	ທ. ພົມວິໄລ ວົງພະເສີ	ຜູ້ບໍລິຫານ	PMU	55339555	
30	ທ. ພົມວິໄລ ວົງພະເສີ	ທ. ພົມວິໄລ ວົງພະເສີ	ຜູ້ບໍລິຫານ	PMU	22073646	
31	ທ. ພົມວິໄລ ວົງພະເສີ	ທ. ພົມວິໄລ ວົງພະເສີ	ຜູ້ບໍລິຫານ	CSC	55408849	
32	ທ. ພົມວິໄລ ວົງພະເສີ	ທ. ພົມວິໄລ ວົງພະເສີ	ຜູ້ບໍລິຫານ	PMU	96781444	
33	ທ. ພົມວິໄລ ວົງພະເສີ	ທ. ພົມວິໄລ ວົງພະເສີ	ຜູ້ບໍລິຫານ	PMU	96781444	
34	ທ. ພົມວິໄລ ວົງພະເສີ	ທ. ພົມວິໄລ ວົງພະເສີ	ຜູ້ບໍລິຫານ	PMU	56825958	
35						

Photos of Public Consultation for Upgrading Savannakhet International Airport Access Road



C. THAHAE & SOUKHAVADI ACCESS ROAD PUBLIC CONSULTATION MINUTE

Lao People's Democratic Republic

Peace, Independence, Democracy, Unity, Prosperity

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Savannakhet Province

Department of Public Works and Transport

Town Development Project

Minutes of Meeting

Village consultation on possible environmental impact during construction, safety and grievance; and result of detailed measurement survey on the roads of Soukxhavady (Fa Ngum) and Thahea (Embankment), Kaysone Phomvihane Municipality.

In the meeting room of Themeuang village, Kaysone Phomvihane Municipality at 14:30 PM of 4 September 2019, the consultation meeting was held on possibility environmental impact during construction, safety and grievance; and the result of detail measurement survey in the roads of Soukxhavady (Fa Ngum) and Thahea (Embankment) of the GMS East-West Corridor Town Development Project. Mr. Phomma Vongphachit Director of the Project and Mr. Saysamone Khotsombat, Phonsawangtai village head man, Mrs. Xaysavanh Xayasone deputy village head woman of Nalao, and Mr. Vongphet Keothamdy village head man of Thameuang were co-chairmen of this village consultation with participation of the village authority, PIT of Kaysone Phomvihane Municipality, villagers who live along the roads of Soukxhavady (Fa Ngum) and Thahea (Embankment) and technical staff, all 27 participants which 6 women (list of participants).

The topics discussed in the meeting as below:

1. The overview of the situation of Town Development Project of 7 sub projects, the progress of the sub projects and the budget. Due to the cost savings, the project has some budget remained, therefore the project had considered 7 additional sub projects, the construction of the roads of Soukxhavady (Fa Ngum) the length is 292 m and Thahea (Embankment) the length is 400 m in Kaysone Phomvihane Municipality are two sub projects had been considered. They are the concrete road with two lanes, sidewalk, drainage and street lights. The plan starting the construction of this project is by the late of October 2019.
2. The result of the detail measurement survey:
 - a. **Soukxhavady (Fa Ngum):** the details measurement survey conducted on 29 July 2019 was presented (result attached), overall 11 items, there are 5 land plots in right side of the the road belongs to Phonsawangtai village and 6 land plots in right side of the road belongs to Nalao village. Finding that the concrete driveway of Ms Phalin (sport gym) built on the public land the area 35,25 m² in Phonsawang village.

- b. **Thahea road (Embankment):** the details measurement survey conducted on 6 August 2019 was presented (result attached), overall 13 items, there is no land plots in right side of the road, there are 13 lands plots in the left side of the road, finding that 1 household extended roofing on the drainage with two concrete columns with iron sheet roofing area 17.5 m²
3. The possibility of environmental impact happened during construction, safety and grievance was presented (presentation attached).

Questions and Answers:

8. Q: as the digging drainage along the road sides, trade will not be able to continue by the families in that area. Will the project provide the compensation?
A: The compensation on the business lost is to be paid to the affected household who relocated and the structured dismantled relocating the business to another location.
9. Q: the impacted current land is not from this town development project. Will the project issue the new land title?
A: according to the survey, no land has been impacted (landowner did not participate, only village authority provided information), the resettlement team will coordinate with landowner and village authority checking again. In case the land is affected by the recent project, the project will discuss with the Provincial and Department of Public Works and Transport.
10. Q: during the construction, if the drill broke the water pipe, can the pipe be repaired timely?
A: the project has invited the water technicians to provide information on pipes in order to deal with the pipe problems. If this occurs, the project will repair immediately.
11. Q: during the construction period, accidents may happen such as wall damage. Will the project grant compensation?
A: The project will grant compensation for the damage.
12. Q: Can the project remedy the environmental problems immediately?
A: yes.
13. Q: will the project make a hazardous marking sign?
A: the project has assigned the contractor company a warning sign on all the risky and dangerous areas and a regular safety inspection.
14. Q: A lot of roads were built, after that people took over the sand, rocks without responsible authorities warning them?
A: the maintenance of post-construction is still a state issue that needs to be addressed.

