



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

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**MINISTRY OF PUBLIC WORKS AND TRANSPORT**  
**Department of Waterways**

**Southeast Asia Disaster Risk Management Project (P170945)**  
**Mekong and Nam Khan Disaster Management Project**  
**in Luang Prabang Capital, Luang Prabang Province (Subproject)**

**Environmental and Social Management Plan (ESMP)**

**Volume II – Attachments**  
**(Revised Draft)**

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## ACRONYMS AND ABBREVIATIONS

AF	Additional Financing
AHH	Affected Households
ARAP	Abbreviated Resettlement Action Plan
ASEAN	Association of Southeast Asian Nations
BD/CD	Bidding and Contract Document
COC	Code of Conduct on SEA/SH and VAC
COI	Corridor of Impacts
C&R	Compensation and Resettlement
CSC	Construction Supervision Consultant
DMS	Detailed Measurement Survey
DOE	Department of Environment
DONRE	Department of Natural Resources and Environment
DOW	Department of Waterways
DPWT	Department of Public Works and Transport
DRM	Disaster Risk Management
DRO	District Resettlement Office
DRR	Disaster Risk Reduction
DUPH	Department of Urban Planning and Housing
EIA	Environmental Impacts Assessment
ECC	Environmental Compliance Certificate
ECOP	Environmental Code of Practice
EDPD	Environmental Research and Disaster Prevention Division (of PTI)
EG	Ethnic Group
EGEF	Ethnic Group Engagement Framework
EGEP	Ethnic Group Engagement Plan
EPL	Environmental Protection Law
ESHS	Environmental, Social, Health, and Safety
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
FE	Field Engineer
GIS	Geographic Information System
GCLS	Grievance and Complaints Logging System
GOL	Government of Lao PDR
GRM	Grievance Redress Mechanism
GRS	Grievance Redress Service
Ha/ha	Hectare
ICT	Information Communication Technologies

IEE	Initial Environmental Examination
KM/km and km <sup>2</sup>	Kilometer/ Square kilometer
Lao PDR	Lao People's Democratic Republic
LA/LC	Local Authority/ Local Community
LDRM-AF	Lao Disaster Risk Management – Additional Financing
LFND	Lao Front for National Development
LPB	Luang Prabang
LPB-WHO	Luang Prabang-World Heritage Office
LWU	Lao Women's Union
M&E	Monitoring and Evaluation
MOF	Ministry of Finance
MONRE	Ministry of Natural Resources and Environment
MPI	Ministry of Planning and Investment
MPWT	Ministry of Public Works and Transport
NPA	National Protected Areas
NSEDP	National Socio-economic Development Plan
ODX	Oudomxay Province
O&M	Operation and Maintenance
OP/BP	Operational Policies/ Bank Procedures
PA	Protected Area
PAH	Project Affected Household
PAP	Project Affected People
PDO	Project Development Objective
PDR	People's Democratic Public
PIU	Project Implementation Unit
PMU	Project Management Unit
PONRE	Provincial Department of Natural Resources and Environment
PTI	Public Works and Transport Institute
RAP	Resettlement Action Plan
ROW	Right of Way
RPF	Resettlement Policy Framework
SEA/SH	Sexual Exploitation and Abuse/Sexual Harassment
TA	Technical Assistance
TOR	Terms of Reference
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNDRR	United Nation Office for Disaster Risk Reduction
UXO	Unexploded Ordinance
VAC	Violence Against children
WB	World Bank
WBG	World Bank Group
WCH	World Cultural Heritage

## ATTACHMENT 1 KEY NATIONAL REGULATIONS AND INTERNATIONAL REGULATORY FRAMEWORK TO BE APPLIED

### A1.1 Key National Regulations

1. key environmental and social safeguard policies, regulations and conventions applicable include, but not limited to, the followings:

#### **EIA/IEE Process including Compensation and Resettlement.**

- *Decree on Environmental Impact Assessment (EIA), No. 21/GOL, dated 31 January 2019.* This revised Decree provides regulations and measures related to management and monitoring of environmental impact assessment activities. This aims to make sure that such activities are proceeded correctly with transparency and in concerted manner to protect [environment], mitigate [and] remedy adverse environmental impacts, meanwhile ensuring that the compensation, physical relocation, livelihood restoration for affected people are appropriately carried out in a manner that is better than before the project. The Decree also make to ensure management and use of the natural resources is efficient, securing the rights and interests of the nation and the people, contributing to the implementation of the National Social and Economic Development Plan towards green and sustainable development;
- *Decree on Compensation and Resettlement of People Affected by Development Projects (No. 84/GoL, dated 5 April 2016).* This revised Compensation and Resettlement (C&R) Decree describes principles, regulations and standards to mitigate adverse social impacts and to compensate for damages that result from involuntary land acquisition or repossession of land and fixed or movable assets, including changes in land use, restriction of access to community or natural resources which affects the livelihoods and income of the community. The decree aims to ensure that project affected people (PAP) are compensated and assisted to improve or, at least, restore to the pre-project income level and living standards, and are not worse off as a result of the project. The decree describes the stringent compensation principles, particularly those for PAPs who do not have legal land title, land use certificate or other acceptable documentation supporting their land use right. Unlike previous Decree (No. 192, 2005) which allows PAP to claim compensation for affected assets and rights and/or privileges to land use, the revised Decree only provides right for affected people to claim for their lost assets such as house, structures, trees and crops. It is noted that the Decree (84/PM) is largely consistent with the main principles of the Bank's OP 4.12 on Involuntary Resettlement (which are discussed in project's ESMF). Any discrepancies that may be found in the provisions of the revised C&R Decree shall be covered by the WB's OP 4.12).
- *Law on Resettlement and Occupation (2018)* applies to development projects financed by both government and private sector. The law defines, regulates, manages and monitors resettlement and livelihood of Lao ethnic groups to ensure those who

livelihoods are affected by resettlement are provided with residential and production land and job training to address illegal relocation, eliminate poverty, improve livelihood, security and social order, and develop small villages into rural small towns contributing to national socio-economic development and national security. Article 22.1 also states that people affected by resettlement and livelihood program (governed under this law) will be provided with compensation for land and assets lost at a replacement cost, providing that she/he has official land (use or title) documents. The Article 22.4 recognizes customary land use that if certified by the local authority and concerned sector, the affected person is eligible for compensation as specified in the above Article. Article 22.5 discusses that in event if person affected by settlement and livelihood program does not have official land (use or title) document, she/he will not be provided with compensation for the land lost (acquired) but assets (structures, trees and crops) located on the land parcel acquired.

### **Pollution Control**

2. In 2015, MONRE issued a number of decree and regulations regarding pollution control and construction and the key ones are:

- *Decree on National Environmental Standards for Lao PDR*. The Decree on National Environmental Standards for Lao PDR was first developed in 2009 to minimise impacts to human health, animal life, and the environment from development activities in the country. Revised and updated in 2017, the National Environmental Standards apply to any relevant persons, enterprises or organizations and provide a platform for both ambient environmental standards and common pollution control standards. The Standards specify parameters, indicators and levels of pollutant concentrations (as scientifically referenced) for monitoring environmental quality and control of air pollution, or water discharge into soil and water, including disturbance that may have impact on human and animal life, health and environment.
- *The Ministerial Instruction on Pollution Control (No. 0745/MONRE, 2015)*. The main objectives and principles of this Instruction is to avoid, manage and mitigate residual pollution generated by development projects and activities such as releases of harmful substances, hazardous emissions and/or discharges that are required to meet the National Environmental Standards. The Instruction focuses on three aspects including pollution control as to air, soil, and water.

### **Ethnic Groups and Gender Considerations**

- *Ethnic groups*. Ethnic groups are recognized in the 1991 Constitution. Article 8 states “all ethnic groups have the right to preserve their own traditions and culture, and those of the Nation. Discrimination between ethnic groups is forbidden”.
- In 2012, the Lao Front for National Development (LFND) established a national guideline on consultation with ethnic groups in line with the National Guideline on Public Involvement (2012) established by MONRE. The guideline aims to ensure that all ethnic groups who benefit from or are adversely affected by a development project,

without regard to the source of funding, are fully engaged in a meaningful consultation process at all stages from preparation into implementation. The guideline also aims to ensure that the potentially affected ethnic groups are fully informed of project objectives, as well as their potential positive and adverse impacts on their livelihood and their environment, and provided with opportunities to articulate their concerns. The guidelines provide principles and processes to carry out meaningful consultations with, and obtain free, prior and informed consent of, all ethnic groups affected by developments projects in a culturally sensitive manner. The guidelines consist of: a) objectives and scope of the guidelines, b) consultation processes with ethnic groups at respective stages of development projects, c) consultation approaches and methods for different ethnic groups in a culturally sensitive manner, d) expected outcomes of consultation at each stage, and e) implementation arrangement and responsibility;

- The GOL has recently approved the Decree on Ethnicity (No. 207/GOL, 2020). The Decree sets a series of policies to promote nation-wide ethnic groups' unity, equality in accordance with the national laws as well as protection and enhancement of unique traditional and cultural practices. Key principles and procedures for consultation with ethnic groups in this guideline will be adopted into the safeguard instruments of the project, including the ESMF, RPF and Ethnic Group Engagement Framework (EGEF);
- *Gender considerations.* Gender mainstreaming has received priority attention with gender issues integrated into national policy and plans. The Seventh Five-Year National Socio-economic Development Plan 2011-2015 (NSED) speaks to gender in terms of population policy, human capital development and elimination of all forms of violence against women and children. The NSED gender targets include governance, sector development, labor and social protection, and human resource development. A National Commission for the Advancement of Women and Children (NCAWC) was established in 2003 to drive national policy, promote gender equality and empower women. The 8th NSED aims to achieve 'reduced effects from natural shocks' as one of its three main priorities. A Climate Change and Disaster Management Law are currently being developed and are expected to be approved in 2017 together with a new five-year National Strategic Plan on PDR (2016-2020). Since 2010, Lao PDR has promulgated and applied a National Strategy on Climate Change.

### **Water Resources**

- *The Law on Water and Water Resources (No.23/NA. dated May 11, 2017).* This Law on Water and Water Resources defines principles, regulations, and measures relating to the protection, administration, exploitation, use and development of water and water resources, protection damage to water or water resources, rehabilitation of the effect areas to assure the quality, quantity of water and sustainable water resources, to respond for the people's living requirements, to promote agriculture and industry, to

ensure that natural environment, social environment are protection, to develop the nation sustainable and to the socio-economic development.

### **Labor Management, Occupational Health, and Safety**

- *The Lao PDR Labor Law (2018)* stipulates that employment should be promoted for the poor, disadvantaged, disabled, unemployed and for those members of society with social problems to ensure they receive skills development. The law also states that working conditions must be safe, that salaries or wages must be paid in full and social insurance benefits must be implemented and that forced labor of any form is not permitted. The law further states the number of hours that can be worked in a week and the provision of breaks as well as compensation for overtime.
- Various Laws and regulations are in force to manage and address public health, occupational and environmental health, communicable diseases and the prevention of violence against women and children. These include Hygiene, Disease Prevention and Health Promotion (amended in 2011), Management of Chemical Substances (2017), HIV/AIDS Prevention and Protection (2010), Roads (amended in 2016), Land Traffic (2012), Preventing and Combating Violence against Women and Children (2014), Anti-Human Trafficking (2015), Crime (amended in 2018) and Public Security (amended in 2017).
- NCAWMC and Lao Women Union are the main government entities responsible for addressing SEA/SH together with violence against children and sexual exploitation and abuse.

### **Unexploded Ordnance (UXO)**

*The National UXO/Mine Action Standards (2012)* provides the minimum standards and requirements for all UXO/mine action conducted in Lao PDR. The purpose of this standard is to ensure safety, efficiency and effectiveness in UXO/mine action. It applies to all organizations to use this standard as the basis for the development of their projects and standard operating procedures. In late 2016, GOL also issued an order requiring all investment projects to take actions to reduce UXO risk before commencing the project activities. The Project may require to consult with the NRA for conducting UXO risk assessment in the project area. If the project development areas are identified as low priority/low UXO impact threat, the project would not undertake area clearance. However, if the initial assessment identifies medium to high risks, the project will need to involve a certified UXO clearance organization.

### **Legislation for Management of LPB World Heritage City**

3. There are a number of national and local laws and regulation available for management of LPB World Heritage City including the following:
  - ▶ National Heritage Law (2021)
  - ▶ Urban Plan Law (2017)
  - ▶ Environment Protection Law (2012)

▶ Conservation Plan (PSMV)

4. In addition, several local regulations and guidelines have been developed to provide clear implementing procedures for management of LPB urban area. These include, but not limited to:

- ▶ LPB Urban Regulation (2001).
- ▶ Decision of the Governor for the management of LPB city;
- ▶ The mayor recommendations for management of LPB city;
- ▶ Specific regulation for the management of natural areas along the Mekong and Nam Khan Rivers;
- ▶ Decision of the Governor for management and protection of biodiversity in the protected area of LPB city and Chomphet District; and
- ▶ Various implementing and monitoring forms and procedures.

### **Institutional Setting**

- *The Ministry of Natural Resources and Environment (MONRE)* is the lead ministry responsible for implementation of the EPL and its regulations and/or guidelines. MONRE is also responsible for management of water, land, and environmental management while the Ministry of Agriculture and Forest (MAF) is responsible for management of protected area (PA) and protection forest area (PFA)<sup>1</sup>. DOE is responsible for EIA review and approval. Department of Pollution Control and Inspection (DPCI) is responsible on the implementation and application of policies, strategies, laws, regulations (including international treaties that Lao PDR rectifies) on pollution controls, hazardous chemical controls, waste disposals as well as conducting compliance monitoring with environmental and social obligations for investment projects in accordance with the ECC issued for the EIA and EMMP reports. For this Project, Provincial Provincial Department of Natural Resources and Environment is responsible for IEE review and approval as well as for ECC compliance monitoring.

### **A1.2 International Regulatory Framework**

5. In addition to the national statutes and regulations discussed above, Lao PDR is also a signatory to the following international conventions related to natural resources conservation, cultural heritages, labors, and ethnic groups that may have a bearing on infrastructure development projects, including:

- ASEAN Agreement on the Conservation of Nature and Natural Resources (1985). As a signatory to this agreement, the GOL commits to development planning, the sustainable use of species, conservation of genetic diversity, endangered species,

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<sup>1</sup>In mid-2016 the department of Forest Resources Management (DFRM) was moved to from MONRE to MAF.

forest resources, soil, water, air and addressing environmental degradation and pollution. The focal point for this convention is the MONRE;

- Convention Concerning the Protection of the World Cultural and Natural Heritage (1972). The GOL agrees to take the appropriate legal, scientific, technical, administrative and financial measures necessary for identification, protection, conservation, presentation and rehabilitation of designated heritage sites in Lao PDR. The focal point for this convention in Lao PDR is the Ministry of Information, Culture and Tourism;
- UNESCO Decisions for Town of Luang Prabang (1995-2021) <sup>2</sup> UN Convention on Biological Diversity (1996). As a signatory to this Convention, the GOL is committed to:
  - Develop a national biodiversity conservation and sustainable use strategy;
  - Develop legislation for protecting species and populations that are threatened;
  - Integrate conservation and sustainable use of biological resources into national decision-making;
  - Conduct environmental assessments (EA) of proposed development projects with a view to minimizing negative impacts; and
  - Take measures for an equitable sharing of the results of research and development in genetic resources.
  - Convention on International Trade in the Endangered Species of Fauna and Flora (2004) provides an international guideline for management and control of trade in endangered fauna and flora; and
  - Ramsar Convention (1982). The GOL officially joined the Convention in 2010. The Convention defines basic principles and measures on sustainable management, preservation, development, and utilization of wetland. In particular, two wetlands in Lao PDR which have international importance are the Xe Champhone Wetlands in Savannakhet Province and the Beung Kiat Ngong Wetlands in Champasak Province.
- Lao PDR is also a signatory to a number of international labor conventions that complement the Lao PDR Labor Law (2013) and these conventions include:
  - C029 – Forced Labor Convention, 1930 (No. 29). As a signatory, Lao PDR commits to suppress the use of forced or compulsory labor for the benefit of private individuals, companies or associations. The Conventions does, however, include distinct conditions for when forced or compulsory labor may be exacted as a tax or for carrying out public works;

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<sup>2</sup> [Town of Luang Prabang - Documents - UNESCO World Heritage Centre](#)

- C100 – Equal Remuneration Convention. 1951 (No. 100). This Convention stipulates that men and women will receive equal remuneration for work of equal value;
  - C111 – Discrimination (Employment and Occupation) Convention, 1958 (No. 111). The Convention defines the conditions that result in discrimination in a place of employment or at an occupation. As a signatory, Lao PDR has committed to pursue a national policy designed to promote, by methods appropriate to national conditions and practice, equality of opportunity and treatment in respect of employment and occupation, with a view to eliminating any discrimination;
  - C137 – Minimum Age Convention, 1973 (No. 138). The country has committed to a national policy designed to ensure the effective abolition of child labor and to progressively raise the minimum age for admission to employment or work to a level consistent with the fullest physical and mental development of young persons. The Convention stipulates that the minimum age shall not be less than 18 years; and
  - C182 – Worst Forms of Child Labor Convention, 1999 (No. 182). Under this Convention, Lao PDR committed to take immediate and effective measures to secure the prohibition and elimination of the worst forms of child labor which includes, but is not limited to, all forms of slavery such as debt bondage, forced or compulsory labor, and trafficking, prostitution, and the production or trafficking of drugs.
- Lao PDR is also a signatory to a number of international instruments that protect the rights of ethnic groups.

## ATTACHMENT 2: PROJECT LOCATION AND DESCRIPTION

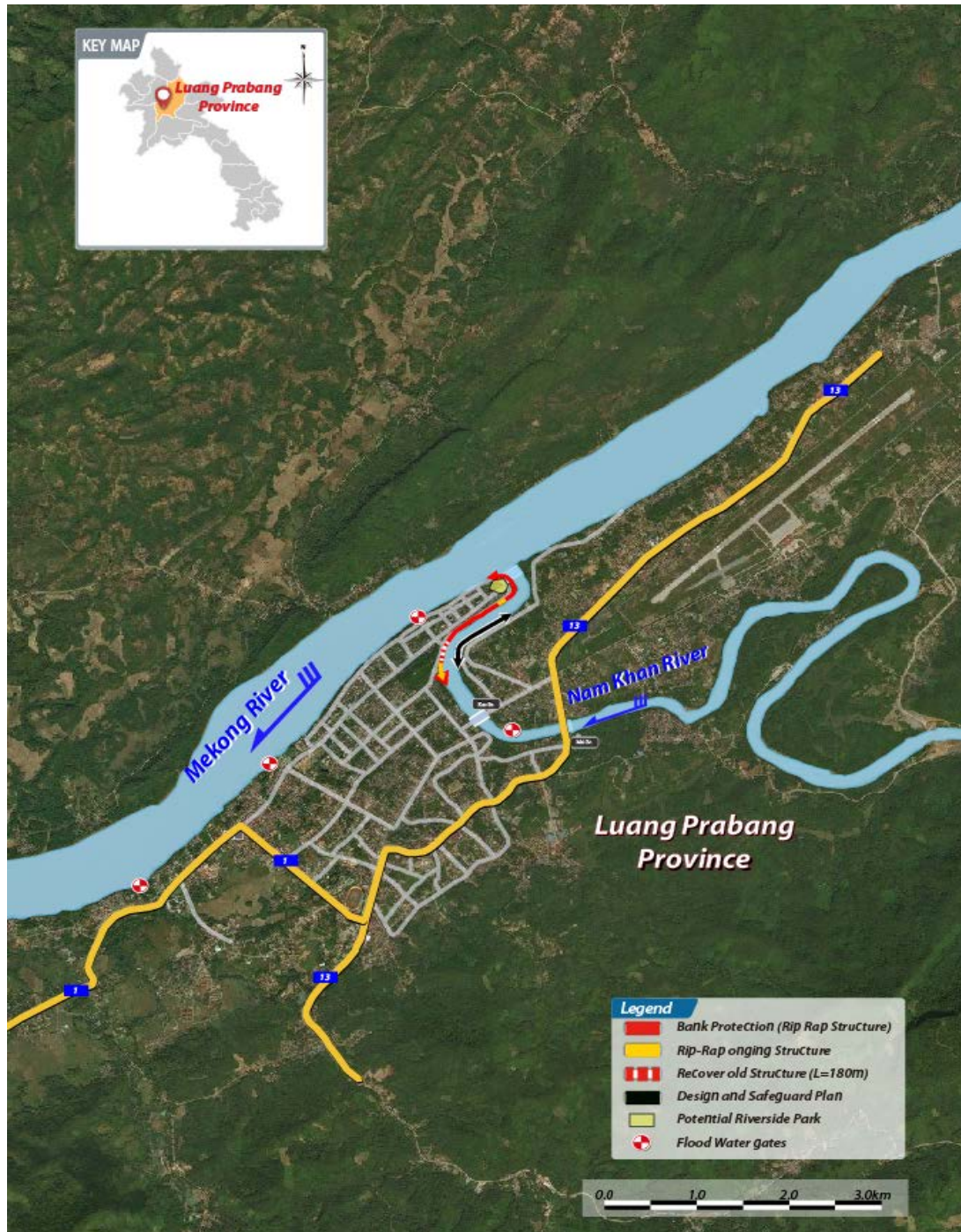
1. This Attachment presents key information on project description and location (Sections A 2.1 to A2.6); locations of construction materials, soils, borrow-pits, quarries, and disposal sites and workers camp to be required during construction including main transportation routes (Section A2.7); and minutes on camps sites and operation license of quarry (Section A2.8).

### A2.1 Project Location and Description

2. Project site is located in Luang Prabang Province of the middle of Lao PDR as shown in figure below; proposed section is along the Nam Khan River (Figure A2-1). Project description and activities are presented in Table A2-1 and Figure A2-1 to Figure A2-28 below.

**Table A2-1 Project Activities**

Work Items	Details	River
1. Bank-protection=2.19km	<ul style="list-style-type: none"> <li>Section Left (Ban Aphai to Nam Khan River Mouth) L= 1.14 km</li> </ul>	Mekong River Nam Khan River
	<ul style="list-style-type: none"> <li>Section Right (Ban Khili to Ban Phanluang.) - R= 1.05 km</li> </ul>	Nam Khan River
2. Drainage	<ul style="list-style-type: none"> <li>5 Pipe Culverts and 5 flap gates (F.R.P Type)</li> <li>1 Pipe Culverts and 1 flap gate (F.R.P Type)</li> <li>2 BOX Culverts and 2 flap gates (F.R.P Type) (Houay Kang, Tributary)</li> <li>1 BOX Culvert and 1 flap gate (F.R.P Type (Houay Mixay)</li> </ul>	Nam Khan River Mekong River Nam Khan River Mekong River
3. Stair	<ul style="list-style-type: none"> <li>18 Stairs</li> <li>2 Stairs</li> <li>5 Park Stairs</li> </ul>	Nam Khan River Mekong River Mekong River
4. Riverfront Park	<ul style="list-style-type: none"> <li>A= 0.3 ha</li> </ul>	Mekong River/Nam Khan River Mouth



**Figure A2-1 Project Location Map**

## A2.2 Conditions of Existing Riverbank

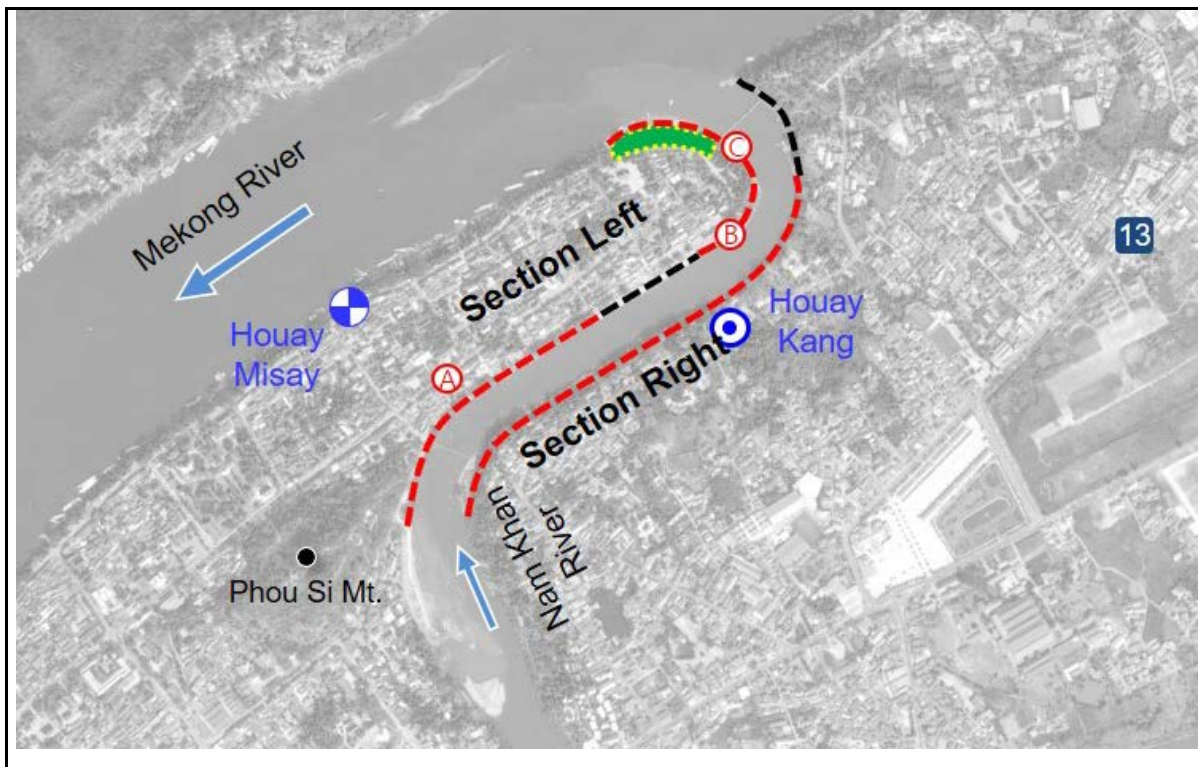
3. To investigate existing riverbank conditions and propose optimal flood embankment and bank protection types, the design team divided the proposed riverbank section into two (2) sections of the Nam Khan River as shown in table below. The following conditions of existing riverbank by sections were surveyed:

- Present conditions of existing riverbank,
- Flood damage and bank erosion status,
- Morphological characteristics of the river,

- Existing embankment and bank protection,
- Urgency and Future plan for embankment or bank protection,
- Existing land use status and future plan, and
- Expected environmental and social impacts.

**Table A2-2 Sections' Details of the Proposed Site**

Section	River	Location	Length (km)
Section Left	Nam Khan	Ban Aphai to Nam Khan River Mouth	1.14
Section Right	Nam Khan	Ban Khili to Ban Phanluang	1.05
<b>Total</b>			<b>2.19</b>



**Figure 4.1.1 Location Map of the Proposed Sections**

**(a) Section Left (Nam Khan River)**

4. This section is located on the left side of the Nam Khan River near the river mouth, Luang Prabang District, existing bank-protection in type of box gabion of 3 sections (L=510 m) had been constructed along the Nam Khan River in 2018. A riverside park granted by KOICA had been created along the river mouth. The conditions of this section are as follow:

- Length: 1.14 km along the left side of the Nam Khan River
- Riverbank Level: EL. 279.7 m ~ 290.0 m
- Land Use: Weed land and some cafe
- Riverbank Condition: partial riverbank erosion



**Figure A2-2 Present Condition in Section Left**

***(b) Section Right (Nam Khan River)***

5. This section is located on the right side of the Nam Khan River (near the river mouth) at Ban Khili to Ban Phanluang; many trees and vegetation is located along the riverbank of this section. Most of this section is continuously eroded and there are no river bank-protection facilities on the slope. In the middle of this section, 2 tributaries join the Nam Khan River.

The conditions of the Section Right are as follow:

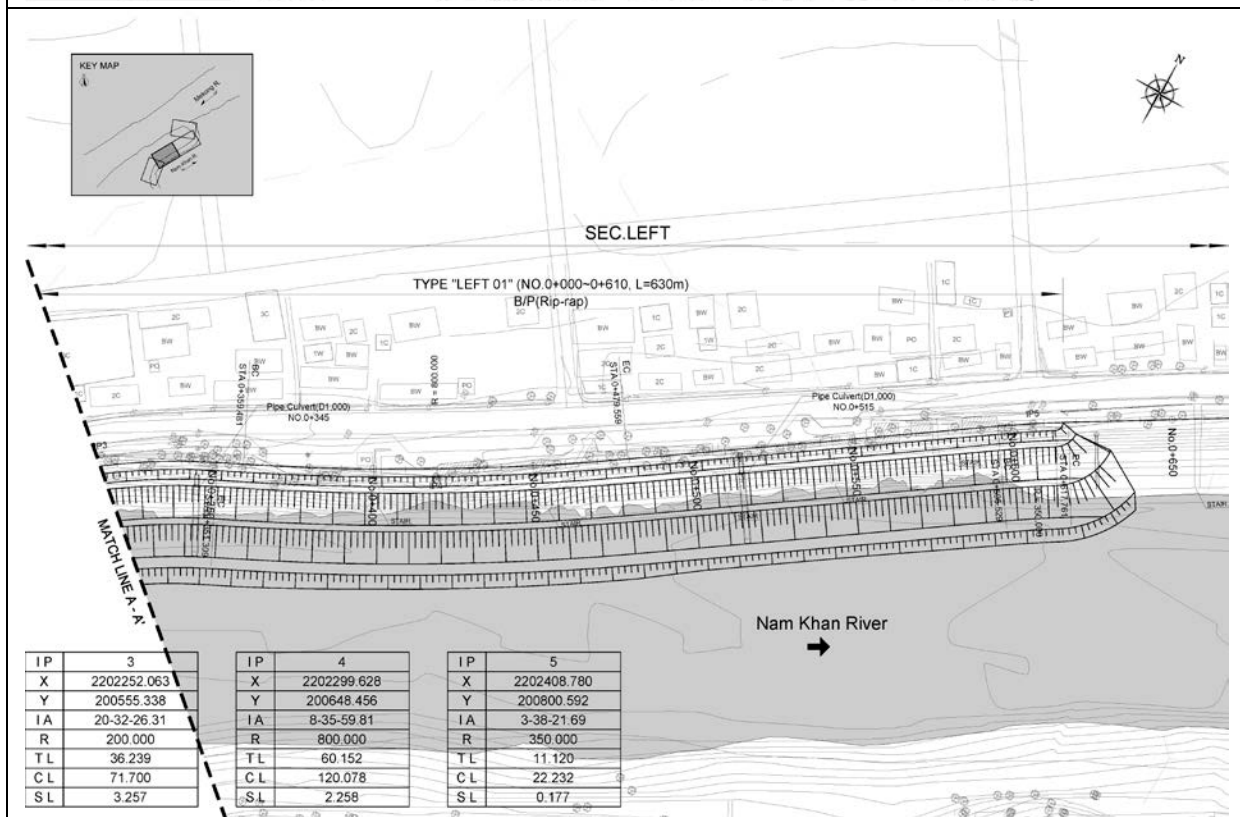
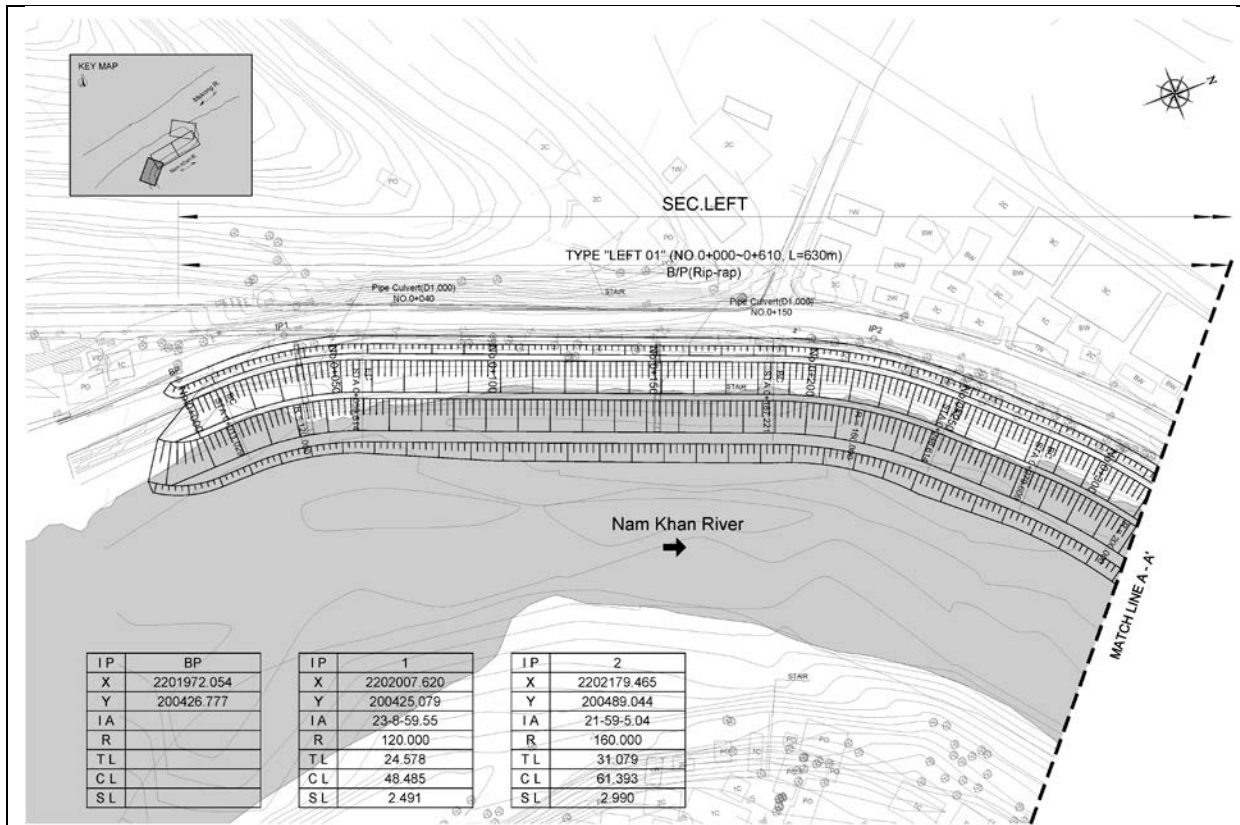
- Length: 1.05 km along the right side of the Nam Khan River
- Riverbank Level: EL. 278.3 m ~ 292.2 m
- Land Use: Few habitations and weeds
- Riverbank Condition: no bank protection, ongoing riverbank erosion and scouring

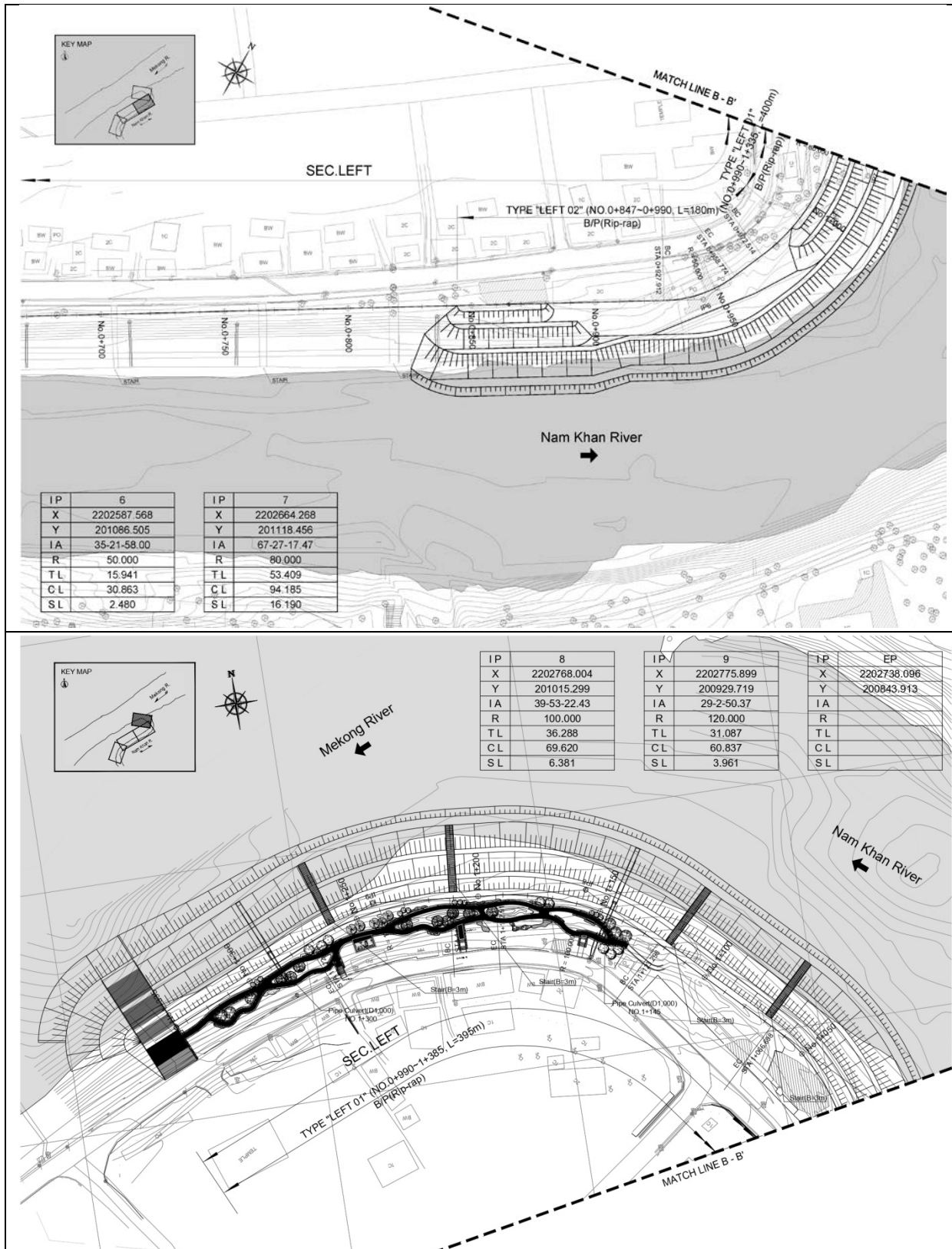


**Figure A2-3 Present Condition in Section Right**

**A2.3 Riverbank Alignments by Sections**

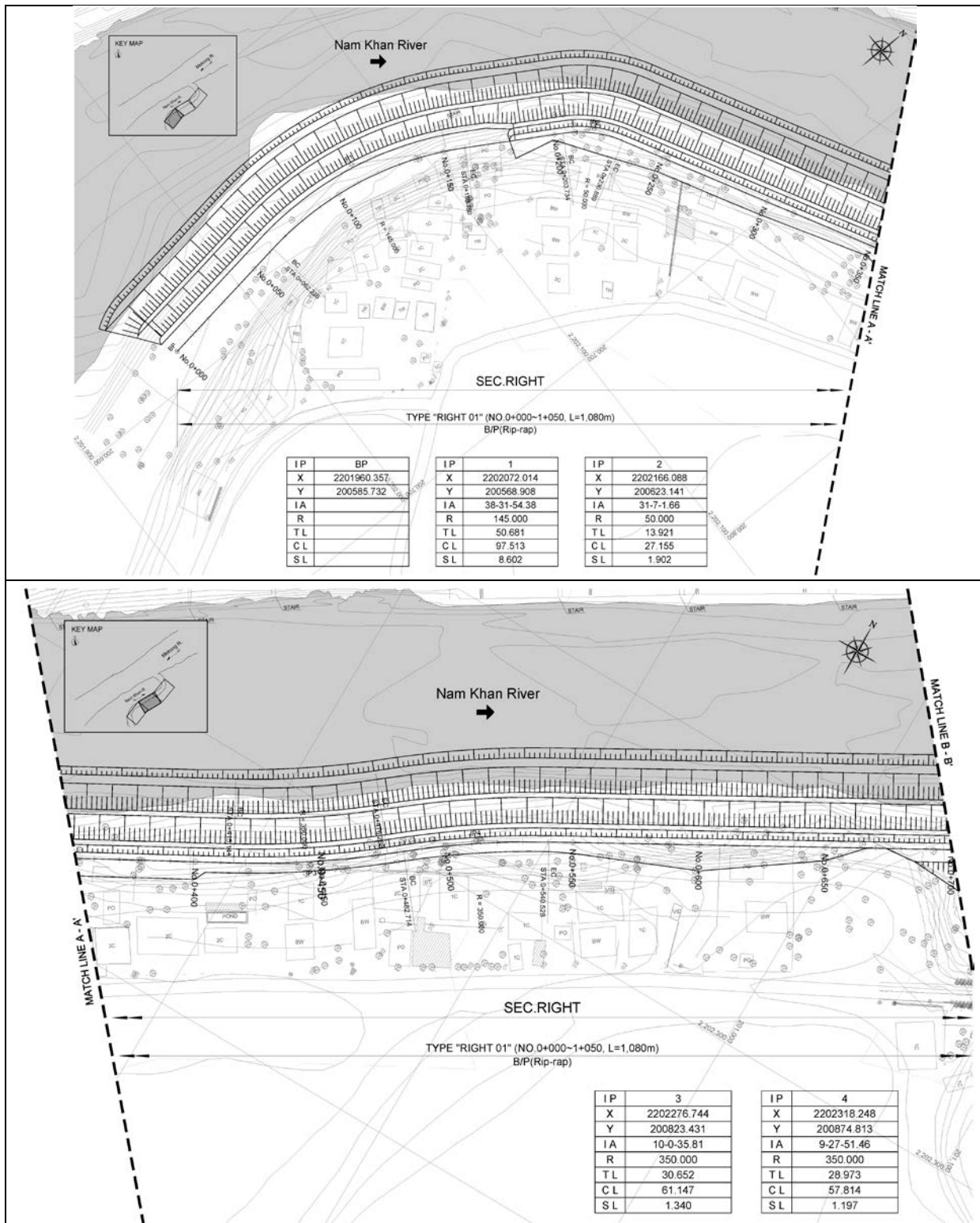
- (1) Section Left (L=1.14 km), located in Ban Aphai





**Figure A2-4 Riverbank Alignment in Section Left of the Nam Khan River**

(2) Section Right (L=1.05 km), located in Ban Khili



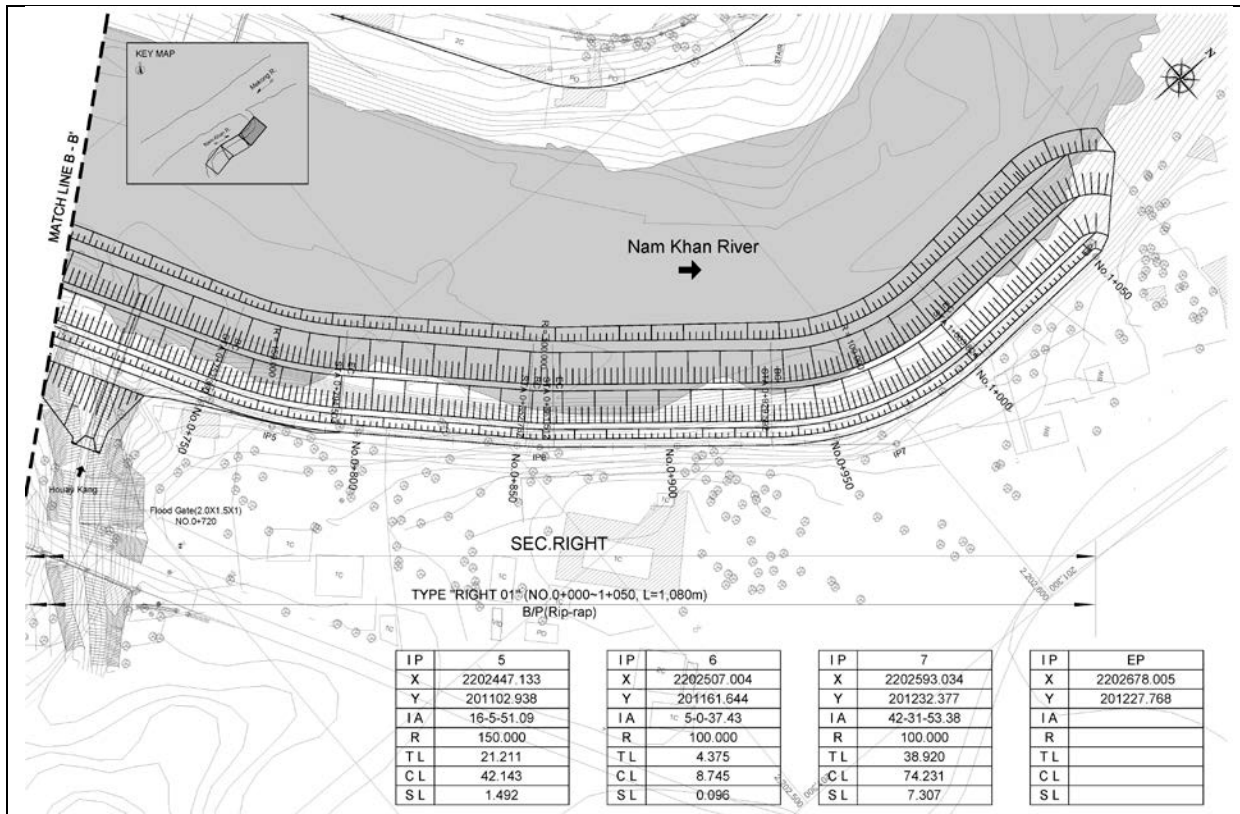
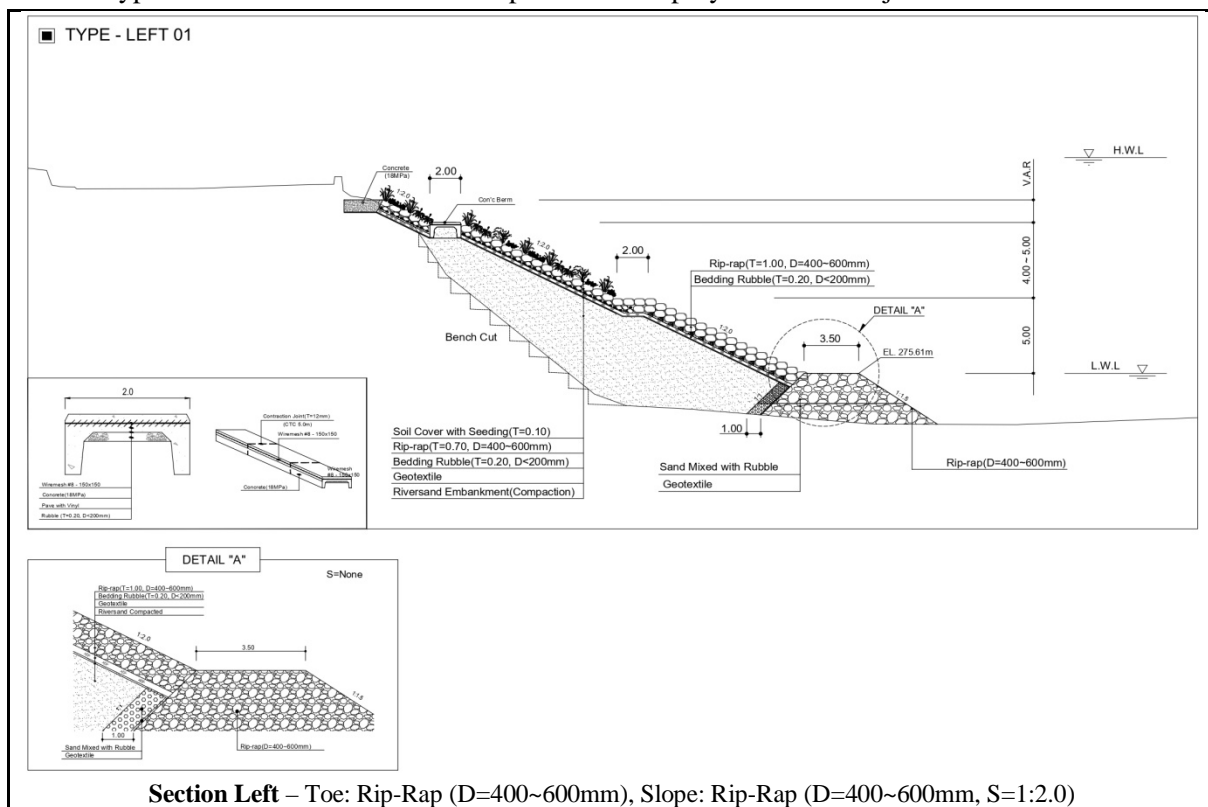
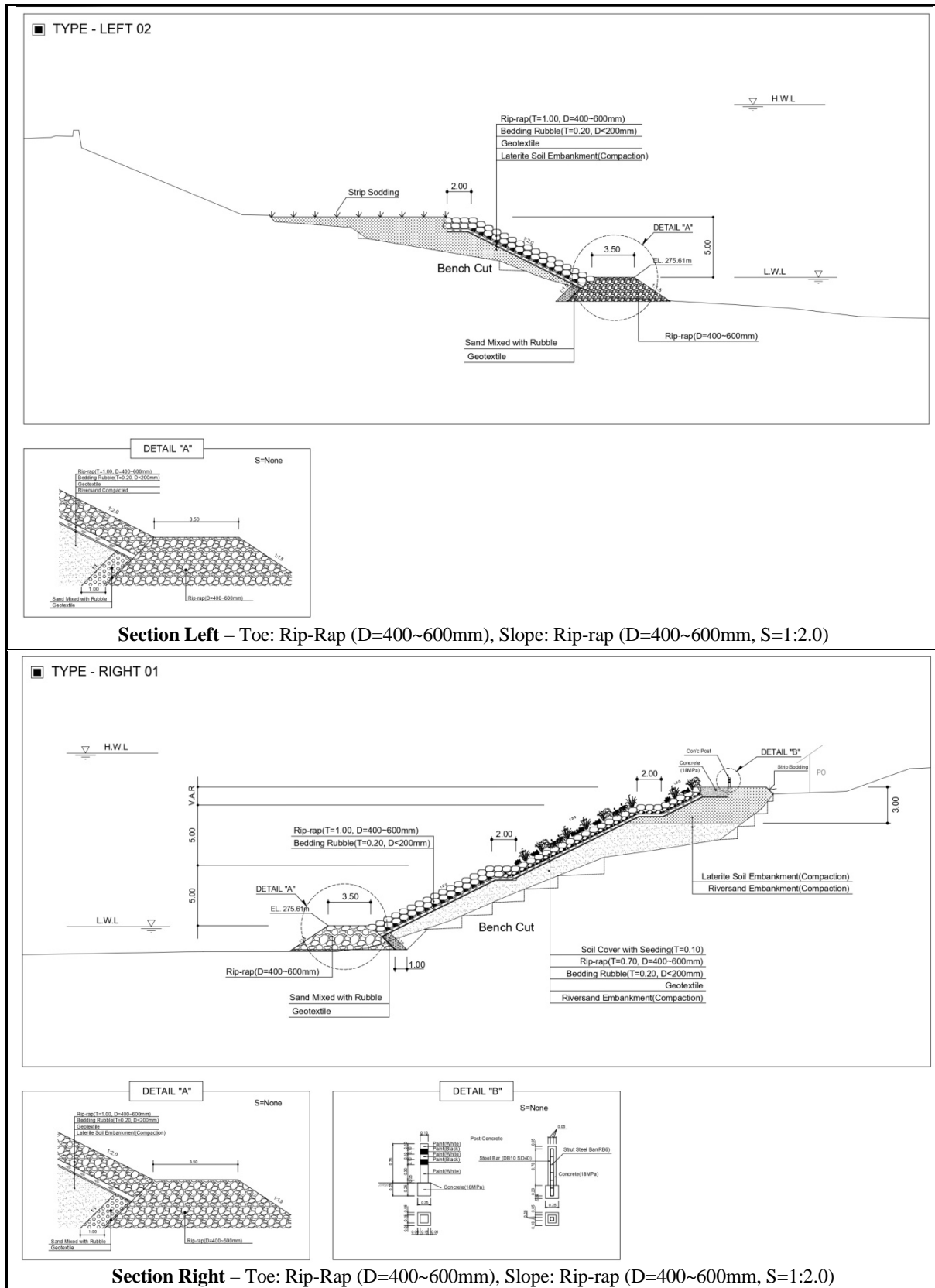


Figure A2-5 Riverbank Alignment in Section Right of the Nam Khan River

## A2.4 Typical Cross Sections for the Bank-protection

6. The typical cross sections of the bank-protection employed for the Project are as follows:





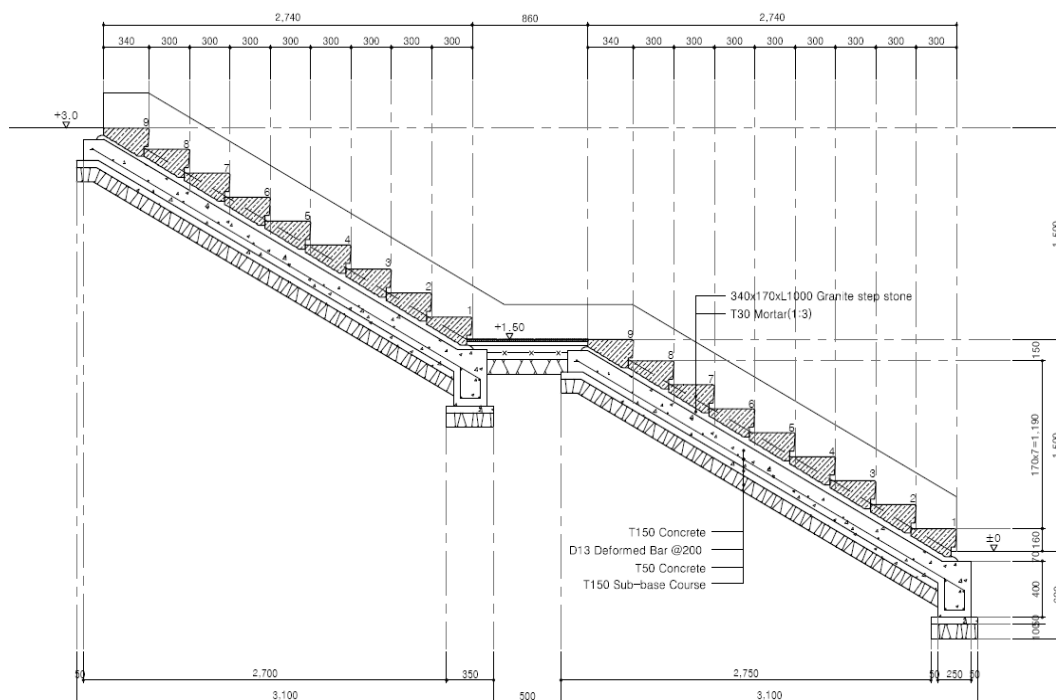
**Figure A2-6 Proposed Typical Cross Sections**

## A2.5 Other Structures

### (a) Stair

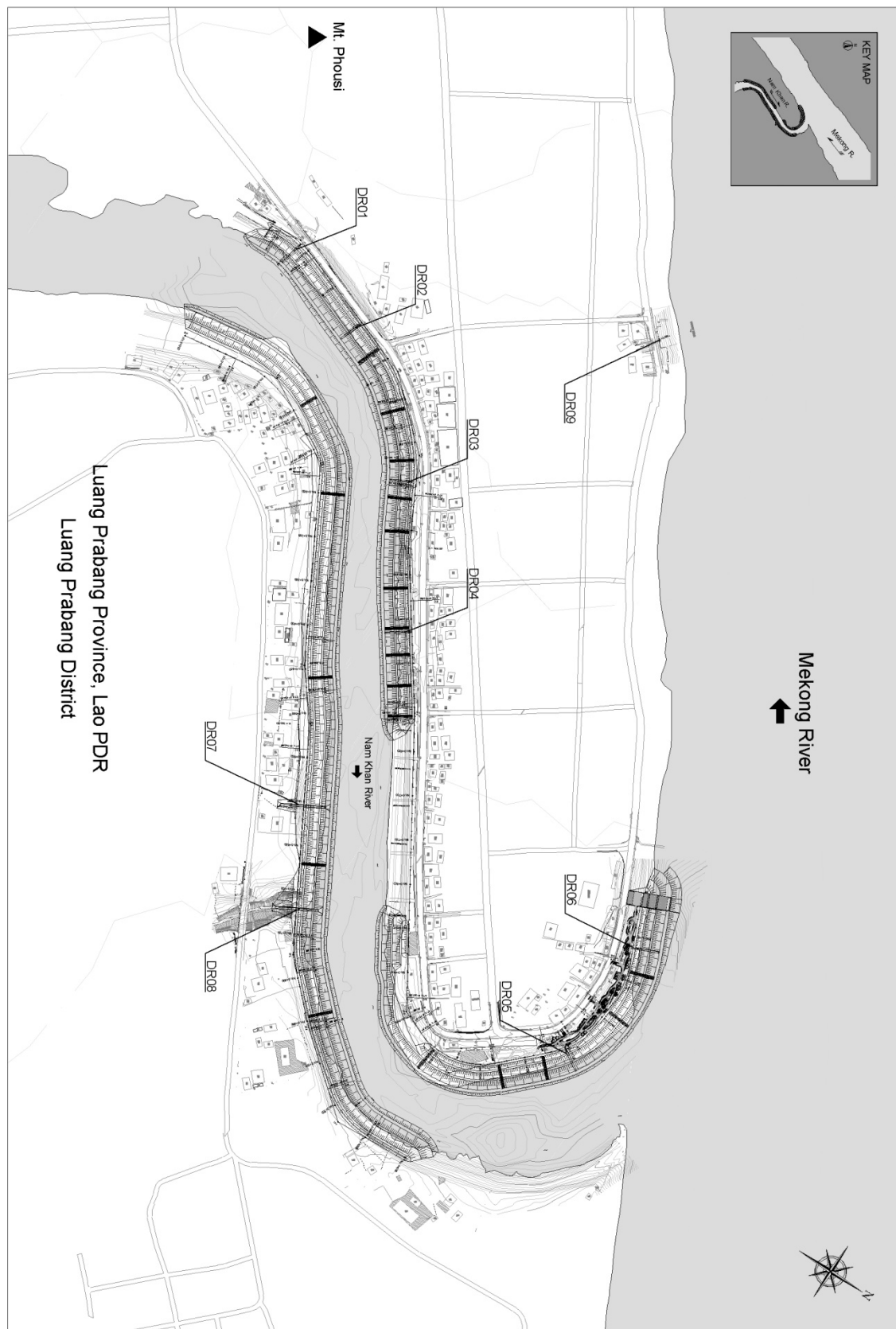


Figure A2-7 Existing Stairs and Boat Racing Festival

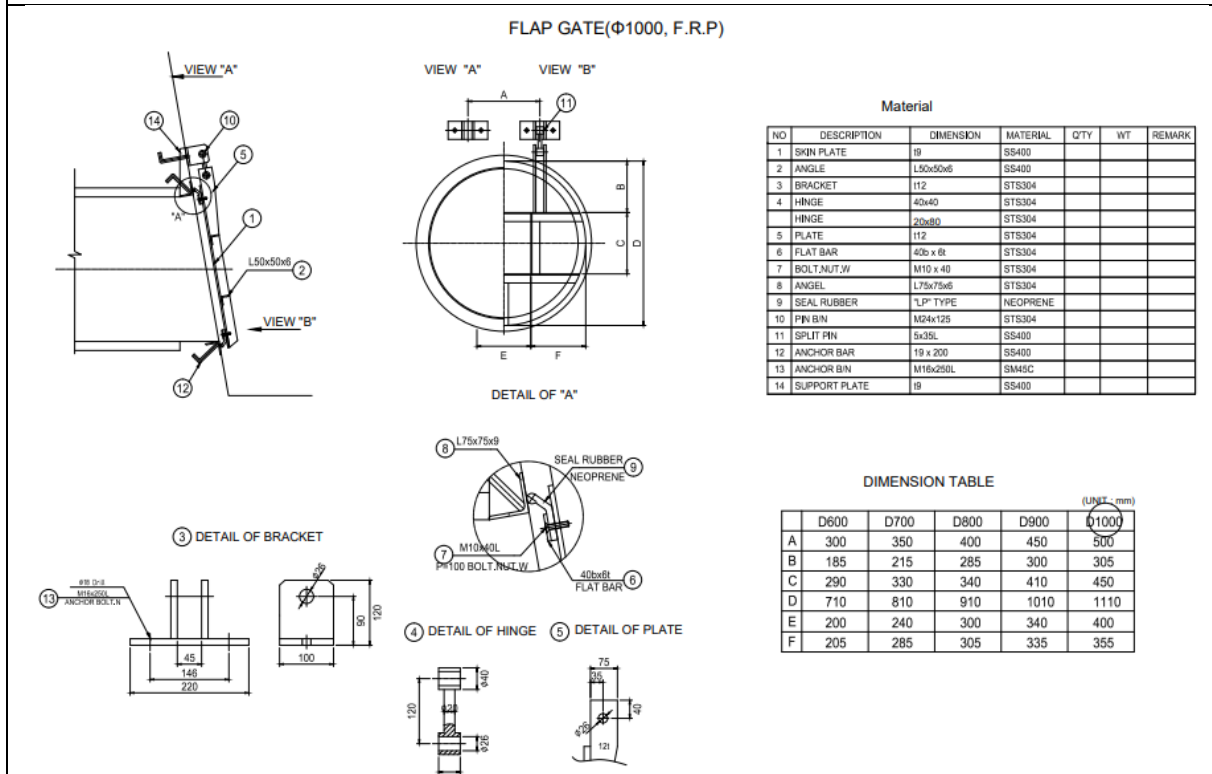
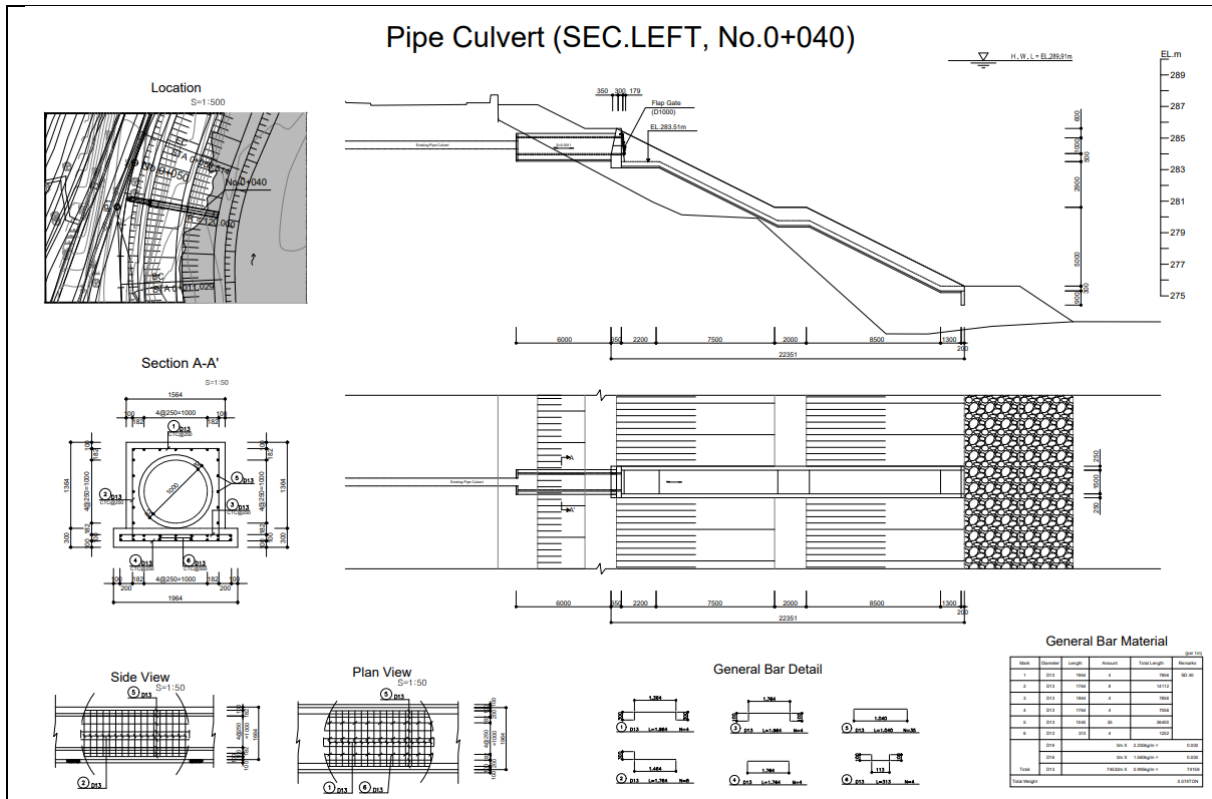


**Figure A2-8 Side View of the Proposed Stair**

**(b) Drainages**

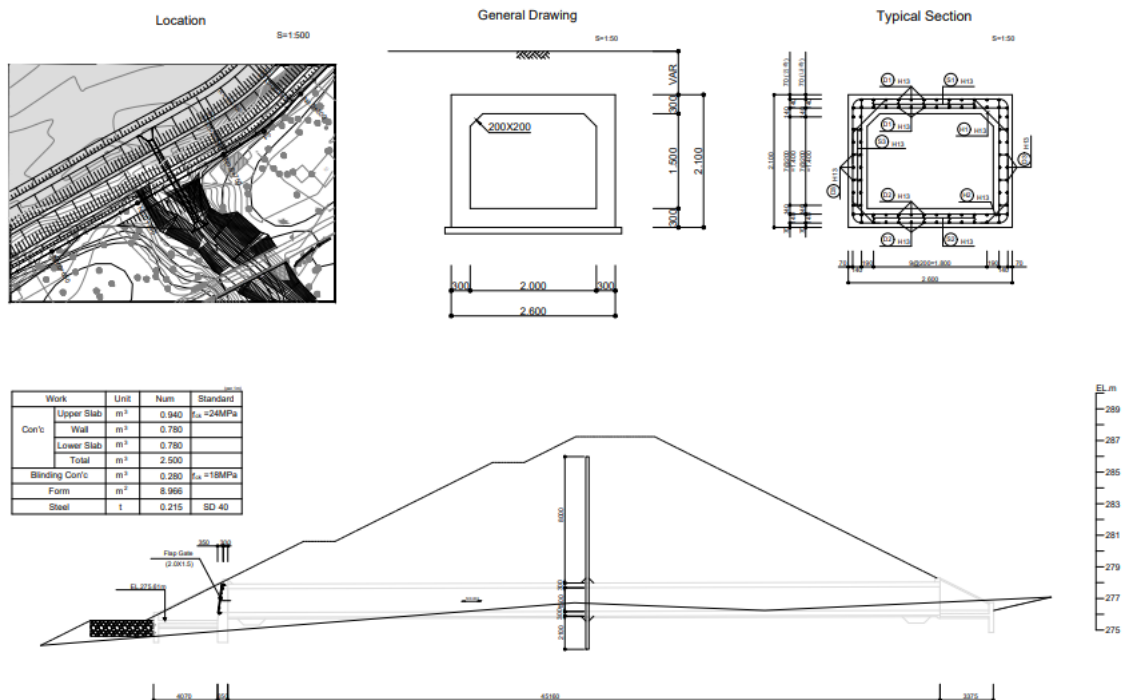


**Figure A2-9 Location Map of the Drainages (Per FS)**



**Figure A2-10 Design of the Drainage (Pipe Culvert & Flap Gate)**

### BOX CULVERT(SEC.RIGHT, No.0+720 (Houay Kang))



### FLAP GATE(2.0m X 1.5m, F.R.P)

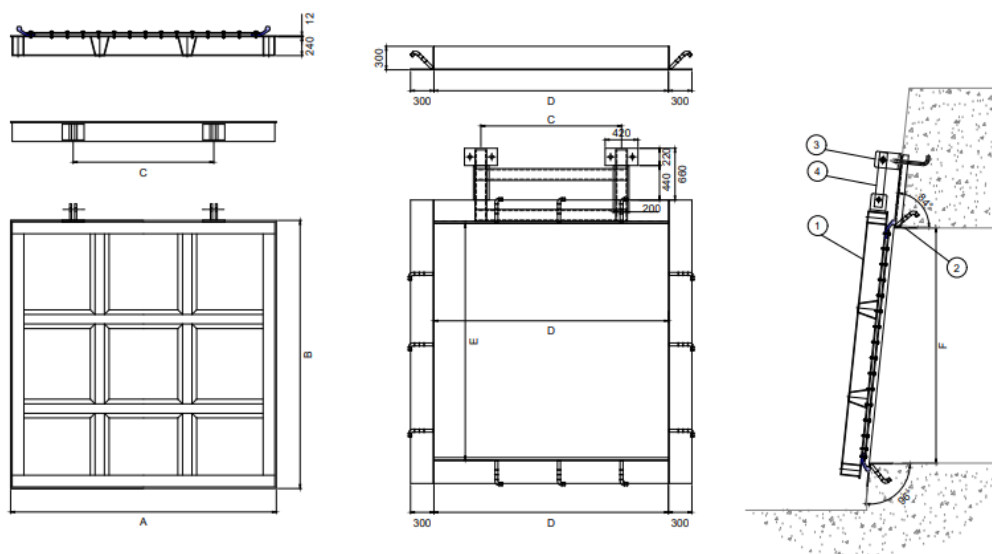
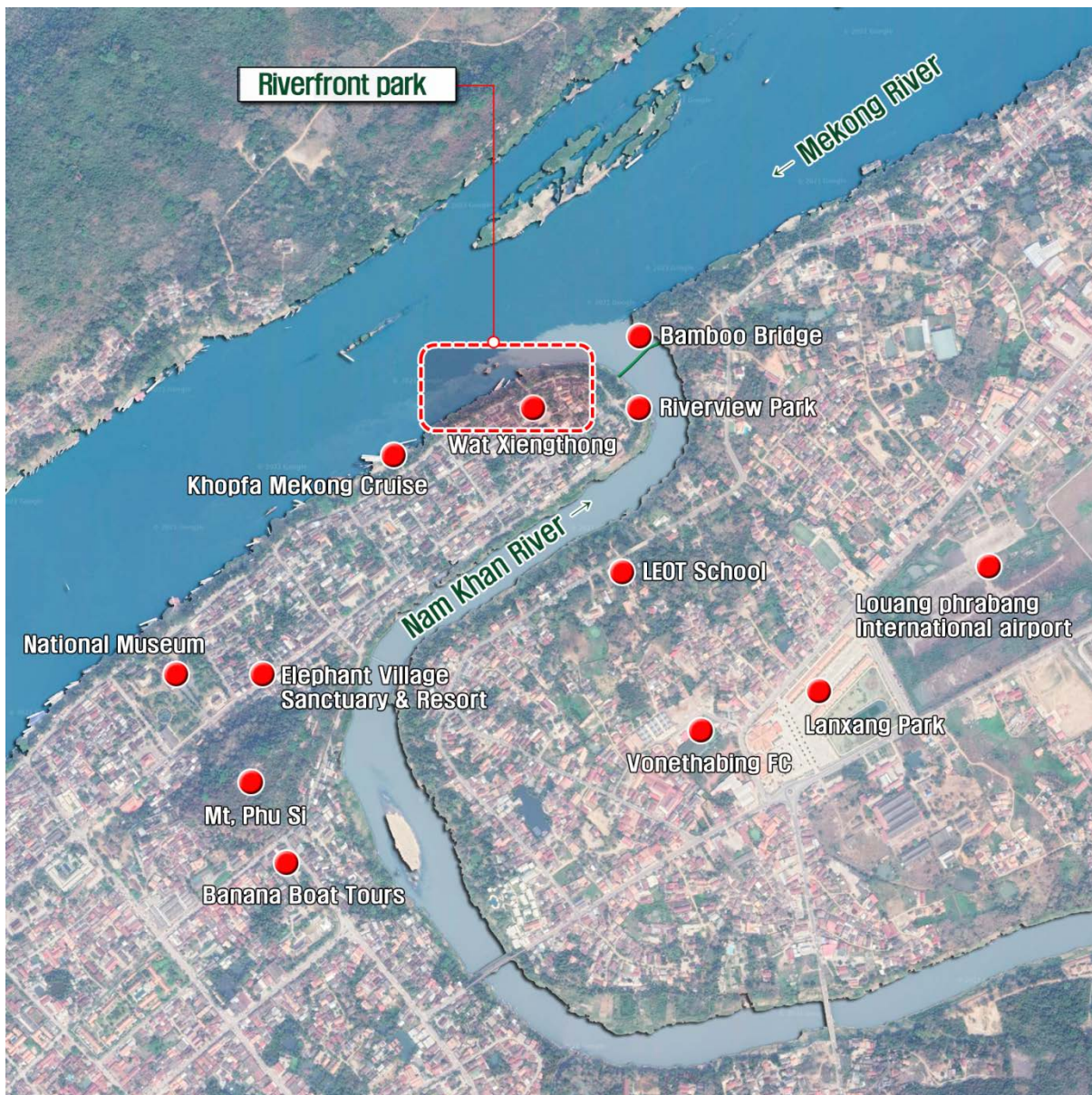


Figure A2-11 Design of the Drainage (Box Culvert & Flap Gate)

## A2.6 Riverfront Park

### (a) Site Location

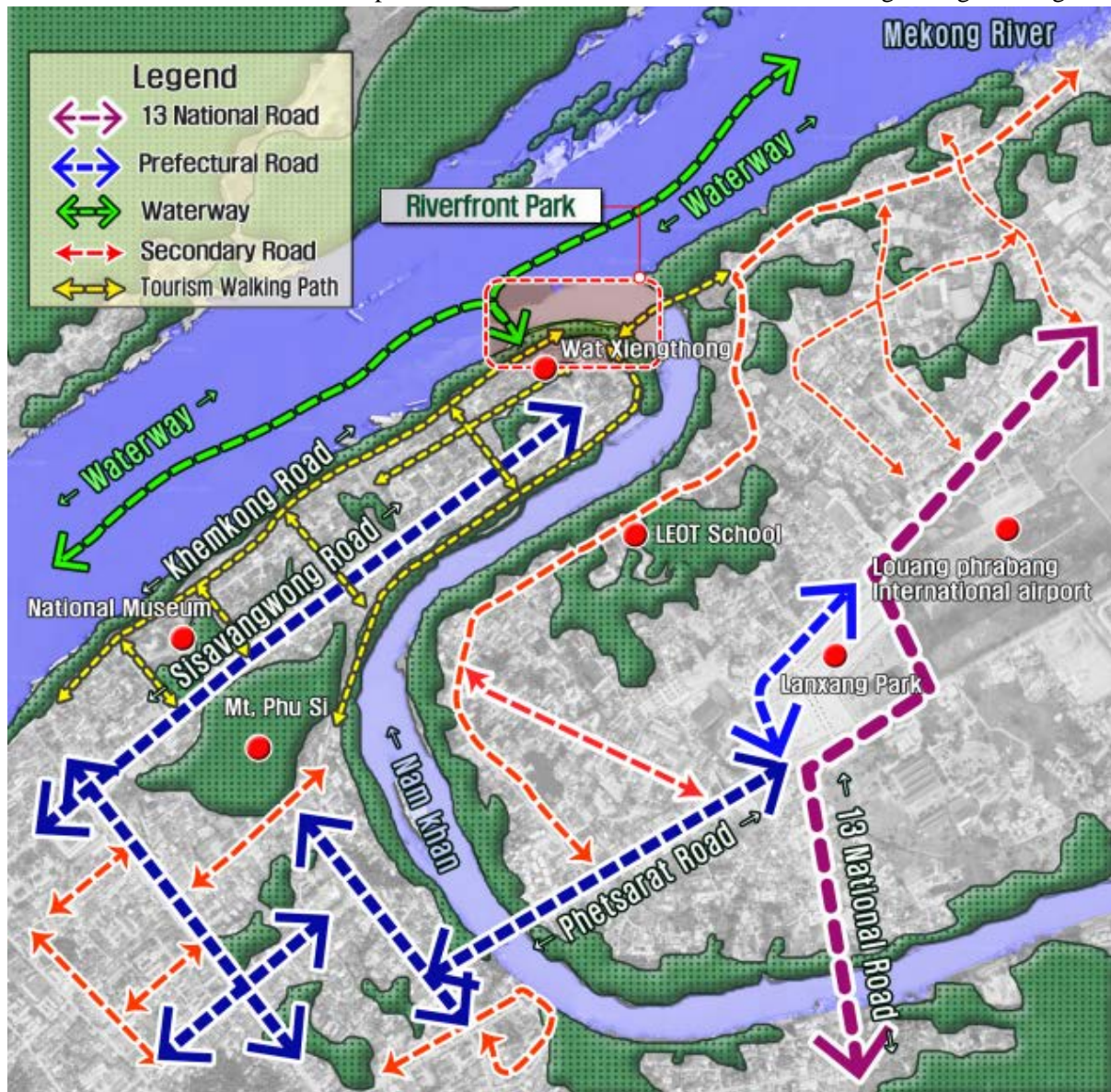
- Luang Prabang is a province located in the northern part of Lao PDR, with an area of 16,875 km<sup>2</sup> and a population of 431,889.
- Luang Prabang is a tourist city visited by many tourists as the city itself has been registered as a World Heritage Site by UNESCO.
- The project site is located at the river mouth of the Nam Khan River, around 400 km upstream from Vientiane capital.



**Figure A2-12 Location of the Riverfront Park**

**(b) Road Network and Accessibility**

- It is possible to move to the main hub of Luang Prabang through a hierarchical road network of national roads, local roads, and auxiliary roads.
- The main access routes of tourist visiting Luang Prabang are largely divided into the airport road using airplanes and the Mekong River waterway, and most of them travel on foot due to limited routes to cross the Khan River by vehicles.
- There is a lack of leisure space in the travel circulation for tourists visiting Luang Prabang.



**Figure A2-13 Road Network and Site Accessibility**

**(c) Tourism Industry**

- Luang Prabang is one of a few cities where tourism is the major economic activity in Lao PDR, where agriculture is the main industry.
- Accordingly, Luang Prabang has developed restaurants, accommodations, and various facilities for travelers.
- However, there is a lack of public leisure spaces such as parks and rest areas for tourists.

- The park is the first and last consideration of spatial function in Luang Prabang.

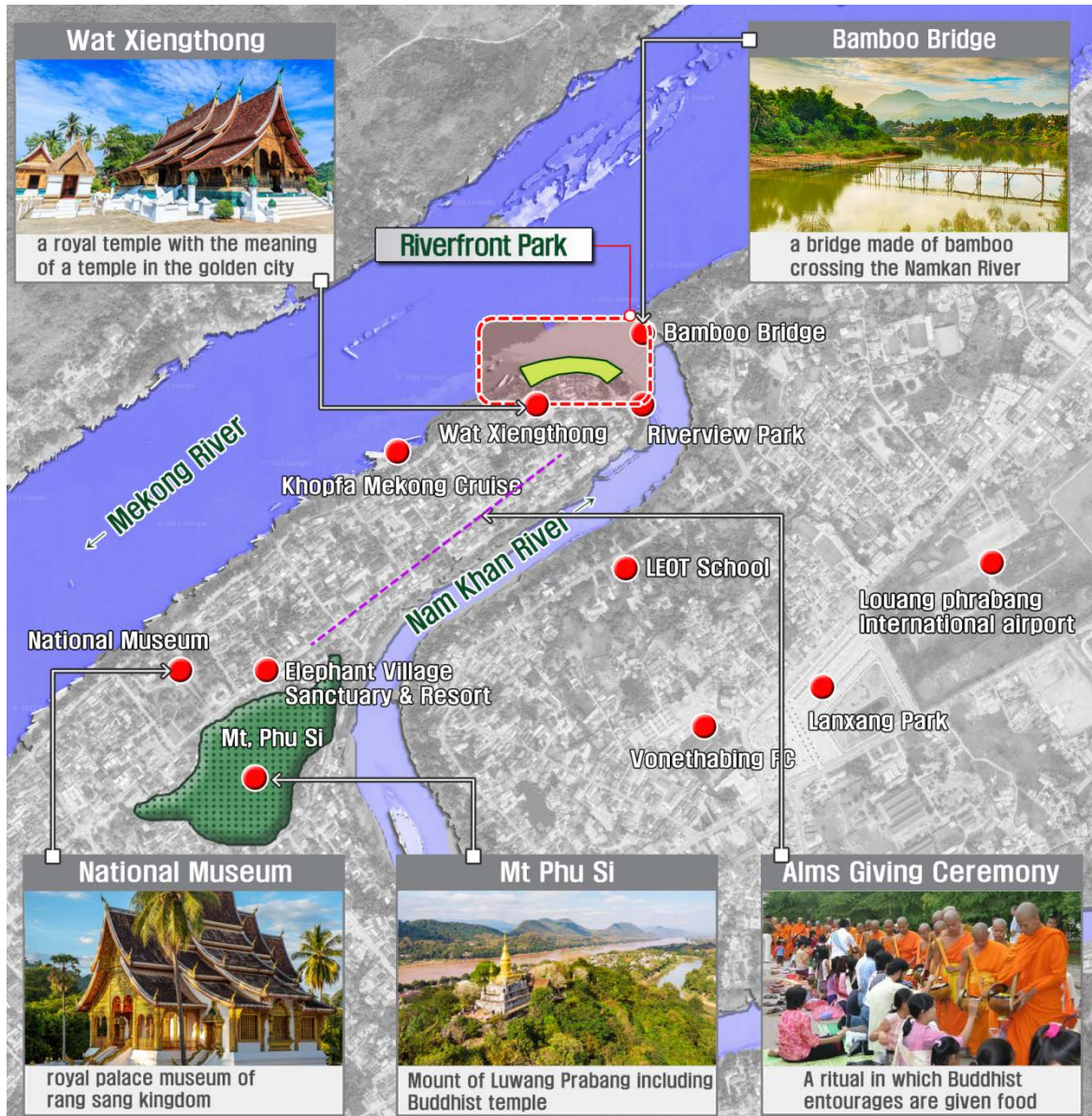
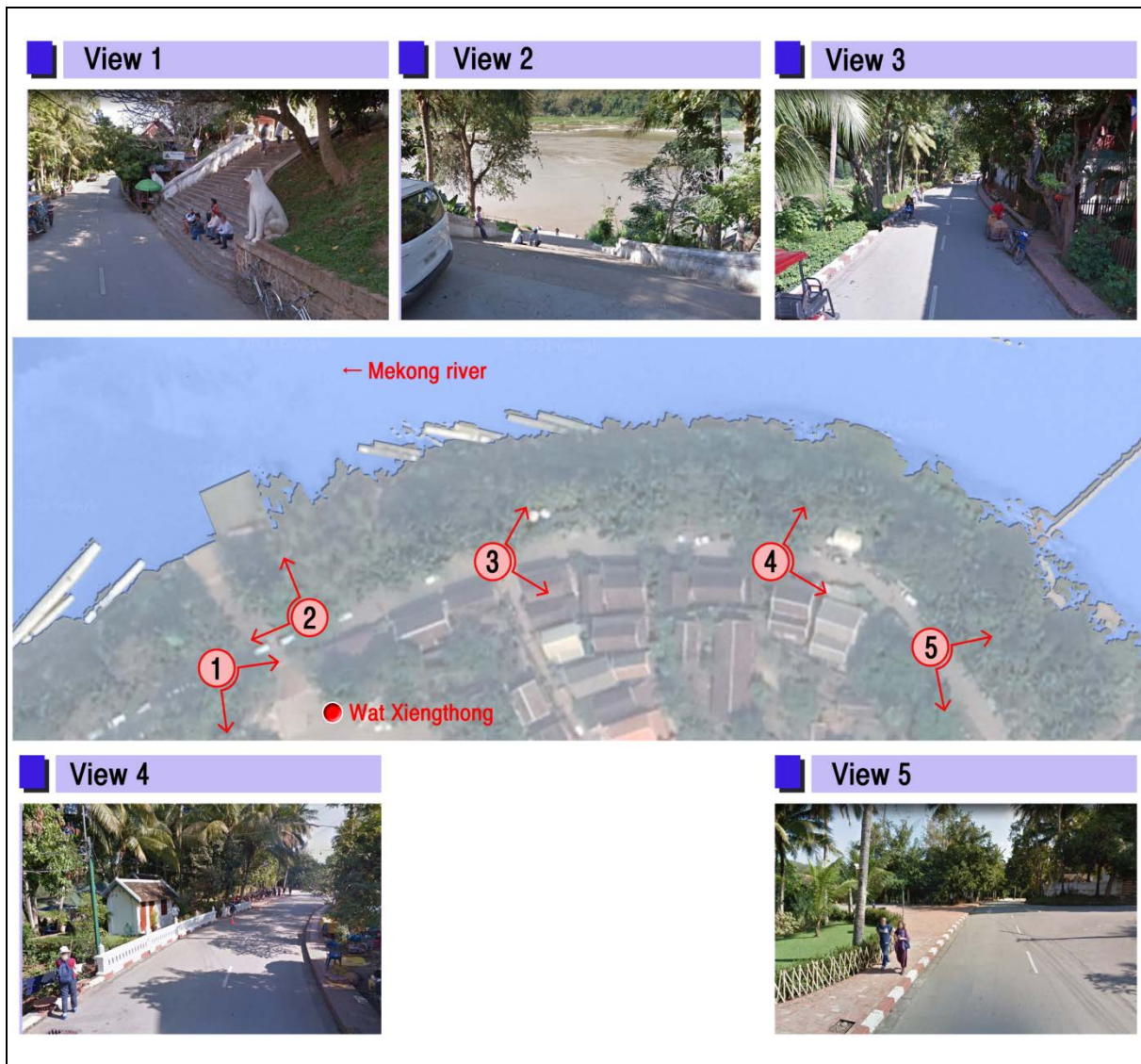


Figure A2-14 Status of main tourism base

(d) *Landscape*

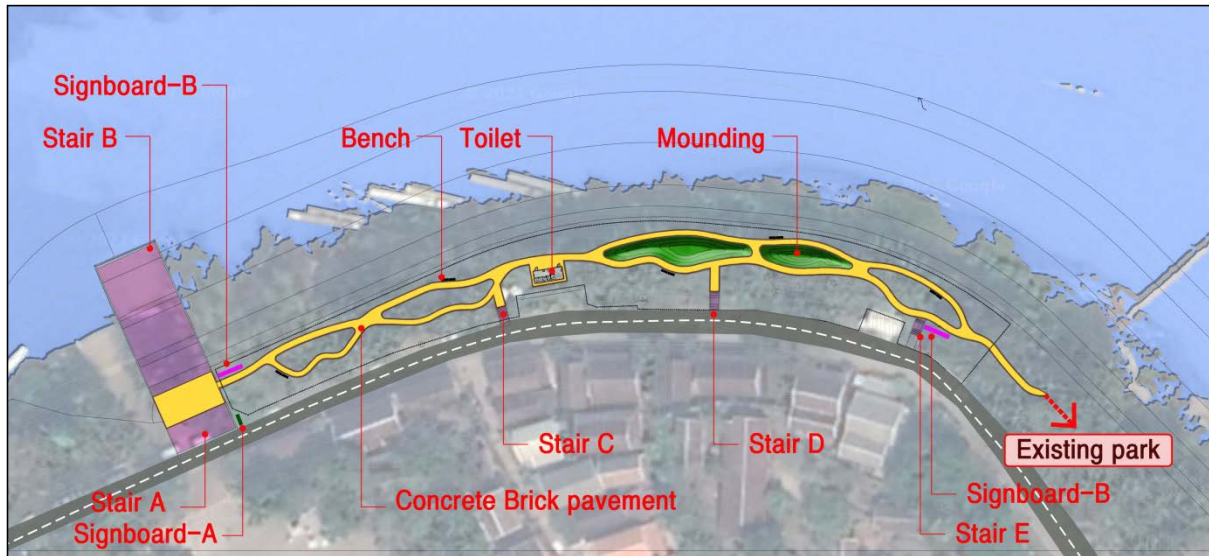
- View 1: It is the starting point of the project. Also, one of the important temples in Luang Prabang, Xiengthong temple, is located on the right
- View 2: There is a marina for travelers visiting Luang Prabang via the Mekong River
- View 3: A view of Khemkong road, a commercial street in Luang Prabang. There is no separate pedestrian path.
- View 4: Existing toilets are installed on the left side of the road
- View 5: View of the pedestrian space approaching the Bamboo Bridge. Pedestrian walkways and existing parks are located



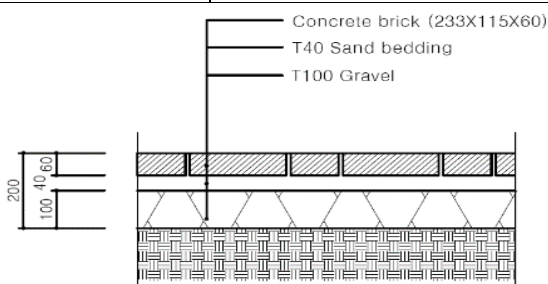
**Figure A2-15 Site Conditions**

**(e) Riverfront Park Plan**

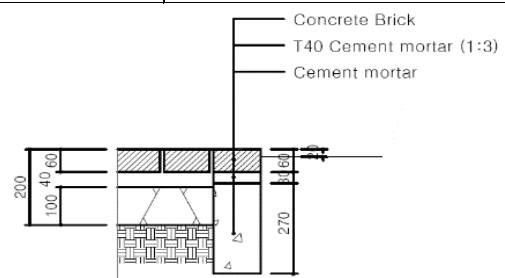
- Structural aspect: Selection of materials with good durability, strength, ductility and abrasion resistance, taking into consideration of the characteristics of the ground
- Functional aspect: Selection of materials that has a comfortable texture and can be walked on for a long time



Classification	Pavement Plan	Examples for Paving Materials Selection
Walking path	To select paving materials considering the durability and landscape	Concrete brick



Concrete Brick pavement



Concrete Brick Edge



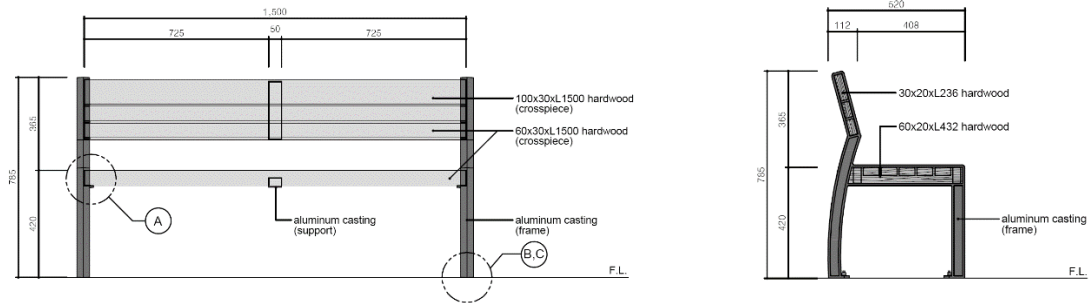
**Figure A2-16 Riverfront Park Plan**

**(f) Outdoor Facility Plan**

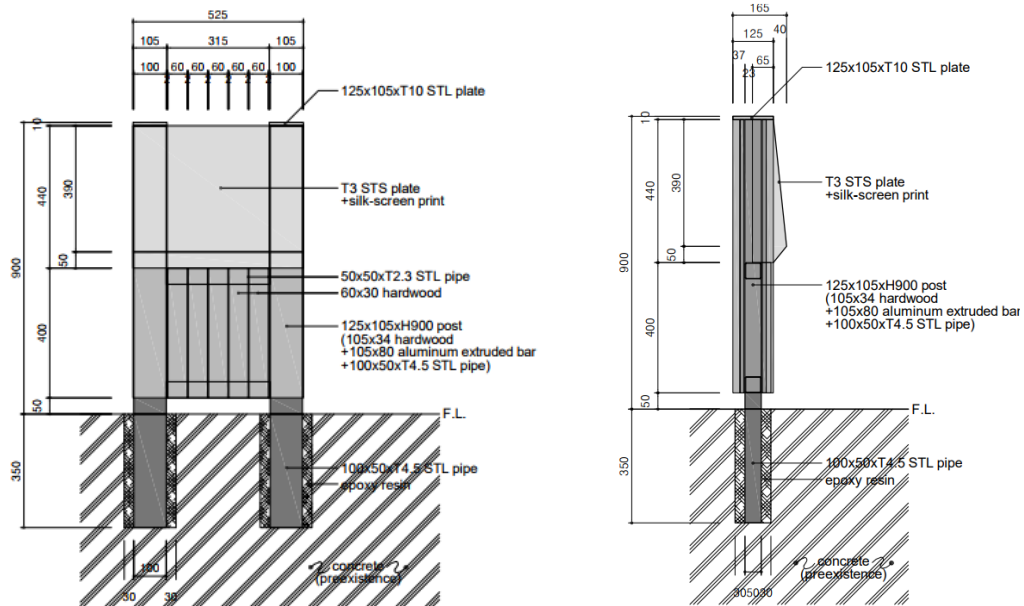
The form and material of the facility should be convenient for use in harmony with the surrounding environment.

- Each facility should have unity with the surrounding environment. Design and disposition should be planned in compliance with the nature and functions of space.

- The facility is to be designed considering economic efficiency, stability, and post-management, especially extensive management should be planned to reduce maintenance costs.
- Considering the facility form by human scale, barrier-free facilities should be planned for disabled people and elderly people to use without any inconveniences.



**Figure A2-17 Bench Detail**



**Figure A2-18 Signboard A Detail**

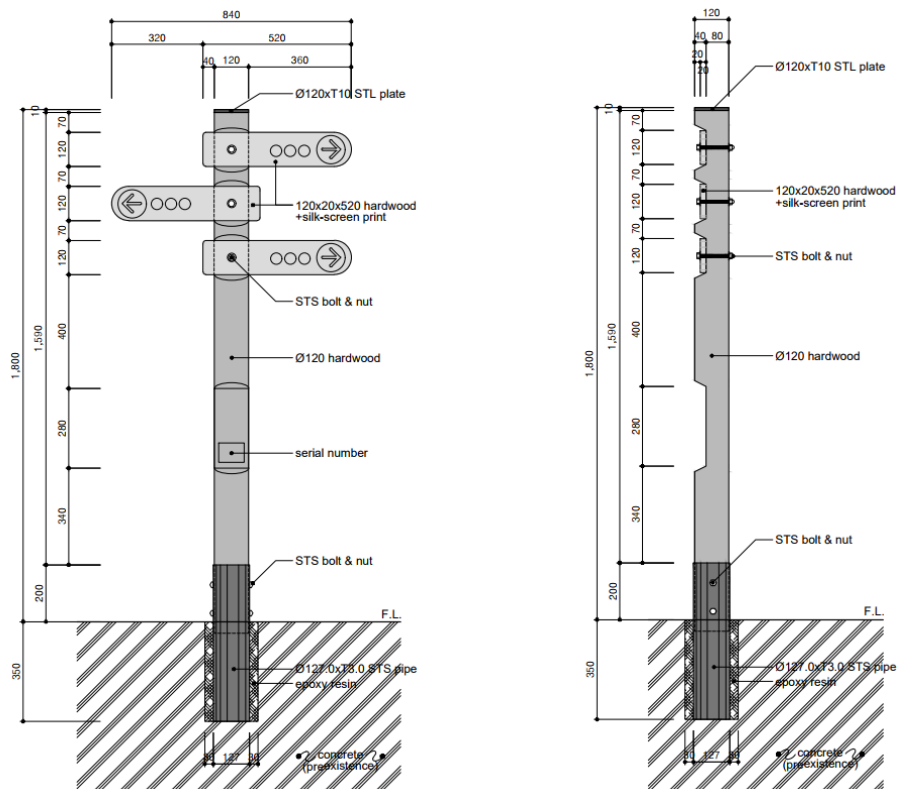


Figure A2-19 Signboard B Detail

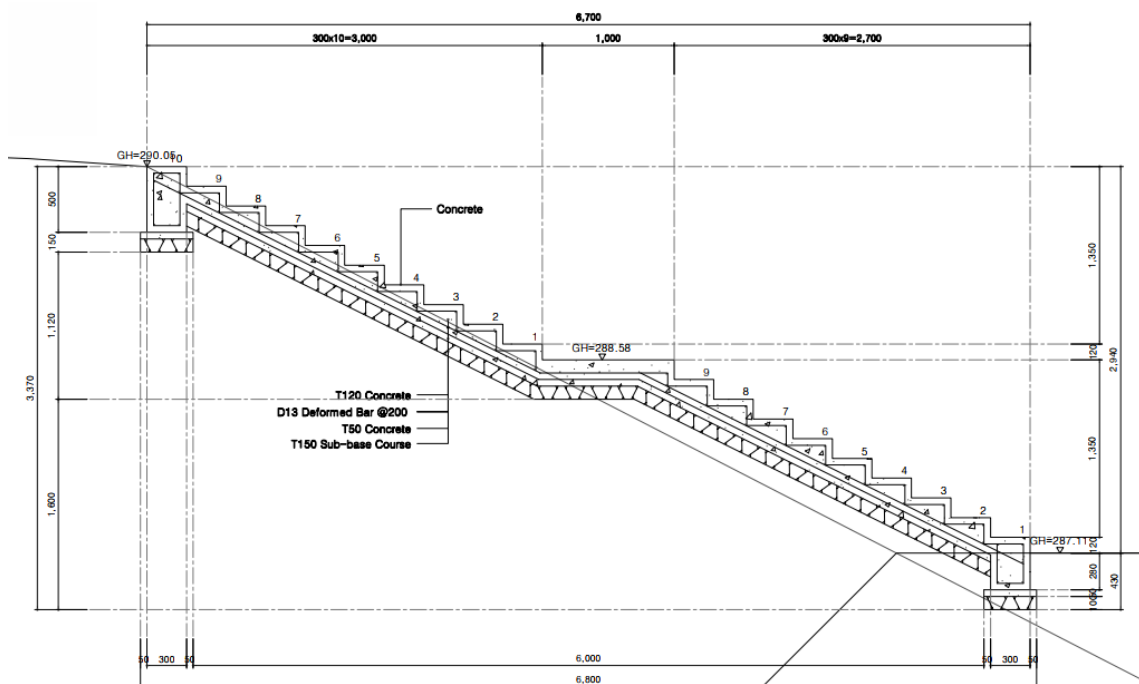
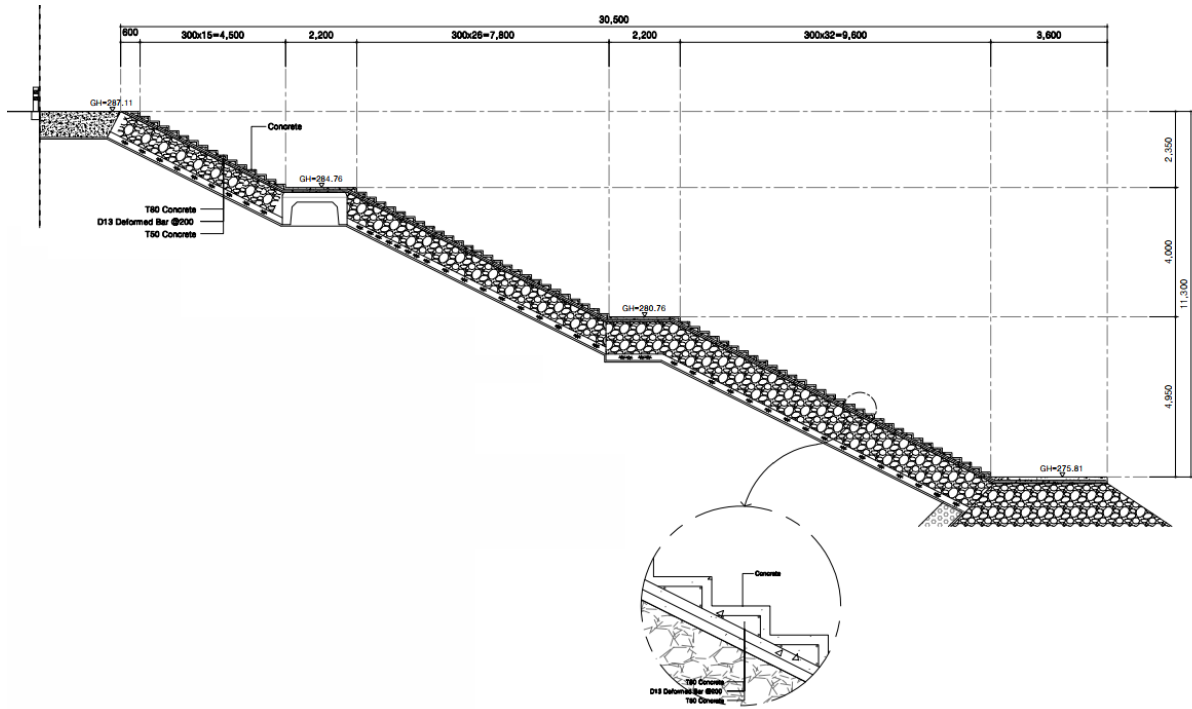
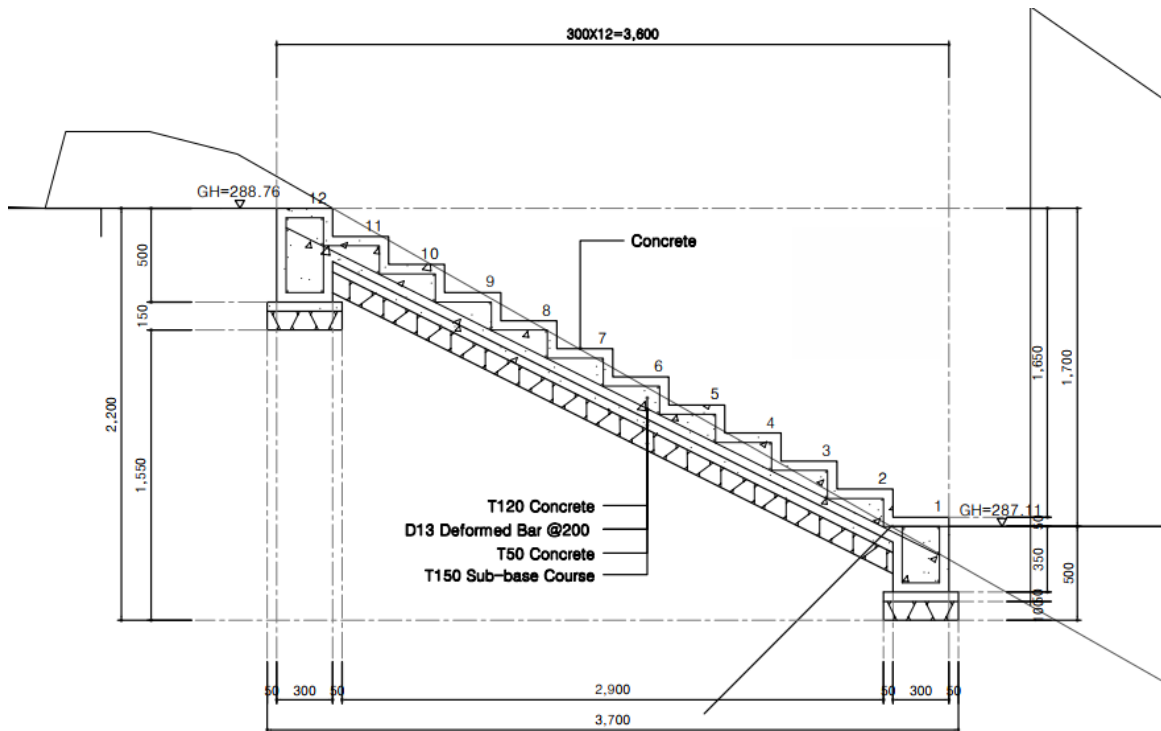