Through discussion and comments to the topics discussed above, the meeting agreed as below:


8. The households who live along the roads Soukkhavady (Fa Ngum) and Thahea (Embankment) have the possibility to face disturbances such as air pollution, noise pollution and erosion pollution during construction. The villagers who are unsatisfactory related to the road construction have the right to justify to concerned parties as contractor, village authority and the project the number is displayed in the project sign on the project area. During the construction unforeseen impact may happen from using the heavy equipment which leads to lost structure, assets or land villagers will also submit the grievance letter through grievance process to concerned parties.
9. The households who can't attend the meeting today, the village authority will distribute the meeting document that technical staff disseminated today to all households.
10. The households who live along the roads Soukkhavady (Fa Ngum) and Thahea (Embankment) agree on the construction, the project will begin.

The meeting closed at 16:00PM of the same day. Therefore, issuing the Minutes of Meeting as for reference in the future implementation.


Kaysone Phomvihane Municipality, 2 September 2019

Meeting Chairman Acknowledged by Village Authority Minutes Taken

Attendant List of Thahae & Soukhavadi road Public consultation



ສາທາລະນະລັດ ປະຊາທິປະໄຕ ປະຊາຊົນລາວ
ສັນຕິພາບ ເອກະລາດ ປະຊາທິປະໄຕ ເອກະພາບ ວັດທະນະຖາວອນ



ກະຊວງ ໂຍທາທິການ ແລະ ສື່ສານ
ພະແນກ ຍຸທະ ປະຈຳແຂວງສະຫວັນນະເຂດ
ໂຄງການພັດທະນາຕົວເມືອງ

ລາຍຊື່ ຜູ້ເຂົ້າຮ່ວມກອງປະຊຸມ ແຈ້ງຜົນສຳຫຼວດສິ່ງກົດຂວາງ ແລະ ປຶກສາຫາລື ສິ່ງແວດລ້ອມ ແລະ ຄວາມປອດໄພ
ໂຄງການ ກໍ່ສ້າງຖະໜົນສູກຂາວະດີ ບ້ານ ໂພນສະຫວ່າງໄດ້ ແລະ ບ້ານນາເລົ່າ ສຳລັບໂຄງການພັດທະນາຕົວເມືອງ ຕາມແຜນທາງເສດຖະກິດ ຕາເວັນອອກ-ຕາເວັນຕົກ ອະນຸພາກພື້ນແມ່ນ້ຳຂອງ
ຄັ້ງວັນທີ 04 ກັນຍາ 2019 ເວລາ 14:00 ໂມງ, ສະຖານທີ່ ສ້ອງການບ້ານ ຫໍາເມືອງ

ລ/ດ	ຊື່ແລະນາມສະກຸນຕົວທຳມະຊາດ	ຊື່ແລະນາມສະກຸນ(ສົມລິດ)	ຕຳແໜ່ງ/ຕຳແໜ່ງ	ຈາກພາກສ່ວນ	ບີໂທລະສັບ	ລາຍເຊັນ
1	ທ້າວ ສິນທິນາອອນ ມີໄຊ			ໂພນສະຫວ່າງໄດ້		
2	ປໍ່ຊື່ ດີນປາຫວ່າງ			ໂພນສະຫວ່າງໄດ້		
3	ທ້າວ ອິດ	ອິດ		ໂພນສະຫວ່າງໄດ້	5564 23	53.118m
4	ທ້າວ ກິລິໄຊ			ໂພນສະຫວ່າງໄດ້		
5	ທ້າວ ກິລິໄຊ			ໂພນສະຫວ່າງໄດ້		
6	ທ້າວ ມໍລະກົດ	ມ. ວິໄພຈຽມ ສຸກ	ອັດຕະໂນ	ນາເລົ່າ	020 95117888	
7	ທ້າວ ສຸ່ງເຮືອງ ສຸລິຍະພັນ	ມ. ພຸດທະກິດ		ນາເລົ່າ	020 99311700	
8	ທ້າວ ກຽດ		ທ. ສຸ່ງ/ວິໄພ ສຸກ	ນາເລົ່າ		
9	ນາງ ແກ້ວມະນີ (ລີ້)			ນາເລົ່າ		
10	ນາງ ໄພລິນ	ມ. ພຸດທະກິດ	ທ. ສຸ່ງ/ວິໄພ ສຸກ	ນາເລົ່າ	020 55374743	
11	ລັດວິສາຫະກິດນໍ້າປະປະແຂວງ			ນາເລົ່າ		