Figure A2-20 Stair A Detail



**Figure A2-21 Stair B Side View**



**Figure A2-22 Stair C Side View**

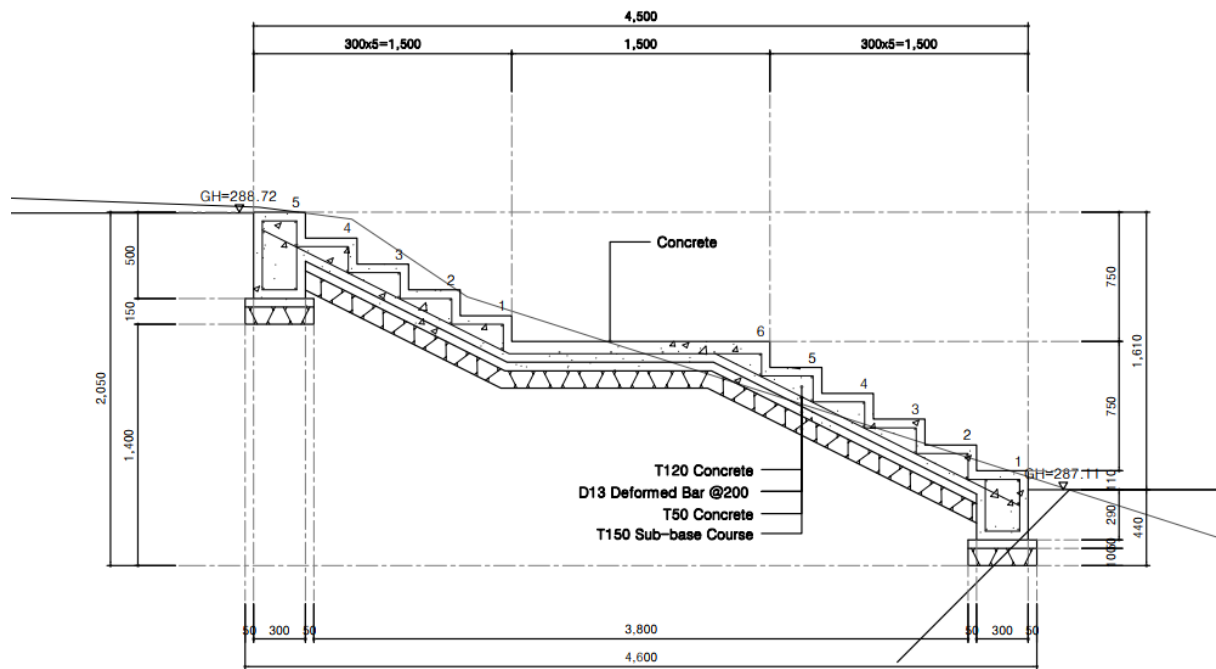


Figure A2-23 Stair D Side View

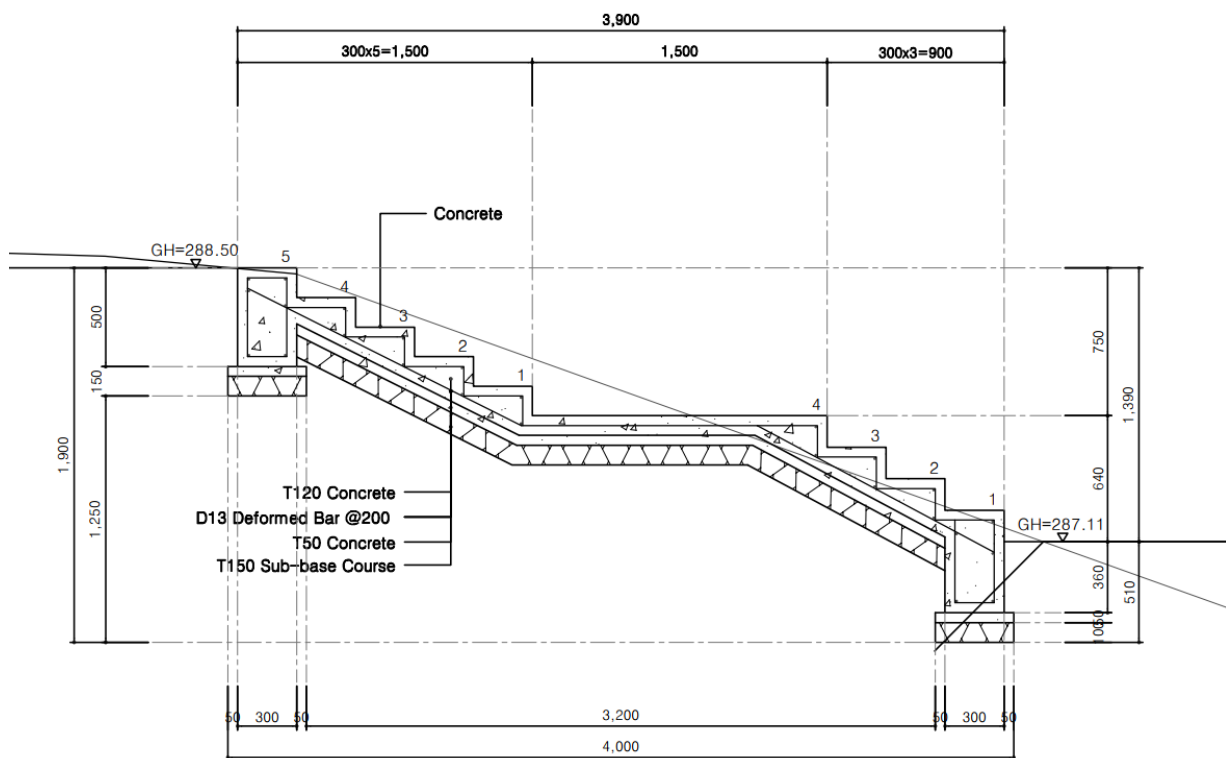
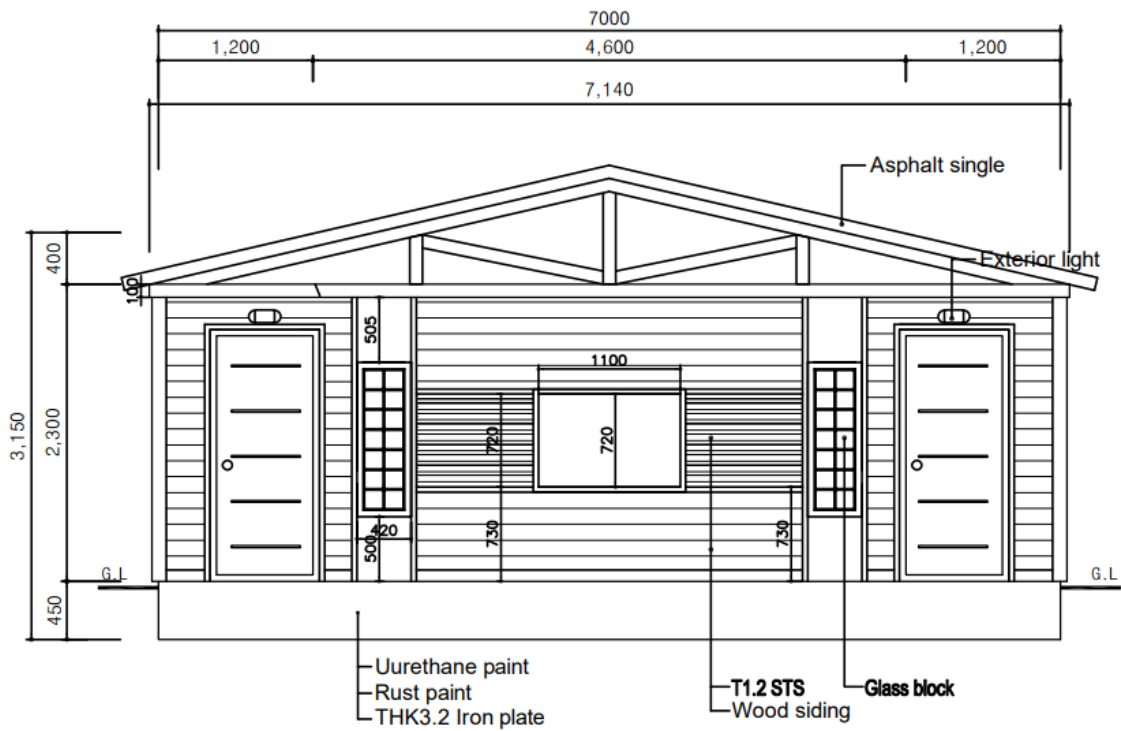
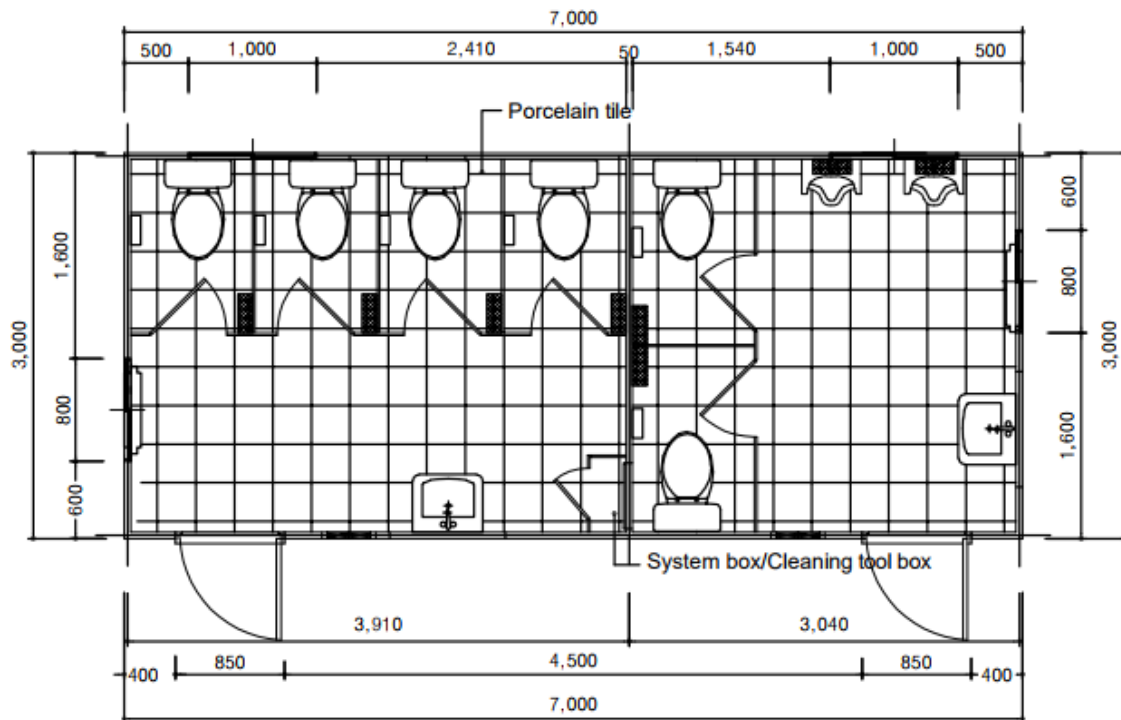


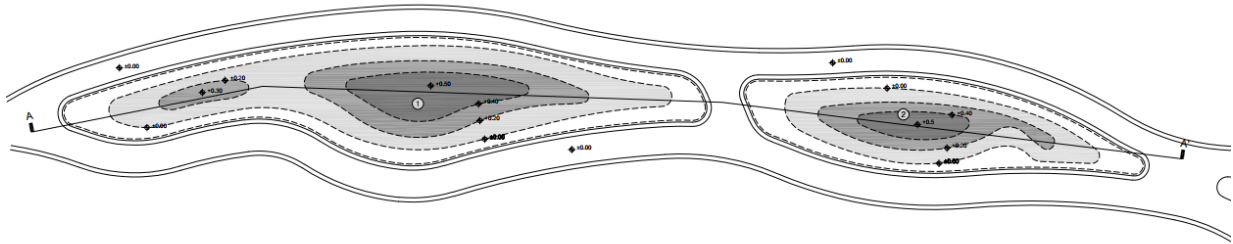
Figure A2-24 Stair E Side View



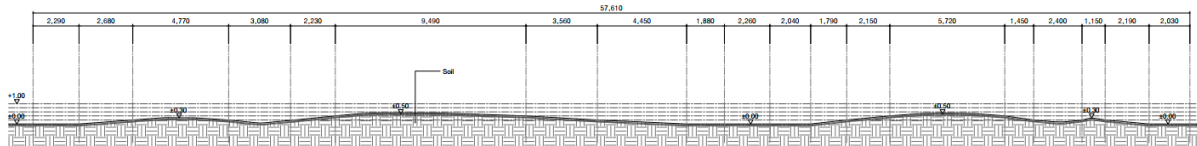
**Figure A2-25 Toilet Front View**



**Figure A2-26 Toilet Plane View**



**Figure A2-27 Mounding Top View**



**Figure A2-28 Mounding Side View**



## A2.7 Location of Borrow Pits, Quarries, Disposal Sites, Worker Camp and Transportation Route

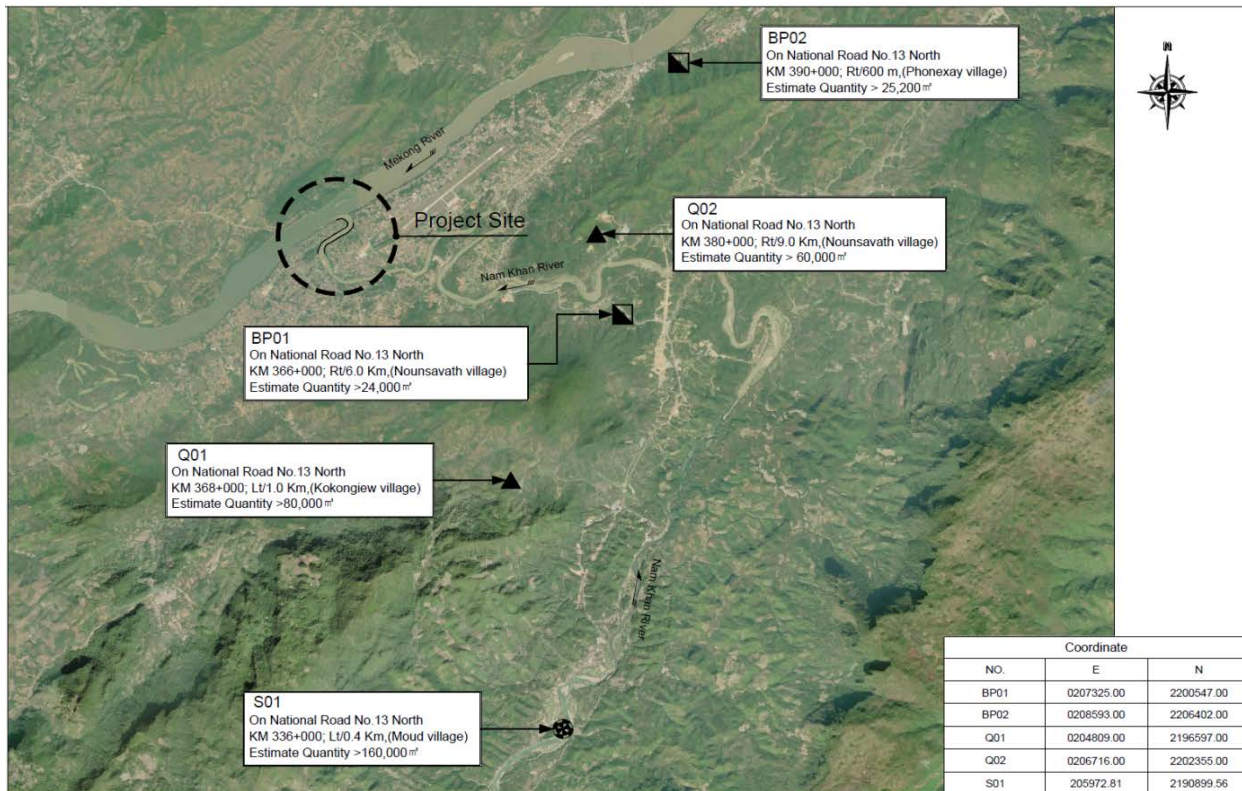


Figure A2-29 Location Map of Construction Materials



Figure A2-30 Location Map of Worker Camps

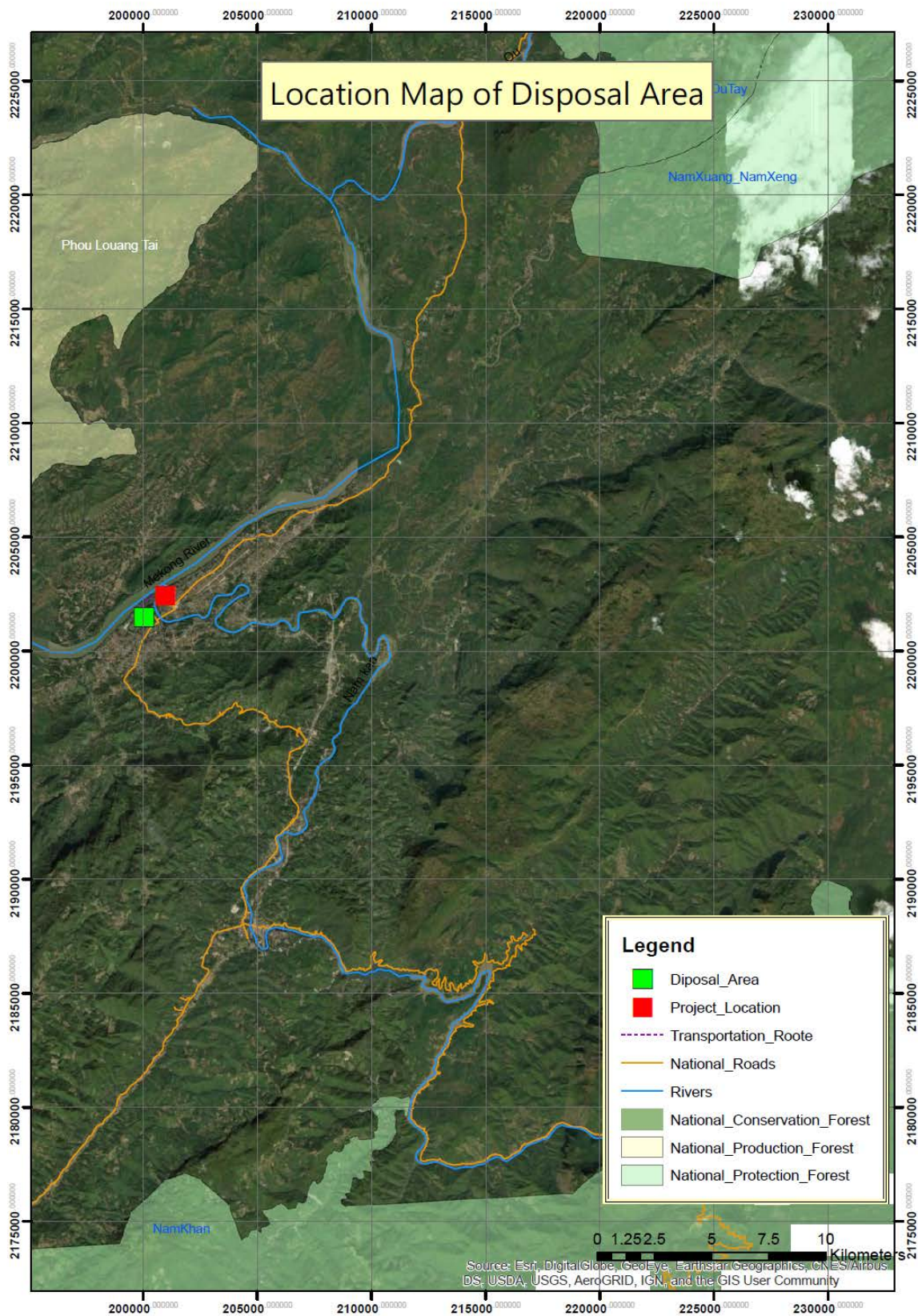


Figure A2-31 Location Map of Disposal Area

### A2.3 Business Licenses for Sand and Quarry

7. Figure below shows business licenses for sand and quarry.

Figure A2-32 Business and Operation License of on Sand-Quarry Company

**ສາທາລະນະລັດ ປະຊາທິປະໄຕ ປະຊາຊົນລາວ**  
ສັນຕິພາບ ເອກະລາດ ປະຊາທິປະໄຕ ເອກະພາບ ວັດທະນະຖາວອນ

**ໃບທະບຽນວິສາຫະກິດ**

ເລກທີ 0087 /ຈທວ

ອີງຕາມກົດໝາຍວ່າດ້ວຍວິສາຫະກິດເລກທີ 46/ສພຊ, ລົງວັນທີ 26/12/2013.  
ອີງຕາມໃບຄຳຮ້ອງແຈ້ງຂຶ້ນທະບຽນວິສາຫະກິດ, ລົງວັນທີ 10/02/2021

ເຈົ້າໜ້າທີ່ທະບຽນວິສາຫະກິດ: ( ພະແນກອຸດສາຫະກຳ ແລະ ການຄ້າ ແຂວງ ຫຼວງພະບາງ )  
ໄດ້ຂຶ້ນທະບຽນວິສາຫະກິດໃຫ້ແກ່: ທ່ານ ຈັນທະວົງ ມິ່ງບຸບຜາ



ສັນຊາດ: ລາວ ຊື່ງຢືນ: ຜູ້ຈັດການ ຂອງວິສາຫະກິດ:

- ຊື່ວິສາຫະກິດ: ບໍລິສັດ ຈັນທະວົງ ຊຸດຄົ້ນ ແລະ ບຸງແຕ່ງແຮ່ທາດອະໄລຫະ ( ຫີນປູນ ) ຈຳກັດຜູ້ດຽວ
- ຊື່ວິສາຫະກິດ ເປັນພາສາສາກົນ: Chanthavong Mining And Processing Metallic Minerals (Limestone) Co.,Ltd
- ສູນການ ຫຼື ສູນແບບວິສາຫະກິດ: ບໍລິສັດ ຈຳກັດຜູ້ດຽວ
- ຫຶນຈັດທະບຽນ: 9,000,000,000 ກີບ (ເກົ້າຕື້ ກີບ)
- ທີ່ຕັ້ງສຳນັກງານ: ຖະໜົນ ບໍ່ມີ, ບ້ານ: ມຸດ
- ເມືອງ: ຊຽງເງິນ ແຂວງ: ຫຼວງພະບາງ
- ການລົງທຶນ: ພາຍໃນ.

ເລກລະຫັດວິສາຫະກິດ 06-00012057

ເລກປະຈຳຕົວຜູ້ເສຍອາກອນ 8 6 1 4 5 5 0 5 1 - 0 - 0 0

ໝາຍເຫດ ທີ່ ແຂວງຫຼວງພະບາງ, ວັນທີ 10/02/2021  
ເຈົ້າໜ້າທີ່ທະບຽນວິສາຫະກິດ



ສາທາລະນະລັດ ປະຊາທິປະໄຕ ປະຊາຊົນລາວ  
ສັນຕິພາບ ເອກະລາດ ປະຊາທິປະໄຕ ເອກະພາບ ວັດທະນະຖາວອນ



ກະຊວງ ໂຍທາທິການ ແລະ ຂົນສົ່ງ  
ພະແນກ ໂຍທາທິການ ແລະ ຂົນສົ່ງ

ເລກທີ 343 /ບທຂ.ຫຼບ  
ຫຼວງພະບາງ, ວັນທີ 16 ກຸມພາ 2022



ໃບອະນຸຍາດດຳເນີນທຸລະກິດ  
( ສ້າງຕັ້ງໃໝ່ ) ປີ 2022

- ອີງຕາມ ຂໍ້ຕົກລົງຂອງລັດຖະມົນຕີກະຊວງໂຍທາທິການ ແລະ ຂົນສົ່ງ ວ່າດ້ວຍລະບຽບຄຸ້ມຄອງ ການອໍອະນຸຍາດດຳເນີນທຸລະກິດ ລະບົບເລກທີ 17582 /ບທຂ, ລົງວັນທີ 8 ສິງຫາ 2018;
- ອີງຕາມ ໂບດຕິຮຽງອໍອະນຸຍາດ ສ້າງຕັ້ງໃໝ່ ດຳເນີນທຸລະກິດຂອງບໍລິສັດ ສຸດທິດາ ຊຸດຄົ້ນຫີນແຮ່-ຊາຍ ຈຳກັດ, ເລກທີ 09/ສດ, ລົງວັນທີ 30 ສິງຫາ 2021

ພະແນກ ໂຍທາທິການ ແລະ ຂົນສົ່ງ ແຂວງຫຼວງພະບາງ ຕົກລົງ:

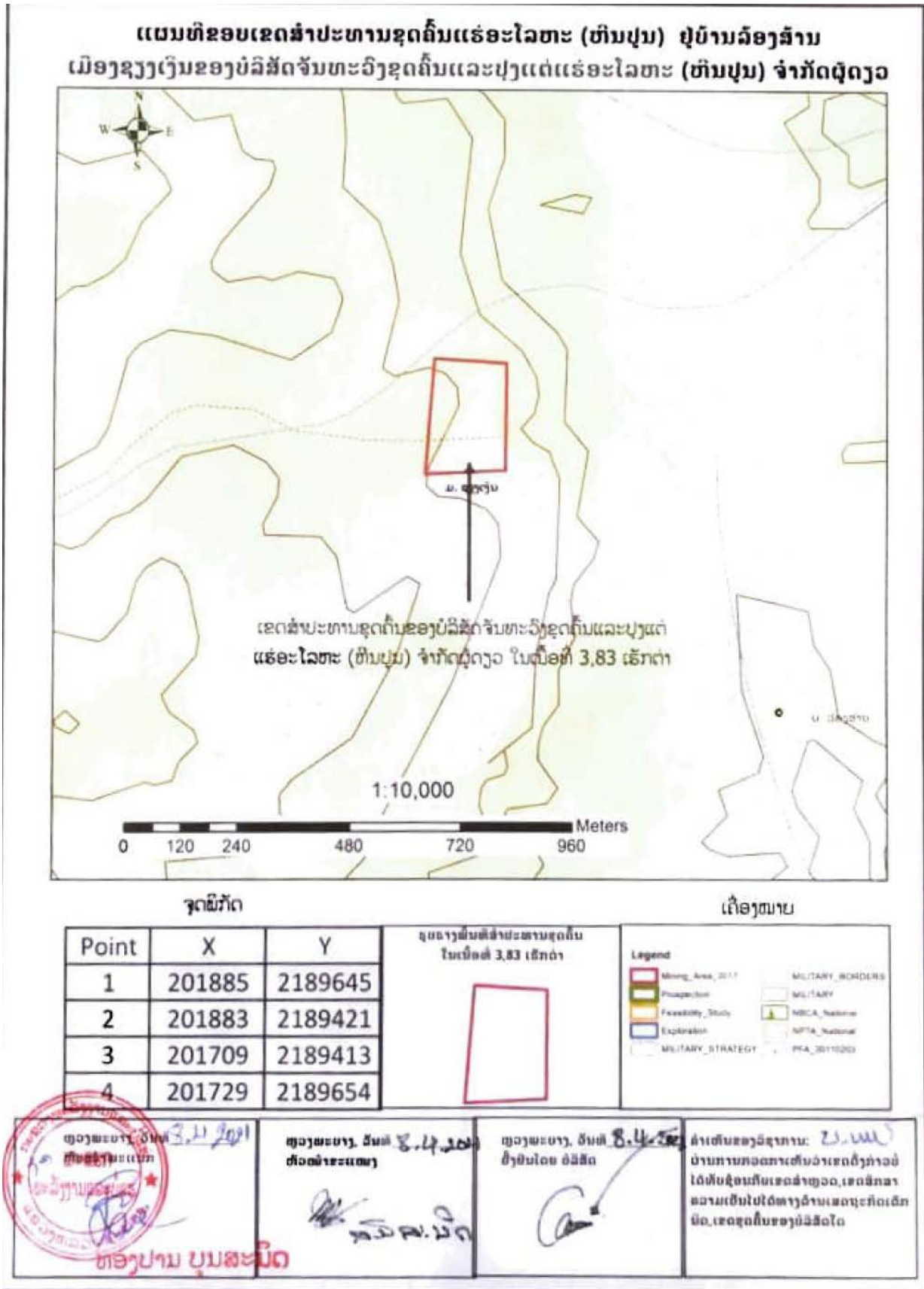
- ອອກໃບອະນຸຍາດ ດຳເນີນທຸລະກິດຂະແໜງການ ໂຍທາທິການ ແລະ ຂົນສົ່ງ ປະຈຳປີ 2022.
  - ຊື່ຫົວໜ່ວຍທຸລະກິດ : ບໍລິສັດ ສຸດທິດາ ຊຸດຄົ້ນຫີນແຮ່-ຊາຍ ຈຳກັດ;
  - (ຊື່ພາສາອັງກິດ) : Suthida Sand Stone Mining Co.,Ltd;
  - ຊື່ ຜູ້ອຳນວຍການ : ທ່ານ ນາງ ສຸດທິດາ ລັດຕະນະປັນຍາ;
  - ທີ່ຕັ້ງບໍລິສັດ : **ບ້ານ ສວນຕາລາເມືອງຊຽງງຽມ, ແຂວງຫຼວງພະບາງ;**
  - ໂທລະສັບ : Tel/Mobile (020 5223 6777);
  - ເລກລະຫັດວິສະຫະກິດ : 06-00010950
  - ເລກປະຈຳຕົວຜູ້ເສຍອາກອນ: 2 8 2 3 8 2 4 5 9 - 0 0
  - ປະເພດວິສະຫະກິດ : ( ຊຸດຄົ້ນ ຫີນ ແຮ່-ຊາຍ );
  - ທຶນຈົດທະບຽນ : 5.000.000.000 ກີບ (ຫ້າຕື້ ກີບ);
- ຫົວໜ່ວຍທຸລະກິດດັ່ງກ່າວ ຈະຕ້ອງເຕືອນໄຫວວຽກງານຂອງຕົນ ໃນຂອບເຂດລະບຽບການຂອງລັດວາງອອກ ລວມທັງກົດໝາຍພາສີອາກອນຢ່າງເຂັ້ມງວດ ຈຶ່ງຖືວ່າຖືກຕ້ອງຕາມກົດໝາຍ;
- ໃບອະນຸຍາດສະບັບນີ້ ມີຜົນສັກສິດນັບຕັ້ງແຕ່ມີລົງລາຍເຊັນເປັນຕົ້ນໄປ ແລະ ມີອາຍຸການນຳໃຊ້ຈົນເຖິງວັນທີ 30 ມິຖຸນາ 2022, ກຳນົດ 1 ປີ.

ຫົວໜ້າພະແນກ ໂຍທາທິການ ແລະ ຂົນສົ່ງ

ນຸ່ງວ່າງ ຫວ່າງເຈຍຊຳ

ສາຍພັນ

- 1 ດ້ວຍກຳໜົດໃບອະນຸຍາດດຳເນີນທຸລະກິດຂະແໜງການອະນຸຍາດ ແລະ ປະຕິບັດຕາມລະບຽບຄຸ້ມຄອງຢ່າງເຂັ້ມງວດ;
- 2 ຫ້າມເອົາໃບອະນຸຍາດດຳເນີນທຸລະກິດ ສະໄໝໃໝ່ຜູ້ອື່ນ ໃຊ້ເສຍ, ບໍ່ໃຫ້ແນະນາງ ຫຼື ຈັດແກ້ສິດວາງໃໝ່;
- 3 ສາຍຜູ້ໂຍກະສຳວິຕະຍາ ໄດ້ເຮັດໂທລະທາດກົດໝາຍ.



## ສາທາລະນະລັດ ປະຊາທິປະໄຕ ປະຊາຊົນລາວ

### ສັນຕິພາບ ເອກະລາດ ປະຊາທິປະໄຕ ເອກະພາບ ວັດທະນາຖາວອນ

#### ບໍລິສັດຈັນທະວິງ

### ໃບຢັ້ງຢືນ

ເພື່ອເປັນການຢັ້ງຢືນຄວາມຖືກຕ້ອງຕາມຄວາມເປັນຈິງຂອງຫຼັກວິຊາການໃນການສະໜອງວັດຖຸສະດູ ໃຫ້ແກ່ໂຄງການຕະຝັງເຈື່ອນຂອງແຂວງ ຫຼວງພະບາງ

ດັ່ງນັ້ນທາງບໍລິສັດຈັນທະວິງຂຸດຄົ້ນ ແລະ ປຸງແຕ່ງແຮ່ທາດອະໂລຫະ(ຫີນປຸນ)ຈຳກັດຜູ້ດຽວ ຕັ້ງຢູ່ບ້ານ ລ້ອງສ້ານ ເມືອງ ຊຽງເງິນ ແຂວງ ຫຼວງພະບາງ ແລະ ບໍລິສັດ ສຸດທິດາ ຂຸດຄົ້ນ ແລະ ຈຳໜ່າຍຫີນແຮ່ຊາຍຈຳກັດຜູ້ດຽວ (ເຊິ່ງແມ່ນບໍລິສັດໃນກຸ່ມຂອງບໍລິສັດຈັນທະວິງຂຸດຄົ້ນ ແລະ ປຸງແຕ່ງແຮ່ທາດອະໂລຫະ(ຫີນປຸນ)ຈຳກັດຜູ້ດຽວ)

ໃນຊ່ວງໄລຍະຜ່ານມາທາງບໍລິສັດຂອງຂ້າພະເຈົ້າໄດ້ສະໜອງຫີນ,ແຮ່,ຊາຍໃຫ້ແກ່ໂຄງການກໍ່ສ້າງທາງລົດໄຟລາວ-ຈີນເປັນເວລາ 5 ປີຈົນສຳເລັດໂຄງການດັ່ງກ່າວ

ທາງບໍລິສັດຂອງພວກເຮົາສາມາດຕອບສະໜອງວັດສະດຸກໍ່ສ້າງໃຫ້ແກ່ໂຄງການຕະຝັງເຈື່ອນທີ່ສາມາດຮັບຮອງໄດ້.

1. ຫີນແຂງສຳລັບວຽກງານກໍ່ສ້າງຕາຝັງເຈື່ອນມີຂະໜາດ 20-60 cm ໃນອັດຕາ 500-800m<sup>3</sup> ຕໍ່ວັນ
2. ຫີນເບີສຳລັບເບຕົງອັດແຮງ 800m<sup>3</sup> /ວັນ
3. ຫີນແຮ່ສຳລັບວຽກງານກໍ່ສ້າງທົ່ວໄປ 600 m<sup>3</sup>/ວັນ
4. ແຮ່ຫຍາບສຳລັບອັດແກ້ບວມປູເດີນ1.500 m<sup>3</sup>/ວັນ
5. ຊາຍຫຍາບນໍ້າຄານສາມາດສະໜອງໄດ້600-800 m<sup>3</sup>/ວັນ
6. ຊາຍຫຍາບນໍ້າຂອງສາມາດສະໜອງໄດ້400-600 m<sup>3</sup>/ວັນ
7. ຊາຍຖົມທົ່ວໄປສາມາດສະໜອງໄດ້ 500 m<sup>3</sup>/ວັນ
8. ຫີນຝຸ່ນຈາກຫີນແຂງ200-300 m<sup>3</sup>/ວັນ
9. ແຮ່-ຊາຍຫຍາບມີສະຕອກໃນສະໜາມແລ້ວປະມານ 300,000 ແມັດກ້ອນ
10. ມີສຳປະທານຫີນ,ແຮ່,ຊາຍນໍ້າຄານປະມານ4,5 ເຮັກຕ່າ

ວັດສະດຸຕ່າງໆ ຂ້າງເທິງຜ່ານມາແມ່ນໄດ້ຜ່ານຫ້ອງກວດກາທາງເຕັກນິກ(ຫ້ອງແລັບ)  
ຂອງໂຄງການລົດໄຟລາວ-ຈີນຜ່ານມາແລ້ວ ແມ່ນມີຄຸນນະພາບດີໄດ້ຕາມສະເປັກ  
ດັ່ງນັ້ນ ວັດສະດຸຕ່າງໆທີ່ສະເໜີມາຂ້າງເທິງນັ້ນ ລ້ວນແຕ່ແມ່ນ ພະລິດຕະພັນຂອງ  
ບໍລິສັດຂອງຂ້າພະເຈົ້າແທ້100% ແລະ ມີຄວາມພ້ອມທີ່ຈະເປັນຜູ້ພະລິດ ແລະ ຕອບສະໜອງ  
ໃຫ້ແກ່ໂຄງການໄດ້ຕາມຕ້ອງການ.

ບໍລິສັດຈັນທະວິງ ໂທ: 020 5926 4888 ,020 5223 6777

ຕັ້ງຢູ່ບ້ານມຸດ - ສວນຫຼວງ ເມືອງ ຊຽງເງິນ ແຂວງ ຫຼວງພະບາງ

ວັນທີ 26/04/2022



ຈັນທະວິງ ນິ່ງບຸບຜາ

**Figure A2-33 Minutes on Camp Site**



**ສາທະລະນະລັດ ປະຊາທິປະໄຕ ປະຊາຊົນລາວ**  
**ສັນຕິພາບ ເອກະລາດ ປະຊາທິປະໄຕ ເອກະພາບ ວັດທະນະຖາວອນ**

**ບົດບັນທຶກ**

ການລົງສໍາຫຼວດຕອນດິນ ຈຸດທີ່ຈະກໍ່ສ້າງໂຮງໝໍ້ນະຄອນຫຼວງພະບາງ ເປັນຈຸດຕັ້ງແຄ້ມຄົນງານກໍ່ສ້າງຂອງໂຄງການຄຸ້ມຄອງຄວາມສ່ຽງໄພພິບັດນໍ້າຖ້ວມ, ຢູ່ຂອບເຂດບ້ານຜານິມ, ນະຄອນ-ຫຼວງພະບາງ.

- ອີງຕາມ ການປະສານງານ ກັບ ຊ່ຽວຊານດ້ານສິ່ງແວດລ້ອມ-ສັງຄົມ, ຄັ້ງວັນທີ 12 ເມສາ 2022;
- ອີງຕາມ ການລົງກວດກາຕົວຈິງຂອງຄະນະວິຊາການຫ້ອງການ PIU ໂດຍສົມທົບກັບຄະນະກຳມະການຂັ້ນນະຄອນ, ຄັ້ງວັນທີ 26 ເມສາ 2022.

ໃນຕອນເຊົ້າ, ເວລາ 09 ໂມງ 00 ນາທີ, ຂອງວັນທີ 26 ເມສາ 2022, ຫ້ອງການ PIU ໄດ້ສົມທົບກັບຄະນະກຳມະການໄກ່ເກ່ຍຂັ້ນນະຄອນ ໄດ້ຮ່ວມກັນລົງສໍາຫຼວດຕອນດິນ ເພື່ອຈະໄດ້ກຳນົດເປັນຈຸດຕັ້ງແຄ້ມກໍ່ສ້າງຂອງບໍລິສັດເຜີ້ຍເໝົາ ຕັ້ງຢູ່ ບ້ານຜານິມ, ນະຄອນ-ຫຼວງພະບາງ, ແຂວງຫຼວງພະບາງ ໂດຍມີ: ຕາງໜ້າຫ້ອງການນະຄອນຫຼວງພະບາງ ແລະ ຕາງໜ້າຫ້ອງການຊັບພະຍາກອນທຳຊາດ ແລະ ສິ່ງແວດລ້ອມ, ລວມຜູ້ເຂົ້າຮ່ວມທັງໝົດ 04 ທ່ານ, ຍິງ 0 ທ່ານ. (ລາຍລະອຽດມີລາຍຊື່ຜູ້ເຂົ້າຮ່ວມຂັດຕິດພ້ອມນີ້); ຕອນດິນດັ່ງກ່າວ, ເປັນດິນລັດຄຸ້ມຄອງ ມີແຜນທີ່ຈະກໍ່ສ້າງເປັນໂຮງໝໍ້ນະຄອນຫຼວງພະບາງ ແລະ ອີງຕາມບົດບັນທຶກກອງປະຊຸມ ຄັ້ງວັນທີ 21 ທັນວາ 2021, ກ່ຽວກັບ ຈຸດຖິ້ມດິນ, ບໍ່ດິນ.

ອີງຕາມການພົວພັນ ປະສານງານ ຂອງ ທີມງານສິ່ງແວດລ້ອມ ເຫັນວ່າ ຈຸດທີ່ບໍລິສັດທີ່ປຶກສາ ແລະ ຫ້ອງການ PIU ສະໜອງ ແລະ ກຳນົດໃຫ້ນັ້ນ ບໍ່ເໝາະສົມ ແລະ ຢູ່ໃກ້ກັບແຄມນໍ້າ ຊຶ່ງບໍ່ສອດຄ່ອງຕາມລະບຽບຂອງວຽກງານສິ່ງແວດລ້ອມ ຂອງໂຄງການ ດັ່ງນັ້ນ, ຈຶ່ງໄດ້ປຶກສາຫາລື ກັບຄະນະກຳມະການຂັ້ນນະຄອນ ແລະ ພ້ອມກັນລົງໄປກວດກາຈຸດທີ່ໄດ້ກຳນົດເປັນບໍ່ດິນ, ທີ່ເປັນດິນລັດຄຸ້ມຄອງ ເພື່ອເບິ່ງຄືນເງື່ອນໄຂ ໃຫ້ໄດ້ຕາມລະບຽບ ຂອງວຽກງານສິ່ງແວດລ້ອມ ທີ່ຕ້ອງການສ້າງເປັນແຄ້ມຂອງບໍລິສັດ ຮັບໃຊ້ໂຄງການ.

ຕາມການສໍາຫຼວດຕົວຈິງ ຂອງຄະນະກຳມະການໄກ່ເກ່ຍຂັ້ນນະຄອນ ເຫັນວ່າມີດັ່ງນີ້:

**I. ສະຖານທີ່ຕັ້ງ:**

1. ຕອນດິນດັ່ງກ່າວ, ເປັນດິນລັດຄຸ້ມຄອງ ຫ່າງຈາກຈຸດທີ່ຕັ້ງຂອງໂຄງການ ອອກໄປທາງທິດຕາເວັນອອກປະມານ 4 ກມ, ໃກ້ກັບເສັ້ນທາງຕັດໃໝ່ ບ້ານຜານິມ ຫາ ບ້ານ ນາສ້າງເຫວີຍ 500 ແມັດ, ມີພື້ນທີ່ສູງຊັນ (ເປັນດິນພູສູງ), ເປັນປ່າເລົ່າ ບໍ່ມີເຮືອນຂອງປະຊາຊົນອາໄສຢູ່, ນໍ້າປະປາ ແລະ ໄຟຟ້າຍັງບໍ່ທັນເຂົ້າເຖິງຕອນດິນ;
2. ຂອບເຂດທີ່ທາງຫ້ອງການຊັບພະຍາກອນທຳມະຊາດ ແລະ ສິ່ງແວດລ້ອມ ໄດ້ສໍາຫຼວດເບື້ອງຕົ້ນ ມີເນື້ອທີ່ທັງໝົດ 129, 862 ມ<sup>2</sup>;

**II. ທັດສະນະວິຊາການ:**

1. ຕາມການສໍາຫຼວດຕົວຈິງຂອງຄະນະກຳມະການ ແມ່ນບໍ່ສົມຄວນສ້າງເປັນຈຸດຕັ້ງແຄ້ມກໍ່ສ້າງ ຂອງ ໂຄງການ, ເນື່ອງຈາກວ່າເປັນພື້ນທີ່ສູງຊັນ, ບໍ່ມີໄຟຟ້າ ແລະ ນໍ້າປະປາເຂົ້າເຖິງ;

**III. ຂໍ້ສະເໜີ:**

1. ສໍາລັບຈຸດຕັ້ງແຄ້ມສະເໜີໃຫ້ຊອກສະຖານທີ່ໃໝ່, ເນື່ອງຈາກວ່າສະຖານທີ່, ທີ່ເປັນດິນລັດຄຸ້ມຄອງ ມີລັກສະນະພູສູງ, ບໍ່ມີໄຟຟ້າ ແລະ ນໍ້າປະປາເຂົ້າເຖິງ;
2. ສໍາລັບບໍ່ດິນຖິມ ເຫັນດີໃຫ້ຊຸດຈົກ ແລະ ປັບດິນ ໃຫ້ຖືກຕ້ອງຕາມມາດຕະຖານເຕັກນິກ ຕາມແຜນ ວາດ ຈາກພາກສ່ວນທີ່ກ່ຽວຂ້ອງ ກຳນົດຢ່າງລະອຽດ.

ດັ່ງນັ້ນ, ຈຶ່ງໄດ້ເຮັດບົດບັນທຶກສະບັບນີ້ໄວ້ ເພື່ອເປັນບ່ອນອີງໃນການຈັດຕັ້ງປະຕິບັດ ແລະ ລາຍງານໃຫ້ຂັ້ນ ເທິງຮັບຊາບ.

ຫຼວງພະບາງ, ວັນທີ ..... ເມສາ 2022.

ຄະນະກຳມະການໄກ່ແກ່ຍຂັ້ນນະຄອນ

ຜູ້ບັນທຶກ

- 1.....
- 2.....
- 3.....



ສາທາລະນະລັດ ປະຊາທິປະໄຕ ປະຊາຊົນລາວ  
ສັນຕິພາບ ເອກະລາດ ປະຊາທິປະໄຕ ເອກະພາບ ວັດທະນະຖາວອນ

**ລາຍຊື່ຜູ້ເຂົ້າຮ່ວມ**

ລົງສໍາຫຼວດບໍ່ດິນ ແລະ ຈຸດຕັ້ງແຄ້ມສໍາລັບໂຄງການ  
ຄຸ້ມຄອງຄວາມສ່ຽງໄພພິບັດ ນໍ້າຖ້ວມ ຢູ່ ສປປ ລາວ ເທດສະບານ ນະຄອນ ຫຼວງພະບາງ  
ຄັ້ງວັນທີ 26 ເມສາ 2022 ເວລາ 09:00 ນາທີ

ລ/ດ	ຊື່ ແລະ ນາມສະກຸນ	ມາຈາກພາກສ່ວນ	ໜ້າທີ່ຮັບຜິດຊອບ	ເບີໂທລະສັບ	ລາຍເຊັນ
1	ທ. ພຸດທະວິສຸດ	ອຸປະກອນ	ທ່ານ	84853 999	
2	ທ. ສິມສິມ	ທ. ສິມສິມ	ອຸປະກອນ	823 16000	
3	ທ. ສິມສິມ	ທ. ສິມສິມ	ອຸປະກອນ	9555 8274	
4	ທ. ສິມສິມ	ທ່ານ PSU	ອຸປະກອນ PSU	59833555	
5					

## ATTACHMENT 3: RESULTS FROM SAFEGUARD SCREENING

1. This Attachment presents the results of safeguard screening for LPB project (Project) based on the ESMF safeguard screening form provided in Appendix A2 (*General Environmental Assessment Policy Instrument: Screening Form*)” and Appendix A3 (*Site-Specific Environmental and Social Screening Form*). The impact assessment (positive and negative) was made based on the baseline conditions for physical, biological, socio-economic, cultural and visual observation of the Project’s area taking into account the risks during Project implementation. The screening was made for all proposed Project activities covering (a) river embankment and bank protection, (b) improvement of the Riverfront Park, and (c) construction of 9 culverts and flap gates.

2. Table A3-1 identifies the criteria used for assessing the significance of potential negative impacts which the impact magnitude take into account the Project design, engineering and modelling, while the receptor/resource sensitivity consider existing environmental and social baseline conditions. These classifications have been used as an input into the impact significance rating (Negligible, Minor, Moderate or major). Tables A3-2, A3-3, and A3-4 below present the results. The results confirm that the proposed LPB project can be classified according to WB safeguard policies as EA category B.

**Table A3-1 Screening Matrix for Impacts Significance**

Receptor / Resource Sensitivity	Impact Magnitude			
	Negligible	Low	Medium	High
Low	Negligible	Minor	Minor	Moderate
Medium	Negligible	Minor	Moderate	Major
High	Negligible	Moderate	Major	Major

**Table A3-2 the Results of Environmental Assessment Category Screening** (Note: NE=Negligible, MI=Minor, MO=Moderate, MA=Major)

No.	Environmental Impact	Impacts Significance			Mitigation Measures
		MA	MO	MI	
1	Will the project generate dust or noise or vibration?  YES. Air, Noise and Vibration and impacts on cultural structure during transportation of construction material and construction at the subproject sites will also require close monitoring		✓		Spray water 2-3 times a day and implement the construction during day time; Develop and implement Dust and Noise and Vibration Control Plan; More details are presented in Attachment 5 (Key Issues and Mitigation Measures for ESMP and C-ESMP) and Attachment 6A (ECOP).
2	Will the project require borrow and quarry sites (cuts, fills, quarries or extraction of		✓		Obtain the approval and stabilize and rehabilitate the site after use; Develop and implement Borrow and Quarry

No.	Environmental Impact	Impacts Significance			Mitigation Measures
		MA	MO	MI	
	<p>material (stone, gravel, aggregate, sand)?</p> <p>YES. Locations of the proposed sites are provided in Attachment 2.</p>				<p>Management Plan;</p> <p>More details are presented in Attachment 5 (Key Issues and Mitigation Measures for ESMP and C-ESMP) and Attachment 6A (ECOP).</p>
3	<p>Will the project impact on fish and other aquatic life in the river, terrestrial biodiversity?</p> <p>YES, but the impacts are not expected to be significant since the area is subject to major flooding every year and there is an aquatic (fish) conservation zones in Nam Khan located within the project area. However, there is no known endanger species and significant adverse impacts on aquatic life and biodiversity is not expected during construction.</p> <p>Also, there are no critical habitats, wildlife corridors and wetlands as the Project site is located in urban area.</p>			✓	<p>Construction of embankment, riverbank protection structures, drainage and flap gates works may disturb the natural flow; however, the design has been made to minimize the negative impacts. The construction of toe will be carried out during the dry season and at the low water level (See Typical Cross Section of Section in Attachment 2)</p>
4	<p>Will the project require the creation of material stockpiles and disposal of excavated materials?</p> <p>YES. The river embankment and river bank protection activities will involve excavation and proper disposal of excavated materials. The disposal site identified located in 6ha empty public land in Lak 8 village with about 8km distance to the subproject site and 7km to the nearest NPA with no sensitive environmental and social resources (see locations in Attachment 2). It is</p>			✓	<p>Obtain the approval of local authorities and stabilize and rehabilitate the sites after use; Develop and implement Spoil/Unusable Excavated Disposal Plan; Locations of the proposed sites are presented in Attachment 2 (<i>location of spoil disposal area</i>) while details related to key issues and mitigation measures (for ESMP and C-ESMP) are presented in Attachment 5 and Attachment 6A (ECOP).</p> <p>Additional impact assessment and measures will be provided in the contractor ESMP (C-ESMP) for the remaining sites and it will be submitted for WB review and clearance.</p>

No.	Environmental Impact	Impacts Significance			Mitigation Measures
		MA	MO	MI	
	not expected to have impacts on future land use of the areas. However, there will be more disposal sites that will be identified by the PIU.				
5	<p>Will the project alter surface water hydrology of waterways or streams?</p> <p>YES. After construction is completed, the Project structure may change the river flows in the lower part of Nam Khan River and in the Mekong River near the confluence as well as change the sedimentation transport. These changes can also have some impacts on safety of the Project structure and/or impacts on sedimentation pattern upstream and/or downstream of the Project/hard structures.</p>			✓	<p>This is part of the Project tradeoff. Main purpose of the proposed structure is to protect the riverbank and mitigate flood risk.</p> <p>To mitigate the risk due to change of water flow and sedimentation is to closely monitor the river bank profile upstream and downstream of the Project sites before the construction begin and monitor the profile at least one time a year. Since the Nam Khan River flow and sedimentation is now under the influence of the Nam Khan hydropower operations upstream as well as the water and sedimentation flow in the Mekong River which is under the influence of the hydropower dams along the Mekong mainstream upstream and downstream of the project site, specific locations and frequency of the monitoring sites will have to be determined by the PIU/DPWT during the baseline establishment not less than 6 months before construction is completed.</p>
6	<p>Will the project impact on water quality and possible water users (Nam Khan River)?</p> <p>YES.</p> <p>The main water users in Nam Khan and Mekong Rivers within the subproject area are for domestic use (washing), boat racing, and tourism/aesthetics view. There is no fishing within the subproject area as the subproject area (Nam Khan River) was identified as (fish)</p>		✓		<ul style="list-style-type: none"> <li>• Make efforts to mitigate potential impacts on water quality and water users during construction and operations through consultation with local communities.</li> <li>• To mitigate impacts during construction, measures on the following aspects should be developed and included in the Contractor-ESMP (C-ESMP): Solid Waste Management (no dumping of solid waste in the river/stream); General Construction Site</li> </ul>

No.	Environmental Impact	Impacts Significance			Mitigation Measures
		MA	MO	MI	
	<p>conservation zones in Nam Khan River and the land is mostly government land. There is no known endanger species and significant adverse impacts on aquatic life and biodiversity is not expected during construction.</p> <p>However, excavation or earth works will increase turbidity of water and possible disturbance of bottom sediment. Earth works/ excavation and construction of toe will be carried out during the dry season and at the low water level (See Typical Cross Section of Section in Attachment 2).</p>				<p>Management including spill and emergency response, chance find procedures, etc.; Runoff/Erosion and Sedimentation Control; Water quality management (no directly discharge of wastewater from camp into the natural stream/river); Plan for carrying out earth works/ excavation and construction of toe during the dry season and at the low water level.</p> <ul style="list-style-type: none"> <li>• More details are presented in Attachment 5 (Key Issues and Mitigation Measures for ESMP and C-ESMP) and Attachment 6A (ECOP).</li> <li>• To mitigate impacts during operations, agreement will be developed with local communities to ensure that waste discharge into the rivers will be strictly prohibited, and local communities will ensure that this agreement will be complied with.</li> </ul>
7	<p>Will the project require the establishment of a camp for construction workers? YES.</p> <p>To prevent possible impacts of Covid19 pandemic during construction, PIU and contractors will take proactive actions as required by the Government and also acceptable to the WB.</p>		✓		<ul style="list-style-type: none"> <li>• Consultation with DPWT and local community on the location of the worker camps. In principle, a worker camp should not be located within 100 meters of any sensitive receptors in the project area and/or at least 100 meters from any surface water course and not within 2 kilometers of a protected area.</li> <li>• The location of camp sites will be identified when the contractor is on board and site specific impact screening and consultation with landowner and surrounding communities will be conducted and included in the Contractor Environmental and Social Management Plan which will be prepared by the contractor and submitted to WB for comments p</li> </ul>

No.	Environmental Impact	Impacts Significance			Mitigation Measures
		MA	MO	MI	
					<p>rior to the approval by PMU and commencement of construction activities; Develop and implement Labor Influx Management Plan which could cover Worker Camp Management Plan;</p> <ul style="list-style-type: none"> <li>Comply with measures required in (i) the main ESMP, section - Labor Management, Worker Camp and Storage Area, (ii) Attachment 5 (Key Issues and Mitigation Measures for ESMP and CESMP), (iii) Attachment 6A (ECOP), and (iv) the Project Code of Conduct on Sexual Exploitation and Abuse (SEA), Sexual Harassment (SH), and Violence Against Children (VAC) in Attachment 6B,</li> </ul>
8	<p>Will the project increase soil erosion? YES. The LPB subproject aims to improve flood protection and riverbank erosion along the selected sections on Namkhan River. However, during construction, ineffective control and management of construction sites, borrow pits, quarries, spoil disposal site could increase soil erosion risks and sediment in the river due to runoff.</p>		✓		<p>Develop and implement Runoff/Erosion and Sedimentation Control Plan, Site Clearance and Restoration Management Plan, Borrow and Quarry Management Plan, Spoil/excavated Disposal Plan as parts of C-ESMP.</p> <p>More details are presented in Attachment B (Key Issues and Mitigation Measures for ESMP and C-ESMP) and Attachment 6 (ECOP).</p>
9	<p>Will there be an impact on Community health and safety? YES. As mentioned above under the Worker Camp, efforts will be made to mitigate potential impacts on staff and workers as well as on local communities on prevention of Covid19 pandemic.</p> <p>Road safety from materials transport and public safety at the areas near subproject construction site are key community safety concerns for</p>		✓		<p>Develop and implement measures to manage impacts on Occupational and Community Health and Safety and Traffic Management and Road Safety; Install safety, warning and speed limited signs at all risk points and community areas. Regularly consultation with communities about the construction activities and schedule to be carried in the community area.</p> <p>More details are presented in Attachment 5 (Key Issues and Mitigation Measures for ESMP and C-ESMP); Attachment 6A (ECOP); and</p>

No.	Environmental Impact	Impacts Significance			Mitigation Measures
		MA	MO	MI	
	this subproject.				Attachment 6B (COC).
10	Will the project require the creation of temporary access or haul roads? No. The Project will not create the new access road but the access to project activities including quarry and borrow pits will use the existing local access roads. The moderate impacts and mitigations are for existing roads and can be maintained.		✓		<ul style="list-style-type: none"> <li>Develop and implement Traffic Management Plan.</li> <li>Regularly consultation with communities and local authorities including traffic police about the construction activities and schedule to be carried in the community area.</li> </ul>
11	<p>Will there be an impact on cultural heritage site? Yes. As the Project is located in the center of Luang Prabang World Heritage Site, there are long term benefits on protecting river bank erosion along the selected section of Nam Khan as well as flood protection for LPB city including LPB Cultural Heritage Zones. Positive impacts had been enhanced by adjustment of the Riverfront Park design.</p> <p>However, there is potential moderate negative impacts on the Outstanding Universal Value (OUV) overall of natural landscape and visual impact along the subproject section of Nam Khan riverbank due to construction of riverbank protection and embankment structure. Temporary indirect and direct impacts from noise, dust, raw materials transport and river works during construction on tangible and intangible cultural heritage are also rated moderate.</p>		✓		Cultural and Heritage Impact Assessment (CHIA) was carried out as part of this subproject ESMP and measures to mitigate the potential impacts were also identified in the Section 6 of the subproject ESMP Volume 1 Main Report.

**Table A3-3 The Result of Ethnic Groups (EG) Screening – Not Applicable as Neither Hmong nor Khmu ethnic groups expect to be affected by this project (Note: NE=Negligible, MI=Minor, MO=Moderate, MA=Major).**

No.	Impact on Ethnic Groups	Impacts Significance	Mitigation Measures
-----	-------------------------	----------------------	---------------------

		MA	MO	MI	
1	Are there ethnic minority groups present in the sub-project area?				
2	Do they maintain distinctive customs or economic activities?				
3	Will the project disrupt their community life?				
4	Will the project positively affect their health, education, social activity, livelihoods or security?				
5	Will the project negatively affect their health, education, social activity, livelihoods or security?				
	Will there be loss of housing, land, crops, trees or access to resources owned, controlled or used by ethnic minority households?				

NE=Negligible, MI=Minor, MO=Moderate, MA=Major

**Table A3-4 The Result of Land Acquisition & Resettlement (LAR) Screening (Note: NE=Negligible, MI=Minor, MO=Moderate, MA=Major).**

No.	Social Impact	Impacts Significance			Mitigation Measures
		MA	MO	MI	
1	Is the site for land acquisition known? Is the ownership status and current usage of the land known? YES.			✓	The ARAP in line with RPF is prepared and community broad support established in all three affected villages.
2	Will there be loss of housing, agricultural plots, crops, trees, and fixed assets, businesses or enterprises and incomes and livelihoods? If involuntary resettlement impacts are expected? YES.			✓	Complete the compensation and relocation before starting the works. The ARAP in line with RPF is prepared and community broad support established in in all three affected villages.
3	Will any social or economic activities be affected by land use-related changes? YES.			✓	Provide income restoration for loss of income.
4	Will coordination between government agencies be required to deal with land acquisition? Are there sufficient skilled staffs in the Executing Agency for resettlement planning and implementation?		✓		Resettlement Committee was established. Cutoff Date was declared. Training and capacity building has been provided and more trainings will be provided through out project construction. ARAP was prepared and submitted to WB.



No.	Social Impact	Impacts Significance			Mitigation Measures
		MA	MO	MI	
	Are training and capacity-building interventions required prior to resettlement planning and implementation? YES.				
5	Social issues from worker and labor influx. YES		✓		Consultation with EG shall be conducted before commencement of construction activities. Application of COC on SEA/SH/VAC and ECOP.

## ATTACHMENT 4: ENVIRONMENT AND SOCIAL BACKGROUND

1. This Attachment presents background on the Nam Khan River and general feature of Luang Prabang (LPB) (Section A4.1); Geographic Conditions (Section A4.2); Flood and Erosion Hazards (Section A4.3) and some laboratory results on water quality, air, and noise (Section A4.5). Section A4.6 provides additional information on social aspect.

### A4.1 Mekong River Basin and General Features of Luang Prabang

2. The basin area of the Mekong River is a total catchment area of 795,000 km<sup>2</sup> from the eastern watershed of the Tibetan Plateau to the Mekong Delta as shown in Figure A4-1. The Mekong River flows approximately 4,800 km through three provinces of China, continuing into Myanmar, Lao PDR, Thailand, Cambodia and Vietnam, going into the South China Sea.

3. The Mekong Basin can be divided into upper and lower basins, catchment area of the Upper Mekong Basin is equivalent to 25% of total basin, which provides 15 ~ 20% of total discharge at mouth of the Mekong River.

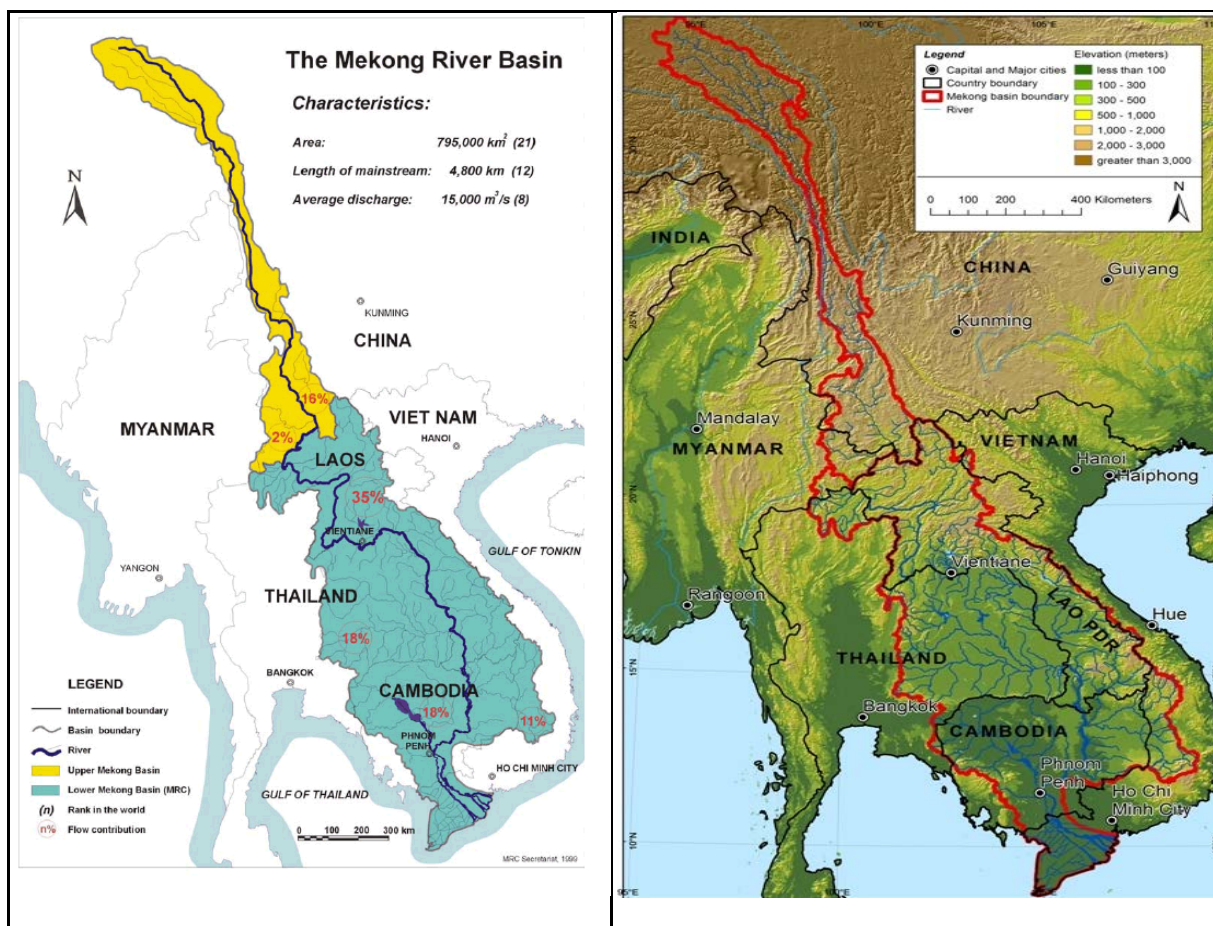


Figure A4-1 Geographical Map of Mekong River Basin (MRC, 2005)

4. As shown in Figure 4-1, Lao PDR lies within the Lower Mekong Basin, which makes climate and land use of Lao PDR become a major influential factor on the hydrology of the Lower Nam Khan Basin. Table A4-1 shows composition of the Mekong River Basin.

**Table A4-1 Composition of Mekong River Basin**

Division	Countries						
	China	Myanmar	Lao PDR	Thailand	Cambodia	Vietnam	Total
Area (km <sup>2</sup> )	165,000	24,000	202,000	184,000	155,000	65,000	795,000
Portion (%)	21	3	25	23	20	8	100

Source: ISAN, 2022

### A4.2 Major Tributaries of the Mekong and the Nam Khan River

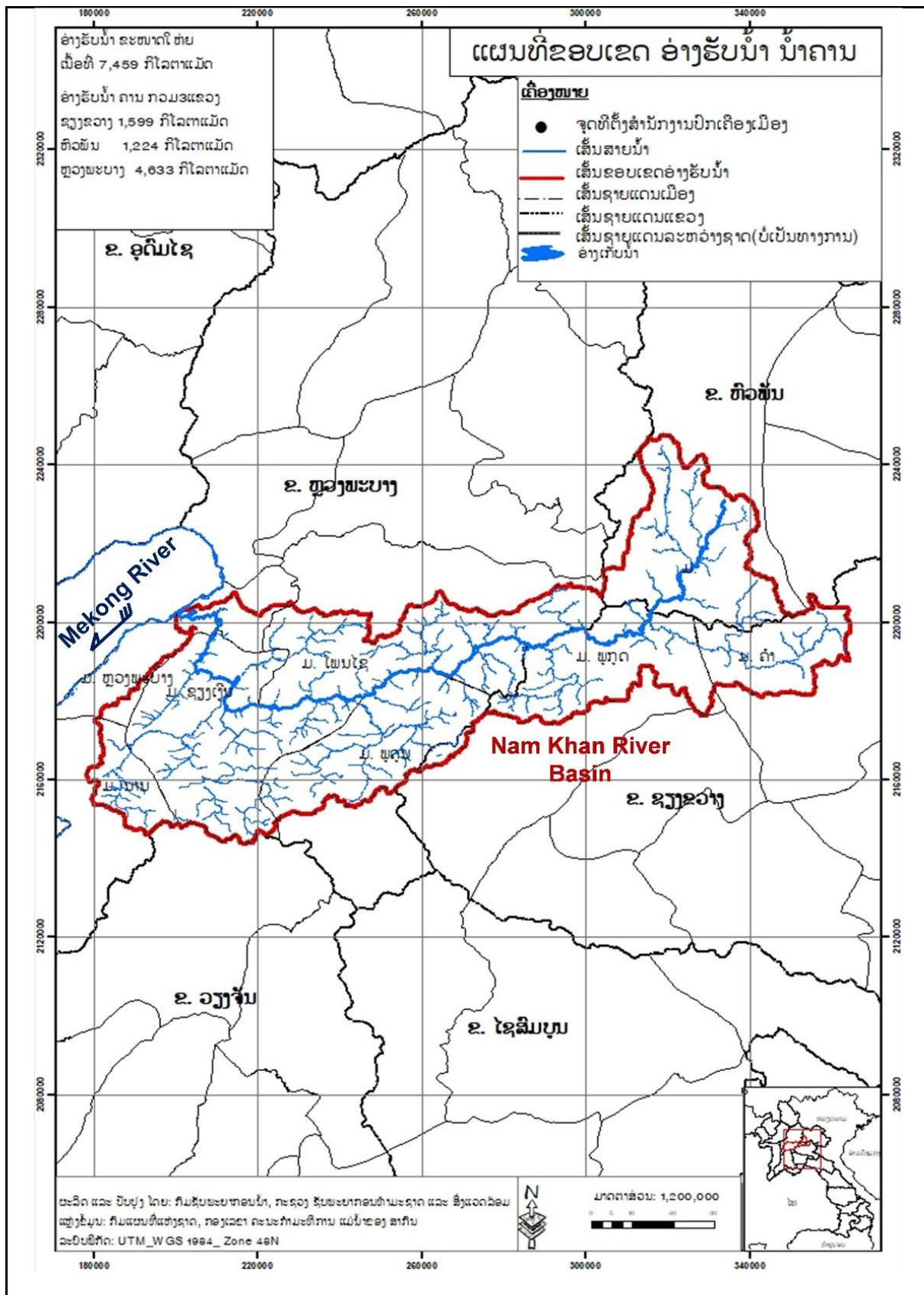
5. The Mekong River flows through Lao PDR over approximately 1,650 km from 723 km to 2,373 km and 55 main tributaries are drained into the Mekong River as shown in **Figure A4-2**.

6. The Nam Khan River with a length of 935 km origin from near Phou Nam Pa at an altitude of 1,828 m is one of the major tributaries of the Mekong River, it flows through Luang Prabang province and into the Mekong River at Luang Prabang City at an altitude of 300 m. Its catchment area is approximately 7,459 km<sup>2</sup> as the 0.9 % of the Mekong River basin, annual discharge is 29.4 km<sup>3</sup> as shown in **Figure A4-3**.



**Figure A4-2 River Map in Lao PDR**

Source: ISAN, 2022



Source) Department of Water Resources, MoNRE

Figure A4-3 Nam Khan River Basin Map

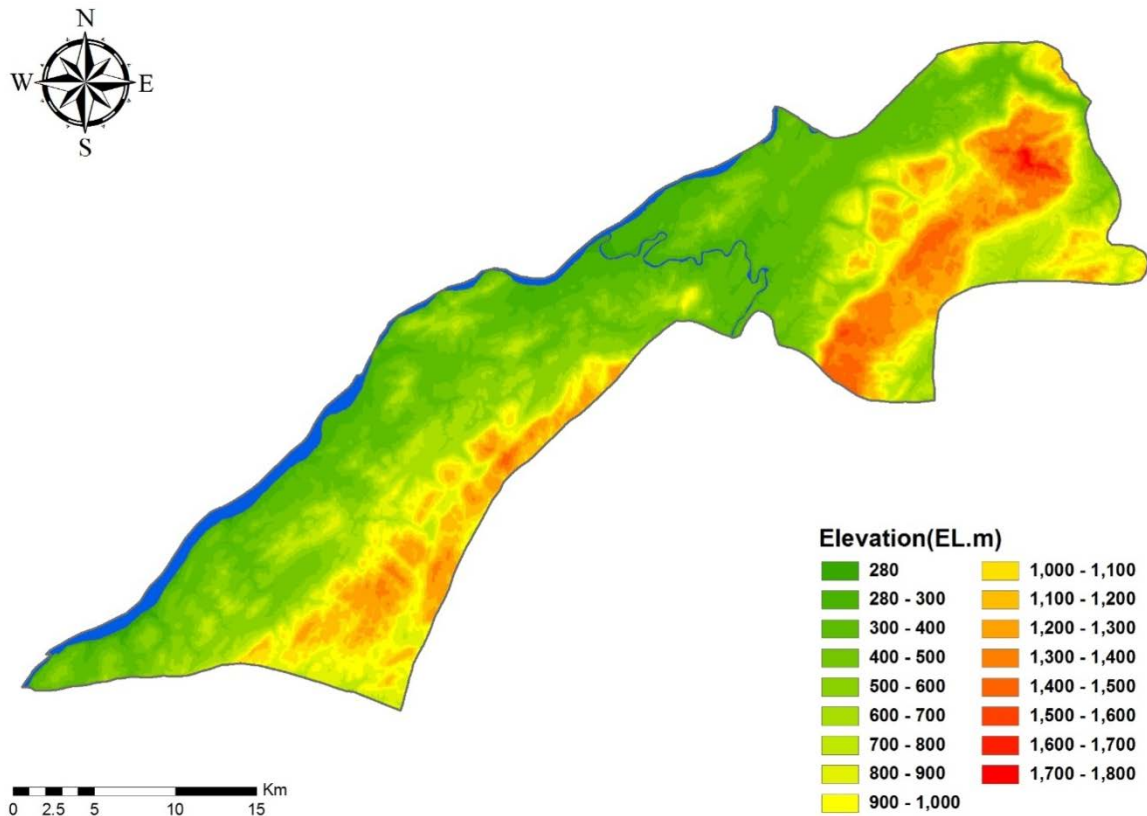
### A4.3 Geographic Conditions

#### *Three-dimensional Characteristics*

7. Three-dimensional characteristics of the basin include ground elevation distribution, average elevation and average slope, etc., which are important parameters to determine the discharge characteristics of the river basin, especially concentration time of the flood. Analysis on the spatial characteristics for the basin areas of the Mekong and Nam Khan Rivers located in Luang Prabang City (the study area) was carried out. Digital Elevation Model (DEM) provided by Lao National Geography Department (LNGD) with the cell size of 50 m and digital topographic map with a scale of 1:100,000 were used to derive the factors related to topographical characteristics.

#### *Ground Elevation Distribution*

8. In the ground elevation, approximately 90% of the Study Area is higher than EL. 300m as shown in **Table A4-2**, and the surrounding area at the confluence of the Mekong and Nam Khan Rivers formed low-lying plain as shown in **A4-4**.



**Figure A4-4 Ground Elevation**

Source: ISAN, 2022

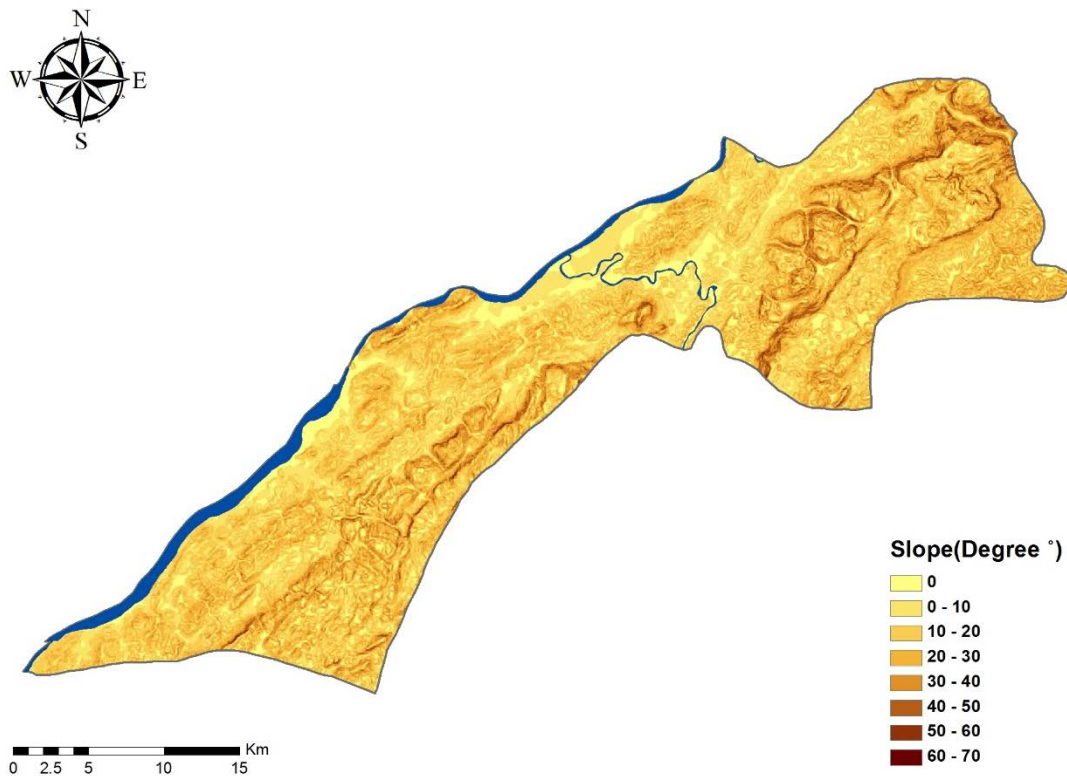
**Table A4-2 Cumulative Area by Elevation**

Elevation (EL. m)	>700	>600	>500	>400	>300	>200
Area (km <sup>2</sup> )	340.25	406.36	491.01	596.27	751.16	834.52
Ratio (%)	40.77	48.69	58.84	71.45	90.01	100.00

<b>Elevation (EL. m)</b>	<b>&gt;1,300</b>	<b>&gt;1,200</b>	<b>&gt;1,100</b>	<b>&gt;1,000</b>	<b>&gt;900</b>	<b>&gt;800</b>
Area (km <sup>2</sup> )	45.80	92.63	139.56	187.99	241.95	292.35
Ratio (%)	5.49	11.1	16.72	22.53	28.99	35.03
<b>Elevation (EL. m)</b>	<b>-</b>	<b>&gt;1,800</b>	<b>&gt;1,700</b>	<b>&gt;1,600</b>	<b>&gt;1,500</b>	<b>&gt;1,400</b>
Area (km <sup>2</sup> )	-	0.00	0.31	1.16	3.51	15.58
Ratio (%)	-	0.00	0.04	0.14	0.42	1.87

**Slope Distribution and Aspect, Source: ISAN, 2022**

9. Results of analysis on slope distribution and its aspect are shown in Table A4-3, Table A4-4 and Figure A4-5, Figure A4-6 below.



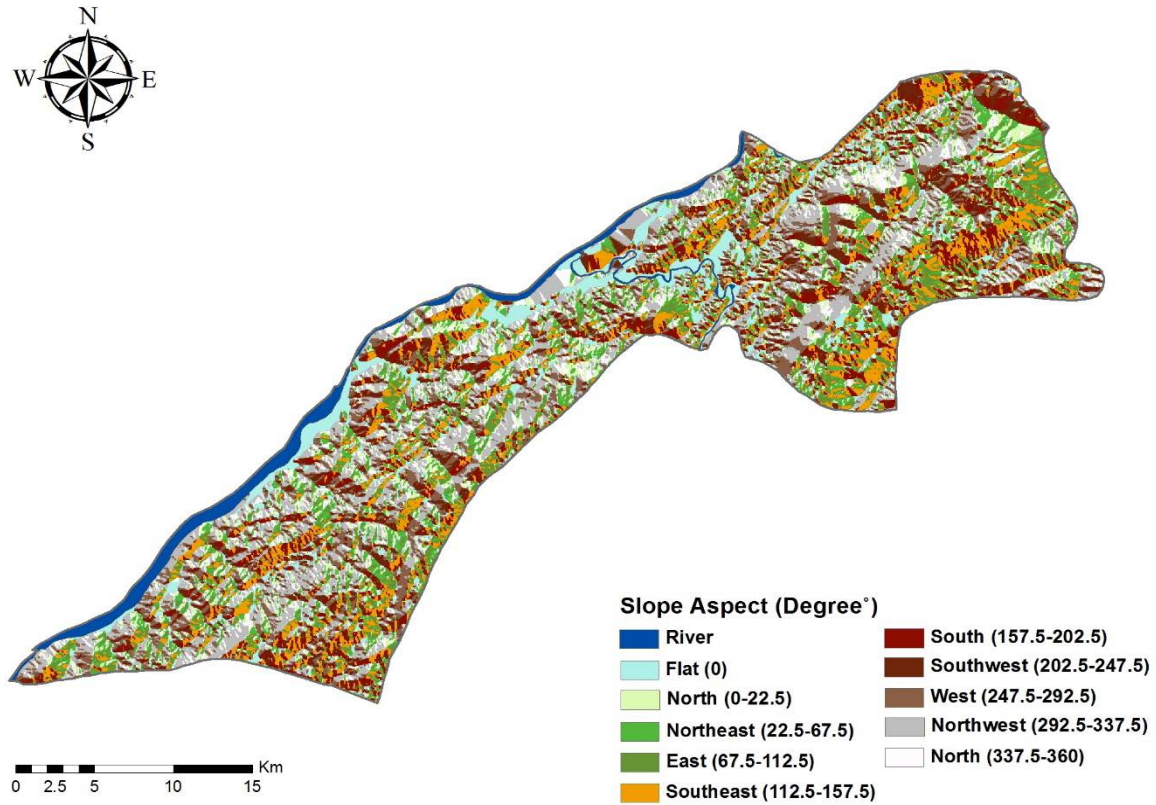
**Figure A4-5 Slope Distribution**

Source: ISAN, 2022

**Table A4-3 Slope Distribution**

<b>Slope (°)</b>	<b>≥60</b>	<b>≥50</b>	<b>≥40</b>	<b>≥30</b>	<b>≥20</b>	<b>≥10</b>	<b>≥0</b>
Area (km <sup>2</sup> )	0.03	2.30	22.34	102.36	294.59	546.23	834.52
Ratio (%)	0.01	0.28	2.68	12.27	35.30	65.45	100.00

Source: ISAN, 2022



**Figure A4-6 Distribution of Slope Aspect**

Source: ISAN, 2022

**Table A4-4 Slope Aspect**

Slope Aspect (°)	N	NW	W	SW	S	SE	E	NE	Plane
Area (km <sup>2</sup> )	109.24	156.04	93.16	71.20	75.41	104.82	72.16	70.59	81.90
Ratio (%)	13.09	18.70	11.16	8.53	9.04	12.56	8.65	8.46	9.81

Source: ISAN, 2022

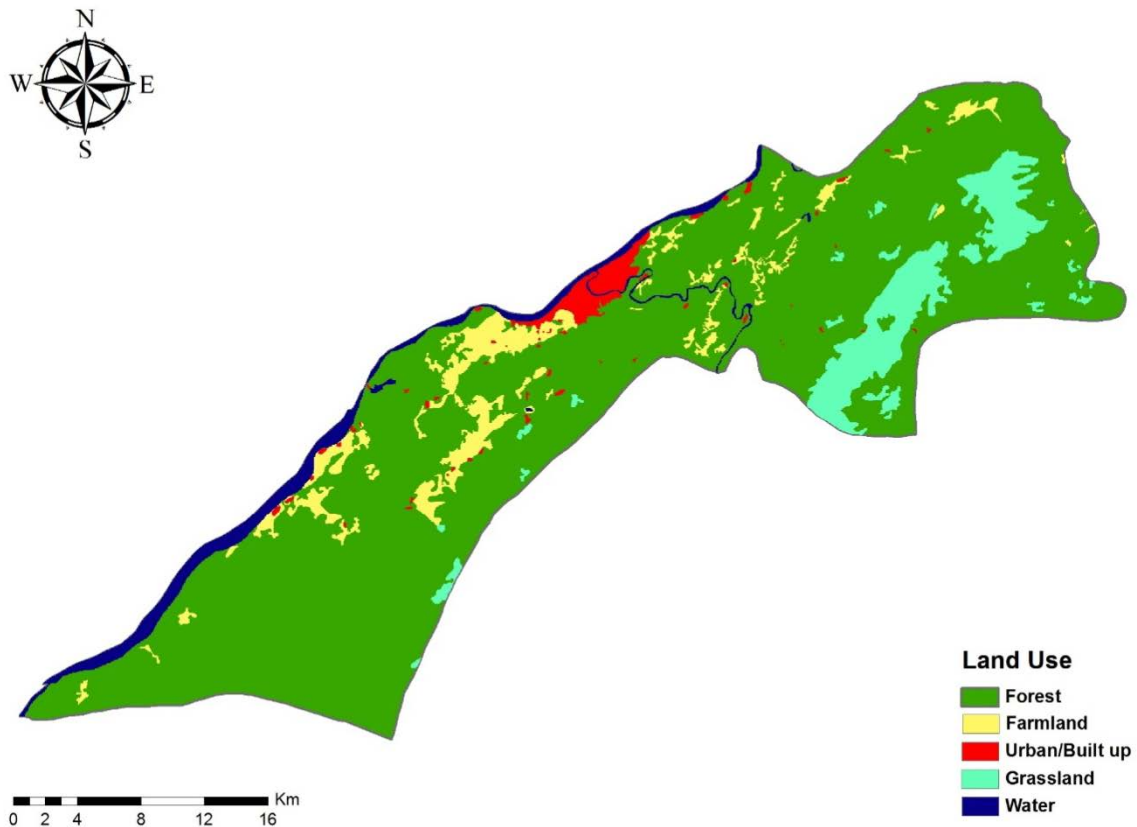
### Land Use

10. The land use in the study area was analyzed using a 1:100,000 scale of digital topographic maps provided by LNGD. The forest area was ranked as the first equivalent to 80.6% of the total area. Especially a farmland area ranked as the third is widely spread along the Mekong River, and urban areas are concentrated at the junction between the Mekong and Nam Khan Rivers. Distribution of land use is as shown in **Table A4-5** and **Figure A4-7**.

**Table A4-5 Land Use Distribution**

Land Use	Total	Forest	Farmland	Grassland	Built-up	River
Area (km <sup>2</sup> )	834.52	672.58	51.92	62.67	15.75	31.60
Ratio (%)	100.00	80.59	6.22	7.51	1.89	3.79

Source: ISAN, 2022



**Figure A4-7 Land Use**

Source: ISAN, 2022

**Soil Classification**

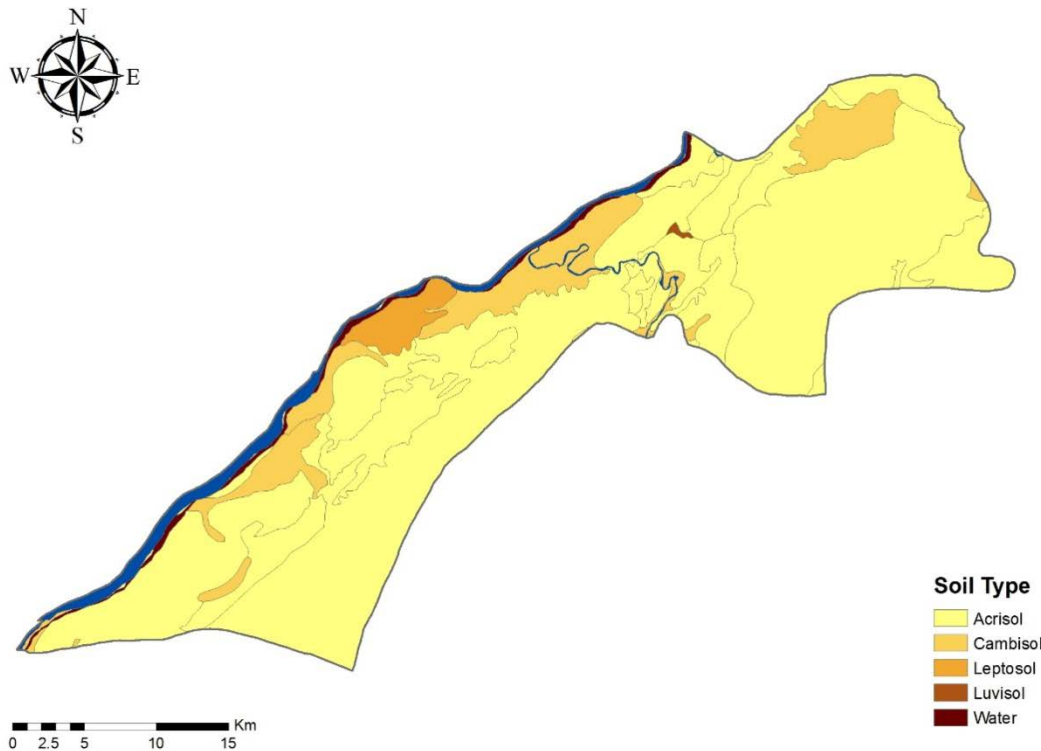
11. Soil characteristics of the study area are the important factor affecting runoff process directly caused by the rainfall and effective rainfall, since infiltration capacity is different by each soil characteristic. Soil Classification is as shown in **Table A4-6** and **Figure A4-8**.

12. As a result of investigations for the soil condition using a geological map provided by MRC, it was found that the most of soil types distributed in the study area have poor infiltrate capacity, which means that the volume of runoff discharge drained into the river is bigger than the infiltrated water under the ground.

**Table A4-6 Soil Classification**

Soil Type	Acrisol	Cambisol	Luvisol	Leptosol	Water	Total
Area (km <sup>2</sup> )	689.98	106.40	0.75	18.86	18.53	834.52
Ratio (%)	82.68	12.75	0.09	2.26	2.22	100.00

Source: ISAN, 2022



**Figure A4-8 Soil Classification**

Source: ISAN, 2022

## A4.4 Flood and Erosion Hazards

### A4.3.1 Flood Hazards in the Project Area

#### *Flood Damage*

13. In accordance with United Nation Office for Disaster Risk Reduction (UNDRR) survey from 1990 to 2012 in Lao PDR, the reason caused the highest mortality is epidemic and the second is flood damage, however flood and storm damage affected people the most. As this data, Flood disasters have negative impacts on people’s lives and their properties (Figure A4-9 and A4-10).

14. The regular flood pulse of the Mekong River dictates the life and environment around the river, and is generally considered beneficial and a prerequisite for supporting agriculture and fishing livelihoods in the area. However, caused by rainfall associated with the Monsoon it shows a remarkable regularity, the flood season normally starting in June and ending in early November in Lower Mekong Basin, which cause repeated flood damages along the Mekong River and its tributaries.

15. In accordance with UNDRR survey from 1996 to 2012 in Lao PDR, the highest flood damage and human injury occurred in 2008 in Luang Prabang Province with estimated damage amount of 6.7 billion LAK as shown in Table A4-7.

#### **Table A4-7 Data of Flood Damage in Luang Prabang (1996~2012)**

Year	Death	Injured	Missing	Houses destroyed	House Damaged	Indirectly Affected	Directly Affected	Losses Value (LAK)
1996	3				100	100		23,036,900
2002				6		38		387,500,000
2006						177		365,317,500
2008				1	12	21,027	1,203	6,698,425,600
2009				3		34		153,835,000
2010				7		102		3,033,178,500
2011	1			1		497		596,574,000
2012	7	12	1	18		332		603,314,000
<b>Total</b>	<b>11</b>	<b>12</b>	<b>1</b>	<b>36</b>	<b>112</b>	<b>22,307</b>	<b>1,203</b>	<b>11,861,181,500</b>

Source) [www.desinventar.net](http://www.desinventar.net), UNDRR (United Nation Office for Disaster Risk Reduction)

### ***Flood Characteristic in the Project Area***

16. Recently on 18<sup>th</sup> and 19<sup>th</sup> July 2018, Tropical Storm Son-Tinh caused heavy rains and flooding in 55 districts of 13 provinces across Lao PDR. According to the GOL, over 24,000 families are affected by these floods thus far.

17. Following Son Tinh was the Tropical Storm Bebinca which hit the country only weeks after. According to Government reports, all provinces in Lao PDR had been affected, including an estimated 116 districts, 2,400 villages and 132,000 households.

18. According to the UN Information Bulletin No.2, around 17,000 people were evacuated from their villages, and 1,772 houses were destroyed. Approximately 150 km of national and provincial roads, as well as 133 km of district and 350 km of rural roads and 47 bridges have been damaged. Moreover, around 100,000 hectares of paddy field have been damaged, and a large number of livestock had been lost, including 17,000 large animals and 79,000 poultry. Irrigation systems also had been heavily damaged. The most affected provinces were Attapeu, Khammouane, Savannakhet, Champasak and Oudomxay (Table A4-8).

**Table A4-8 A Summary of affected households by Tropical Storm Behinca**

Province	District	Village	Household	People	Missing	Death
Oudomxay	7	239	11,645	68,456	-	-
Xiengkhuang	7	27	508	3,162	-	4
Savannakhet	15	411	37,714	191,677	-	-
Khammouane	10	435	32,004	132,432	-	-
Bokeo	5	36	698	1,486	-	-
Huaphanh	4	58	1,101	3,936	-	-
Attapeu	3	26	4,081	20,267	32	40
Bolikhamxay	6	193	8,228	41,396	-	1
<b>Luang Prabang</b>	<b>11</b>	<b>95</b>	<b>1,185</b>	<b>5,734</b>	<b>3</b>	<b>10</b>

Xaiyabouly	8	40	1,056	5,422	-	-
Sekong	4	80	5,517	31,406	-	-
Phongsaly	6	37	365	1,435	-	-
Champasack	10	336	15,069	87,238	-	-
Luangnamtha	4	62	721	929	-	-
Vientiane Cap.	6	128	7,595	37,009	-	-
Xaysomboun	1	82	-	-	-	-
Vientiane	5	51	3,773	15,338	-	-
Salavanh	4	98	1,147	-	-	-
<b>Total</b>	<b>116</b>	<b>2,434</b>	<b>132,407</b>	<b>647,323</b>	<b>35</b>	<b>55</b>

Source: Source) ESCAP/WMO Typhoon Committee



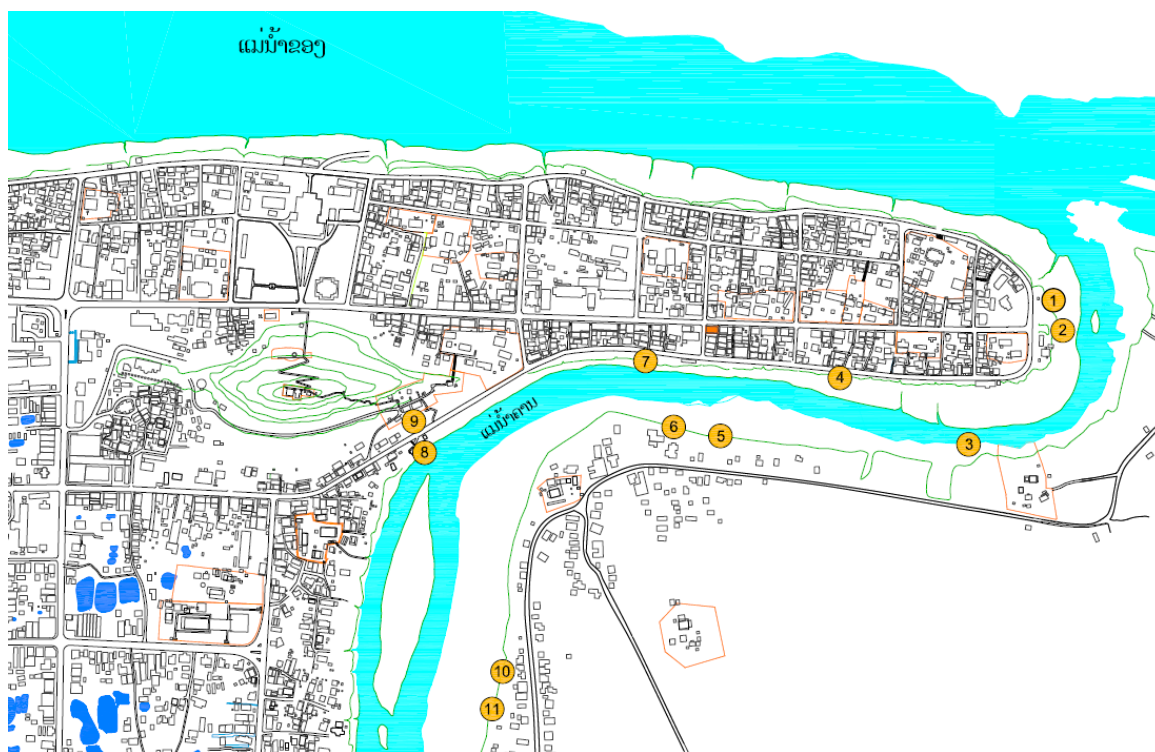
**Figure A4-9 Flooding in the Luang Prabang Province in 2008**



Damage of Son-Tinh tropical storm on the Nam Khan riverbank (accredited: World Heritage Office, LPB)



Damage of Son-Tinh tropical storm on the Nak Khan riverbank (accredited: World Heritage Office, LPB)



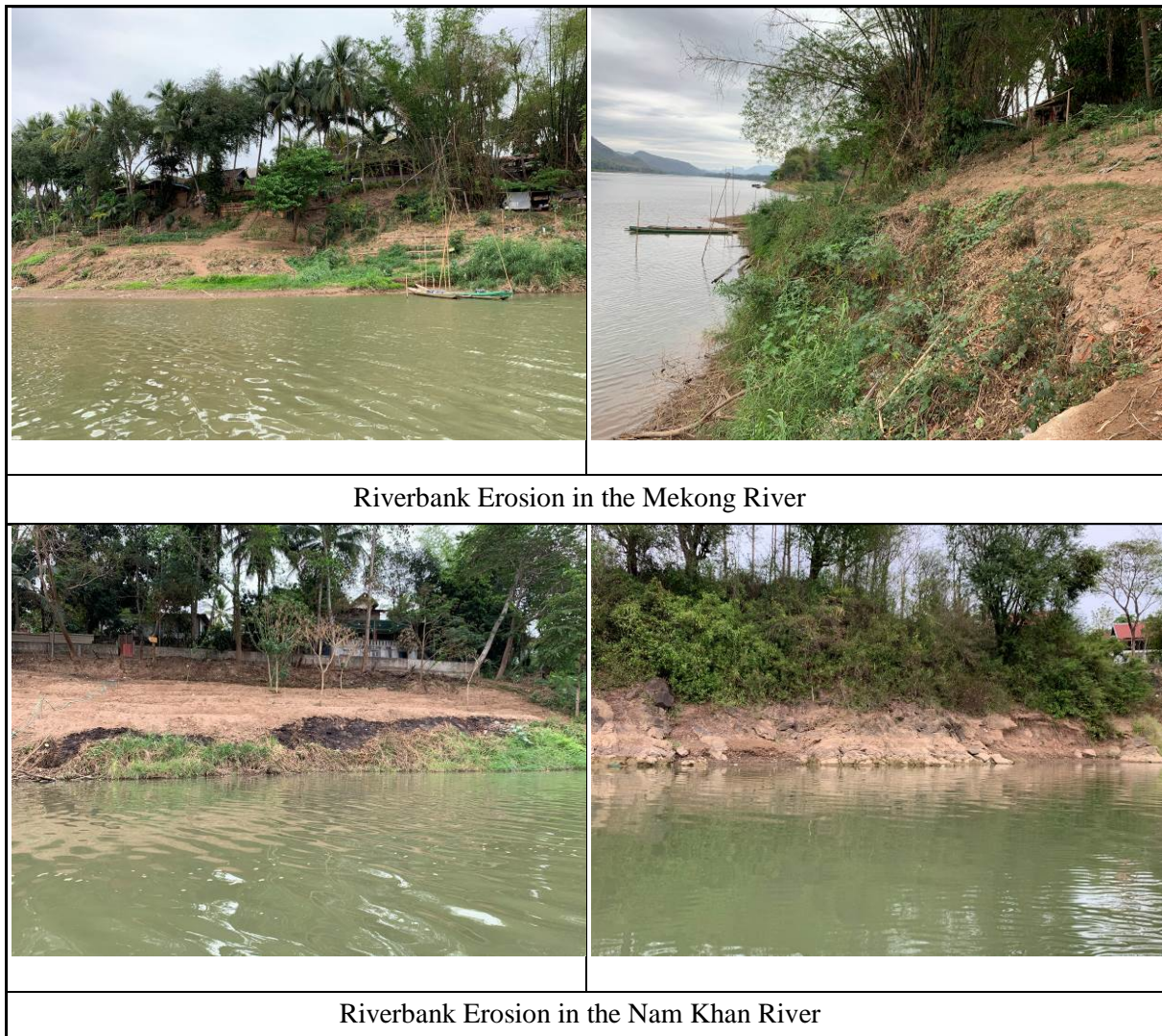
**Figure A4-10 Locations hit by Son-Tinh tropical storm in 2018**

Source: World Heritage Office, Luang Prabang Province (2020)

### A4.3.2 Erosion Damage in the Project Area

19. The Mekong and Nam Khan Rivers in the Study Area also have suffered from severe riverbank erosion damages repeatedly during the rainy season. The serious erosion status of the existing bank in the Project is shown in figure below.

20. The serious erosion status of the river bank in the proposed LPB Subproject’s embankment area is shown in Figure A4-11 below.



**Figure A4-11 Riverbank Erosion Status in the Project Area**

Source: ISAN, 2022

### A4.3.3 Condition of the Existing Bank-protection

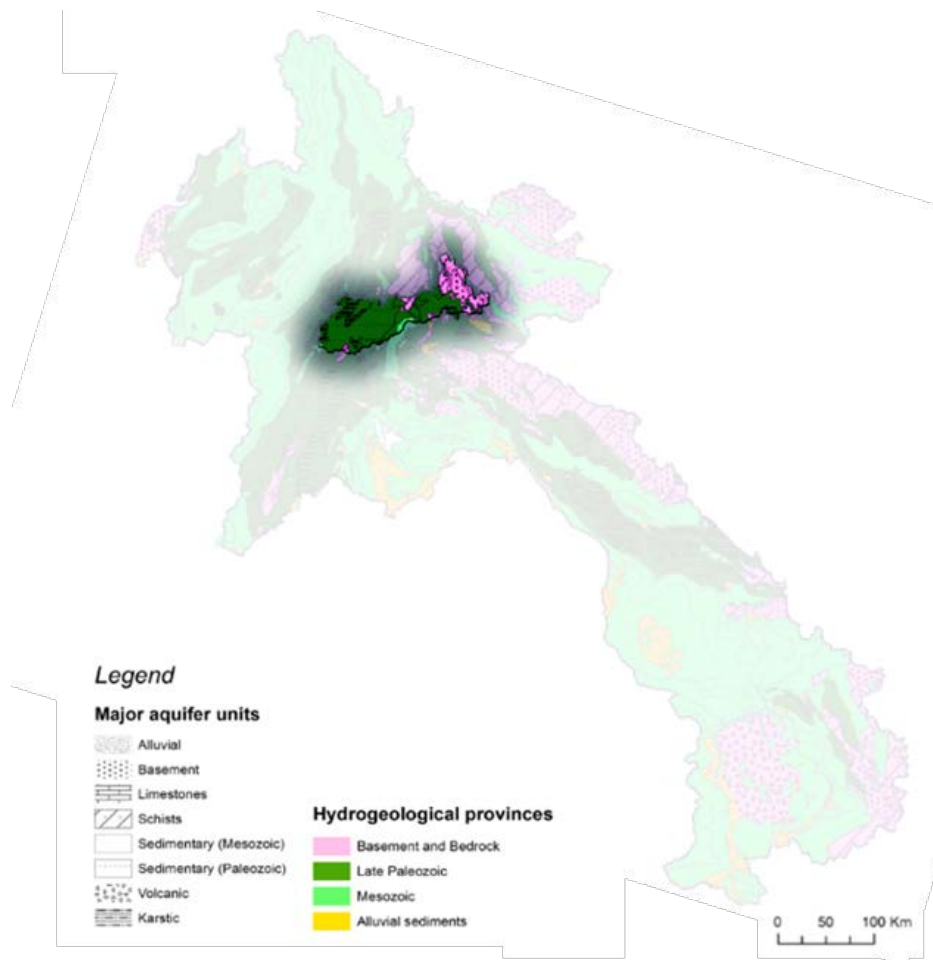
21. After experience the flood in 2018, the provincial government of Luang Prabang had implemented the riverbank protection (Box Gabion) works in two sections along the left side of the Nam Khan River with total length of 430 m as shown in **Figure A4-12**. Meanwhile, there is 220m length of the existing riverbank protection (Box Gabion) at both sides of the Nam Khan River, which was installed by local residents privately.



**Figure A4-12 Existing Bank-protection in the Project Area**

## A4.5 Additional Environmental Profile

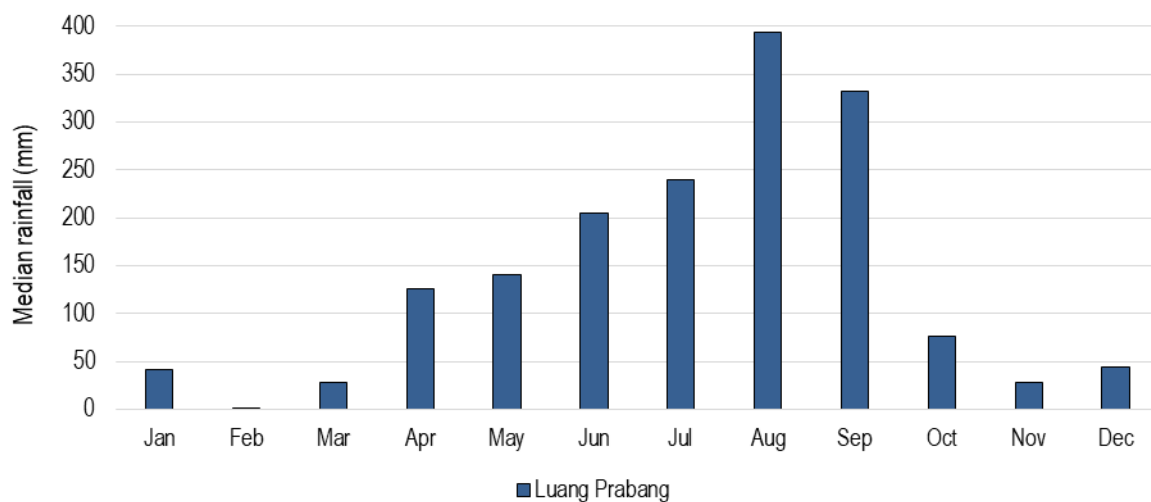
### (a) Geology and Groundwater



**Figure A4-13 Hydrological map of Lao PDR (Nam Khan River basin highlighted)**

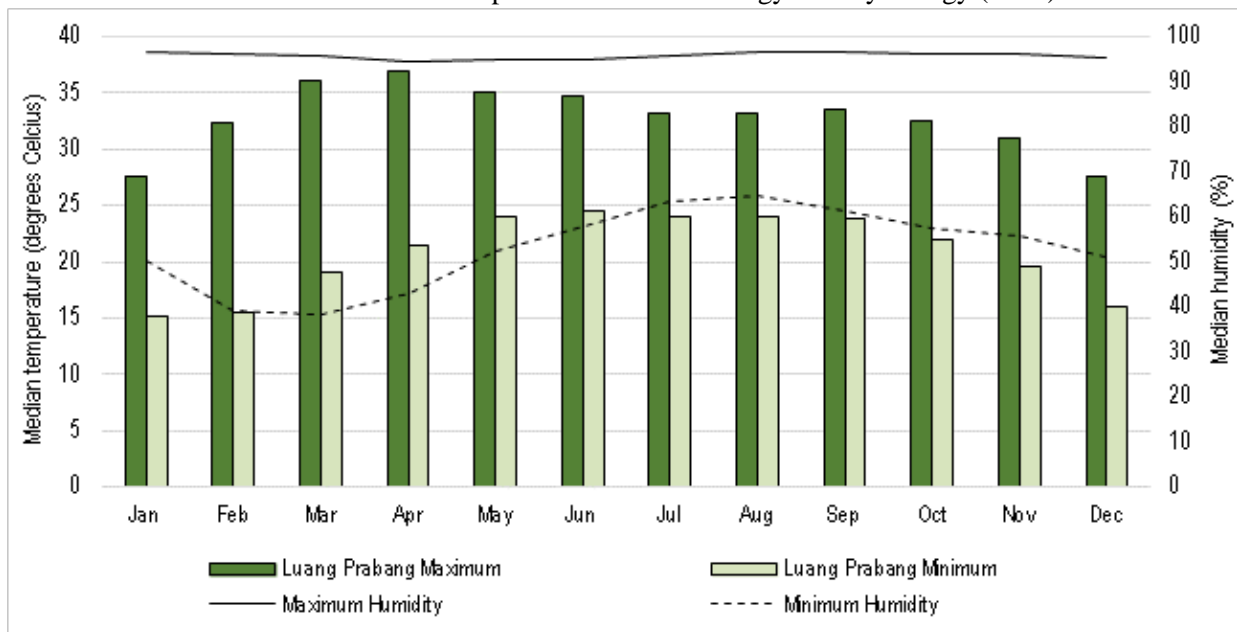
Source: Viossanges *et al.* (2017)

### (b) Rainfall and Climatic Characteristics



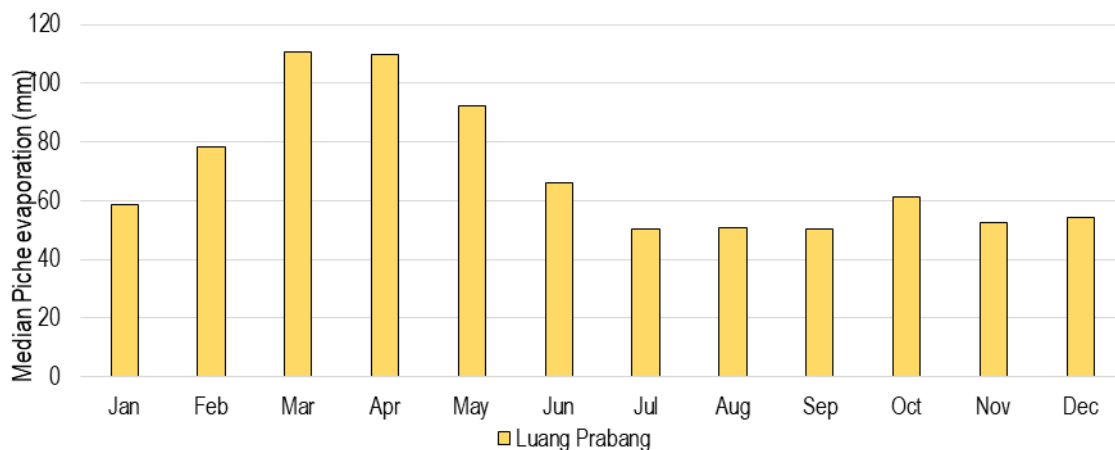
**Figure A4-14 The median monthly rainfall in Luang Prabang**

Data Source: Lao Department of Meteorology and Hydrology (2020)



**Figure A4-15 Median maximum and median minimum monthly temperature and humidity in Luang Prabang**

Data source: Lao Department of Meteorology and Hydrology (2020)



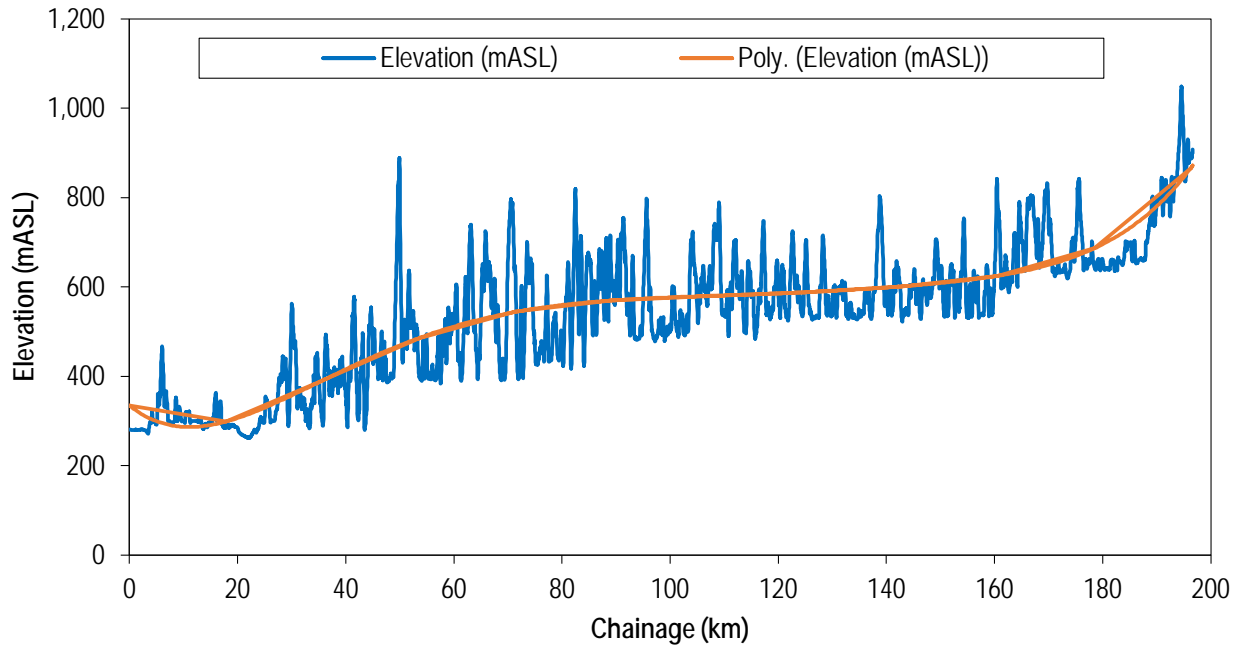
**Figure A4-16 Median monthly evaporation at Luang Prabang climate station**

Source: Lao Department of Meteorology and Hydrology (2020)

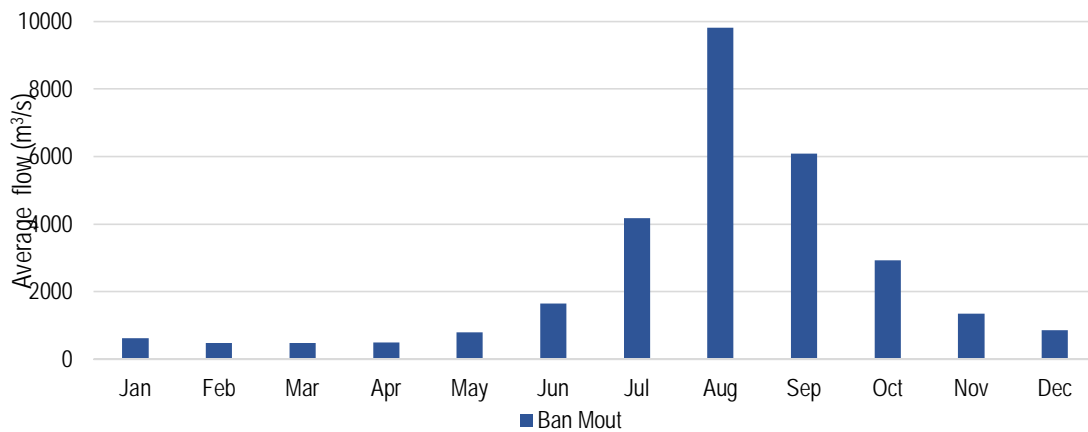
*(c) Hydrological and Catchment Characteristics*

**Table A4-9 Catchment characteristics of the Nam Khan River Basin**

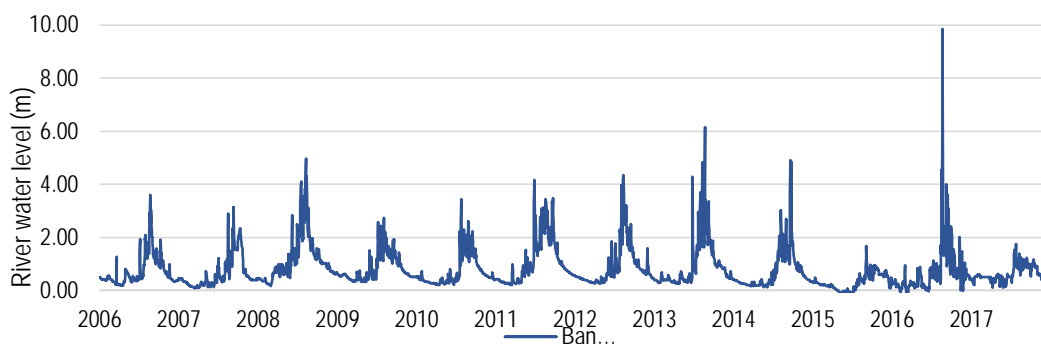
Catchment Feature	Value
Catchment Area (km <sup>2</sup> )	7,238
Length (km)	196
Average Slope (%)	0.32
Area/Length ratio	38



**Figure A4-17 Smoothed elevation profile of basin catchment along the Nam Khan River (orange line) and elevation derived from DEM (blue line).**



**Figure A4-18 Seasonal flow in the Nam Khan River at Ban Mout river gauging station**  
 Source: Lao Department of Meteorology and Hydrology (2020)



**Figure A4-19 Daily Nam Khan River water level at Ban Mout river gauging stations**  
 Source: Lao Department of Meteorology and Hydrology (2020)



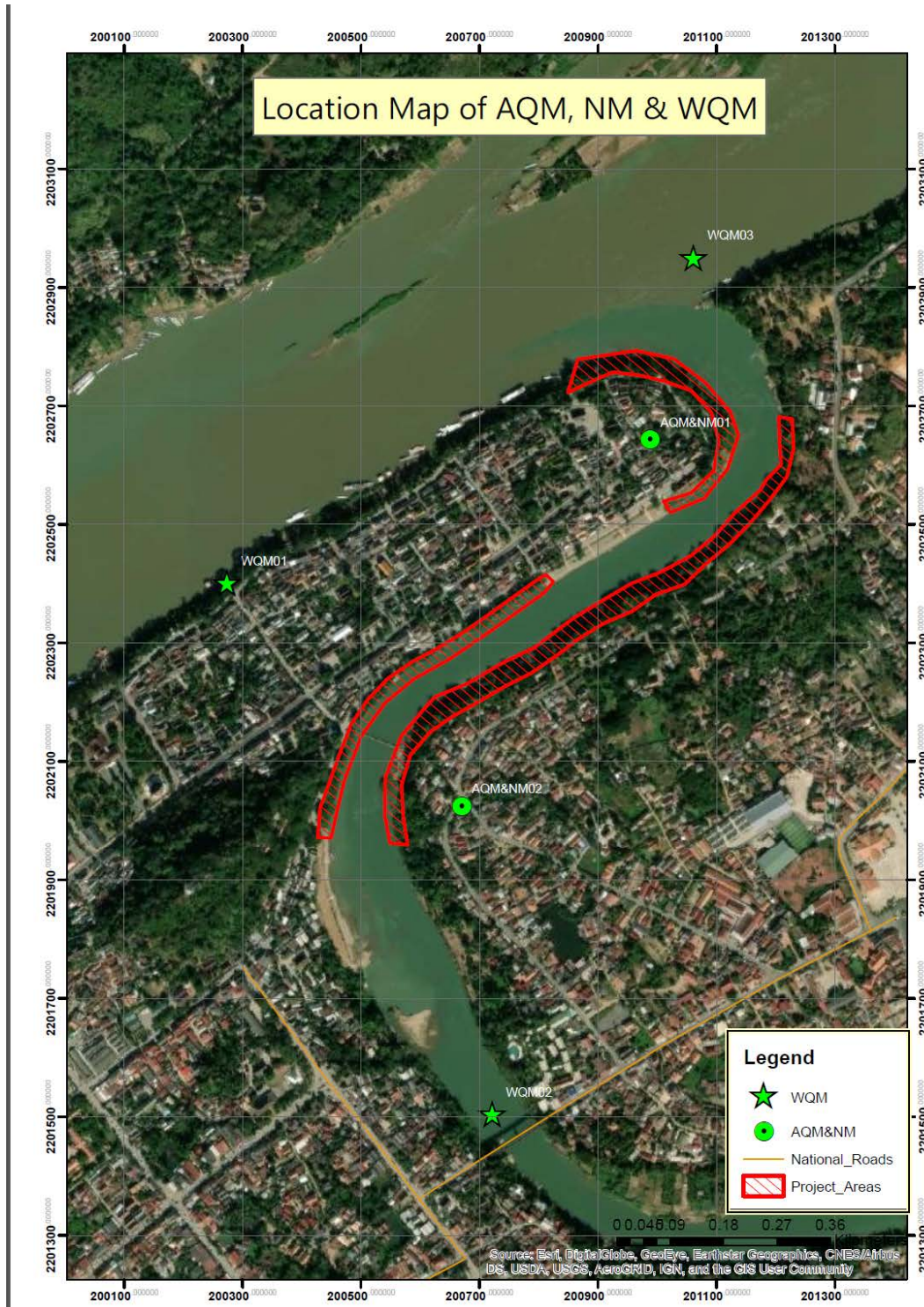
**Figure A4-20 Nam Khan River in the proposed Project site**



**Figure A4-21 Nam Khan River mount to the Mekong River**

***(b) Test Results of Surface Water Quality, Air and Noise***

22. Test results of surface water, ground water, air and noise are shown in Figure A4-23 and A4-24 respectively while Figure A4-22 shows locations of air, noise and water quality monitoring.



**Figure A4-22 Locations of air, noise and water quality monitoring**



ສາທາລະນະລັດ ປະຊາທິປະໄຕ ປະຊາຊົນ ລາວ  
ສັນຕິພາບ ເອກະລາດ ປະຊາທິປະໄຕ ເອກະພາບ ວັດທະນາຖາວອນ

ມະຫາວິທະຍາໄລແຫ່ງຊາດ  
ຄະນະວິສະວະກຳສາດ

ເລກທີ 352 ຄວສ 2022

ຜົນວິເຄາະຄຸນນະພາບນ້ຳ, ອາກາດ ແລະ ສຽງ  
(Water, Air & Noise Analysis Results)

ຊື່: ໂຄງການຄຸ້ມຄອງຄວາມສ່ຽງຈາກໄພນ້ຳຖ້ວນໃນຕົວເມືອງແບບປະສົມປະສານ ນະຄອນຫຼວງພະບາງ ແຂວງຫຼວງພະບາງ

I. ຜົນວິເຄາະນ້ຳຜືນ (Water Quality Analysis Results)

ວັນທີເກັບຕົວຢ່າງ (Water Sampling Date): 2/4/2022

ລ/ດ No.	ໂຕວັດແທກ (Parameters)	ຫົວໜ່ວຍ (Unit)	ຜົນການກວດສອບ			ມາດຕະຖານ
			WQ01 ຫ້ວຍມີໄຊ (ໄຫຼມາຈາກຕົວເມືອງ)	WQ02 ນ້ຳ ຄາມ	WQ02 ນ້ຳແມ່ຂອງ	
			200275 2202416	200717 2201456	201122 2202912	
01	Temperature	°C	26.3	26.2	26.2	ນ'
02	pH		6.2	6.8	6.9	6-8
03	EC	µS/cm	286	202	300	≤1,000
04	DO	mg/L	6.3	6.4	6.9	6
05	Turbidity	NTU	21.9	7.8	8.3	-
06	TDS	mg/L	151	101	150	-
07	TSS	mg/L	46	16	18	≤25
08	BOD <sub>5</sub>	mg/L	35	18	22	-
09	COD	mg/L	75	35	40	5-7
10	Chloride, Cl <sup>-</sup>	mg/L	0.16	0.06	0.04	-
11	NO <sub>3</sub> -N	mg/L	0.18	0.08	0.11	5
12	NH <sub>3</sub> -N	mg/L	0.21	0.12	0.14	0.5
13	PO <sub>4</sub> -P	mg/L	0.24	0.16	0.18	0.5
14	Alkalinity	mg/L	25	20	15	-
15	Iron (Fe)	mg/L	0.11	0.14	0.13	-
16	Manganese (Mn)	mg/L	0.003	ND	ND	1.0
17	Arsenic (As)	mg/L	ND	ND	ND	0.01
18	Lead (Pb)	mg/L	ND	ND	ND	0.01
19	Mercury (Hg)	mg/L	ND	ND	ND	0.001
20	Fecal Bacteria	MPN/100mL	6.5	2	2.3	1,000
21	Total Coliform Bacteria	MPN/100mL	2300	1200	1600	5,000

ຄະນະວິສະວະກຳສາດ, ມະຫາວິທະຍາໄລແຫ່ງຊາດ, ຖະນົນມິດຕະພາບລາວ-ໄທ, ບ້ານໂສກປ່າຫຼວງ, ເມືອງສີສັດຕະນາກ, ນະຄອນຫຼວງວຽງຈັນ, ສປປລາວ  
 ຕີໂປສະນີ : 3166, ໂທລະສັບ : 856-021-312072, 856-021-312090 ຕີເວັບໄຊ: 856-021-314382, E-mail : feadmin@fe-nuol.edu.la

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Figure A4-23 Laboratory Results of Water Quality Analysis



**Figure A4-24 Laboratory Results of Air and Noise Quality Analysis**

**(c) Forest**

23. Table A4-10 and Figure A4-25 shows map of forests in Luang Prabang province.

Table A4-10 Summary of key features of National Protection Forests

No.	Name of Protection Forest	Area (ha)	Location	Comment
1	Nam Feuang	112,025	Nan district	28 villages are using this area
2	Nam Phak-Nam Ting	66,400	Phoukhoun and Xieng Ngeun districts	8 villages are using this area
3	Nam Xeuang – Nam Xeng	491,274	Pakxeng, Phonxay, Ngoy and Viengkham districts	132 villages are using this area
4	Nam Nga-Nam Ou	283,543	Pak Ou district	25 villages are using this area
5	Nam Bak – Nam Phak	149,707	Nambak and Ngoy districts	64 villages are using this area
6	Nam Meuk – Nam Mad	206,686	Phonethong district	28 villages are using this area
7	Phou Mieng – Sankeo Oudone	92,781	Chomphet district	10 villages are using this area
8	Nam Khan	205,379	Xieng Ngeun district	77 villages are using this area

Source: Draft Provincial Land Use Master Plan (2016)

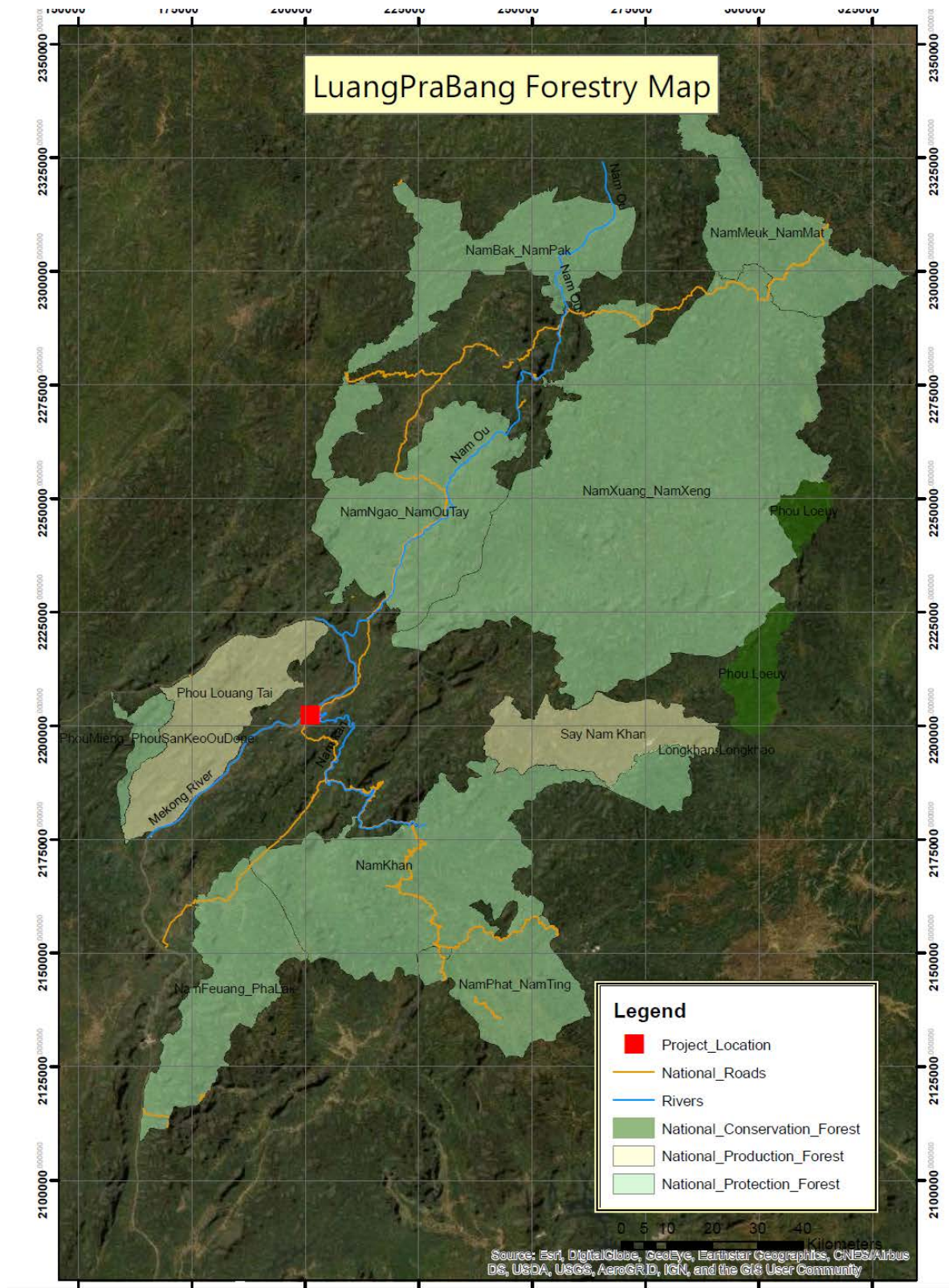


Figure A4-25 Forestry Map of Luang Prabang Province

#### A4.6 Additional Social Profile

24. Table A4-10 to A4-14 shows data on population of Luang Prabang Province and to be affected by the Project while Figure A4-26 to Figure A4-34 shows location of sensitive

hotspots.

**Table A4-11 Administrative Areas of Lao PDR**

Province	District (No.)	Village (No.)	Area (km <sup>2</sup> )	Province	District (No.)	Village (No.)	Area (km <sup>2</sup> )
Vientiane C.	9	481	3,920	Vientiane	11	434	15,927
Phongsaly	7	529	16,270	Borikhamxay	7	302	14,863
Luangnamtha	5	365	9,325	Khammuane	10	582	16,315
Oudomxay	7	474	15,370	Savannakhet	15	1,015	21,774
Bokeo	5	256	6,196	Saravane	8	588	10,691
<b>Luangprabang</b>	<b>12</b>	<b>756</b>	<b>16,875</b>	Sekong	4	201	7,665
Huaphanh	10	718	16,500	Champasack	10	646	15,415
Xayabury	11	432	16,389	Attapeu	5	147	10,320
Xiengkhuang	7	484	15,880	Xaisomboun	5	95	8,300

Source: National Statistical Center of Lao PDR (NSC)

**Table A4-12 Population by District in Luang Prabang Province (2015)**

District	Population (person)			
	Total	Urban	Rural with Road	Rural without Road
1. Luang Prabang	90,313	66,781	23,532	-
2. Xieng ngeun	33,395	7,764	23,259	2,372
3. Nan	28,130	11,104	14,875	2,151
4. Pak ou	25,823	2,548	21,590	1,685
5. Nambak	68,863	27,814	39,865	1,184
6. Ngoi	29,692	3,929	10,245	15,518
7. Pak xeng	22,159	1,290	13,949	6,920
8. Phonxay	32,577	3,366	23,069	6,142
9. Chomphet	30,076	5,173	15,820	9,083
10. Viengkham	28,557	2,729	22,711	3,117
11. Phoukhoun	23,211	5,090	13,470	4,651
12. Phonthong	19,093	2,107	16,182	804
<b>Total</b>	<b>431,889</b>	<b>139,695</b>	<b>238,567</b>	<b>53,627</b>

Source: The 4th Population and Housing Census (PHC) 2015.



**Figure A4-26 Location of the Project District on Provincial Map (JICA 2016)**

**Table A4-13 Number of Households and Population in Project Area**

No	Village Name	# of Family	# of Population	Female	Male
1	Phonsaart	210	1,128	561	567
2	Phanluang	360	2,022	1,065	957
3	Xiengmouan	60	306	172	134
4	Xiengthong-Khily	60	302	161	141
5	Wat Sean	40	213	109	104
		<b>730</b>	<b>3,971</b>	<b>2,068</b>	<b>1,903</b>

Sources: Village Survey, 10 March-10 April 2022

**Table A4-13 Number of Household and Population to be directly affected by the Project**

No	Village	# of HH	# of Population	Female	Male
1	Phonsaat	7	25	19	6
2	Phanluang	24	117	56	61
3	Xiengmouane	Government asset (hut)			
4	Xiengthong-Khily	13	70	35	35
5	Vatsaen	21	115	52	63
	<b>Total</b>	<b>65</b>	<b>327</b>	<b>162</b>	<b>165</b>

Sources: Household Survey, 10 March-10 April 2022

**Table A4-14 Ethnic Groups in Affected Villages**

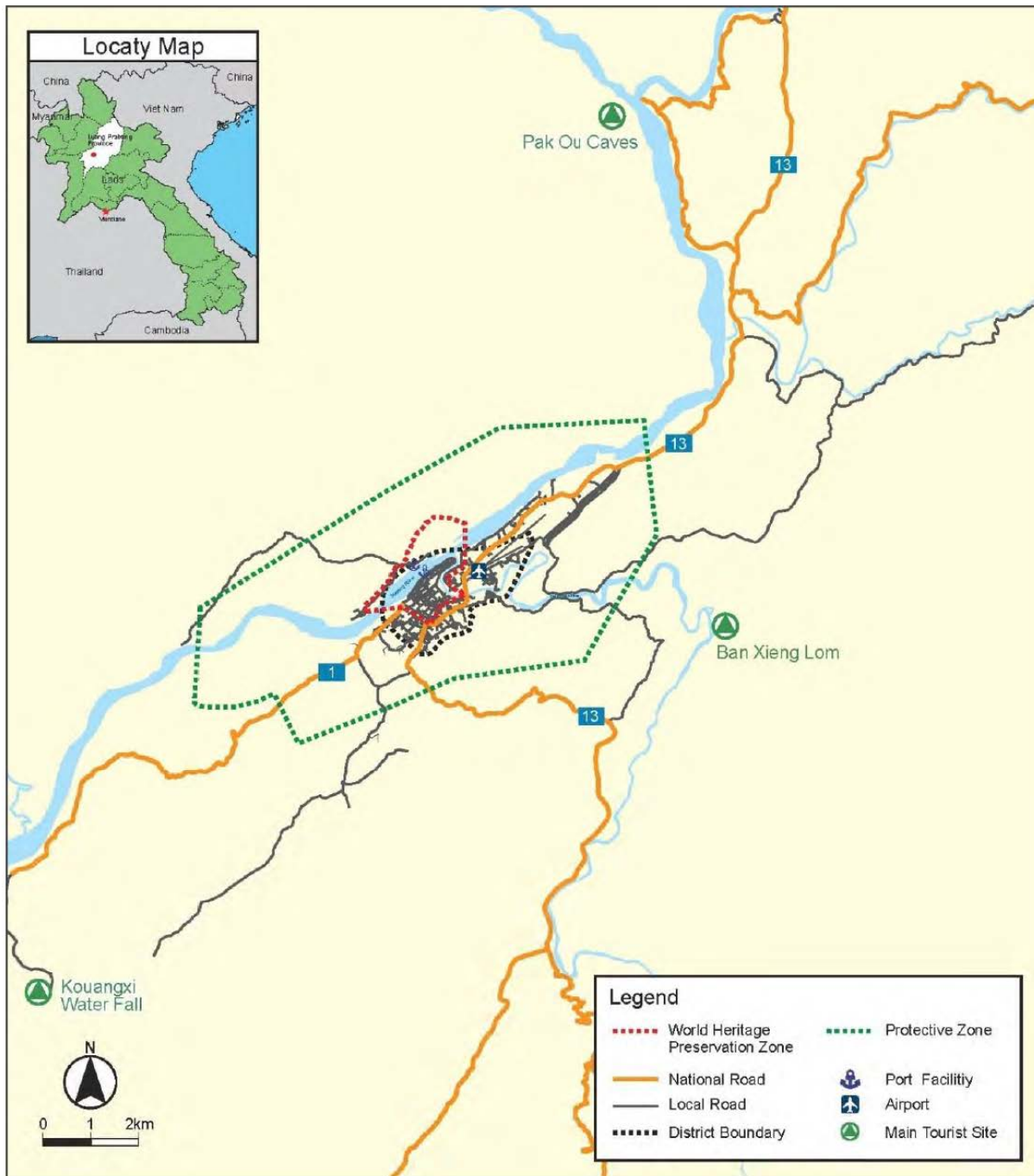
No.	Village Name	Lao Tai			Khmu			Hmong		
		# of family	# of Pop.	Female	# of family	# of Pop.	Female	# of family	# of Pop.	Female
1	Phonsaat	196	1,057	528	11	57	27	3	14	6
2	Phanluang	330	1,869	990	23	110	55	7	43	20
3	Xiengmouane	60	306	172						
4	Xiengthong-Khily	60	302	161						
5	Wat Sean	40	213	109						
<b>Total</b>		<b>686</b>	<b>3,747</b>	<b>1,960</b>	<b>33</b>	<b>167</b>	<b>82</b>	<b>10</b>	<b>57</b>	<b>26</b>

Sources: Village Survey, 10 March-10 April 2022

**Table A4-14 Summary of the main ethno-linguistic groups in the Project Area**

<b>Language Family</b>	<b>Descriptions</b>	<b>Ethnic groups in the SubProject Area</b> (Total HH: 956)
Lao Tai	Lao-Tai groups (often referred to as Lao Loum) traditionally reside in lowland areas and for the most part cultivate paddy fields, practice Buddhism and are integrated into the national economy. This linguistic family includes 8 ethnic groups - the Lao who are the dominant group, and various related ethnic groups such as Tai Dam, Tai Daeng, Tai Khao, Tai Lue and Tai Phuan.	Lao Tai or Lao Loum (952 households)
Mon-Khmer	The Mon-Khmer (often referred to as Lao Theung) traditionally live in the middle hill areas, are animist, tend to practice swidden agriculture, utilise forest products and are relatively isolated from the dominant lowland culture - although there has been assimilation and integration for centuries. This linguistic family includes 32 ethnic groups and related sub-groups. Their language links them to the Mon (Menam Region) and the Khmer (Cambodia).	Khmu (1 household)
Hmong-Mien	The Hmong-Iw Mien migrated from China to Laos in the 19th century and include several ethnic groups: Hmong Ntsoua, Hmong Daw, Iw Mien and Kim Mun. They generally inhabit highland regions, are animist and practice shifting cultivation.	Hmong (3 households)

Source: Chazee, 1999 and NSC, 2015



**Figure A4-27 Luang Prabang Tourist Zone (JICA, 2016)**

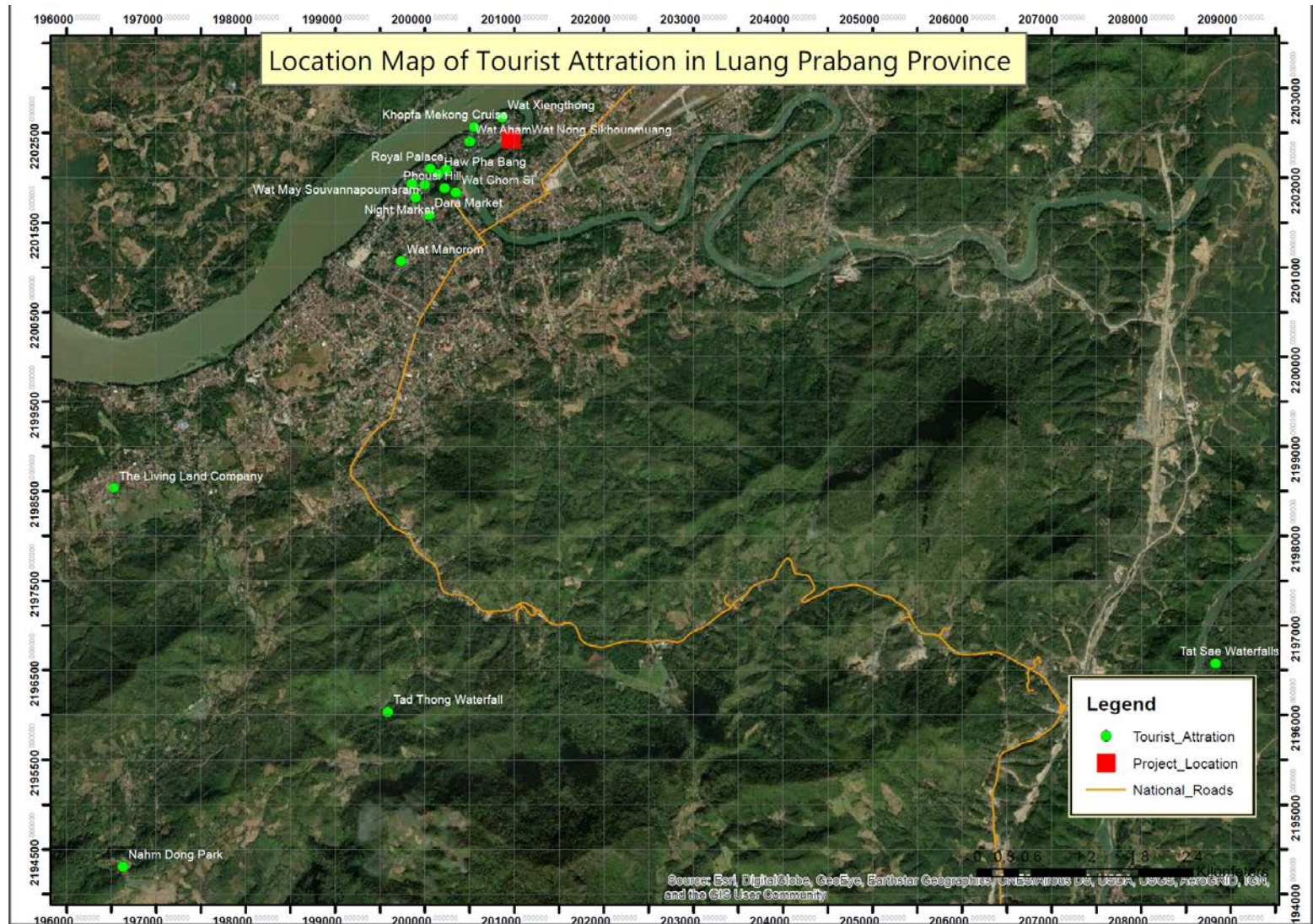
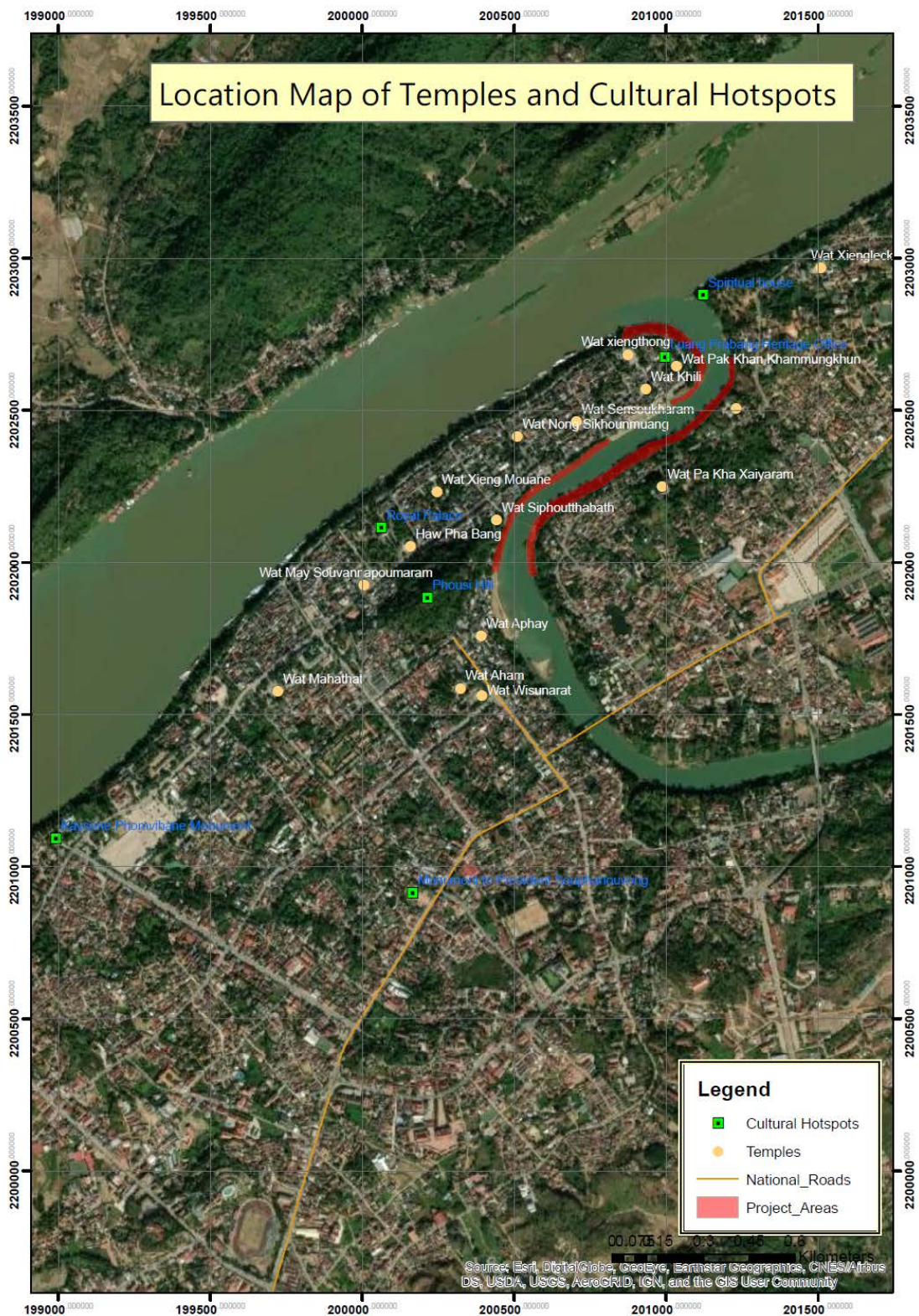


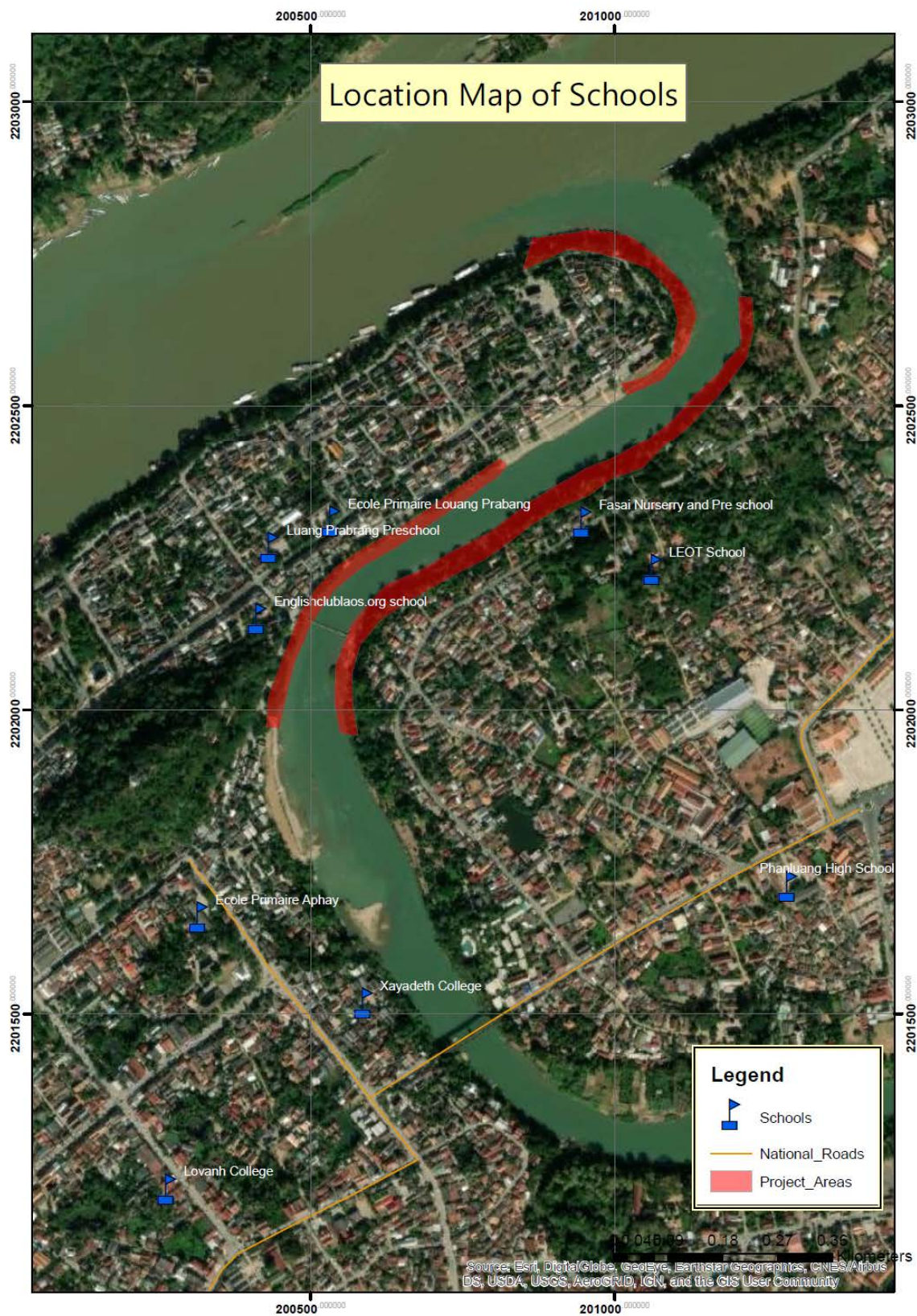
Figure A4-28 Location Map of Tourist Attraction Sites



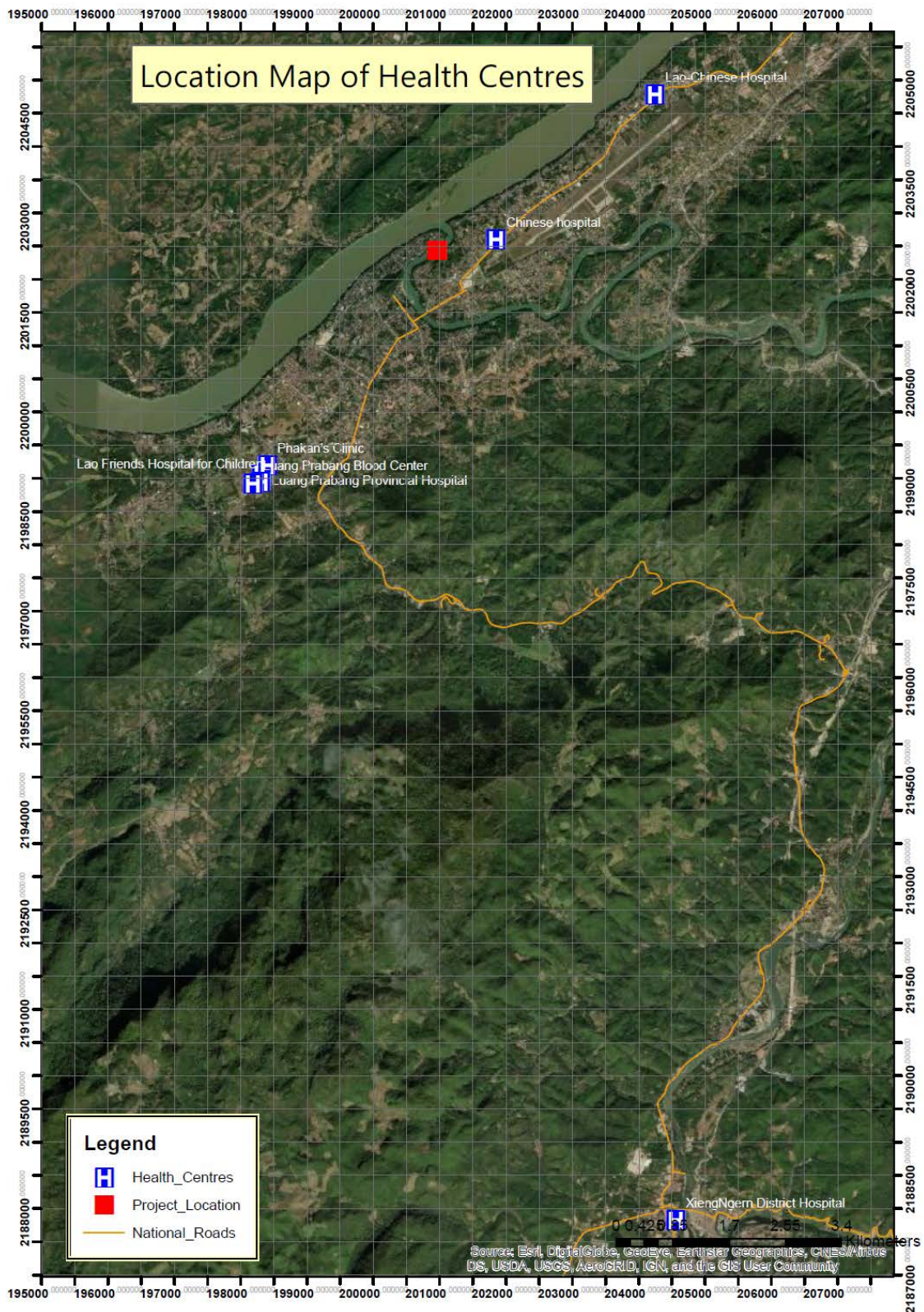
**Figure A4-29 Location Map of Temples and Cultural Hotspots**



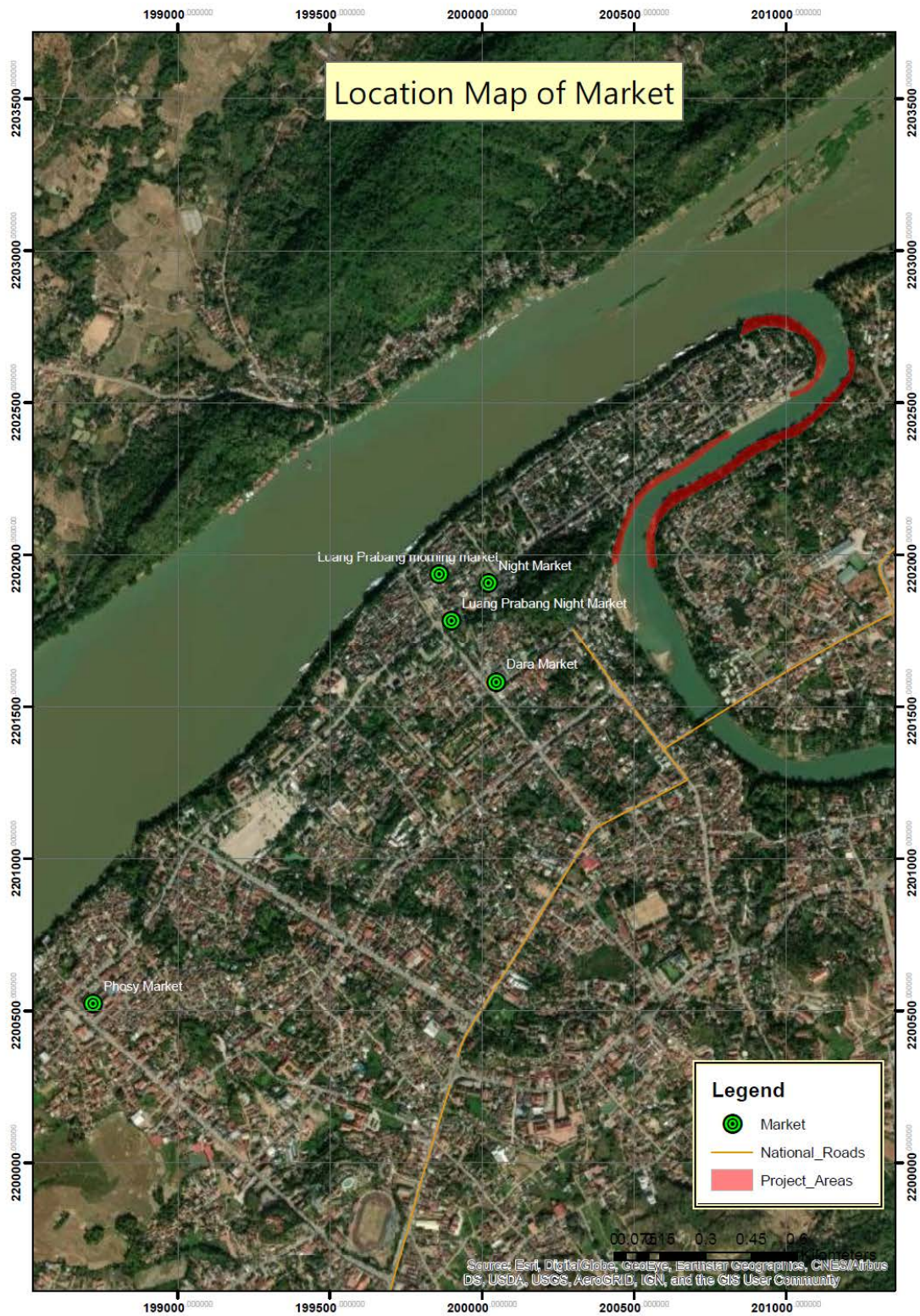
**Figure A4-30 Location Map of Hotels and Restaurant nearby the Subproject Area**



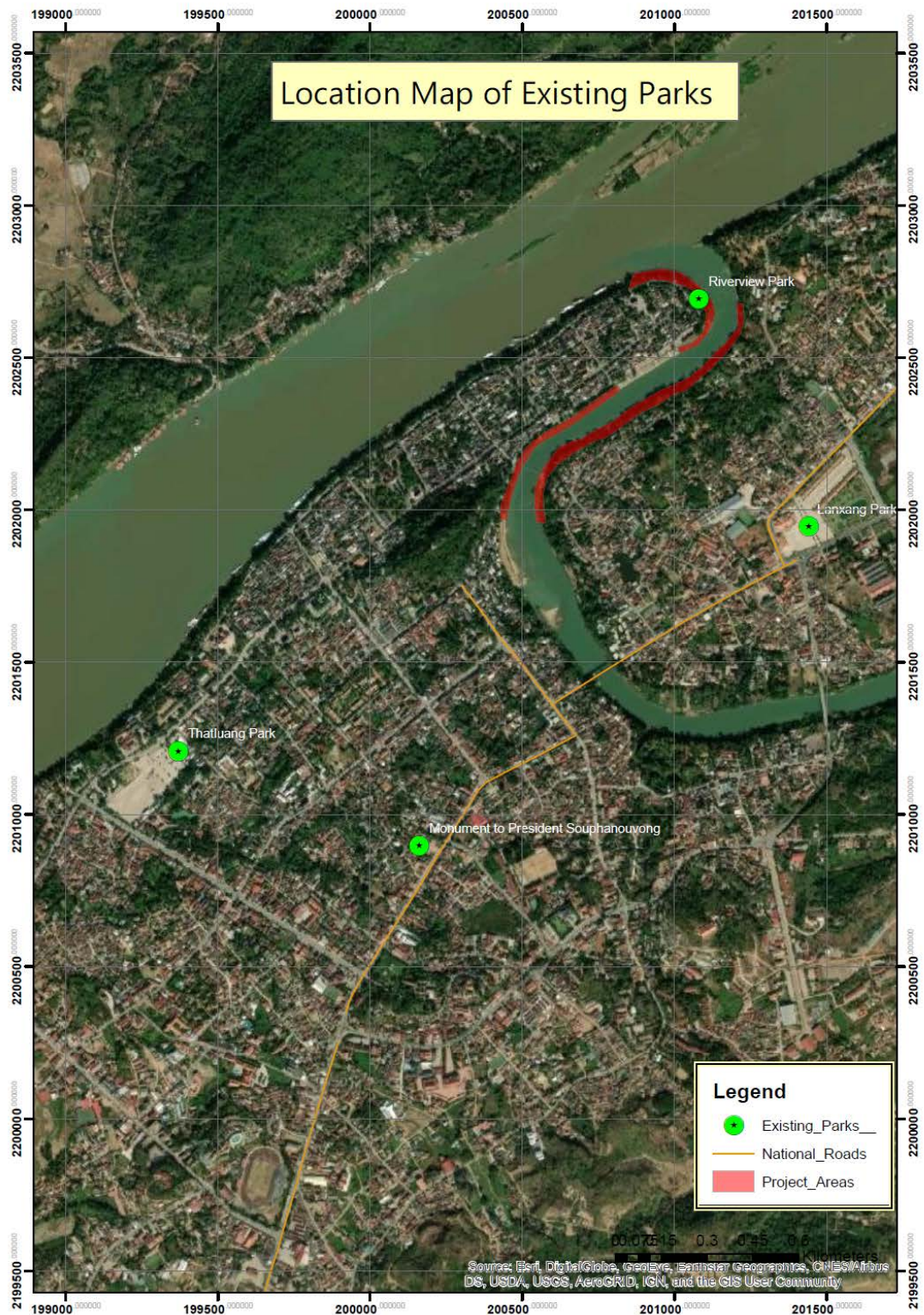
**Figure A4-31 Location Map of Schools nearby the Subproject Area**



**Figure A4-32 Location Map of Health Centers in Luang Prabang**



**Figure A4-33 Location Map of Market**



**Figure A4-34 Location Map of Parks**

## ATTACHMENT 5: KEY ISSUES AND MITIGATION MEASURES FOR LPB SUBPROJECT ESMP AND C-ESMP

### A5.1 Introduction

1. This Attachment presents the technical guidance for the preparation of the final Environmental and Social Management Plan (ESMP) for LPB subproject (Subproject-ESMP) covering (a) construction of embankment and river bank protection, (b) improvement of the Riverfront Park, and (c) construction of 9 pipe culverts and flap gates. It identifies the nature and level of impacts (Table 5-1); the key issues and mitigation measures to be conducted during detailed design, preconstruction, and operations (Tables A5-2) which are responsible by PMU and/or PIU assisted by EDPD/PTI and DPWT; and those to be conducted during construction by contractor (Table A5-3). The mitigation measures identified in Tables A5-2 and 5-3 will be applied for all works (river profile improvement, riverside parks, bridges, weirs and river drainage improvement) to be carried out during the implementation of LPB subproject. This Attachment also provides technical guidance for the preparation, approval, implementation, and monitoring of the contractor's ESMP (i.e. C-ESMP).

2. In addition to this Attachment, the Subproject-ESMP also includes the generic Environmental Code of Practices (ECOP) in [Attachment 6A](#), the Code of Conduct on Sexual Exploitation and Abuse (SEA), Sexual Harassment (SH), and Violence Against Children (VAC), in [Attachment 6B](#), [Attachment 7](#) provides a sample form for monitoring of grievance redress mechanism (GRM) as well as a form on accident reporting. The mitigation measures in responded to COVID-19 pandemic in [Attachment 8](#) will be applied during construction.

3. It is important that the implementing agencies responsible for implementation of the ESMP and supervision of the contract (PMU/DOW, EDPD/PTI, and PIU/DPWT) can incorporate the mitigation measures described in the ESMP report (Section 5) as well as in this Attachment (AB) into the detailed design (DD) and/or bidding/contract documents (BD/CD) as appropriate including establishment and operations a grievance redress mechanism (GRM) and finalization of the ESMP implementation and budget arrangement. [Section A5.2](#) briefly highlights the environmental and social safeguard (ESS) requirements to be considered during DD while [Section A5.3](#) highlights the requirements related to GRM. The agencies will ensure that the bidders and the contractor are aware and acknowledge the obligations to comply with the ESMP requirements that are included in the contract and that all the cost are part of the contract cost. The contractor will also be required to maintain close consultation with local communities and local authorities and operationalized its GRM in connection with that of DPWT and EDPD/PTI.

4. The Subproject-ESMP is also closely connected to the Abbreviated Resettlement Action Plan (ARAP) to be cleared by World Bank (WB) as well as the approval conditions of the Government of Lao PDR (GOL) for the Initial Environmental Examination (IEE) and issuance of the Environment and Compliance Certificate (ECC) and other regulatory authorities attached to any permits or approvals for the Project. These requirements will be considered during the preparation and approval of the C-ESMP and its sub plans. Preparation

and implementation of the C-ESMP is the contractor responsibility while the ARAP is the responsibility of GOL.

5. PMU/DOW and EDPD/PTI will ensure that (a) the recommendations as provided in Sections A5.2, A5.3 and A5.4 will be integrated into the detailed designs and (b) the guidelines for preparation of C-ESMP provided in the Section A5.3 and Attachments 6, 7 and 8, are included in the bidding document (BD) and contract document (CD). PMU/DOW and EDPD/PTI will also establish a GRM process at MPWT, DPWT, and contractor levels and ensure that the contractor establish and maintain close relations with local authorities and local communities.

6. DPWT of LPB has established a Safeguard Monitoring Working Group (SMWG), the same as PRC, to be responsible for monitoring of the ECC compliance in consultation with PMU of DOW and EDPD of PTI. ECC will be issued from MONRE before commencement of construction activities.

## **A5.2 Key Mitigation Measures to be considered during Detailed Design**

### ***(a) Application of green design and non-structural measures***

7. During the preliminary design, it was recommended that (a) River bank protection should be designed to control strong stormwater and sedimentation to prevent pollution and erosion during the construction; (b) Vegetation in riparian zone should be retained so that it provides habitat for aquatic life; and (c) All design of proposed flood mitigation measures should have a guideline to minimize possible negative impacts caused by the Project. Detailed engineering designs should be provided for the assessment of environmental engineering guidelines. Relevant engineering guidelines should include, but not limited to, natural stream and channel design; aquatic habitat design; sustainable bank protection design and operation (if needed) for debris flow and flood protection; levee bank and flood structure geotechnical and structural design guidelines; and geotechnical investigations for slope and levee design.

8. Efforts were made to follow these recommendations. Under Component 1.2, DOW mobilized an international consulting firm (SCB) to look at the possibility to apply the non-structural and green measures in the context of urban planning and a plan to promote the non-structural and an environmental-friendly design concept for Luang Prabang City have been made. However, due to limited funds available, these recommendations will be considered in the future project.

### ***(b) Minimization of impacts due to resettlement and land acquisition***

9. Efforts have also been made during detailed design of the LPB project to minimize the impacts on local communities related to land acquisition and resettlement. Resettlement committees have been established at provincial, district, and village levels (PRC, DRC, and VRC) and they were trained on RPF requirements and the ARAP has been submitted to the WB Task Team for review and approval.

## **A5.3 Community Consultation and GRM**

17. To mitigate potential impacts on local community, community consultation will be made throughout the Project implementation while grievances will be addressed at the village, district, province, and national levels. The GRM principles and process described in Section 7 of the ESMP report will be applied at all Project levels including contractors. Grievance related to safeguard issues from ethnic groups that result from Project activities will be resolved by the Grievance Redress Committee (GRC). At each level grievance details, discussions, and outcomes will be recorded in a grievance logbook, and the data provided to the GRC for recording in the ‘Grievance and Complaints Logging System’ (GCLS). Status of grievances submitted, and grievance redress will be reported to DPWT management through the monthly reporting as generated by the GCLS. The complainant also retains the right to bypass this procedure and can address a grievance directly to the EDPD/PTI Office or the National and Provincial Assembly, as provided for by law in Lao PDR as well as to the World Bank through the World Bank’s Grievance Redress Service (GRS). Key requirements can be highlighted below.

18. *The GRM process* will be operated as follows:

- The EDPD/PTI at the MPWT in Vientiane will host the GCLS.
- In each Project Province, the Environment and Social Unit (ESU) under the DPWT—who are responsible for monitoring contractors—will assemble records of all complaints, and supply them to the EDPD/PTI either directly, or by entering into the GCLS.
- For each province, a ‘Grievance Redress Committee’ (GRC) will be established. The GRC will nominate a secretary who is responsible to monitor and facilitate resolution of complaints.
- The affected peoples (AP) (or his/her representative) may submit his/her complaint in a number of ways e.g. by written letter, phone, SMS messages and email to the GRC or, alternatively, raise his/her voice in a public or individual meeting with project staff.

19. Before construction, PMU/DOW and EDPD/PTI will establish a GRM mechanism and disseminate information to the public, local communities, and contractor. During construction, contractor will be required to regularly conduct consultation with local community and report to DPWT on GRM implementation. The status of submitted grievances and grievance redress will be reported to Project Manager through the monthly report (see Attachments 8 for forms).

#### **A5.4 ESMP Implementation Arrangement**

20. The Project-ESMP implementation arrangement, capacity building and training, and budget arrangement will be implemented according to Section 8 of the ESMP report. To ensure effective implementation of these activities on the ground, priority actions will be as follows:

- DPWT has established a Safeguard Monitoring Working Group (SMWG), the same as PRC, comprising DPWT, PONRE, LWU, and other related local authorities to be responsible for undertaking periodic monitoring of the ESMP and

ARAP implementation including GRM tracking and Contractor performance of the approved C-ESMP.

- EDPD/PTI will (a) provide specific guidelines and more extensive training and capacity building on occupational and community health and safety (OCHS) to DPWT, PONRE, contractors, and the SMWG, including ways for achieving effective site management and use of Personal Protection Equipment (PPE), active participation of local communities, and effective application of GRM record; (b) review/revise the current monitoring and reporting forms to enhance effectiveness of the monitoring and reporting process; and (c) ensure that adequate budget can be transferred to the DPWT and the SMWG and timely submission of the ES monitoring report (ESMR).
- The proposed mitigation measures identified in Table A5.1 and Table A5.2 will also be applied to the implementation of works and technical assistance (TA) activities to be implemented under Component 1.



**Table A5-1 Potential Environmental and Social Impacts of Integrated Urban Flood Risk Management in Luang Prabang Project**

Impact/Issue	Comment/Description of Impact	Extent	Duration	Magnitude/ Intensity	Probability	Significance
<b>Bio-Physical and Chemical</b>						
Changes in surface water quality	The construction works such as the river embankment and river bank protection, would impact on downstream surface water quality in the Mekong and Nam Khan Rivers due to increased erosion and sediment transport while improvement of the Riverfront Park and the 9 small pipe culverts can also have minor impacts.	Local	Construction/ operations	Medium	Likely	Moderate
Changes in groundwater quality	Due to the soil type, there is low permeability for pollution of ground water.	Local	Construction	Low	Possible	Minor
Risks on river bank erosion/deposition	Embankment and river protection structure constructed by the project aims to protection sub-project sites from river bank erosion. However, there is a risk that river bank erosion / deposition at the areas upstream or downstream of the Nam Khan River may occur.	Local	Construction /Operation	Medium	Possible	Moderate
Changes to surface water hydrology downstream of Project areas.	The river embankment and river bank protection, and other facilities (i.e. nine pipe/box culverts and flab gates) will ease water flow.	Local	Construction / Operation	Medium e	Likely	Moderate
Changes to air quality	Dust generation: nuisance level impacts and risk to community and occupational health. Emissions from vehicles and equipment.	Local	Construction / Operation	Medium	Possible	Moderate
Changes to ambient noise levels	Noise from construction equipment/vehicles and generators may affect noise levels.	Local	Construction / Operation	Medium	Likely	Moderate
Changes to aquatic	The construction works such as river embankment and bank	Local	Construction	Medium	Likely	Moderate



Impact/Issue	Comment/Description of Impact	Extent	Duration	Magnitude/ Intensity	Probability	Significance
biota	protection would have moderate impact on aquatic habitat and resources in rivers due to increased erosion and sediment transport.		/ Operation			
	Potential spills and leakages of hydrocarbon, hazardous materials, hazardous and non-hazardous waste result in minor changes of aquatic habitat and fauna.	Local	Construction	Medium	Possible	Minor
Changes to terrestrial habitat and fauna	Loss or significant adverse impacts on riparian flora species and habit of conservation significance which are confined within ZPP-N zone.	Local	Construction / Operation	Low	Possible	Moderate
Community health and safety	Introduction and spread of diseases from Project workforce.	Local	Construction	Low	Possible	Minor
	Community health and safety due to transportation of construction materials	Local	Construction	Medium	Likely	Moderate
	Incident/accident to local community members gaining unauthorized access to Project facilities.	Local	Construction	Medium	Unlikely	Moderate
Changes to land cover	Development of Riverfront Park will not require significant land use changes.	Local	Construction / Operation	Medium	Likely	Moderate
Changes to areas of natural habitat	Riverbank-protection and Riverfront Park works will require riparian vegetation removal.	Local	Construction	Low	Possible	Moderate
<b>Socio-economic and Cultural</b>						
Physical displacement of residences and other physical assets.	Construction of river embankment and river bank protection, flap gates, and Riverfront Park will not have significant impacts on existing structures and assets.	Local	Construction	Low	Possible	Minor
Changes involving loss of private and/or communal land	Possibility of private and/or communal land loss due to the Project development works.	Local	Construction	Low	Possible	Minor



Impact/Issue	Comment/Description of Impact	Extent	Duration	Magnitude/ Intensity	Probability	Significance
Changes involving loss of livelihoods	Possibility of loss of livelihoods during construction and operation phase (e.g. local shops & services, fishing, farming in certain areas).	Local	Construction	Low	Possible	Minor
Changes involving loss of physical cultural heritage	Inappropriate disturbance of cultural sites and artefacts during construction (i.e. earthworks); lack of chance find procedure.	Local	Construction	Low	Possible	Minor
Changes involving physical and/or economic displacement of people	Construction of river embankment and river bank protection, flap gates, and improvement of Riverfront Park would not have significant impacts on local businesses and services infrastructure.	Local	Construction	Low	Possible	Minor
Changes to local traffic patterns	Potential increased traffic during construction due to Project vehicles and traffic disturbance to local residents.	Local	Construction	Medium	Likely	Moderate
	Potential ease of traffic after completion of Project works.	Local	Operation	Medium	Possible	Moderate
Changes to fisheries	Construction of river embankment and river bank protection, flap gates, and improvement of Riverfront Park would not have significant impacts on local fisheries.	Local	Construction / Operation	Low	Possible	Minor
Changes in local wage labor incomes/livelihood opportunities	Possibility of increased income and livelihood opportunities due to the project.	Local	Construction	Medium	Possible	Moderate
Changes in local trade/commercial incomes/opportunities	Possibility of increased income and livelihood opportunities due to the project.	Local	Construction	Medium	Possible	Moderate
Changes in visual amenity	Construction of river embankment and river bank protection, flap gates, and improvement of Riverfront Park would have	Local	Construction / Operation	Medium	Likely	Moderate



Impact/Issue	Comment/Description of Impact	Extent	Duration	Magnitude/ Intensity	Probability	Significance
	temporary impact on visual amenity during the construction and long term benefits during operation.					
Changes to public infrastructure/commu nity resources	The Project development would affect public infrastructure such as water supply, roads, bridges (for transportation), etc.	Local	Construction	Medium	Likely	Moderate
<b>Cultural Heritage</b>						
Luang Prabang World Heritage status	Changes of ZPP-N and ZPP-Ub zones of the Luang Prabang World Heritage's conservation zones. As the Project is located in the center of Luang Prabang World Heritage Site, there are long term benefits on protecting river bank erosion along the selected section of Nam Khan as well as flood protection for LPB city including LPB Cultural Heritage Zones. Positive impacts had been enhanced by adjustment of the Riverfront Park design. Potential impacts during construction include removal of riparian vegetation and changes of river bank landscape which forms part of natural characteristics of ZPP-N zone.	Local	Construction / Operation	Medium	Possible	Moderate
Disturbance to tangible Cultural Heritage of Luang Prabang	Inappropriate disturbance of cultural / historical sites during construction phase due to project traffic, noise, dust and visual amenity along the Kingkitsarath Road, NR 13 North, and others.	Local <sup>3</sup>	Construction / Operation	Medium	Possible	Moderate
Harm to intangible cultural heritage of Luang Prabang	Harm to intangible cultural heritage due to inappropriate construction practices (e.g. construction conducted at night time, the fifteen day of Lao lunar calenda, etc).	Regional	Construction	Medium	Possible	Moderate
Potential impact on	Disturb local business and tourism due to project traffic and	Local	Construction	Medium	Possible	Moderate

<sup>3</sup> This will depend of the transportation route/contral measures, etc, monitoring on noise and air/vibration, etc will be needed.



<b>Impact/Issue</b>	<b>Comment/Description of Impact</b>	<b>Extent</b>	<b>Duration</b>	<b>Magnitude/ Intensity</b>	<b>Probability</b>	<b>Significance</b>
tourism Industry	construction activities		/ Operation			
	Promote tourism to visit the Riverfront Park as an additional riverview park.	Local	Operation	Medium	Possible	Moderate

**Table A5-2 Key Issues and Mitigation Measures to be Considered during Details Design, Preconstruction, and Operational Phases**

*\*For Component 1, the construction services consultant (CSC) / field engineer (FE) will be the Implementation Support and Works Supervision Consultant (ISWS) to be mobilized by the Project Management Unit (PMU) of the Department of Waterways (PMU/DOW)*

#	Activities Causing Impacts	Mitigation Measures	Responsible Entities	Monitoring Indicators	Remarks
<b>Preconstruction Phase</b>					
1	Works mobilization can increase dust, noise, vibration, and other impacts on local environment and local community health and safety	<ul style="list-style-type: none"> <li>• Prepare and implement specific plans that can reduce the negative impacts be applied through the preparation of C-ESMP and the application of ECOP and COC.</li> <li>• As agreed with PMU/DOW, recruitment of key E&amp;S safeguards staff of the contractor to be responsible for environmental, social and safety aspects. Specifically, contractors are required to recruit a) a full time environmental and social specialist to ensure effective implementation of C-ESMP and full time Community Relation or Community Health and Safety (CHS) Specialist to deal with CHS related issues (including GBV and VAC) and complaints that may be raised by the local community.</li> <li>• Advance notification: Notify village authorities and villagers 2 months in advance of construction takes place.</li> <li>• Trees and Vegetation: as natural landscape on the Nam Khan Mekong river bank: all big trees marked along the riverbank will be maintained and if technically required, removal of trees and plantation offsetting by the contractor will be</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor to prepare and implement the C-ESMP and its sub plans reviewed and approved by the CSC/FE</li> <li>• CSC/FE will regularly monitor safeguards compliance of contractor and report results to PMU/ DOW and DPWT</li> </ul>	See indicators under construction (construction phase) below	See Section Construction Phase below and ECOP in <b>Attachment 6A</b>

		carried out in close consultation with the LPB World Heritage Office to ensure the compliance with the World Heritage Guideline.			
2	Physical displacement of residences and other physical assets may cause adverse impacts on local land user and/or local people, especially the vulnerable ethnic groups (VEG)	<ul style="list-style-type: none"> <li>• Prepare and implement ARAP. WB clearance of the ARAP will be required before implementation.</li> <li>• The EGDP would not be required based on the impact screening recently completed since no ethnic groups or ethnic community with collective attachment to the sub-project area is found. Conduct consultation with local authorities and communities as required by the government.</li> <li>• Establish and operationalize Project Grievance Redress Mechanism (GRM).</li> </ul>	<ul style="list-style-type: none"> <li>• PMU/DOW assisted by the detailed design consultant is preparing ARAP in consultation with MONE.</li> <li>• PMU/DOW and DUPH/PTI will assist the local authorities and ensure effective and timely implementation of ARAP.</li> <li>• PMU/DOW and DPWT will establish and ensure effective operations of GRM</li> </ul>	<p>No unresolved complaints.</p> <p>All complaints and corrective actions are properly recorded in the GRM record</p>	ARAP is prepared as a standalone document
3	Relocation of public utilities	<ul style="list-style-type: none"> <li>• Early consultation with the public utility owner and local community since it will involve relocation cost.</li> <li>• Prepare a Public Utility Relocation Plan (PURP) and take appropriate actions to minimize impacts on local peoples.</li> </ul>	PMU/DOW and Contractor to prepare PURP in consultation with Department of Urban Planning and Housing (DUPH) and DPWT.	Timely completed and implemented the PURP.	This can be part of the works site clearance plan
4	Impact on the Luang Prabang World Heritage City	<ul style="list-style-type: none"> <li>• Effectively implement, self-monitoring and reporting of the mitigation measures provided in the Section 6.7.2 of the main ESMP Report.</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor to include and implement the measures provided in the Section 6.7.2 of the main ESMP Report as part of the CESMP.</li> <li>• CSC/FE will regularly monitor safeguards compliance of contractor and report results to</li> </ul>	Construction activities are carried out in compliance with the UNESCO's Luang Prabang Urban Regulation for the construction	Section 6 of the main ESMP Report

			<p>PMU/DOW and PIU/SMWG.</p> <ul style="list-style-type: none"> <li></li> </ul>	<p>in the Heritage Protection Zone (2001).</p> <p>Regular consultation with LWHO.</p> <p><b>Zero complaints</b></p>	
<p><b>During Operations.</b> DPWT and PONRE of LPB is responsible for operations of project facilities. During project implementation, efforts will be made to ensure that DPWT of LPB will have adequate capacity to implement the mitigation measures designed to minimize potential impacts of the project during operations.</p>					
1	<p>The improved infrastructure will reduce river bank erosion and enhance local socio-economic conditions of Luang Prabang City. There is a possibility of increased income and more livelihood resilience due to lower risk to annual floods.</p>	<p>Ensure capacity and resources to ensure effective operations and maintenance of the project infrastructure and effective engagement with local communities.</p>	<ul style="list-style-type: none"> <li>DPWT</li> <li>Local communities</li> </ul>	<p>Positive impacts</p>	
2	<p>Operations of the river embankment and river bank protection works</p>	<ul style="list-style-type: none"> <li>Engaging active participation of local communities. Planning and design of these pilots will be made through extensive consultation with local agencies and local communities.</li> <li>Need effective management of river bank. Garbage from small shops and restaurants along the improved river bank sections will</li> </ul>	<ul style="list-style-type: none"> <li>DPWT and PONRE to ensure effective management of river bank (Moving towards GCB for Luang Prabang) and riverbank monitoring upstream and downstream of the project site</li> </ul>	<p>GCB for Luang Prabang and riverbank monitoring upstream and downstream every 50 m for 1 km upstream</p>	<p>Close coordination with local communities and the results and activities of Component 1.2 with active</p>

		<p>need a practical community waste management. <i>Efforts should be made to engage local authorities and communities (LA/LC) to prevent solid wastes and wastewater into the river.</i> (Moving towards GCB for Luang Prabang)</p> <ul style="list-style-type: none"> <li>Follow-up data collection once/year on the river bank profile to monitor potential change of the river bank erosion and/or deposition upstream and downstream of the subproject sites for 3 years after construction is completed.</li> </ul>		and 2 km downstream for 3-5 years	involvement of women and/or local mass organizations.
3	Impact on the Luang Prabang World Heritage City	<ul style="list-style-type: none"> <li>Effectively implement the Local Community Engagement Plan and Campaigns (Green, Clean and Beautiful City) for ensure effective management of garbage and other wastes for sustainability and Green, Clean and Beautiful City;</li> <li>Awareness raising on waste disposal, waste management (garbage bags/bins provided at the key observations areas, coordinate with municipality to promptly collect waste during and after the event, etc. This would require coordinated efforts of LPB World Heritage Committee.</li> <li>Follow-up data collection once/year on the riverbank profile to monitor potential change of the riverbank erosion and/or deposition upstream and downstream of the subproject sites for 3 years after construction is completed</li> </ul>	DPWT and LPB World Heritage Office, with engagement and involvement of private sector and local communities,	Green, clean and beautiful city	Section 6 of the main ESMP Report

**Table A5-3 Key Issues and Mitigation Measures during Construction Phase (to be included in bidding and contract documents)**

*\*For Component 1, the construction services consultant (CSC) / field engineer (FE) will be the Implementation Support and Works Supervision Consultant (ISWS) to be mobilized by the Project Management Unit (PMU) of the Department of Waterways (PMU/DOW)*

No.	Activities causing impacts	Mitigation Measures	Action Plan and Responsible Entities	Monitoring Indicators	Remarks
<b>Construction phase</b>					
1	Establishment and operation of worker camps could increase waste generation, water pollution, and disturbance and other direct and indirect social impacts to local community	<ul style="list-style-type: none"> <li>Ensure that the sites for campsite are approved by the Project and local authority; Selection of the camp sites should be made through tripartite consultation including community, Contractor, and the subproject representative.</li> <li>The Worker Camp and workshop storage area will be located on areas far enough from water points, houses and sensitive areas in consultation with the community and the subproject owner. Worker camps will not be located within 100 meters of any sensitive receptors, urban area and at least 100 meters from any surface water course and not within 2 kilometers of a protected area. If this is not possible, justification will be provided to ensure that adequate measures are undertaken to avoid impacts on the sensitive receptors.</li> <li>Worker accommodations will comply with national regulatory requirement e.g. labor laws. The accommodation should provide: (i) adequate space is allocated for each person or family; (ii) building materials should be appropriate to provide proper protection against heat, cold, damp, noise, fire, and</li> </ul>	<ul style="list-style-type: none"> <li>Contractor prepare and implement plan to management worker camp as part of the C-ESMP reviewed and approved by the CSC/FE</li> <li>CSC/FE will regularly monitor safeguards compliance of contractor and report results to PMU/ DOW and DPWT</li> </ul>	<p>Location of the work camp should be shown in the C-ESMP.</p> <p>No complaints from local authorities and local residents due to location and activities of the worker camps.</p> <p>*Safe and comfortable living of staff and workers</p>	The measures/plan will be implemented as part of the ECOP in Attachment 6A



No.	Activities causing impacts	Mitigation Measures	Action Plan and Responsible Entities	Monitoring Indicators	Remarks
		<p>disease-carrying animals and, in particular, insects; (iii) adequate sanitary and washing facilities, lighting; (iv) special attention is paid to providing adequate safety for children in case they accompany their parents and stay in the worker camp;</p> <ul style="list-style-type: none"><li>• Worker camps, cooking facilities, and toilets will be provided with roofs, walls and wooden floors or paved with concrete while the camp yards and storage can be compacted or paved with gravels. If possible, the worker camps should be fenced and provided with entrance gates to prevent unauthorized entry. In addition, the worker camps will be provided with storm water drainage system around the camp facilities to prevent flooding, mud, erosion and sediment transport to natural environment.</li><li>• Worker camps will be provided with basic facilities and utilities including but not limited to: office, notice boards and regulations of the company and about the subproject, beds, mosquito nets, blankets, clean drinking water and safe portable water, sufficient waste bins, first aid kits and necessary medicines, fire extinguishers, etc.</li><li>• For bathing and toilets, the Contractor will ensure that (1) separate toilets for males and females and with adequate number of people (standards range from 1 unit to 15 persons to 1 unit per 6 persons) and sewage and wastewater will be retained in sediment pond(s);</li></ul>			

No.	Activities causing impacts	Mitigation Measures	Action Plan and Responsible Entities	Monitoring Indicators	Remarks
		<p>(2) Toilet chambers will be designed appropriately to be able to treat sludge and sewage prior to discharge to closed retention ponds without exposure to vectors and/or diseases; (3) building of toilet rooms, sewage chambers and retention ponds will be away from natural water bodies, streams, and wetland areas. The floor of retention chambers will be above the aquifer layer.</p> <ul style="list-style-type: none"> <li>• Material storage facilities and workshop will be in proximity or within work camp area with fences, compacted ground or paved with gravel and drainage system.</li> <li>• Hazardous material storage area will be away from worker accommodations in a safe distance, provided with roof, walls and concrete floor and bunds, storm water drainage and oil traps. Engine oil change requires steel trays on the floor to prevent hydrocarbon spills on soils. If spill is found, immediate cleaning is required by collecting contaminated soil and to a temporary container and maintained in hazardous storage area.</li> <li>• Worker camps and storage areas will be checked and approved by DPWT and PONRE before moving or utilization of the area. Worker camp management plan may be included in Labor Management Plan.</li> <li>• Applying Code of Conducts (COC) and Company Pro</li> </ul>			

No.	Activities causing impacts	Mitigation Measures	Action Plan and Responsible Entities	Monitoring Indicators	Remarks
		<p>ject Rules for the subproject regarding health and safety of workers and local communities to prevent and address potential risks and issues associated with possible labor influx including SEA/SH/ VAC. The contractor will provide training to all contractor staffs and workers of the subproject. Code of Conducts and Company Project Rules will be signed by all staff members and workers and are stamped by company's management. <i>Attachment 6A and 6B</i> provide guidance on EOP and COC on SH/SEA and VAC. COC and Company Project Rules may form part of the Labor Management Plan.</p> <ul style="list-style-type: none"> <li>• Consultation with affected communities/villages on subproject activities, risks/impacts, prevention and mitigation measures and other community health and safety information. Submission of consultation report to DWPT and EDPD/PTI with list of participation and minutes of consultation.</li> <li>• Details will be included in the C-ESMP under the Worker Camp Management Plan (WCMP) and shall be complied with the project ESMP to be approved by the World Bank.</li> </ul>			
2	<p><i>Extraction and transportation of construction and excavated materials</i> (stone, sand,</p>	<ul style="list-style-type: none"> <li>• Construction activities will be carried out in compliance with the UNESCO's Luang Prabang Urban Regulation for the construction in the Heritage Protection Zone.</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor prepares and implements plan on: traffic management,</li> </ul>	<p>Proper management of the site and no complaints from</p>	<p>Also see measures/plan will be implemented</p>

No.	Activities causing impacts	Mitigation Measures	Action Plan and Responsible Entities	Monitoring Indicators	Remarks
	<p>laterite, soil, etc.) will damage local resources and environment as well as increase local traffic and damage local road conditions</p>	<ul style="list-style-type: none"> <li>• After completion of construction work all the damaged roads / tracks will have to be restored by the contractor, as it is contractor's obligations.</li> <li>• Ensure that surface run-off controls are installed and maintained to minimize erosion.</li> <li>• Where possible, use barges for transport of construction materials on the river to the subproject site.</li> <li>• All vehicles including divers used for the subproject should have subproject sticker that provides information on name of the subproject and contact person who are in charge of the car operation.</li> <li>• The contractor will be required to ensure that sand and other construction materials are sourced from licensed facilities or sources.</li> <li>• Ensure that the natural resources use and/or extraction are legally permitted by GOL and that as part of the C-ESMP, a sub plan on transportation of construction materials and transportation route will be prepared. If new quarry sites are opened a rehabilitation plan should also be prepared.</li> <li>• Agreement with land owner will be obtained and included in the C-ESMP to be submitted to WB. DPWT of LPB and SMWG will facilitate discussion and conduct consultation with land owner and facilitate for agreement between contractor and land owner. The contractor will be responsible for</li> </ul>	<p>construction waste management, and emergency preparedness and response plan as part of the C-ESMP to be reviewed and approved by CSC/FE</p> <ul style="list-style-type: none"> <li>• Contractor to follow "chance finds procedure" in ECOP</li> <li>• CSC/FE will regularly monitor safeguards compliance of contractor and report results to PMU/ DOW and DPWT</li> </ul>	<p>local authorities and residents</p>	<p>as part of the ECOP in Attachment 6A</p>

No.	Activities causing impacts	Mitigation Measures	Action Plan and Responsible Entities	Monitoring Indicators	Remarks
		<p>ensuring that the final conditions of the borrow-pit are accepted by the land owner and this condition will be part of the C-ESMP submission. Similar arrangement will be made for soil disposal sites.</p>			
4	<p><u>Sedimentation, runoff and erosion from construction areas:</u> The removal of vegetation and earthworks on the river banks and in-stream works will detach sand, silt, and clay which will be suspended in the water column for eventual deposition downstream.</p>	<ul style="list-style-type: none"> <li>Impacts on Aquatic resources. The design level of retaining wall by sections has been determined considering construction period in the dry season considered water level of river, it means that the retaining wall works shall be the first step in the levee works, and after that, the retaining wall will be used as construction road for the other levee works such as embankment and slope protection works. The slope protection work will start with (i) toe construction using rip-rap materials; (ii) embankment work using soil or sand; (iii) slope protection work using rip-rap materials; and finally (iv) planting local trees as approved by LPB World Heritage Office.</li> <li>Prepare and implement Spoil/dredge Material Disposal Plan, Sedimentation and Erosion Control Plan, and Water Quality Management Plan as part of C-ESMP.</li> <li>Ensure that surface run-off and sedimentation control measures such as sedimentation ponds and silt fences are installed and maintained to minimize erosion.</li> <li>After completion of construction work all the damaged roads / tracks will have to be restored by the contractor, as it is contractor's obligations.</li> </ul>	<ul style="list-style-type: none"> <li>Contractor prepares and implement sub-plans as part of the C-ESMP reviewed and approved by the CSC/FE</li> <li>CSC/FE will regularly monitor safeguards compliance of contractor and report results to PMU/ DOW and DPWT</li> </ul>	<ul style="list-style-type: none"> <li>Proper management of the site and no complaints from local authorities and residents</li> </ul>	<p>The measures/plan will be implemented as part of the ECOP in Attachment 6A</p>

No.	Activities causing impacts	Mitigation Measures	Action Plan and Responsible Entities	Monitoring Indicators	Remarks
5	Establishment and operation of construction materials and equipment stockyards and access roads would increase dust, noise, vibration, safety, and disturbance to local people	<ul style="list-style-type: none"> <li>• Ensure that the locations are far away from residential areas and take actions to mitigate dust, noise, vibration, water pollution, waste, etc.</li> <li>• Ensure the compliance with the UNESCO’s Luang Prabang Urban Regulation for the construction in the Heritage Protection Zone.</li> <li>• Implement measures indicated in related subplans described in ECOP.</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor prepare and implement plan on waste management as part of the C-ESMP reviewed and approved by the CSC/FE</li> <li>• CSC/FE will regularly monitor safeguards compliance of contractor and report results to PMU/ DOW and DPWT</li> </ul>	Proper management of the site and no complaints from local authorities and residents	The measures/plan will be implemented as part of the ECOP in Attachment 6A
6	Disposal of waste generated from project sites and workers camp may increase health issues to local people and unclean environment	<ul style="list-style-type: none"> <li>• Recycle metallic, glass waste; burry organic waste in impervious pit covered with soil.</li> <li>• Solid waste will be properly segregated and collected by private sector licensed by the provincial authority to be disposed at the government landfill.</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor prepare and implement plan on waste management as part of the C-ESMP reviewed and approved by the CSC/FE</li> <li>• CSC/FE will regularly monitor safeguards compliance of contractor and report results to PMU/ DOW and DPWT</li> </ul>	<ul style="list-style-type: none"> <li>• No health issue occurred.</li> <li>• Clean work sites and worker camp</li> </ul>	The measures/plan will be implemented as part of the ECOP in Attachment 6A
7	<i>Construction wastes,</i>	<ul style="list-style-type: none"> <li>• Procedures for on-site management and off-site</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor prepare and</li> </ul>	<ul style="list-style-type: none"> <li>• No</li> </ul>	The

No.	Activities causing impacts	Mitigation Measures	Action Plan and Responsible Entities	Monitoring Indicators	Remarks
	<i>garbage and refuse</i>	<p>disposal need to be addressed in the C-ESMP. A source of fill (borrow) materials as well as spoil disposal area will need to be established in the area where the civil works will be implemented.</p> <ul style="list-style-type: none"> <li>It is expected that in area where excavation will be conducted site-specific sub plan on the construction materials (quarry and borrow) and spoil disposal plan should be prepared as part of the C-ESMP.</li> <li>A subplan on construction waste management and/or recycles as well as a sub plan for management of hazardous waste to be generated should also be prepared.</li> </ul>	<p>implement plan on traffic and transport management as part of the C-ESMP reviewed and approved by the CSC/FE</p> <ul style="list-style-type: none"> <li>CSC/FE will regularly monitor safeguards compliance of contractor and report results to PMU/ DOW and DPWT</li> </ul>	<p>complaints from local residents regarding dust, noise, vibration, road safety, and the usage of the tracks/access roads</p>	<p>measures/plan will be implemented as part of the ECOP in Attachment 6A</p>
8	Access tracks/ haulage routes (if needed)	<ul style="list-style-type: none"> <li>The moving machinery should remain within the project boundary.</li> <li>Ensure that the access tracks, which are prone to dust emissions and disturbance to local resident, are managed by water spraying daily and the areas sensitive to noise and vibration are managed through enforcement of speed limit control.</li> <li>Training, routine maintenance, monitoring, and implementation of all aspects of the contractor's Emergency Preparedness and Response Plan are required to minimise the residual impacts to an acceptable level</li> <li>After completion of construction work all the damaged roads / tracks will be restored by the</li> </ul>	<ul style="list-style-type: none"> <li>Contractor prepare and implement plan on traffic and transport management as part of the C-ESMP reviewed and approved by the CSC/FE</li> <li>CSC/FE will regularly monitor safeguards compliance of contractor and report results to PMU/ DOW and DPWT</li> </ul>	<p>No complaints from local residents regarding dust, noise, vibration, road safety, and the usage of the tracks/access roads</p>	<p>The measures/plan will be implemented as part of the ECOP in Attachment 6A</p>

No.	Activities causing impacts	Mitigation Measures	Action Plan and Responsible Entities	Monitoring Indicators	Remarks
		<p>Contractor, as it is Contractor's obligations. Ensure that surface run-off controls are installed and maintained to minimize erosion.</p> <ul style="list-style-type: none"> <li>• Restriction on movement of Contractor's vehicles on designation routes; deploy traffic man at the village to control the traffic as needed.</li> </ul>			
9	Hiring skilled workers from outside of the locality can create social conflicts with local peoples	<ul style="list-style-type: none"> <li>• Hiring of workers from the local communities as much as possible.</li> <li>• Ensure the compliance the UNESCO's Luang Prabang Urban Regulation for the construction in the Heritage Protection Zone.</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor prepare and implement plan on labor management as part of the C-ESMP reviewed and approved by the CSC/FE</li> <li>• CSC/FE will regularly monitor safeguards compliance of contractor and report results to PMU/ DOW and DPWT</li> <li>•</li> </ul>	Number of local workers at the worksite.	The measures/plan will be implemented as part of the ECOP in Attachment 6A
10	Poor workers safety and hygienic conditions may cause accidents and illness of workers and/or create poor health and other social issues to local peoples	<ul style="list-style-type: none"> <li>• Provide protective clothing and equipment for workers especially those handling hazardous materials, (helmets, adequate footwear) for concrete works (long boots, gloves), for welders (protective screen, gloves dungaree), etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor prepare and implement plan on occupational and community health and safety as part of the C-ESMP reviewed and approved by the CSC/FE</li> </ul>	Safe working conditions	The measures/plan will be implemented as part of the ECOP in Attachment 6A



No.	Activities causing impacts	Mitigation Measures	Action Plan and Responsible Entities	Monitoring Indicators	Remarks
			<ul style="list-style-type: none"> <li>• CSC/FE will regularly monitor safeguards compliance of contractor and report results to PMU/ DOW and DPWT</li> <li>• DPWT</li> </ul>		
11	Water for staff and workers consumption and construction	<ul style="list-style-type: none"> <li>• Provide adequate and safe water for consumption at sites and work camp.</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor prepare and implement plan on work yard/camp as part of the C-ESMP reviewed and approved by the CSC/FE</li> <li>• CSC/FE will regularly monitor safeguards compliance of contractor and report results to PMU/ DOW and DPWT</li> <li>•</li> </ul>	Water tanker and pump provided by the Contractor	The measures/plan will be implemented as part of the ECOP in Attachment 6A
12	Interruption of water supply	<ul style="list-style-type: none"> <li>• Inform residents and provide water supply as needed.</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor taking action</li> </ul>	No complaint from residents	The measures/plan will be implemented as part of the ECOP in Attachment 6A

No.	Activities causing impacts	Mitigation Measures	Action Plan and Responsible Entities	Monitoring Indicators	Remarks
12	Community health and safety including risks on water users (boat, fishermen, etc.).	<ul style="list-style-type: none"> <li>To avoid and reduce the safety risks on communities, water users, boats and fishermen, and etc during the construction, the contractor is required to fence construction area and provide safety boom for construction activities in the Mekong River with sufficient and highly visible warning signs in day time and night time (signs with lighting in the night time).</li> <li>Conduct regular (weekly if required) consultations with and update local authority/local community of the most updated construction plan/ schedule, including detailed plan for transportation of construction and spoil materials, including transportation times through populated areas;</li> <li>Contractor's staff is appointed to be responsible for monitoring the compliance of these regulations and keeping proper transportation records, especially those for areas such as routes near the provincial hospital, school, and temple and other areas considered sensitive and/or as agreed with LA/LC;</li> <li>Damages to roads due to operation of trucks shall be repaired immediately to ensure road safety. Accidents caused by contractors must be reported immediately to PIU and after that the World Bank within 24 hours for timely resolution. After completion of construction work, all remaining road damages shall be repaired/ restored by the contractor as part of their</li> </ul>	<ul style="list-style-type: none"> <li>Contractor prepares and implements plan on community health and safety as part of the C-ESMP to be reviewed and approved by CSC/FE</li> <li>CSC/FE will regularly monitor safeguards compliance of contractor and report results to PMU/ DOW and DPWT</li> </ul>	Zero accident or injuries or deaths	The measures/plan will be implemented as part of the ECOP

No.	Activities causing impacts	Mitigation Measures	Action Plan and Responsible Entities	Monitoring Indicators	Remarks
		<p>obligations;</p> <ul style="list-style-type: none"> <li>In case water transport is proposed by contractor as option for construction materials transport, C-ESMP shall include measures to ensure safety for local people who are involved in fishing or use waterways, including the place where barges are harbored for offloading the materials, safety for barge operator, and to ensure that boats and barges do not release fuel/oil, pollutants into the water and have adequate mooring or anchoring facilities for material delivery to subproject sites;</li> <li>Emergency Preparedness and Response Plan need to include measures for water transport;</li> <li>Implement measures on occupational and community health and safety provided in the main ESMP Report Section 5.5.2.1;</li> <li>Effectively implement, monitor and report GRM.</li> </ul>			
13	Social issues	<ul style="list-style-type: none"> <li>Ensure that conflicts with local authorities and local communities are avoided.</li> <li>Ensure that focus group meetings are conducted with both men and women to identify any water related and other issues related to the subproject implementation.</li> <li>To mitigate the potential social impacts during construction, Code of Conduct (COC) on Sexual Exploitation and Abuse (SEA), Sexual Harassment (SH) and Violence Against Children (VAC) is</li> </ul>	<ul style="list-style-type: none"> <li>Contractor prepare and implement plan on labor management as part of the C-ESMP reviewed and approved by the CSC/FE</li> <li>CSC/FE will regularly monitor safeguards compliance of contractor and report</li> </ul>	No social conflict due to the subproject activities and/or workers.	The measures/plan will be implemented as part of the ECOP and COC on SEA, GBV and VAC in Attachment 6A and

No.	Activities causing impacts	Mitigation Measures	Action Plan and Responsible Entities	Monitoring Indicators	Remarks
		provided in Attachment 6B.	<ul style="list-style-type: none"> <li>• results to PMU/ DOW and DPWT</li> </ul>		Attachment 6B respectively.
14	Storage of hazardous material (including wastes)	<ul style="list-style-type: none"> <li>• Provide hard compacted, impervious and bounded flooring to hazardous material storage areas; Label each container indicating what is stored within; Training in safe handling techniques, routine maintenance, monitoring, and implementation of all aspects of the contractor's Emergency Preparedness and Response Plan.</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor prepare and implement plan on construction site management as part of the C-ESMP reviewed and approved by the CSC/FE</li> <li>• CSC/FE will regularly monitor safeguards compliance of contractor and report results to PMU/ DOW and DPWT</li> </ul>	No health hazard and water contamination occurred.	The measures/plan will be implemented as part of the ECOP in Attachment 6A
15	Construction activities; handling of fuels, oil spill and lubricants	<ul style="list-style-type: none"> <li>• Ensure that no contaminated effluent is released in to the environment.</li> <li>• Ensure that fuels, oils, and other hazardous substances handled and stored according to standard safety practices such as secondary containment.</li> <li>• Fuel tanks should be labeled and stored in impervious lining and dykes, etc.</li> <li>• Ensure that vehicle refuelling to be planned on need basis to minimize travel and chance spills.</li> <li>• Ensure that operating vehicles are checked regularly</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor prepare and implement plan on construction site management as part of the C-ESMP reviewed and approved by the CSC/FE</li> <li>• CSC/FE will regularly monitor safeguards compliance of</li> </ul>	No oil spill observed	The measures/plan will be implemented as part of the ECOP in Attachment 6A

No.	Activities causing impacts	Mitigation Measures	Action Plan and Responsible Entities	Monitoring Indicators	Remarks
		<p>for any fuel, oil, or battery fluid leakage.</p> <ul style="list-style-type: none"> <li>• Training, routine maintenance, monitoring, and implementation of all aspects of the contractor's Emergency Preparedness and Response Plan</li> <li>• Ensure the compliance with the UNESCO's Luang Prabang Urban Regulation for the construction in the Heritage Protection Zone.</li> </ul>	<p>contractor and report results to PMU/ DOW and DPWT</p> <ul style="list-style-type: none"> <li>•</li> </ul>		
16	Cutting of trees in the riparian areas.	<ul style="list-style-type: none"> <li>• Trees and Vegetation as natural landscape on the Nam Khan Mekong river bank: all big trees marked along the riverbank will be maintained and if technically required, removal of trees and plantation offsetting by the contractor will be carried out in close consultation with the LPB World Heritage Office to ensure the compliance with the World Heritage Guideline.</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor prepare and implement plan for site clearance, excavation, restoration, etc. as part of the C-ESMP reviewed and approved by the CSC/FE</li> <li>• CSC/FE will regularly monitor safeguards compliance of contractor and report results to PMU/ DOW and DPWT</li> </ul>	No complaints from local authority and/or residents.	The measures/plan will be implemented as part of the ECOP in Attachment 6A
17	Disposal of unusable excavated materials from river improvement works	<ul style="list-style-type: none"> <li>• Information on impacts on spoil disposal sites on environmental and social aspects, relevant measures and consultation with nearby household will be prepared by DOW/PMU with support from CSC/ISWS and advice from EDPD/PTI and provided for WB Task Team review prior to disposal.</li> </ul>	<ul style="list-style-type: none"> <li>• DOW/PMU with support from CSC/FE or ISWS will prepare and submits information on spoil disposal sites and</li> </ul>	Minimum impacts on the environment including removal of tree and on future	The measures/plan will be implemented as part of the ECOP in

No.	Activities causing impacts	Mitigation Measures	Action Plan and Responsible Entities	Monitoring Indicators	Remarks
		<ul style="list-style-type: none"> <li>• Reuse excavated materials as much as possible.</li> <li>• Stockpile the excavated materials to non-agriculture and protected area and in a minimum area and away from storm water.</li> <li>• Consultation with local authorities and local people including nearby households will be conducted. Agreement with land owner will be obtained if private land.</li> <li>• For disposal sites: the following areas should be avoided: mountainous or high slope areas prone to erosion, environmentally sensitive areas such as water sources, wetland, and sensitive forest.</li> <li>• Removal of tree should be avoid and minimize.</li> <li>• Quality of spoil to be disposed should be tested and proper measures provided to mitigate impacts from disposal.</li> <li>• The surplus soil to be disposed in the private land as per the agreements with land owners shall be free of shrubs or clumps of shrubs with stems.</li> <li>• The excavation will be carried during the dry season by using backhoe and will be directly placed in the dump trucks. The size of the dump trucks, speed limit and transportation schedule shall be complied with the UNESCO's Luang Prabang Urban Regulation for the construction in the Heritage Protection Zone.</li> <li>• All dump trucks carrying out surplus soils will have to be fully covered while the drivers will be required</li> </ul>	<p>impacts on environment and social for WB Task Team review prior to disposal.</p> <ul style="list-style-type: none"> <li>• Contractor to include spoil disposal management plan into C-ESMP and implement them as part of the C-ESMP reviewed and approved by the CSC/FE</li> <li>• CSC/FE will regularly monitor safeguards compliance of contractor and report results to PMU/ DOW and DPWT</li> <li>•</li> </ul>	land use	Attachment 6A

No.	Activities causing impacts	Mitigation Measures	Action Plan and Responsible Entities	Monitoring Indicators	Remarks
		<p>to respect driving speed and avoid using horns in area sensitive to noise and vibration such as hospitals, schools, and temples.</p> <ul style="list-style-type: none"> <li>All vehicles will be tuned regularly to minimize the smoke emissions.</li> <li>Watering of disposal sites and/or transportation routes to minimize dust emissions.</li> <li>Comply with measures provided in the main ESMP report Section 2.6.</li> <li>In addition, the disposal site will be implemented and stabilized for a safe use and verified by the land owner before handover the site to the land owner.</li> <li>DOW/PMU and CSC/FE will conduct regular compliance monitoring of disposal sites. The contractor is required to prepare a site closure report for each site with verified signature of the land owner and submit to DOW/PMU via CSC/FE.</li> </ul>			
18	Loss of fertile soil and vegetation; impacts on natural vegetation and embankment erosion along the watercourse.	<ul style="list-style-type: none"> <li>Remove surface soil of the location, stocked in a proper place and once the construction is finished, put the soil back on that place. The leftover spoil soil should be collected and kept aside for rehabilitation of the site at later stage of the work; re-vegetate the embankments with indigenous plant species</li> </ul>	<ul style="list-style-type: none"> <li>Contractor prepare and implement plan for site clearance/restoration as part of the C-ESMP reviewed and approved by the CSC/FE</li> <li>CSC/FE will regularly monitor safeguards compliance of contractor and report</li> </ul>	Riverbanks stabilized and re-vegetated	

No.	Activities causing impacts	Mitigation Measures	Action Plan and Responsible Entities	Monitoring Indicators	Remarks
			<ul style="list-style-type: none"> <li>• results to PMU/ DOW and DPWT</li> </ul>		
19	Noise, vibration, and air quality (mostly dust)	<ul style="list-style-type: none"> <li>• Ensure the compliance with the UNESCO’s Luang Prabang Urban Regulation for the construction in the Heritage Protection Zone.</li> <li>• Working hour limit for the civil works from 8:00 am-5:00 pm with break over lunch time (12-1:30 pm) only.</li> <li>• Applying manual technique (labor in preference to machinery) working nearby the social sensitive areas.</li> <li>• All trucks used for the subproject shall be in full compliance with GOL regulations on speed limit, load permit, vehicle safety, etc.), and are properly maintained to reduce noise/vibration/ dust generation.</li> <li>• When passing through the residential and sensitive receptors areas, the speed limit should be slower (within 25-30km/hr.) than national road and watering the road and construction sites at least 3 times daily during dry season.</li> <li>• Properly cover the transport trucks to prevent the risk of being blown off or jumping out of the trucks during transport.</li> <li>• Only small trucks with less than 3,5 metric tons each will be allowed to bring the materials on the road and transportation during peak traffic periods (7:00 am to 8:00 am, 11:00 am to 2:00 pm, and 3:30 pm to 5:00</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor prepare and implement plan for environmental quality management as part of the C-ESMP reviewed and approved by the CSC/FE</li> <li>• CSC/FE will regularly monitor safeguards compliance of contractor and report results to PMU/ DOW and DPWT</li> </ul>	Excessive dust and noise generation controlled	The measures/plan will be implemented as part of the ECOP in Attachment 6A

No.	Activities causing impacts	Mitigation Measures	Action Plan and Responsible Entities	Monitoring Indicators	Remarks
		<p>am) is not allowed.</p> <ul style="list-style-type: none"> <li>• Where possible, use barges for transport of construction materials on the river to the subproject site.</li> <li>• All vehicles including divers used for the subproject should have subproject sticker that provides information on name of the subproject and contact person who are in charge of the car operation.</li> <li>• Implement measures on occupational and community health and safety provided in the main ESMP Report Section 5.5.2.1.</li> <li>• Conduct air, noise and vibration monitoring at least on a 3 month quarterly basis or as needed.</li> <li>• Prepare and implement air, noise and vibration control plan as part of CESMP.</li> </ul>			
20	Excavation of borrow areas	<ul style="list-style-type: none"> <li>• Excavate borrow soil up to maximum depth at average of 2m; with slope boundaries</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor to prepare and implement plan for quarry and borrow pit management plan as part of the C-ESMP reviewed and approved by the CSC/FE</li> <li>• CSC/FE will regularly monitor safeguards compliance of contractor and report results to PMU/ DOW</li> </ul>	Borrow area rehabilitated as per specification	The measures/plan will be implemented as part of the ECOP in Attachment 6A
21	Rehabilitation of borrow pits	Proper rehabilitation of borrow pits; Removal and storage of top 15 cm topsoil having organic materials and spreading it back during restoration of borrow area			



No.	Activities causing impacts	Mitigation Measures	Action Plan and Responsible Entities	Monitoring Indicators	Remarks
			and DPWT		
22	Impact on the Luang Prabang World Heritage City	<ul style="list-style-type: none"> <li>Effectively implement, self-monitoring and reporting of the mitigation measures provided in the Section 6.7.3 of the main ESMP Report.</li> </ul>	<ul style="list-style-type: none"> <li>Contractor to include and implement the measures provided in the Section 6.7.3 of the main ESMP Report as part of the CESMP.</li> <li>CSC/FE will regularly monitor safeguards compliance of contractor and report results to PMU/DOW and PIU/SMWG.</li> </ul>	<p>Construction activities are carried out in compliance with the UNESCO's Luang Prabang Urban Regulation for the construction in the Heritage Protection Zone (2001).</p> <p>Regular consultation with LWHO.</p> <p>Zero complaints</p>	Section 6 of the main ESMP Report
23	Encountering archaeological sites during earth works	<ul style="list-style-type: none"> <li>The project field supervisor (CSC or filed engineer) will halt the work at the site and inform to the regional team leader and Archaeological Department immediately.</li> </ul>	<ul style="list-style-type: none"> <li>Contractor to follow "chance finds procedure" in ECOP</li> <li>CSC/FE will regularly monitor safeguards compliance of contractor and report results to PMU/ DOW</li> </ul>	The report from the CSC/FE, community, and contractor	See "chance find procedures" in ECOP in Attachment 6A

No.	Activities causing impacts	Mitigation Measures	Action Plan and Responsible Entities	Monitoring Indicators	Remarks
			<ul style="list-style-type: none"> <li>and DPWT</li> </ul>		
23	Aesthetic/ scenic quality	<ul style="list-style-type: none"> <li>Carry out complete restoration of the construction sites.</li> <li>Remove all waste, debris, unused construction material, and spoil from the worksites.</li> </ul>	<ul style="list-style-type: none"> <li>Contractor to follow all ESS requirements in ECOP</li> <li>CSC/FE will regularly monitor safeguards compliance of contractor and report results to PMU/ DOW and DPWT</li> </ul>	Cleanliness and tidiness of works sites and work camp	See all relevant plans in ECOP in Attachment 6A
22	Excavation in Nam Khan river will increase turbidity in the river and/or increase river bank erosion.	<ul style="list-style-type: none"> <li>Prepare and implement Spoil/dredge Material Disposal Plan, Sedimentation and Erosion Control Plan, and Water Quality Management Plan as part of C-ESMP.</li> <li>Ensure that surface run-off and sedimentation control measures such as sedimentation ponds and silt fences are installed and maintained to minimize erosion.</li> <li>After completion of construction work all the damaged roads / tracks will have to be restored by the contractor, as it is contractor's obligations.</li> </ul>	<ul style="list-style-type: none"> <li>Contractor prepare and implement erosion control sub-plans as part of the C-ESMP reviewed and approved by the CSC/FE</li> <li>CSC/FE will regularly monitor safeguards compliance of contractor and report results to PMU/ DOW and DPWT</li> </ul>	Proper management of the site and no complaints on water uses (water turbidity) from local authorities and residents.	The measures/plan will be implemented as part of the ECOP in Attachment 6A



No.	Activities causing impacts	Mitigation Measures	Action Plan and Responsible Entities	Monitoring Indicators	Remarks
24	Possible safety risk due to UXO during construction	Include responsibility on UXO clearance in the bidding document and ensure that the contractor is aware of their application	<ul style="list-style-type: none"><li>PMU/DOW and DPWT</li></ul>	No accident due to UXO during construction	UXO risk is considered low.

## ATTACHMENT 6A: PROJECT ENVIRONMENTAL CODE OF PRACTICE (ECOP)

1. This attachment presents a generic ECOP to be applied during the preparation of the contractor Environmental and Social Management Plan (C-ESMP) for Luang Prabang (LPB) project. It will be incorporated into the bidding document (BD) and contract document (CD) and the implementation cost will be part of the contract cost. The Construction Supervision Consultant (CSC) and/or field engineer will be assigned to supervise and monitor Contractor's compliance with ECOP and the approved the C-ESMP by DOW/PMU on a day-to-day basis. The Project Implementation Unit (PIU) in Luang Prabang province (PIU/DPWT) will be assigned to conduct monthly monitor and reporting for contractor performance.

2. Quarterly monitoring and six-month monitoring will be conducted by the Safeguards Monitoring Working Group (SMWG) comprising PONRE/DONRE and other local entities; the Project Management Unit of the Department of Water (PMU/DOW); and the Environment Research and Disaster Prevention Division of the Public Works and Transport Research Institute (EDPD/PTI). This ECOP can be adjusted during the preparation and approval of the C-ESMP.

3. **Application of ECOP:** The ECOP describes the Contractor's obligations during the construction phase with an aim to mitigate the typical potential negative impacts of civil works on local environment and local population such as increased in air, noise, vibration, waste generation, safety risks, local traffic, etc. which could be mitigate through good environmental management and construction practices. However site-specific measures may be required to address site-specific issues identified in Attachment 5 as agreed between DOW/PMU and the contractor. Key actions during the application this ECOP are highlighted as follows:

- During preparation of the C-ESMP, incorporate specific actions and/or mitigation measures identified in Table A5-3 as well as those to be required by PONRE including the results from consultation with local authorities and community into the final ECOP (Parts 1, 2, and 3). Based on the initial consultation with local authorities and community specific requirements has been incorporated as the site-specific actions into Part (2) of this ECOP. This part could be modified as appropriate.
- After the C-ESMP is approved by the DOW/PMU with support from CSC/ISWS and advice from EDPD/PTI, the activities will be conducted in compliance with the approved C-ESMP.

4. **Scope of ECOP:** ECOP requirements are divided into 3 parts: (1) General Provision and Planning, (2) Site-Specific Actions, and (3) Works Management and Monitoring. Part (1) describes roles and responsibility of the subproject owner, the Contractor, and supervisor including the basic requirements of the WB groups and the principles for Contractor to consider during the planning or development of the contractor's standard operation procedures. Part (2) describes site-specific requirements that require particular attention as a

result of specific concerns expressed by local authorities and/or communities, typical issues observed during supervision, and/or site-specific issues. Part (3) describes standard requirements during execution of works to reduce potential impacts on air, noise, vibration, water, etc. including key monitoring indicators that could facilitate effective supervision and monitoring.

5. The following guidelines will be implemented by the Contractor and is considered as part of contract documents of the subproject to be conducted by Contractor. It is noted that the final application of the ECOP can be adjusted during the preparation of C-ESMP to ensure that it is effective and practical taking into account the nature of the contract, locations and nature of the project activities, and agreement between DOW/PMU and contractor. Key change should be reported in the E&S safeguard monitoring report. The C-ESMP will also have a clear action to mitigate potential safety risk related to UXO as well as those to be carried to address Covid19 pandemic issues (**see Attachment 9**).

## **Part (1): General Provision and Planning**

### ***Section (1.1) Contractor responsibility***

6. The Contractor is responsible for making best effort to reduce and mitigate the potential negative impacts on local environment and local resident including making payment for all damages that may occur. Performance of the Contractor will be closely supervised and monitored by the Construction Supervision Consultant (CSC) and/or qualified field engineer as well as periodic monitored by a qualified consultant to be assigned by the subproject owner (DPWT) and/or staff responsible for the Safeguards Monitoring Working Group (SMWG). Results of the ECOP compliance monitoring will be included as part of the subproject progress report. Compliance with ECOP will be required throughout the construction period.

7. For clarity, the term “works” and/or “construction” in this document includes all site preparation, demolition, spoil disposal, materials and waste removal and all related engineering and construction activities.

### ***Section (1.2) Non-compliance reporting procedures***

8. The Contractor (and its subcontractors if any) must comply with the final ECOP as well as C-ESMP as a whole. To ensure that necessary action has been undertaken and that steps to avoid adverse impacts and/or reoccurrence have been implemented, the CSC, the SMWG/DPWT, and/or the Contractors must advise the subproject owner within 24 hours of any serious incidents of non-compliance with the final ECOP that may have serious consequence. In the event of working practices being deemed dangerous either by the subproject owners, the local authorities, or the other concerned agencies, immediate remedial action must be taken by the Contractors. The Contractors must keep records of any incidents and any ameliorative action taken. The records on non-compliance that could be practically addressed (not cause serious impacts) will be reported to the subproject owner on a monthly basis. Measures will be applied against non-compliance with C-ESCP including ECOP and COC. These include the Environmental, Social, Health, and Safety (ESHS) Performance Security: two (2) percent of the Contract Price specified in the GCC, ITB 50.

9. The Contractor will be responsible for dealing with any reports/grievance forwarded by the project investment owner, Police or other agencies (by following instruction from the project investment owner representative as appropriate) as soon as practicable, preferably within one hour but always within 24 hours of receipt by either the Contractor. The CSC/SMWG will monitor and ensure that the Contractor has taken appropriate action. Where appropriate, approval remedial actions may require an agreement from the local authorities and/or other Government agencies. Procedures should be put in place to ensure, as far as is reasonably practical, that necessary actions can be undertaken to avoid recurrence and/or serious damage. Please see Attachment 7 for Accident Reporting Procedure and Form.

### ***Section (1.3) Liaising with local authorities and the public***

10. Prior to the commencement of project investment activities and throughout the construction duration, the Contractor will work closely with the local authorities and other agencies to ensure full compliance with Government regulations and will also provide adequate information on the Project to the general public, especially those that may cause public safety, nuisance, and sensitive areas and the locations of storage and special handling areas. The Contractor will provide information and reporting telephone “Hot Line” staffed at all times during working hours. Information on this facility shall be prominently displayed on site hoardings.

### ***Section (1.4) Community relations***

11. The Contractor will assign one community-relation personnel, who will be focused on engaging with the community to provide appropriate information and to be the first line of response to resolve issues of concern. Contractor will take reasonable steps to engage with residents of ethnic minority backgrounds and residents with disabilities (or other priority groups as appropriate), who may be differentially affected by construction impacts.

12. The Contractor will ensure that local residents nearby the construction sites will be informed in advance of works taking place, including the estimated duration. In the case of work required in response to an emergency, local residents shall be advised as soon as reasonably practicable that emergency work is taking place. Potentially affected residents will also be notified of the ‘Hotline’ number, which will operate during working hours. The “Hotline” will be maintained to handle enquiries regarding construction activities from the general public as well as to act as a first point of contact and information in the case of any emergency. All calls will be logged, together with the responses given and the callers’ concerns action and a response provided promptly. The helpline will be widely advertised and displayed on site signboards.

13. The Contractor respond quickly to emergencies, complaints or other contacts made via the ‘Hotline’ or any other recognized means and liaise closely with the emergency services, local authority officers and other agencies (based on established contacts) who may be involved in incidents or emergency situations.

14. The Contractor will manage the work sites, work camps, and workers in a way that is acceptable to local residents and will not create any social impacts due to workers. Any construction workers, office staff, Contractor’s employees, or any other person related to the

Project found violating the “*prohibitions*” activities listed in Section (1.5) below may be subject to disciplinary actions that can range from a simple reprimand to termination of his/her employment depending on the seriousness of the violation.

### **Section (1.5) Prohibitions**

15. The following activities are prohibited on or near the subproject sites:

- Cutting of trees for any reason outside the approved construction area; Hunting, fishing, wildlife capture, or plant collection; Buying of wild animals for food; Having caged wild animals (especially birds) in camps; Poaching of any description; Explosive and chemical fishing; Disturbance to anything with architectural or historical value;
- Building of fires; Use of unapproved toxic materials, including lead-based paints, asbestos, etc.; Use of firearms (except authorized security guards); Use of alcohol by workers in office hours; Driving in an unsafe manner in local roads; and
- Washing cars or machinery in streams or creeks; Maintenance (change of oils and filters) of cars and equipment outside authorized areas; Creating nuisances and disturbances in or near communities; Disposing garbage in unauthorized places; Indiscriminate disposal of rubbish or construction wastes; Littering the site; Spillage of potential pollutants, such as petroleum products; Collection of firewood; Urinating or defecating outside the designated facilities; and Burning of wastes and/or cleared vegetation.

## **Part (2) ESS Specific Requirements**

### **Section (2.1) Implementation of “Chance Find Procedures”**

16. If the Contractor discovers archaeological sites, historical sites, remains and objects, including graveyards and/or individual graves during excavation or construction, the Contractor will carry out the following steps:

- Stop the construction activities in the area of the chance finds;
- Delineate the discovered site or area;
- Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be arranged until the responsible local authorities or the National Culture Administration take over;
- Notify the project engineer, supervisor (CSC), the project owner (PMU/DOW), and/or DPWT and EDPD/PTI who in turn will notify the responsible local authorities and the provincial Culture Department immediately (within 24 hours or less);
- Responsible local authorities and the provincial Culture Department would be in charge of protecting and preserving the site before deciding on subsequent appropriate procedures. This would require a preliminary evaluation of the findings to be performed by the archaeologists of National Culture Administration. The significance and importance of the findings should be assessed according to

the various criteria relevant to cultural heritage; those include the aesthetic, historic, scientific or research, social and economic values;

- Decisions on how to handle the finding shall be taken by the responsible authorities and the provincial Culture Department. This could include changes in the layout (such as when finding an irremovable remain of cultural or archaeological importance) conservation, preservation, restoration and salvage;
- Implementation for the authority decision concerning the management of the finding shall be communicated in writing by relevant local authorities; and
- Construction work could resume only after permission is given from the responsible local authorities or the provincial Culture Department concerning safeguard of the heritage.

### ***Section (2.2) Implementation of the Environmental, Health, and Safety (EHS) guideline***

17. In line with the WB safeguard policy, the Contractor is required to comply with the Environmental Health and Safety Guidelines (EHSG)<sup>4</sup> established for the project investment with financial support from the WB. For the Project, the Contractor will prepare a number of management plans/sub plans to protect the local environment and ensuring safety of workers and local peoples. On the latter, an occupational and community health and safety plan (OCHSP) will be prepared and incorporated into the Contractor's own Standard Operating Procedures (C-SOPs). At a minimum the following rules will be strictly followed, however, more comprehensive measures may be required:

#### ***Site Environment and OCHS Rules***

- Daily and weekly OCHS orientation sessions before starting work;
- Wearing of personal protective equipment (PPE) such as gloves, helmets, safety shoes, dungarees, goggles and etc;
- Follow the messages and instructions displayed on the environmental management plans and OCHS notice boards installed on site;
- Promptly reporting all accidents to the concerned authority;
- Maintain appropriate barricades of dangerous areas, as required;
- Vehicles must be driven at a safe speed, observing speed limits of 30 Km/h in sensitive areas and use only the designated routes as mentioned in the Traffic and Transport Management Plan (TTMP);

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<sup>4</sup> The EHSG provides general guidance on the pollution prevention and abatement measures and workplace and community health and safety guidelines that are normally acceptable in WBG-supported projects, particularly in cases where the borrowing country does not have standards, or when its standards fall significantly short of international or industry-wide norms. The EHSG are divided in two parts: general guidelines on health and safety and pollution prevention and abatement, including general standards for air and water quality, and a set of sector-specific guidelines for various types of development projects.

- Drivers must have a valid driving license for the class of vehicle they are operating;
- Vehicles should only be parked in designated parking areas; and
- Land mines/UXO clearance of the project area as needed.

**Health and Hygiene:** The measures should include:

- Provision of adequate medical facilities to the staff;
- Provision of hygienic food to the employees;
- Provision of cooling and heating facilities to the staff; and
- Provision of drainage, sewerage and septic tanks in camp area.

**Security:** Security measures should include:

- Regular attendance and a controlled time keeping of all employees;
- Restriction of un-authorized persons to the work areas and/or worker camps;
- Restriction of carrying weapons and control hunting by employees; and
- Provision of boundary walls/ fences with proper exits to the camp.

### **Section (2.3) ESS Requirements before Commencement of Construction**

20. Before construction begins (at each Project site), all the following requirements will be completed, checked and approved by DWPT, PONRE, and EDPD/PTI:

- Within 28 days after contract awarded, submission of the C-ESMP with adequate measures to mitigate potential negative impacts described in this ECOP. The C-ESMP will be prepared in line with the Project-ESMP and it will be reviewed and approved by PMU/DOW with support from CSC/FE and advice from EDPD/PTI. The approved C-ESMP will be sent to EDPD/PTI, DPWT, and/or PONRE.
- Recruitment of key ESS staff of the contractor to be responsible for environmental, social and safety aspects.
- Establishment of worker camps with quality health services and sanitary equipment and all required supporting facilities and workshop/material storage area in comply with the ESS requirements related to the labour management, worker camp and storage area described in Part 3. Worker camps and storage areas will be checked and approved by DPWT and PONRE before moving or utilization of the area.
- Development of Code of Conducts (COC) and Company Project Rules regarding health and safety of workers and local communities to prevent and address potential risks and issues associated with possible labour influx including SEA/SH and VAC (see Attachment 6). The Contractor will provide training to all Contractor's staffs and workers working for the Project. Code of Conducts and Company Project Rules will be signed and stamped by company management team and all staffs and workers.

- Provision of a list of Contractor's key staff, engineers, and worker to be working on site. The information will be included, but not limited to, personal data, criminal check and health data to ensure that all employees are free of the following diseases: liver cancer and sexually transmitted diseases (STDs) with the following information: names and surnames, ages, address (village, district, province, contact details, status (single, married), health (good), family information (number of children, name of wife, address and contact details) and among others. The list of employees will need to be attached in C-ESMP and distribute to all project affected communities/villages.
- Consultation with affected communities/villages on Project activities, risks/impacts, prevention and mitigation measures and other community health and safety information. The consultation reports will be submitted to DWPT and EDPD/PTI with list of participation and minutes of consultation.

21. The Contractor will (a) install signs and signals on works in progress to ensure safety both during day and night time; (b) ensure no blockage of access to households during construction and/or provide alternative access, provide footbridges and access of neighbours; and (c) endure construction of proper drainage on the site. The measures should be considered and the key ones are highlighted as follows:

- Project sign board will be installed at the beginning and the end sections of the Project.
- Speed limit signs will be installed at both edges of village, communities, schools, hospitals and other sensitive areas with speed limit between 20-25km/hr. or any speed issued by local authorities;
- Speed limit and caution signs at both edges of each active construction area;
- Install signs indicating way to work camps, borrow pits, quarries, etc.,
- Bypass signs, reflection, etc.,
- Ensuring that local communities are actively involved in the planning and installation of these signs and help preventing damages and/or loss as much as possible.

22. The Contractor will also be required to complete the environmental management sub plans and the OCHS Plan and complete at least one training for all contractor staff and workers working for the Project with records of any training and induction. Periodic and follow-up trainings will be conducted at least 1 time in every 3 months.

#### ***Section (2.4) ESS Requirements during Construction and Project-Site Closure***

23. The ESS requirements during Construction are provided in Part 3. The Contractor will also be required to manage all activities in compliance with laws, rules and other permits related to site construction regulations (what is allowed and not allowed on work sites) and will protect public properties. Degradation and demolition of private properties will be avoided. Paying compensation to damage to the public facilities and/or private property will be required. The Contractor will inform PMU/DOW and DPWT on issue and/or damages that may unexpectedly occur.

24. As part of the ECOP, the Contractor is responsible for protection of local environment against dust, air, noise, vibration, exhaust fuels and oils, and other solid wastes generated from the work sites. The Contractor will manage waste properly and do not burn them on site and will also provide proper storage for construction materials, organize parking and displacements of machines in the site. Used oil and construction waste materials must be appropriately disposed-off and adequate waste disposal and sanitation services will be provided at the construction site next to the generated areas. In order to protect soil, surface and ground water the Contractor will avoid any wastewater discharge, oil spill and discharge of any type of pollutants on soils, in surface or ground waters, in sewers and drainage ditches. Compensation measures may be required. Implement the measures to mitigate impacts on LPB cultural heritage as provided in the Section 6.7.3.

25. *Construction site closure.* Before each Project site is considered completed, the following actions will be undertaken:

- Clean up all wastes and disruption and removal of construction equipment, construction waste and general wastes from the Project ROW and all location used by the Project during construction such as worker camps, parking bays, and storage areas, borrow pits, quarries and ancillary facilities.
- Stabilize all borrow pits or implement all agreed measures in accordance with agreements stipulated in minutes or documents signed between the Contractor and landowners. If needed, signing of a handover documents for borrow pits will be required.
- Stabilize and/or rehabilitate all project sites to ensure community safety and erosion control.
- Together with DPWT and PONRE, provide training on OHS to all affected community. All training will be recorded and affected communities will sign the training received sheet.
- Submission of ES Site Closure Report to DPWT and EDPF/PTI one month before project completion inspection. Any potentially defects to the works will be fixed to ensure good conditions before completing the contract.

### ***Section (2.5) GOL Regulations and Comments from Local Communities***

26. Initial Environmental Examination) has been prepared and Environmental Compliance Certificate (ECC) has been issued before commencement of construction. The Contractor will be required to comply with the ECC approval conditions as well as to be responsive to the concerns and/or the requests made by local authorities and/or local communities throughout the contract period.

### **Part (3) Works Management and Monitoring**

27. This section provides technical guidance on the ESS requirements during construction phase. At a minimum, the Contractor is required to prepare and submit to DOW/PMU through CSC/FE the following, but not limited to, plans/sub plans: (i) Construction Site Management Plan (CSMP) including site safety, spill prevention, and emergency response, (ii) Occupational and Community Health and Safety Plan (OCHSP), (iii) Environmental

Quality Management Plan (EQMP), (iv) Site Clearance and Borrow Pit Management Plan (SCBMP), (v) Waste Management and Recycling Plan (WMRP), (vi) Works/Worker Camp Management Plan (WCMP), (vii) Traffic and Transportation Management Plan (TTMP), (viii) Labor Management Plan (LMP), and (ix) Monitoring and Reporting Plan (MRP). Scope of these plans is described below.

### ***Section (3.1) Construction Sites Management Plan (CSMP)***

28. *This plan aims to mitigate potential impacts at the construction sites in general. Key requirements are related to working hours, site layout and appearance and good housekeeping as well as operations of equipment and vehicles including prevention of spill and emergency response. Monthly inspection/meeting should be conducted to ensure that these procedures are adhered to. The Contractor must follow a ‘good housekeeping’ policy at all times. Preparation of contractor SOP (C-SOP) may be required by DOW/PMU. All Project sites should be cleared by the Contractor on completion of the construction.*

#### ***(a) General requirements on construction sites***

29. The Contractor is required to minimize, as far as reasonably practicable, any adverse environmental impact of their construction activities. All appropriate licenses and consents in respect of site operations will be timely secured. A construction site should satisfy the following requirements:

- *Working hours:* Core working hours will be from 0800 to 1800 on weekdays and 0800 to 1300 on Saturday and this should be established in close consultation with local authorities and local resident. Noisy operations will not take place outside these hours without prior approval from the SMWG/CSC/FE. All construction related traffic can be adjusted according to the agreed working hours for each site. Any exemption will require an agreement with the PMU/DOW, CSC/FE, and/or local authorities.
- *Site layout.* The overall site layout must be designed and approved under regulations to suit the construction location, the site’s area, natural and climate conditions in the place of construction, facilitate the construction and ensure safety for human, machines and equipment at the construction site and the surrounding areas affected by construction activities.
- *Site arrangement.* Supplies and materials are placed neatly according to the approved overall plan design. Supplies, materials and obstacles are not placed on roads, emergency exits or fire entrances. Flammable and explosive material warehouses are not arranged near the place of construction and tents. Waste materials are removed and discharged in prescribed places. Water drainage systems are regularly cleared to ensure that the construction ground is always dry.
- *Signs.* At the construction site, appropriate signs must be installed. At the main entrance, a plan of the overall ground of the construction site and working regulations is displayed. Safety measures and rules are publicized at the construction site for compliance. At dangerous places at the construction site, such as areas going through local community with limited space and/or dangerous

operations, installation of temporary fences, warning signs and instructions for accident prevention (including installation of light/reflection) must be provided.

- *Good housekeeping:* The Contractor will follow a ‘good housekeeping’ policy at all time for the workers and the surrounding environment. This will include, but not necessarily be limited to the following: dust and noise control; waste treatment, keeping the site clean and tidy. To sites located near residential areas, wastes must be covered and collected and properly disposed-off. Construction and waste materials during transportation must be properly covered to ensure safety and environmental sanitation.
- *Training of staff and workers.* Before starting construction, an approved design of construction measures including those related to transportation of construction materials is required. The measures will include those to ensure safety of workers, construction machines and equipment for each job, and/or local people. Training of workers and/or drivers on technical and use instructions, etc. will also be required. During construction, the approved design as well as regulations, standards and technical processes are complied with. Jobs dependent on the quality of previous jobs are performed only after the previous jobs have been tested to meet quality requirements under regulations.

*(b) Local cultural and traditional sites*

30. The Contractor is required to respect local cultural/historical sites, including temples and other spiritual sites/resources for ethnic peoples and ensuring security and privacy of women and households in close proximity to the camps. Measures can be included in an appropriate management plan described in this ECOP.

*(c) Fire, spill, and emergency plan*

31. The Contractor to set up specific measures for prevention of fire and spill of toxic/hazardous chemicals and provide appropriate facilities and equipment that could help fighting fire at the construction site, which has its own working regulations on its specific duties and powers. A sub plan on to prevent fire and toxic/hazardous chemical spill will be prepared and approved under regulations including preparation of emergency response. This will include assignment of specific staff and/or team to be responsible for ensuring safety and organizes training on these procedures. In/near urban area, at the construction site, local fire-fighting equipment is arranged (if possible). At fire-prone places, inflammable signboards and fire-fighting and alarm equipment are installed to promptly detect fires and take remedies.

**Section (3.2) Occupational and Community Health Safety Plan (OCHSP)**

32. *This plan aims to ensure safety of contractor workers and staff who work on the Project and well as protection of community safety.* Experience of river works in Lao PDR suggested that safety of worker and local community are high priority, especially when the activities are conducted in rural and/or mountainous areas due to limited space/area for operations of heavy equipment and vehicles.

33. The Contractor is required to take the following actions:

- Conduct a safety risk assessment of all construct sites and identify the area and type of safety risks and prepare/implement measures to mitigate them effectively. Electric equipment should be safely insulated during the construction process while the workers knowledge on safety techniques and ways to give first aid to persons who get electric shock and/or accident should also be provided.
- Ensure that key managers and workers are fully capable in the jobs they perform under regulations. Operators of construction machines and equipment and performers of jobs with strict labor safety requirements are trained in labor safety and possess labor safety cards under regulations. Workers at the construction site are provided with medical checks-up and safety training and adequate personal safety equipment under the labor law.
- Construction machines and equipment with strict labor safety requirements are inspected by and registered with competent agencies under regulations for operation at the construction site. During operation, they comply with safety processes and measures. If construction equipment is operated outside the construction site, the investor approves safety measures for construction-affected people, machines, equipment and works inside and outside the construction site. If due to construction conditions, equipment have to be placed outside the construction site and while not in operation, if they operate outside the construction site, such is permitted by authorized agencies under local regulations.
- *Unexploded Ordnance (UXO)*: Although the risk is considered low, but due consideration and actions will be required. The Contractor will be responsible for ensuring UXO safety of the construction site. The response process needs to be included in emergency procedures. The emergency procedures will be prepared and carried out if UXO risk is identified at the construction site.

34. The Contractor is also responsible for maintaining good hygiene, safety, and social welfare security of the work sites, including protection of and health and safety of staff and workers. The Contractor will prevent standing water in open construction pits, quarries or fill areas to avoid potential contamination of the water table and the development of a habitat for disease-carrying vectors and insects. Safe and sustainable construction materials and construction method should be used.

### ***Section (3.3) Environmental Quality Management Plan (EQMP)***

35. *This plan aims to reduce potential impacts on air, noise, vibration, and water quality.* During construction, the Contractor will specifically take serious actions on the following:

- To control dust by using water or through other means and the construction site will be cleaned on a daily basis;
- To work with local authority and management local traffic effectively and ensure traffic access and safety of local residents and river users during the works. Speed limit at work sites and community area will be applied to all vehicles and cars. All vehicles and their drivers must be identified and registered, and the drivers are properly trained;

36. **Dust, noise, and vibration.** The Contractor must make efforts to control dust, noise, and vibration levels from the site, as far as is reasonably practicable. Excessive noise/vibration generation activities must be in accordance with GOL standards. For critical areas, the Contractor may be required to conduct noise measurement in close consultation with the local residents and establish appropriate measures to control and manage noise level. Measures for reducing dust and other air pollution, noise, and vibration are provided as follows:

- *Inform the residents:* Prior to commencement of work at any site, the Contractor will be required to inform the local authority and residents regarding the construction plan and potential noise and vibration that may occur from the construction activities, including measures to reduce noise and vibration.
- *Dust control:* The Contractor will ensure that no burning of waste materials on site; adequate water supply is available on site; dry sweeping of large areas is not allowed; Cover all trucks carrying loose or potentially dusty materials (soil, mud, etc.) to and from construction site; Water or sprinkle the construction areas periodically, especially at site located near residential area; avoid overloaded of trucks; routinely clean public roads and access routes; Ensure vehicles working on site have exhausts positioned such that the risk of re-suspension of ground dust is minimized (exhausts should preferably point upwards), where reasonably practicable; Control driving speed on un-surfaced haul routes and work areas; Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery; Mix large quantities of cement, grouts and other similar materials in designated areas; Store materials with the potential to produce dust away from site boundaries where reasonably practicable; Minimize the amount of excavated material held on site; Sheet, seal or damp down unavoidable stockpiles of excavated material held on site, where required; Seal or re-vegetate completed earthworks as soon as reasonably practicable after completion.
- Care must be undertaken during the transportation of construction materials to and from the construction site; the spoil must be covered at all time. Fly-tipping will not be permitted. Loads must only be deposited at designated sites. The Contractor will be responsible for all the trucks delivering to, or exiting from, a worksite and will clean up all damage that may occur to public road and other public facilities. Care should be taken when loading or unloading vehicles or dismantling scaffolding or moving materials to reduce impact noise. Loading or unloading bays may have to be housed in suitable acoustic enclosures.
- Noisy plant or equipment including will be sited as far away as is practicable from noise sensitive buildings. The use of barriers, (e.g. soil mounds), site huts, acoustic sheds or partitions to deflect noise away from noise sensitive areas should be employed wherever practicable.

- The Contractor will be obliged to comply with the vibration levels according to GOL standards. Due attention will be given to minimize human exposure (1 Hz to 80 Hz) and protection of damage to nearby structures.

37. **Water quality.** The Contractor must take all the efforts to prevent wastes (solid and liquid) discharge into all rivers and to protect surface and groundwater from pollution and other adverse impacts including changes to water levels, flows and general water quality. Discharge of engine oil and oily waste from dredgers and construction machines to the rivers will be strictly prohibited. Engine oil, used oil, and other toxic substances and hazardous wastes must be properly collected, stored, treated, and/or disposed-off. Key measures are as follows:

- *Used oil/engine oil:* The oil container at the construction site (especially when the site is located less than 10 meters from the waterways) must be of sufficient strength to ensure to prevent leakage. The container must be situated within a secondary containment system (bund), which will prevent the release of any leaked oil. The Contractor must make provisions to ensure that all hazardous substances including oil drums or containers on site are properly labeled and properly stored and that no oil or other contaminants are allowed to reach water courses or groundwater.
- *Wastewater from sites:* Whenever possible, the Contractor must minimize the amounts of wastewater that need to be discharged and find alternative means of disposal. The Contractor will ensure that any seepage and wastewater arising from the works and camp sites must be collected and discharged via a settlement tank. The standards for wastewater treatment prior to discharge must be agreed in advance with the ESA. Contaminated water or water of an uncertain quality must be discharged into sewers by tankers or other approved means of disposal.
- *Drainage.* Water drainage must be designed to avoid stagnant conditions that could create bad smell and unsanitary condition. The Contractor must agree with the ESA in advance, details of the methodology to be employed, prior to commencement of the construction. Particular attention must be given to regular pest control treatment (particularly rats and flies); removal of sludge and other debris after drainage; reducing smell nuisance from sludge and algae by measures including deodorizing, hosing down etc. Safety measures must also be taken to protect both the general public and employees and to prevent fly-tipping and illegal access during the development works.

#### **Section (3.4) Works/Worker Camp Management Plan (WCMP)**

38. *This plan aims to mitigate negative impacts due to establishment and operations of work yard and worker camps including storage site management.* The Contractor will carry out, but not limited to, the following:

- Ensure that the sites for campsite are approved by the Project and local authority; Selection of the camp sites should be made through tripartite consultation including community, Contractor, and the subproject representative.

- The Worker Camp and workshop storage area will be located on areas far enough from water points, houses and sensitive areas in consultation with the community and the subproject owner. Worker camps will not be located within 100 meters of any sensitive receptors, urban area and at least 100 meters from any surface water course and not within 2 kilometers of a protected area. If this is not possible, justification will be provided to ensure that adequate measures are undertaken to avoid impacts on the sensitive receptors.
- Worker accommodations will comply with national regulatory requirement e.g. labor laws. The accommodation should provide: (i) adequate space is allocated for each person or family; (ii) building materials should be appropriate to provide proper protection against heat, cold, damp, noise, fire, and disease-carrying animals and, in particular, insects; (iii) adequate sanitary and washing facilities, lighting; (iv) special attention is paid to providing adequate safety for children in case they accompany their parents and stay in the worker camp;
- Worker camps, cooking facilities, and toilets will be provided with roofs, walls and wooden floors or paved with concrete while the camp yards and storage can be compacted or paved with gravels. If possible, the worker camps should be fenced and provided with entrance gates to prevent unauthorized entry. In addition, the worker camps will be provided with storm water drainage system around the camp facilities to prevent flooding, mud, erosion and sediment transport to natural environment.
- Worker camps will be provided with basic facilities and utilities including but not limited to: office, notice boards and regulations of the company and about the subproject, beds, mosquito nets, blankets, clean drinking water and safe portable water, sufficient waste bins, first aid kits and necessary medicines, fire extinguishers, etc.
- For bathing and toilets, the Contractor will ensure that (1) separate toilets for males and females and with adequate number of people (standards range from 1 unit to 15 persons to 1 unit per 6 persons) and sewage and wastewater will be retained in sediment pond(s); (2) Toilet chambers will be designed appropriately to be able to treat sludge and sewage prior to discharge to closed retention ponds without exposure to vectors and/or diseases; (3) building of toilet rooms, sewage chambers and retention ponds will be away from natural water bodies, streams, and wetland areas. The floor of retention chambers will be above the aquifer layer.
- Material storage facilities and workshop will be in proximity or within work camp area with fences, compacted ground or paved with gravel and drainage system.
- Hazardous material storage area will be away from worker accommodations in a safe distance, provided with roof, walls and concrete floor and bunds, storm water drainage and oil traps. Engine oil change requires steel trays on the floor to prevent hydrocarbon spills on soils. If spill is found, immediate cleaning is required by collecting contaminated soil and to a temporary container and maintained in hazardous storage area.

- Worker camps and storage areas will be checked and approved by DPWT and PONRE before moving or utilization of the area. Worker camp management plan may be included in Labor Management Plan.
- Applying Code of Conducts (COC) and Company Project Rules for the subproject regarding health and safety of workers and local communities to prevent and address potential risks and issues associated with possible labor influx including SEA/SH/ VAC. The contractor will provide training to all contractor staffs and workers of the subproject. Code of Conducts and Company Project Rules will be signed by all staff members and workers and are stamped by company's management. Attachment 6A and 6B provide guidance on ECOP and COC on SH/SEA and VAC. COC and Company Project Rules may form part of the Labor Management Plan.
- Consultation with affected communities/villages on subproject activities, risks/impacts, prevention and mitigation measures and other community health and safety information. Submission of consultation report to DWPT and EDPD/PTI with list of participation and minutes of consultation.
- Details will be included in the C-ESMP under the Worker Camp Management Plan (WCMP) and shall be complied with the project ESMP to be approved by the World Bank.

40. The Contractor will consult with local authority regarding the location of the worker camps and will provide appropriate water supply, garbage collection, toilets, mosquito net, and other health protection measures to all workers. Fishing, wildlife hunting, and other social disturbance to local societies are prohibited. Training of workers on safety, good hygiene, and prohibitions activities is required. Detail measures as follow:

*(a) During the preconstruction stage:*

- Before construction begins at each subproject site, all the following requirements will be completed, checked and approved by PIU/DWPT, PMU/DOW, PONRE and/or EDPD/PTI as agree:
- Submission and approval of the C-ESMP with adequate measures to mitigate potential negative impacts including installation of temporary fence and safety/warning signs around the construction sites, consultation with LA/LC, and training of staff and workers on OHS and obligations on social code of conduct before construction begins. The C-ESMP will be prepared in line with this ESMP (see Attachment 5) after contract awarded and it will be reviewed by the WB and PMU and approved by the PMU and/or the CSC as assigned. The CSC/FE is responsible for day-to-day monitoring of the C-ESMP compliance and report the results in the subproject progress report.
- Notify village authorities and villagers 2 months in advance of construction takes place and implement Pre-construction measures to mitigate impacts on LPB cultural heritage as provided in the Section 6.7.2.

- As agreed with PMU/DOW, recruitment of key E&S safeguards staff of the contractor to be responsible for environmental, social and safety aspects. Specifically, contractors are required to recruit a) a full time environmental and social specialist to ensure effective implementation of C-ESMP and full time Community Relation or Community Health and Safety (CHS) Specialist to deal with CHS related issues (including GBV and VAC) and complaints that may be raised by the local community.
- Establishment of worker camps with quality health services and sanitary equipment and all required supporting facilities and workshop/material storage area in comply with section on Labor Management, Worker Camp and Storage Area (Section 5.6.2 of the main report). Worker camps and storage areas will be checked and approved by DPWT and PONRE before moving or utilization of the area. Worker camp management plan may be included in Labor Management Plan.
- First aid/Emergency aid kit. The first/emergency aid kit must be available at the work camp area and managed by a responsible person. This person must be trained on emergency/first aid. Injured or seriously sick people must be taken to the nearest hospital.
- Applying Code of Conducts (COC) and Company Project Rules for the subproject regarding health and safety of workers and local communities to prevent and address potential risks and issues associated with possible labor influx including SEA/SH/ VAC. The contractor will provide training to all contractor staffs and workers of the subproject. Code of Conducts and Company Project Rules will be signed by all staff members and workers and are stamped by company's management. Attachment 6A and 6B provide guidance on ECOP and COC on SH/SEA and VAC. COC and Company Project Rules may form part of the Labor Management Plan.
- Consultation with affected communities/villages on subproject activities, risks/impacts, prevention and mitigation measures and other community health and safety information. Submission of consultation report to DWPT and EDPD/PTI with list of participation and minutes of consultation.

*(b) Construction stage:*

- Work camps must be kept clean and tidy, unaffected by oil spill and construction wastes. Any oil spilt or leaked must be cleaned immediately to avoid soil and water contamination. Some actions to carry out are as follow: (a) avoid oil leakage into surface water or groundwater; (b) wastewater must not be disposed directly to natural water areas; (c) solid waste materials are removed and discharged in prescribed places at frequent intervals; (d) First/Emergency aid supplies and materials and cleaning tools are regularly provided.
- PMU/DOW and/or CSC/FE will monitor the housekeeping of work camp areas and ensure these areas are kept clean throughout the construction period.

*(c) Construction completion.*

- During this stage, all work camps and facilities will be cleared away and removed from the site. The site will be rehabilitated to ensure the operation of the works.

### ***Section (3.5) Site Clearance and Borrow Pit Management Plan (SCBMP)***

41. *This plan aims to mitigate negative impacts due to excavation, site clearance, tree cutting in project alignment, stockpiling, quarries, and borrow pits including the needs for revegetation and/or rehabilitation of the work sites.* Considerable amounts of borrow materials will therefore be needed to improve the swamp ground, including replacement of swamp deposits with rock fill, and in areas of embankment to attain the appropriate height of earthworks on which to form the required works.

#### *(a) Tree cutting, quarry and borrow pit*

42. Tree cannot be cut without approval from CFC/FE. The Contractor will use a quarry of materials according to the regulations and compensate by planting of trees in case of deforestation or tree felling. When possible, the Contractor should develop maintenance and reclamation plans, protect soil surfaces during construction and re-vegetate or physically stabilize eligible surfaces, preserve existing fauna and flora and preserve natural habitats along streams, steep slopes, and ecologically sensitive areas.

43. The materials required to be sourced locally for river works construction including (river profile improvement, dike and bank-protection), riverside parks, bridges, weirs and urban drainage improvement. Borrow materials for embankment fill. Quarry stone for production of aggregates for asphalt, crushed stone base, concrete and masonry works; and Sand for concrete and mortar. It is expected that these sites will supply source materials to the closest section of the alignment to minimise the impact of transporting materials.

44. Commercial quarries and borrow pits approved by local environmental agencies should be used as much as possible. If non-commercial quarries and/or borrow pits are newly opened or expanded and used, in consultation with the CSC/FE, the Contractor will comply with the following requirements:

- Large-scale borrow pits or stockpiles will need site-specific measures that may go beyond those required in this ECOP.
- All locations to be used must be previously identified in the approved construction specifications. Sensitive sites such as scenic spots, areas of natural habitat, areas near sensitive receptors, or areas near water should be avoided.
- When water pollution is expected, an open ditch will be built around the stockpile site to intercept wastewater.
- Stockpile topsoil when first opening a borrow pit and use it later to restore the area to near natural conditions.
- If needed, disposal sites will include a retaining wall.
- If the need for new sites arises during construction, they must be pre-approved by the responsible local authorities.

- If landowners are affected by use of their areas for stockpiles or borrow pits, they must be included in the project resettlement plan and proper agreement and record will be secured.
- For any stockpile, quarry, or borrow pit sites opened for this project should be used only for the project activities and it should not to be used afterwards, unless it has been authorized by local authorities.
- If access/rescue roads are needed, actions to mitigate all negative impacts described in this ESCOP will also be applied. The alignment for each of these roads must be clearly determined with its impacts and mitigation measures.

*(b) Earth excavation and demolition materials*

46. During site physical clearance, earth excavation must be carefully handled to reduce dust and possible obstruction and causing nuisance and health impacts to local residents. Excavation that affects existing traffic and public utilities (such as pipeline, water supply, and bridges) must be properly planned in consultation with local authority and informed to the residents in advance. All excavation materials will be reused for dike/weir/gate construction and/or land filling at or nearby the work site. Demolition materials must be properly disposed-off. The Contractor must consult PMU/DOW and/or CSC/FE on the final selection of disposal sites and methods.

47. To mitigate potential impacts of material excavation include: Potential UXO risk; Exposure of soil that has the potential to lead to increased erosion and discharge of sediment into waterways; Exposed faces and slopes that may be at risk of landslide or collapse; The dewatering of some areas within source sites has potential to impact on flow activation of potential plumes; Discharge of effluents from aggregate washing and crushing has potential to impact on water quality; and Increased noise, dust and vibrations in the local area surrounding the source sites. The Contractor will consult local authorities and communities on UXO risks at all borrow materials, quarry stone and sand site, a quick assessment is undertaken for each site to ensure that UXO risk and impacts on local community and local environment are low and appropriate actions will be made by contractor to mitigate these risks/impacts. Obtaining approval letter from local authorities is required before utilization of each site. Each site should have a clear plan for mitigation of erosion and/or sedimentation measures including construction of drainage controls and sedimentation ponds, daily deployment and maintenance of sediment control devices such as silt fences and jute netting, and planning of quarrying operations to minimise long-term exposure of erosive materials. It is expected that each quarry will also have a rehabilitation plan for the closure of the site after the sourcing of materials.

*(d) Protection of natural habitats.*

48. The Contractor must observe the national and local regulations and policies related to protected areas/species, wildlife sanctuaries. No trees in nearby sensitive areas can be cut without obtaining prior agreement with the authorities. When possible, organize training courses to improve environmental protection awareness of the staff and local communities. When the construction activities are carried out near and/or within sensitive areas (such as conservation and protection areas), the Contractor will ensure that the workers will not be

involved in fishing and wildlife hunting and/or collection of plants, biodiversity and the activities (such as borrow pit) will not be located in the sensitive area without permission of local authorities.

49. *Site restoration.* The Contractor will use a quarry of materials according to the regulations and compensate by planting of trees in case of deforestation or tree felling. When possible, the Contractor should develop maintenance and reclamation plans, protect soil surfaces during construction and re-vegetate or physically stabilize eligible surfaces, preserve existing fauna and flora and preserve natural habitats along streams, steep slopes, and ecologically sensitive areas.

### ***Section (3.6) Waste Management and Recycling Plan (WMRP)***

50. *This plan aims to mitigate potential negative impacts due to generation of construction wastes and operations of works and worker camps (construction, hazardous, domestic) including recycle and reuse plan to be conducted during project construction.*

#### *(b) Construction and hazardous wastes.*

51. Preconstruction and construction activities may generate large amount of construction wastes including those generating from resurfacing and excavation of soil, old road surface and/or concrete structure and other surplus materials (oily wastes, miscellaneous woods, steel, etc.). Although most of these wastes are not toxic or dangerous (except for some oily wastes such as oily cloths after cleansing machines and equipment, etc.), proper measures for waste collection and treatment are required to avoid contaminating local environment (water quality, soil, natural habitats, landscape, and scenery) and local residents. The Contractor will prepare and implement a plan to reduce the generation of these wastes. When possible, these wastes should be properly reused and/or recycle. Bags and other solid wastes will be collected for recycling while appropriate arrangement will be made if a temporary disposal area will be required. Appropriate final disposal sites must be identified and implemented.

#### *(c) Domestic solid wastes*

52. Generation of these wastes (food wastes and garbage including plastic) will be minimized and/or reused when possible. The Contractor must carry out appropriate measures for waste collection and treatment. The domestic wastes will be collected in plastic or wooden bins with lids placed in convenient places and in worker canteens. Periodically, at appropriate time, transport those bins to the disposal sites (the sites should be approved by local authorities). The Contractor must sign a contract with the Urban Environmental and Construction Company to collect and treat these wastes during construction. In case the wastes cannot be transported to the dumping site (for example, due to lack of appropriate transport route), wastes must be buried at temporary dumps in the project area in a sanitary way – a waste layer covered by a layer of soil, and when the dump is filled, it is covered by a soil layer about 50 cm thick. Temporary dump sites must be located at least 500 m away from residential areas, 200 m away from work camps and surface water sources, and not in the prevalent wind direction of the area. Upon completion of works, cover the entire temporary dumps with soil, ensure land, and landscape restoration for the subproject area.

### ***Section (3.7) Traffic and Transportation Management Plan (TTMP)***

53. *This plan aims to address negative impacts due to increase in traffic and transportation of construction materials especially those related to road safety, traffic congestions, dust, noise, and vibration. Key requirements are as follows:*

- The Contractor will be required to use designated construction traffic routes as agreed and/or directed by the local authorities and the Police. The number of truck movements, hours of operation and any truck holding areas will be agreed in advance with the local authority and the Police. Plans will be required for each site showing the site entrances/exits and the agreed access roads for use to the nearest main road, and the routes to be used by truck to and from the strategic road network.
- The Contractor will maintain an up to date log of all drivers that will include a written undertaking from them to adhere to the local authority's approved routes for construction traffic. In the case of non-compliance, the Contractor and/or their sub-contractor(s) would be in breach of contract, necessitating disciplinary action against individual drivers.
- The Contractor may be required to provide truck stickers uniquely identifying the group of construction sites included in each contract, details of which shall be submitted to the local authority for approval. For identification purposes the Contractor will fix these in a prominent position on all trucks frequently serving the construction site. The identification will need to be sufficiently large to be easily read from a distance of 20 meters. Trucks waiting to enter or leave the site must switch off their engines to avoid unnecessary engine noise and emissions. Restrictions on the size and weight of vehicles accessing each site may be imposed depending on agreed access routes.

54. For construction that interference with a carriageway or footway, the Contractor will inform the local authorities, responsible agencies, and local residents before commencing the works and proposed measures to minimize the safety risk and inconvenience to the public. All necessary consents and licenses must be obtained in advance. The safety of the public must be ensured. In the case of temporary footways, reasonable access shall be provided for people in accordance with the following requirements:

- Any temporary footways and carriageways will be constructed to the reasonable requirements of the local authorities and should have uniform surfaces as much as possible;
- Clear signing must be provided at all times for pedestrian routes with the minimum number of changes to all temporary layouts in order to reduce confusion. Advance warning should, if possible, indicate alternative existing wheelchair-accessible routes;
- After completion of the works all materials arising from the works will be cleared from the highway leaving the same in a clean and tidy condition to the reasonable requirements of the local authorities; and
- The Contractor will be responsible for any damage caused by their activities to the roads and public facilities in the vicinity of the worksite. Any defects caused by the Contractors must be rectified immediately if dangerous or otherwise within 24 hours.

- Any street furniture (electrical or non-electrical) cannot be removed or relocated by the Contractor or any of its sub-contractors without written agreement from the responsible agencies.

### ***Section (3.8) Labor Management Plan (LMP) --COC***

56. *This plan aims to minimize potential direct and indirect social impacts of contractor's staff and workers including their behaviors on local communities.* The Contractor will be required to have appropriate contract arrangement with staff and workers as well as to prohibit actions that may cause negative social impacts (direct and indirect) due to labor influx and possible health impacts (STDs, AIDs, etc.) to local peoples. The Contractor is required to implement and comply with Occupational Health and Community Safety Plan (OHCSP) as one of main part of overall ESHS requirements. The Contractor is encouraged to hire local labours including community and female workers to extent possible. Where local labours are not adequately available in the Project sites, labour or camp site management plan and is required to be prepared and implemented and monitored potential external labour influx and associated risks including SEA/SH and VAC. Code of Conducts (COC) and Company Project Rules regarding health and safety of workers and local communities will be applied by the contractors and their sub-contractors and workers to be hired under the Project to manage the risks anticipated.

57. The Contractor will also be responsible for maintaining good hygiene, safety, and social welfare security of the work sites, including protection of and health and safety of staff and workers. The Contractor will prevent standing water in open construction pits, quarries or fill areas to avoid potential contamination of the water table and the development of a habitat for disease-carrying vectors and insects. Safe and sustainable construction materials and construction method should be used.

### ***Section (3.9) Monitoring and reporting Plan (MERP)***

58. *This plan aims to ensure that the mitigation measures are conducted timely and effectively.* The Contractor will be required to submit the Contractor ESS monitoring report to DDPWT and PONRE (with a copy to EDPD/PTI) on every 25th of each month. The report can be submitted electronically as agreed. Key monitoring sub plan and/or indicators (also see Attachment 5 Table A5-3).

#### ***(a) Site Management and Monitoring***

59. Following approval of the C-ESMP, the Contractor will be required to attend a series of meetings with the CSC and/or Field Engineers to ensure that all compliance conditions and procedures are clearly understood and actions can be implemented on the ground. As part of the day-to-day supervision of works, the CSC/FE is also responsible for day-to-day supervision and monitoring of compliance of the C-ESMP and reports the results in the progress report. The Contractor will be responsible for ensuring that all sub-contractors abide by the conditions of the C-ESMP.

#### ***(b) M&E Plan***

60. During construction, the Contractor will specifically take serious actions on the following:

- To control dust by using water or through other means and the construction site will be cleaned on a daily basis;
- To work with local authority and management local traffic effectively and ensure traffic access of road safety of local residents and road users during the works. Speed limit at work sites and community area will be applied to all vehicles and cars. All vehicles and their drivers must be identified and registered, and the drivers are properly trained;
- To respect the cultural sites, ensure security and privacy of women and households in close proximity to the camps and the use of asbestos containing materials is not allowed;
- To conduct daily monitoring and inspection of construction activities to ensure environmental and social impacts are managed and mitigated appropriately in local communities. These potential impacts include wastes, discharge, dust, community health and safety, OCHS, construction waste contaminated on private land, social issues and social security, etc.;
- To implement and maintain a good community-relations in comply with requirements in the section on Community Relation below; and
- To comply with Non-compliance Reporting Procedures as specified in Part 1 of the ECOP.

*(c) Contractors Reporting*

61. The Contractor will prepare two levels of ESS reports:

- Weekly Environmental Checklists – These will be prepared weekly by the Contractor’s ESS management (ESSM) team and the checklist will be submitted to the CSC/Engineer on a weekly basis. EDPD/PTI will provide a sample for the checklist.
- Monthly Summary Report - in respect of compliance with C-ESMP will be submitted to the PMU/DOW and DPWT through the CSC/Engineer (with a copy to EDPD/PTI) on every 25th of each month. The report can be submitted electronically as agreed.

## **ATTACHMENT 6B: PROJECT CODE OF CONDUCT (COC) ON SEXUAL EXPLOITATION AND ABUSE (SEA), SEXUAL HARASSMENT (SH), AND VIOLENCE AGAINST CHILDREN (VAC)**

1. This Attachment provides guidance on the social Code of Conduct (COC) to be included in works contract to address the issues related to Sexual Exploitation and Abuse (SEA), Sexual Harassment (SH), and Violence against Children (VAC) which is a new requirement to be applied to all projects with WB financing. These samples are used in several World Bank projects by the Lao MPWT such as LRSP2 and NR13N starting 2018. Sections 6B.1, 6B.2, 6B.3, 6B.4, 6B.5, and 6B.6 presents (i) Table of contents, objectives, scope, and definitions; (ii) Samples code of conduct; (iii) Action plan; (iv) GRM; (v) Services providers; (vi) CoC Focal Point; and (vii) Attachment 1 - Potential Procedures for Addressing SEA/SH and VAC.

### **6B.1 Table of Content**

2. Table of Content, Objective, Scope, and Definitions are as follows:

#### Table of Contents

##### 1. Background

##### 2. Scope

##### 3. Definitions

##### 4. Sample Codes of Conduct

###### (a) Company Code of Conduct

###### (b) Preventing Sexual Harassment, Sexual Exploitation and abuse (SEA) and Violence Against Children

###### (c) Manager's Code of Conduct

###### (d) Preventing Sexual Exploitation and Abuse, Sexual Harassment, and Violence Against Children

###### (e) Individual Code of Conduct

###### (f) Preventing Sexual Exploitation and Abuse, Sexual Harassment, and Violence Against Children

##### 5. Action Plan

###### (a) The SEA/SH and VAC Compliance Team

###### (b) Making Complaints: SEA/SH and VAC Allegation Procedures

###### (c) Addressing Complaints about SEA/SH or VAC

##### 6. GRM

##### 7. Service Provider

## 8. SEA/SH and VAC Focal Point

- (a) Accountability Measures
- (b) Monitoring and Evaluation
- (c) Awareness-raising Strategy
- (d) Response Protocol
- (e) Survivor Support Measures
- (f) Perpetrator Policy and Response
- (g) Administrative Sanctions

### Attachment 1 - Potential Procedures for Addressing SEA/SH and VAC

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#### **Background**

3. The purpose of these *Codes of Conduct and Action Plan to prevent Sexual Exploitation and Abuse (SEA), Sexual Harassment (SH), and Violence against Children (VAC)* is to introduce a set of key definitions, minimum standard sample Codes of Conduct, and guidelines that establish mechanisms for preventing, reporting and addressing SEA/SH and VAC within the work site and in its immediate surrounding communities. The application of the SEA/SH and VAC Codes of Conduct will help prevent and/or mitigate the risks of SEA/SH and VAC on the project.

4. Mutual respect and fair treatment between those working on the project and local communities is critical to a safe, respectful, and productive workplace and operating environment. SEA/SH and VAC can be one of the most serious violations of respect and fair treatment which can harm the local community, and significantly damage trust and cooperation between parties.

5. These Codes of Conduct are to be adopted by those working on the project and are meant to: (i) create common awareness about SEA/SH and VAC; (ii) ensure a shared understanding; and, (iii) create a clear system for identifying, responding to, and sanctioning SEA/SH and VAC incidents.

6. Ensuring that all project staff understand the values of the project, understand expectations for all employees, and acknowledge the consequences for violations of these values, will help to create a smoother, more respectful and productive project implementation thereby helping ensure that the project's objectives will be achieved.

#### **Scope**

7. [use what is in draft bidding documents]

#### **Definitions**

8. The following definitions apply:

- **Sexual exploitation:** any actual or attempted abuse of a position of vulnerability, differential power or trust for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another.
- **Sexual abuse:** actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions.
- **Sexual harassment (SH):** Any unwelcome sexual advances, request for sexual favor, verbal or or physical conduct or gesture of a sexual nature, or any other behavior of a sexual nature that might reasonably be expected or be perceived to cause offense or humiliation to another, when such conduct interferes with work, is made a condition of employment or creates an intimidating, hostile or offensive work environment.
- **Violence against Children (VAC):** is defined as physical, sexual or psychological harm of minor children (i.e. under the age of 18) including using for profit, labor, sexual gratification, or some other personal or financial advantage.
- **Accountability Measures:** are the measures put in place to ensure the confidentiality of survivors and to hold contractors, consultants and the client responsible for instituting a fair system of addressing cases of SEA/SH and VAC.
- **Child:** is used interchangeably with the term ‘minor’ and refers to a person under the age of 18.<sup>5</sup> This is in accordance with Article 1 of the United Nations Convention on the Rights of the Child.
- **Child Protection (CP):** is an activity or initiative designed to protect children from any form of harm, particularly arising from VAC.
- **Consent:** is the informed choice underlying an individual’s free and voluntary intention, acceptance or agreement to do something. No consent can be found when such acceptance or agreement is obtained through the use of threats, force or other forms of coercion, abduction, fraud, deception, or misrepresentation. In accordance with the United Nations Convention on the Rights of the Child, the World Bank considers that consent cannot be given by children under the age of 18<sup>6</sup>, even in the event that national legislation of the country into which the Code

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<sup>5</sup> The Kingdom of Cambodia is party to this convention. <http://www.pseataaskforce.org/uploads/tools/1478613357.pdf>

<sup>6</sup> See UN Resolution 62/214. United Nations Comprehensive Strategy on Assistance and Support to Victims of Sexual Exploitation and Abuse by United Nations Staff and Related Personnel; UN Secretariat (2003) ST/SGB/2003/13 Special measures for protection from sexual exploitation and sexual abuse; IOM (2016) Policy and Procedures for Preventing and Responding to Sexual Exploitation and Abuse.

of Conduct is introduced has a lower age. Mistaken belief regarding the age of the child and consent from the child is not a defense.

- *Consultant*: is as any firm, company, organization or other institution that has been awarded a contract to provide consulting services in the context of the RAMP-II, to the project, and has hired managers and/or employees to conduct this work.
- *Contractor*: is any firm, company, organization or other institution that has been awarded a contract to conduct infrastructure development works in the context of the RAMP-II project and has hired managers and/or employees to conduct this work. This also includes sub-contractors hired to undertake activities on behalf of the contractor.
- *Employee*: is as any individual offering labor to the contractor or consultant within country on or off the work site, under a formal or informal employment contract or arrangement, typically but not necessarily in exchange for a salary (e.g. including unpaid interns and volunteers), with no responsibility to manage or supervise other employees.
- *Employer*: Ministry of Public Works and Transport
- *SEA/SH and VAC Allegation Procedure*: is the prescribed procedure to be followed when reporting incidents of SEA/SH or VAC.
- *SEA/SH and VAC Codes of Conduct*: The Codes of Conduct adopted for the project covering the commitment of the company, and the responsibilities of managers and individuals with regards to SEA/SH and VAC.
- *SEA/SH and VAC Compliance Team (GCCT)*: a team established by the project to address SEA/SH and VAC issues.
- *Grievance Redress Mechanism (GRM)*: is the process established by the RAMP-II project to receive and address complaints.
- *Grooming*: are behaviors that make it easier for a perpetrator to procure a child for sexual activity. For example, an offender might build a relationship of trust with the child, and then seek to sexualize that relationship (for example by encouraging romantic feelings or exposing the child to sexual concepts through pornography).
- *Manager*: is any individual offering labor to the contractor or consultant, on or off the work site, under a formal employment contract and in exchange for a salary, with responsibility to control or direct the activities of a contractor's or consultant's team, unit, division or similar, and to supervise and manage a pre-defined number of employees.
- *Online Grooming*: is the act of sending an electronic message with indecent content to a recipient who the sender believes to be a minor, with the intention of

procuring the recipient to engage in or submit to sexual activity with another person, including but not necessarily the sender<sup>7</sup>.

- *Perpetrator*: is the person(s) who commit(s) or threaten(s) to commit an act or acts of SEA/SH or VAC.
- *Response Protocol*: is the mechanisms set in place to respond to cases of SEA/SH and VAC.
- *Survivor/Survivors*: is the person(s) adversely affected by SEA/SH or VAC. Women, men and children can be survivors of SEA/SH; children can be survivors of VAC.
- *Work Site*: is the area in which infrastructure development works are being conducted, as part of the project.
- *Work Site Surroundings*: is the ‘Project Area of Influence’ which is any area, urban or rural, directly affected by the project, including all human settlements found on it.

## A6.2 Sample Codes of Conduct

9. This section presents three sample Codes of Conduct as the minimum standard for use under civil works contracts for the Project (RAMP-II). These codes will be confirmed and agreed upon prior commencement of works and cleared by the Supervision Consultant.

- *Company Code of Conduct*: Commits the company to addressing SEA/SH and VAC issues;
- *Manager’s Code of Conduct*: Commits managers to implementing the Company Code of Conduct, as well as those signed by individuals; and,
- *Individual Code of Conduct*: Code of Conduct for everyone working on the project, including managers.

### ***(a) Company Code of Conduct: Preventing Sexual Exploitation and Abuse (SEA), Sexual Harassment (SH) and Violence Against Children (VAC)***

10. In the context of the Project, the company is committed to creating and maintaining an environment in which Sexual Exploitation and Abuse (SEA), Sexual Harassment (SH) and violence against children (VAC) have no place, and where they will not be tolerated by any employee, associate, or representative of the company. Therefore, in order to ensure that all those engaged in the project are aware of this commitment, and in order to prevent, be aware of, and respond to any allegations of SEA/SH and VAC, the company commits to the following core principles and minimum standards of behavior that will apply to all company employees, associates, and representatives including sub-contractors, without exception:

1. The company—and therefore all employees, associates, and representatives—commit to treating women, children (persons under the age of 18), and men with respect regardless of race, color, language, religion, political or other opinion, national, ethnic or social origin, property, disability, birth or other status. Acts of SEA/SH and VAC are in violation of this commitment.
2. Demeaning, threatening, harassing, abusive, culturally inappropriate, or sexually provocative language and behavior are prohibited among all company employees, associates, and its representatives.
3. Acts of SEA/SH or VAC constitute gross misconduct and are therefore grounds for administrative sanctions, which may include penalties and/or termination of employment. All forms of SEA/SH and VAC, including grooming are unacceptable, regardless of whether they take place on the work site, the work site surroundings, at worker’s camps or at worker’s homes.
4. In addition to company sanctions, legal prosecution of those who commit acts of SEA/SH or VAC will be pursued if appropriate.
5. Sexual contact or activity with children under 18—including through digital media—is prohibited. Mistaken belief regarding the age of a child is not a defense. Consent from the child is also not a defense or excuse.
6. Sexual favors—for instance, making promises or favorable treatment dependent on sexual acts—or other forms of humiliating, degrading or exploitative behavior are prohibited.
7. Unless there is full consent<sup>8</sup> by all parties involved in the sexual act, sexual interactions between the company’s employees (at any level) and members of the communities surrounding the work place are prohibited. This includes relationships involving the withholding/promise of actual provision of benefit (monetary or non-monetary) to community members in exchange for sex—such sexual activity is considered “non-consensual” within the scope of this Code.
8. All employees, including volunteers and sub-contractors are highly encouraged to report suspected or actual acts of SEA/SH and/or VAC by a fellow worker, whether in the same company or not. Reports must be made in accordance with SEA/SH and VAC Allegation Procedures.
9. Managers are required to report suspected or actual acts of SEA/SH and/or VAC as they have a responsibility to uphold company commitments and hold their direct reports responsible.

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<sup>8</sup>**Consent** is defined as the informed choice underlying an individual’s free and voluntary intention, acceptance or agreement to do something. No consent can be found when such acceptance or agreement is obtained through the use of threats, force or other forms of coercion, abduction, fraud, deception, or misrepresentation. In accordance with the United Nations Convention on the Rights of the Child, the World Bank considers that consent cannot be given by children under the age of 18, even in the event that national legislation of the country into which the Code of Conduct is introduced has a lower age. Mistaken belief regarding the age of the child and consent from the child is not a defense.



10. Comply with all relevant local legislation, including labor laws in relation to child labor.
11. To ensure that the above principles are implemented effectively the company commits to ensuring that:
12. All managers sign the ‘Manager’s Code of Conduct’ detailing their responsibilities for implementing the company’s commitments and enforcing the responsibilities in the ‘Individual Code of Conduct’.
13. All employees sign the project’s ‘Individual Code of Conduct’ confirming their agreement not to engage in activities resulting in SEA/SH or VAC.
14. Displaying the Company and Individual Codes of Conduct prominently and in clear view at workers’ camps, offices, and in public areas of the work space. Examples of areas include waiting, rest and lobby areas of sites, canteen areas, health clinics.
15. Ensure that posted and distributed copies of the Company and Individual Codes of Conduct are translated into the appropriate language of use in the work site areas as well as for any international staff in their native language.
16. An appropriate person is nominated as the company’s ‘Focal Point’ for addressing SEA/SH and VAC issues, including representing the company on the SEA/SH and VAC Compliance Team (GCCT) which is comprised of representatives from the client, contractor(s), the supervision consultant, and local service provider(s).
17. Ensuring that an effective Action Plan is developed in consultation with the supervision consultant and which includes as a minimum:
  - a. *SEA/SH and VAC Allegation Procedure* to report SEA/SH and VAC issues through the project Grievance Redress Mechanism (GRM);
  - b. *Accountability Measures* to protect confidentiality of all involved; and,
  - c. *Response Protocol* applicable to SEA/SH and VAC survivors and perpetrators.
18. That the company effectively implements the Action Plan, providing feedback to the GCCT for improvements and updates as appropriate.
19. All employees attend an induction training course prior to commencing work on site to ensure they are familiar with the company’s commitments and the project’s SEA/SH and VAC Codes of Conduct.
20. All employees attend two mandatory training courses per year for the duration of the contract starting from the first induction training prior to commencement of work to reinforce the understanding of the project’s SEA/SH and VAC Code of Conduct.

Company name: \_\_\_\_\_

Signature of Company’s Representative: \_\_\_\_\_



Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

***(b) Manager's Code of Conduct: Preventing Sexual Exploitation and Abuse (SEA), Sexual Harassment (SH) and Violence against Children***

12. Managers at all levels have particular responsibilities to uphold the company's commitment to preventing and addressing SEA/SH and VAC. This means that managers have an acute responsibility to create and maintain an environment that prevents SEA/SH and VAC. Managers need to support and promote the implementation of the Company Code of Conduct. To that end, managers must adhere this Manager's Code of Conduct and also sign the Individual Code of Conduct. This commits them to supporting and developing systems that facilitate the implementation of the Action Plan and maintain a SEA/SH-free and VAC-free environment at the workplace and in the local community. These responsibilities include but are not limited to:

***Implementation***

1. To ensure maximum effectiveness of the Company and Individual Codes of Conduct:
  - a. Prominently displaying the Company and Individual Codes of Conduct in clear view at workers' camps, offices, and in public areas of the work space. Examples of areas include waiting, rest and lobby areas of sites, canteen areas, health clinics.
  - b. Ensuring all posted and distributed copies of the Company and Individual Codes of Conduct are translated into the appropriate language of use in the work site areas as well as for any international staff in their native language.
2. Verbally and in writing explain the Company and Individual Codes of Conduct to all staff.
3. Ensure that:
  - a. All staff members sign the 'Individual Code of Conduct', including acknowledgment that they have read and agree with the Code of Conduct.
  - b. Staff lists and signed copies of the Individual Code of Conduct are provided to the GCCT and the client.
  - c. Participate in training and ensure that staff also participates as outlined below.

- d. Staff are familiar with the Grievance Redress Mechanism (GRM) and that they can use it to anonymously report concerns of SEA/SH or VAC incidents.
  - e. Staff are encouraged to report suspected or actual SEA/SH or VAC through the GRM by raising awareness about SEA/SH and VAC issues, emphasizing the staff's responsibility to the Company and the country hosting their employment, and emphasizing the respect for confidentiality.
4. In compliance with applicable laws and to the best of your abilities, prevent perpetrators of sexual exploitation and abuse from being hired, re-hired or deployed.
  5. Ensure that when engaging in partnership, sub-contractor or similar agreements, these agreements:
    - a. Incorporate the SEA/SH and VAC Codes of Conduct as an attachment.
    - b. Include the appropriate language requiring such contracting entities and individuals, and their employees and volunteers, to comply with the Individual Codes of Conduct.
    - c. expressly state that the failure of those entities or individuals, as appropriate, to take preventive measures against SEA/SH and VAC, to investigate allegations thereof, or to take corrective actions when SEA/SH or VAC has occurred, shall constitute grounds for sanctions and penalties in accordance with the Individual Codes of Conduct.
  6. Provide resources to the GCCT to create and disseminate internal sensitization initiatives through the awareness-raising strategy under the Action Plan.
  7. Ensure that any SEA/SH or VAC issue warranting police action is reported to the client and the World Bank immediately.

### ***Training***

8. All managers are required to attend an induction manager training course prior to commencing work on site to ensure that they are familiar with their roles and responsibilities in upholding the SEA/SH and VAC Codes of Conduct. This training will be separate from the induction training course required of all employees and will provide managers with the necessary understanding and technical support needed to begin to develop the Action Plan for addressing SEA/SH and VAC issues.
9. Ensure that time is provided during work hours and that staff attend the mandatory project facilitated induction training on SEA/SH and VAC required of all employees prior to commencing work on site.
10. Ensure that staff attends the mandatory refresher training course required of all employees. Ensure satisfaction surveys to evaluate training are conducted by the service provider.

### ***Response***



13. Managers will be provide input to the SEA/SH and VAC Allegation Procedures and Response Protocol developed by the GCCT, as needed as part of the final cleared Action Plan.
14. Once adopted by the Company, managers will uphold the Accountability Measures set forth in the Action Plan to maintain the confidentiality of all employees who report or (allegedly) perpetrate incidences of SEA/SH and VAC (unless a breach of confidentiality is required to protect persons or property from serious harm or where required by law).
15. If a manager develops concerns or suspicions regarding any form of SEA/SH or VAC by an employee, or by an employee working for another contractor on the same work site, s/he is required to report the case.
16. Once a sanction has been determined, the relevant manager(s) is/are expected to be personally responsible for ensuring that the measure is effectively enforced, within a maximum timeframe of 14 days from the date on which the decision to sanction was made.
17. Managers failing to report or comply with such provision can in turn be subject to disciplinary measures, to be determined and enacted by the company's CEO, Managing Director or equivalent highest-ranking manager. Those measures may include:
  - a. Informal warning.
  - b. Formal warning.
  - c. Loss of up to one week's salary.
  - d. Suspension of employment (without payment of salary), for a minimum period of 1 month up to a maximum of 6 months.
  - e. Termination of employment.
18. Ultimately, failure to effectively respond to SEA/SH and VAC cases on the work site by the company's managers or CEO may provide grounds for legal actions by authorities.

*I do hereby acknowledge that I have read the foregoing Manager's Code of Conduct, do agree to comply with the standards contained therein and understand my roles and responsibilities to prevent and respond to SEA/SH and VAC. I understand that any action inconsistent with this Manager's Code of Conduct or failure to take action mandated by this Manager's Code of Conduct may result in disciplinary action.*

Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_



***(c) Individual Code of Conduct: Preventing Sexual Exploitation and Abuse (SEA), Sexual Harassment (SH) and Violence against Children***

I, \_\_\_\_\_, acknowledge that preventing gender based violence (SEA/SH) and violence against children (VAC) is important. The company considers that SEA/SH or VAC activities constitute acts of gross misconduct and are therefore grounds for sanctions, penalties or potential termination of employment. All forms of SEA/SH or VAC are unacceptable be it on the work site, the work site surroundings, or at worker's camps. Prosecution of those who commit SEA/SH or VAC may be pursued if appropriate.

I agree that while working on the project I will:

- Treat women, children (persons under the age of 18), and men with respect regardless of race, color, language, religion, political or other opinion, national, ethnic or social origin, property, disability, birth or other status.
- Not use language or behavior towards women, children or men that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate.
- Not participate in sexual contact or activity with children—including grooming, or contact through digital media. Mistaken belief regarding the age of a child is not a defense. Consent from the child is also not a defense or excuse.
- Not engage in sexual favors—for instance, making promises or favorable treatment dependent on sexual acts—or other forms of humiliating, degrading or exploitative behavior.
- Unless there is the full consent<sup>9</sup> by all parties involved, I will not have sexual interactions with members of the surrounding communities. This includes relationships involving the withholding or promise of actual provision of benefit (monetary or non-monetary) to community members in exchange for sex—such sexual activity is considered “non-consensual” within the scope of this Code.
- Attend and actively partake in training courses related to HIV/AIDS, SEA/SH and VAC as requested by my employer.
- Consider reporting through the grievance redress mechanism or to my manager any suspected or actual SEA/SH or VAC by a fellow worker, whether employed by my company or not, or any breaches of this Code of Conduct.

With regard to children under the age of 18:

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<sup>9</sup> **Consent** is defined as the informed choice underlying an individual's free and voluntary intention, acceptance or agreement to do something. No consent can be found when such acceptance or agreement is obtained through the use of threats, force or other forms of coercion, abduction, fraud, deception, or misrepresentation. In accordance with the United Nations Convention on the Rights of the Child, the World Bank considers that consent cannot be given by children under the age of 18, even in the event that national legislation of the country into which the Code of Conduct is introduced has a lower age. Mistaken belief regarding the age of the child and consent from the child is not a defense.

- Wherever possible, ensure that another adult is present when working in the proximity of children.
- Not invite unaccompanied children unrelated to my family into my home, unless they are at immediate risk of injury or in physical danger.
- Not sleep close to unsupervised children unless absolutely necessary, in which case I must obtain my supervisor's permission, and ensure that another adult is present if possible.
- Use any computers, mobile phones, or video and digital cameras appropriately, and never to exploit or harass children or to access child pornography through any medium (see also "Use of children's images for work related purposes" below).
- Refrain from physical punishment or discipline of children.
- Refrain from hiring children for domestic or other labor which is inappropriate given their age or developmental stage, which interferes with their time available for education and recreational activities, or which places them at significant risk of injury.

#### ***Use of children's images for work related purposes***

13. When photographing or filming a child for work related purposes, I must:
- Before photographing or filming a child, assess and endeavor to comply with local traditions or restrictions for reproducing personal images.
  - Before photographing or filming a child, obtain informed consent from the child and a parent or guardian of the child. As part of this I must explain how the photograph or film will be used.
  - Ensure photographs, films, videos and DVDs present children in a dignified and respectful manner and not in a vulnerable or submissive manner.
  - Ensure images are honest representations of the context and the facts.
  - Ensure file labels do not reveal identifying information about a child when sending images electronically.

#### ***Sanctions***

14. I understand that if I breach this Individual Code of Conduct, my employer will take disciplinary action which could include:
- Informal warning.
  - Formal warning.
  - Loss of up to one week's salary.
  - Suspension of employment (without payment of salary), for a minimum period of 1 month up to a maximum of 6 months.
  - Termination of employment.



- Report to the police if warranted.

*I understand that it is my responsibility to avoid actions or behaviors that could be regarded as SEA/SH or VAC or breach this Individual Code of Conduct. I do hereby acknowledge that I have read the foregoing Individual Code of Conduct, do agree to comply with the standards contained therein and understand my roles and responsibilities to prevent and respond to SEA/SH and VAC. I understand that any action inconsistent with this Individual Code of Conduct or failure to take action mandated by this Individual Code of Conduct may result in disciplinary action and may affect my ongoing employment.*

Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

### **A6.3 Action Plan**

#### ***(a) The SEA/SH and VAC Compliance Team***

15. The project shall establish a ‘SEA/SH and VAC Compliance Team’ (GCCT). The GCCT will include, as appropriate to the project, at least four representatives (‘Focal Points’) as follows:

- A safeguards specialist from the client;
- The occupational health and safety manager from the contractor<sup>10</sup>, or someone else tasked with the responsibility for addressing SEA/SH and VAC with the time and seniority to devote to the position;
- The supervision consultant; and,
- A representative from a local service provider with experience in SEA/SH and VAC (the ‘Service Provider’).

16. It will be the duty of the GCCT with support from the management to inform workers about the activities and responsibilities of the GCCT. To effectively serve on the GCCT, members must undergo training by the local service provider prior to the commencement of their assignment to ensure that they are sensitized on SEA/SH and Child Protection.

17. The GCCT will be required to:

- Approve any changes to the SEA/SH and VAC Codes of Conduct contained in this document, with clearances from the Supervision Consultant for any such changes.
- Prepare the Action Plan reflecting the Codes of Conduct which includes:
  - SEA/SH and VAC Allegation Procedures (See 4.3)
  - Accountability Measures (See 4.4)

\_\_\_\_\_

<sup>10</sup> Where there are multiple contractors working on the project each shall nominate a representative as appropriate.

iii. An Awareness raising Strategy (See 4.5)

iv. A Response Protocol (See 4.6)

- c. Obtain approval of the Action Plan by company management;
- d. Obtain client clearances for the Action Plan prior to full mobilization;
- e. Receive and monitor resolutions and sanctions with regard to complaints received related to SEA/SH and VAC associated with the project; and,
- f. Ensure that SEA/SH and VAC statistics in the GRM are up to date and included in the regular project reports.

18. The GCCT shall hold quarterly update meetings to discuss ways to strengthen resources and SEA/SH and VAC support for employees and community members.

19. The Action Plan and Code of Conduct shall be submitted to DOW/PMU for review and approval with the support from CSC/ISWS and advice from EDPD/PTI within 90 days from the contract signature date. Works will not commence unless the Engineer is satisfied with measures in place, including plan and codes. Failure to comply with such obligation should provide ground for contract suspension cancellation – this shall be determined at the sole discretion of the contracting entity, whilst intention to cancel the contract shall be notified to the World Bank team within 60 days from the proposed cancellation date.

***(b) Making Complaints: SEA/SH and VAC Allegation Procedures***

20. All staff, volunteers, consultants and sub-contractors are encouraged to report suspected or actual SEA/SH or VAC cases. Managers are required to report suspected or actual SEA/SH and/or VAC cases as they have responsibilities to uphold company commitments and they hold their direct reports accountable for complying with the Individual Code of Conduct.

21. The project will provide information to employees and the community on how to report cases of SEA/SH and VAC Code of Conduct breaches through the Grievance Redress Mechanism (GRM). The GCCT will follow up on cases of SEA/SH, VAC and Code of Conduct breaches reported through the GRM.

***(c) Addressing Complaints about SEA/SH or VAC***

22. The figure below shows the process for addressing complaints.

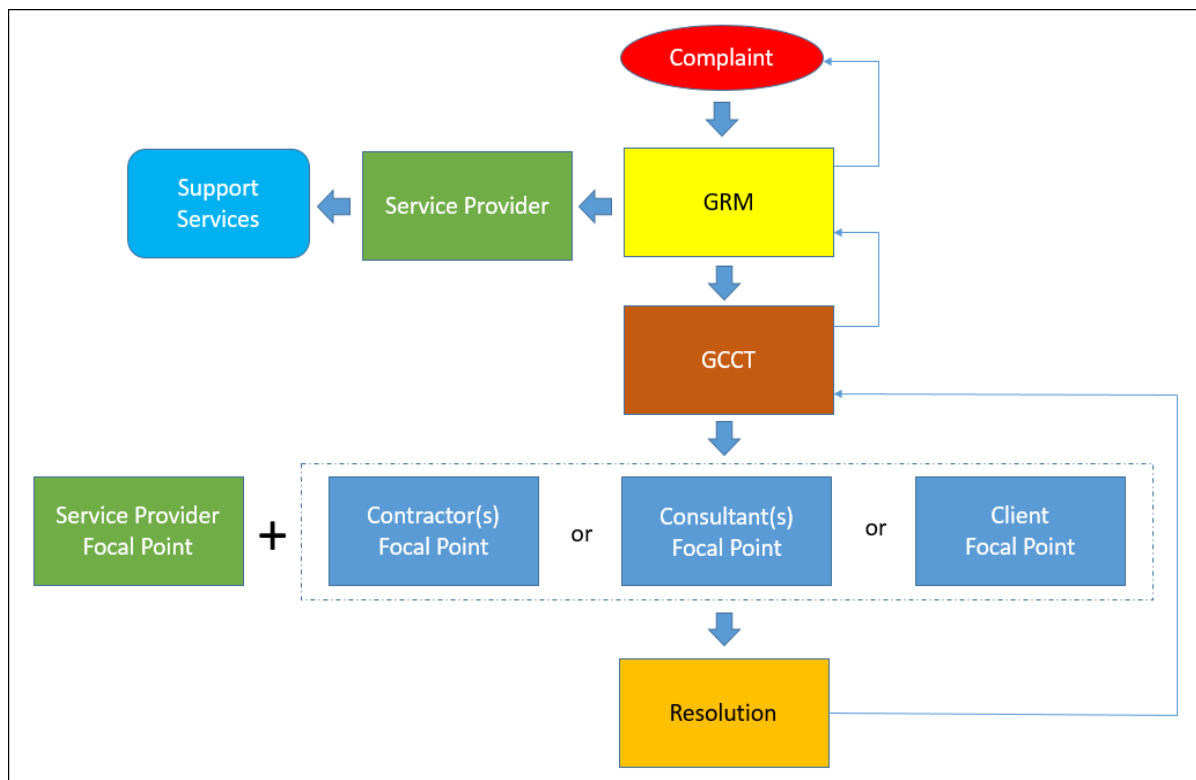
**A6.4 Grievance Redress Mechanism (GRM)**

23. The project operates a grievance redress mechanism (GRM). Reports of SEA/SH or VAC, other complaints, or other concerns may be submitted online, via telephone or mail, or in person.

24. The GRM operator will refer complaints related to SEA/SH or VAC to the GCCT to resolve them. In accordance with the Action Plan, the GCCT through the Service Provider and Focal Point(s) will investigate the complaint and ultimately provide the GRM operator with a resolution to the complaint, or the police if necessary. The GRM operator will, upon resolution, advise the complainant of the outcome, unless it was made anonymously.

Complaints made to managers or the Service Provider will be referred by them to the GRM for processing.

25. If the complaint to the GRM is made by a survivor or on behalf of a survivor, the complainant will be directly referred to the service provider to receive support services while the GCCT investigates the complaint in parallel.



### A6.5 Service Provider

26. The Service Provider is a local organization (possibly an NGO) which has the technical experience and ability to provide training to staff and to support survivors of SEA/SH or VAC. The contractor(s) will contract the services of a Service Provider, so that SEA/SH and VAC cases can safely be referred to them. The Service Provider will also provide support and guidance to the SEA/SH and VAC Focal Points as necessary. The Service Provider will have a representative on the GCCT and be involved in resolving complaints related to SEA/SH or VAC. The service provider will develop and conduct the mandatory training to employees on SEA/SH and VAC.

### A6.6 SEA/SH and VAC Focal Point

27. The GCCT will refer the complaint to the appropriate Focal Points for resolution (i.e. issues with contractor's staff will be for the contractor to resolve; consultant's staff the consultant; and client staff the client) and will advise the GCCT on potential resolutions, including referral to the police if necessary. They will be assisted by the Service Provider as appropriate.

28. All the Focal Points on the GCCT must be trained and empowered to resolve SEA/SH and VAC issues. It is essential that all staff of the GRM and GCCT understand the guiding principles and ethical requirement of dealing with survivors of SEA/SH and VAC. All reports

should be kept confidential and referred immediately to the Service Provider represented on the GCCT<sup>11</sup>. In SEA/SH and VAC cases warranting police action, the Focal Points must appropriately refer the complaint to: (i) the authorities; (ii) the Service Provider; and, (iii) management for further action. The Employer and the World Bank are to be immediately notified.

***(a) Accountability Measures***

29. All reports of SEA/SH or VAC shall be handled in a confidential manner in order to protect the rights of all involved. To ensure that survivors feel confident to disclose their experience of SEA/SH or VAC, the client, contractor and consultant must maintain the confidentiality of employees who notify any acts or threats of violence, and of any employees accused of engaging in any acts or threats of violence (unless a breach of confidentiality is required to protect persons or property from serious harm or where required by law). The contractor and consultant must prohibit discrimination or adverse action against an employee on the basis of survivor's disclosure, experience or perceived experience of SEA/SH or VAC (see Annex 1 for examples of actions to maintain accountability).

***(b) Monitoring and Evaluation***

30. The GCCT must monitor the follow up of cases that have been reported and maintain all reported cases in a confidential and secure location. Monitoring must collect the number of cases that have been reported and the share of them that are being managed by police, NGOs etc.

31. These statistics shall be reported to the GRM and the Supervision Engineer for inclusion in their reporting.

32. In SEA/SH and VAC cases warranting police action, the client and the World Bank are to be immediately notified.

***(c) Awareness-raising Strategy***

33. It is important to create an Awareness-raising Strategy with activities aimed to sensitize employees on SEA/SH and VAC on the work site and its related risks, provisions of the SEA/SH and VAC Codes of Conduct, SEA/SH and VAC Allegation Procedures, Accountability Measures and Response Protocol. The strategy will be accompanied by a timeline, indicating the various sensitization activities through which the strategy will be implemented and also the related (expected) delivery dates. Awareness-raising activities may be linked with trainings provided by Service Provider.

***(d) Response Protocol***

34. The GCCT will be responsible for developing a written response<sup>12</sup> protocol to meet the project requirements, in accordance to national laws and protocols. The response protocol

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<sup>11</sup> Survivors of SEA/SH and VAC may need access to police, justice, health, psychosocial, safe shelter and livelihood services to begin on a path of healing from their experience of violence.

<sup>12</sup> Develop appropriate protocol for written recording of SEA/SH issues and VAC raised in case the notes are subpoenaed. Develop processes for record keeping including activities undertaken by the GCCT.

must include mechanisms to notify and respond to perpetrators in the workplace (See 4.8 for Perpetrator Policy and Response). The response protocol will include the GRM process to ensure competent and confidential response to disclosures of SEA/SH and VAC. An employee who discloses a case of SEA/SH or VAC in the workplace shall be referred to the GRM for further action.

***(e) Survivor Support Measures***

35. Appropriately respond to the survivor’s complaint by respecting the survivor’s choices to minimize the potential for re-traumatization and further violence against the survivor. Refer the survivor to the Service Provider to obtain appropriate support services in the community—including medical and psychosocial support, emergency accommodation, security including police protection and livelihood support—by facilitating contact and coordination with these services. The contractor may, where feasible, provide financial and other supports to survivors of SEA/SH or VAC for these services (see Annex 1 for examples of financial support).

36. If the survivor is an employee, in order to ensure the safety of the survivor and the workplace in general, the contractor, in consultation with the survivor, will assess the risk of ongoing abuse, to the survivor and to the workplace, and make reasonable adjustments to the work schedule and work environment as deemed necessary (see Annex 1 for examples of safety measures). The contractor will provide adequate leave to survivors seeking services after experiencing violence (see Annex 1 for details).

***(f) Perpetrator Policy and Response***

37. Encourage and accept notification through the GRM from employees and community members about perpetrators in the workplace. Through the GCCT and/or the Service Provider, oversee the investigation of these grievances, ensuring procedural fairness for the accused, and within the local laws. If an employee has breached the Code of Conduct, the contractor will take action which could include:

- a. Undertake disciplinary action up in accordance with sanctions in the SEA/SH and VAC Codes of Conduct;
- b. Report the perpetrator to the Police as per local legal paradigms; and/or
- c. If feasible, provide or facilitate counselling for the perpetrator.

***(g) Administrative Sanctions***

38. In accordance with the Code of Conduct, any employee identified as a potential SEA/SH or VAC perpetrator shall be considered for disciplinary measures in line with sanctions and practices as agreed in the Individual Code of Conduct (see Annex 1 for examples of sanctions). It is important to note that, for each case, disciplinary sanctions are intended to be part of a process that is entirely internal to the employer, is placed under the full control and responsibility of its managers, and is conducted in accordance with the applicable national labor legislation.

39. Such process is expected to be fully independent from any official investigation that competent authorities (e.g. Police) may decide to conduct in relationship to the same case, and

in accordance with the applicable national law. Similarly, internal disciplinary measures that the employer's managers may decide to enact are meant to be separate from any charges or sanctions that the official investigation may result into (e.g. monetary fines, detention etc.).

#### **A6.7 Attachment 1 - Potential Procedures for Addressing SEA/SH and VAC**

*Accountability Measures to maintain confidentiality can be achieved through the following actions:*

1. Inform all employees that confidentiality of SEA/SH/VAC survivors' personal information is of utmost importance.
2. Provide the GCCT with training on empathetic and non-judgmental listening.
3. Take disciplinary action, including and up to dismissal, against those who breach survivor's confidentiality (this is unless a breach of confidentiality is necessary to protect the survivor or another person from serious harm, or where required by law).

*SEA/SH and VAC Allegation Procedures should specify:*

1. Who survivors can seek information and assistance from.
2. The process for community members and employees to lodge a complaint through the GRM should there be alleged SEA/SH or VAC.
3. The mechanism for how community members and employees can escalate a request for support or notification of violence if the process for reporting is ineffective due to unavailability or non-responsiveness, or if the employee's concern is not resolved.

*Financial and Other Supports to survivors can include:*

1. No/low interest loans.
2. Salary advances.
3. Direct payment of medical costs.
4. Upfront payments for medical costs to be recouped from the employee's health insurance.
5. Providing or facilitating access to childcare.
6. Providing security upgrades to the employee's home.
7. Providing safe transportation to access support services or to and from accommodation.

*Survivor Support measures to ensure the safety of the survivor can include:*

1. Changing the employee's span of hours or pattern of hours and/or shift patterns.
2. Redesigning or changing the employee's duties.
3. Changing the employee's telephone number or email address to avoid harassing contact.

4. Relocating the employee to another work site/ alternative premises.
5. Providing safe transportation to and from work for a specified period.
6. Supporting the employee to apply for an Interim Protection Order or referring them to appropriate support.
7. Taking any other appropriate measures including those available under existing provisions for family friendly and flexible work arrangements.

***Leave options for survivors that are employees can include:***

1. An employee experiencing SEA/SH should be able to request paid special leave to attend medical or psychosocial appointments, legal proceedings, relocation to safe accommodation and other activities related to SEA/SH.
2. An employee who supports a person experiencing SEA/SH or VAC may take carer's leave, including but not limited to accompanying them to court or hospital, or to take care of children.
3. Employees who are employed in a casual capacity may request unpaid special leave or unpaid carer's leave to undertake the activities described above.
4. The amount of leave provided will be determined by the individual's situation through consultations with the employee, the management and the GCCT where appropriate.

***Potential Sanctions to employees who are perpetrators of SEA/SH and VAC includes:***

- Informal warning
- Formal warning
- Additional Training
- Loss of up to one week's salary.
- Suspension of employment (without payment of salary), for a minimum period of 1 month up to a maximum of 6 months.
- Termination of employment.
- Referral to the Police or other authorities as warranted.



## ATTACHMENT 7: SAMPLE FORM ON GRM MONITORING AND ACCIDENT REPORT

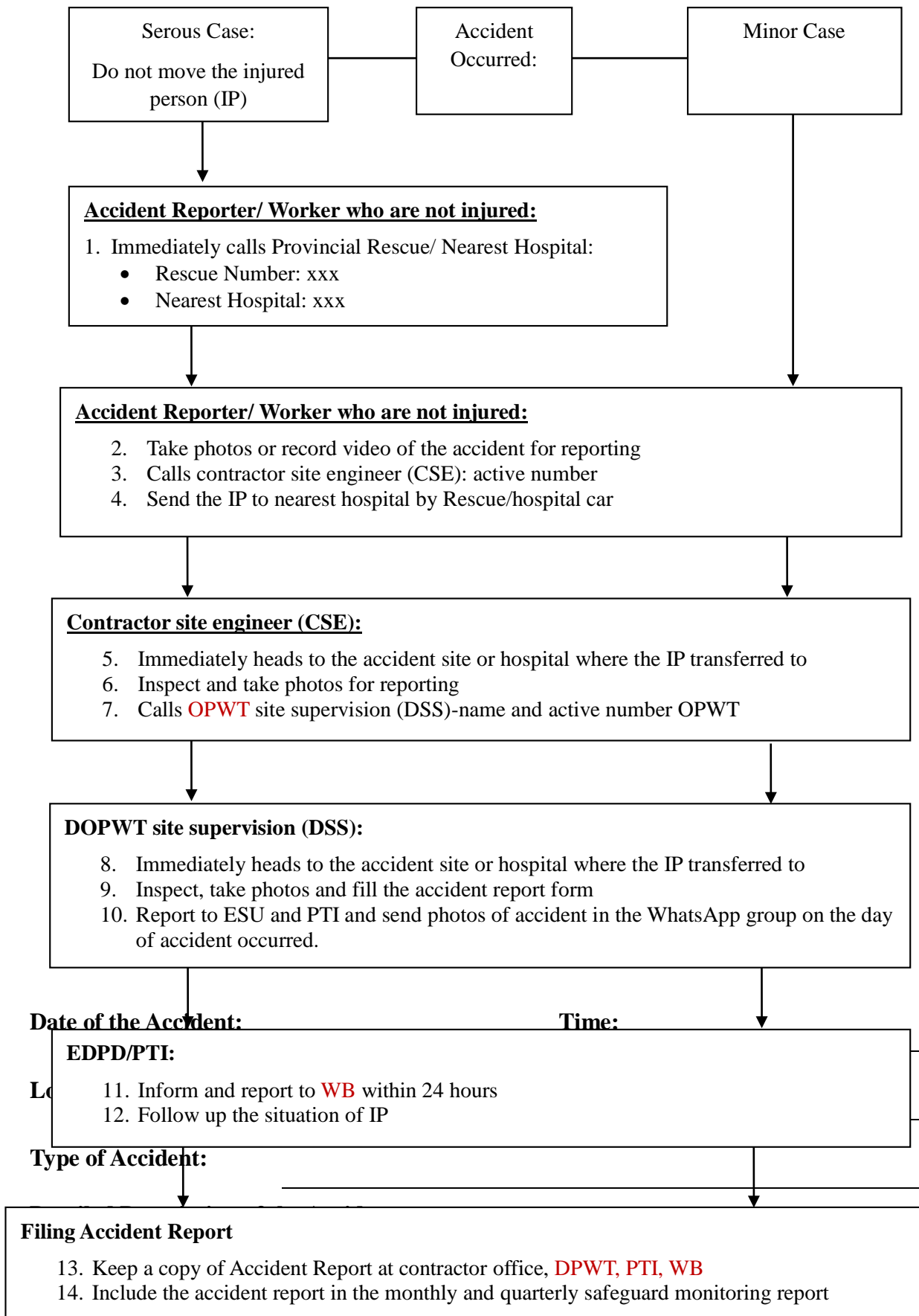
### (A) Sample Form of Grievance Redress Mechanism Monitoring to be used by Village Grievance Committee

Village:.....; District:.....;

Provinces:.....

No	Village	Brief Description/nature of grievance	Grievance applied by and contact detail or code (not mandatory)	Ethnic Group	Date of grievance received	Grievance received by	Status of action taken		Action taken by	Remarks/ Explanation
							Solved or what action taken	Date of action completed or taken		

## (b) ACCIDENT Reporting Procedure and Form





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**Responses / Corrective Actions Taken:**

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**Possible Causes(s) of the Accident:**

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**Suggested Preventive Measures:**

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<b>Submitted by:</b>		<b>Position:</b>	
<b>Signature:</b>		<b>Date:</b>	

**Reviewed by :** \_\_\_\_\_ **Date :** \_\_\_\_\_

## ATTACHMENT 8: CONTINGENCY PLANNING IN RESPONSE TO COVID-19

1. In a situation when there is a spread of COVID-19, contractor has to apply or comply with the government guidelines launched in line with the World Health Organization (WHO). Additional suggestions which are adapted from WBG Response to COVID-19 Advisory note on Contingency Planning for Existing Operations dated March 16, 2020 are provided in this Annex. It is worth noting that the WBG Response to COVID-19 Advisory note may be updated from time to time. Where there is a conflict with government or WHO guideline, the government or WHO guideline prevail.

### (a) Preparing for COVID-19

- Contractor's senior manager or project manager should inform PMU/DOW and DPWT and/or EDPD/PTI details of the preparations being made on site. PMU/DOW, DPWT and/or EDPD/PTI will, as necessary assist the projects with these preparations. The senior manager should be taking the advice of their healthcare team and their health and safety specialists in preparing the site, although the PMU/DOW, DPWT, and/or EDPD/PTI may also need to assist, for example with coordinating responses and/or connecting project sites with national/local healthcare official and/or specialists.
- Contractor should put in place measures to minimize the chances and contain the spread of the virus as a result of the movement of workers, ensure their sites are prepared for an outbreak, and develop and practice contingency plans so that personnel know what to do if an outbreak occurs and how treatment will be provided. These preparation measures should be communicated not only to the workforce but also the local community, to reassure them that the movement of staff is controlled, and to ensure that stigma or discrimination is reduced in the event of an outbreak.

### (b) Movement of Staff

- Movement of staff can increase the risk of transmission of Covid-19 to a work site and the local community. Overseas, international and transient workers should adhere to government requirements and guidelines with respect to Covid-19 when travelling to or from worksites.
- Workers coming from or passing through countries/regions with cases of the virus<sup>13</sup>  
(a) Should not return if displaying symptoms and (b) Should self-isolate for 14 days following their return.

*Self-Isolation arrangements:* For self-isolation, the following actions should be considered (as appropriate):

- Workers should be provided with a single room that is well-ventilated (i.e., with open windows and an open door). If a single room is not available for each

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<sup>13</sup> WHO also updates information on countries reporting Covid-19 infection.

worker, adequate space should be provided to maintain a distance of at least 2 meters and a curtain to separate workers sharing a room. Men and women should not share a room. A dedicated bathroom should be provided for the isolation facilities and there should be separate bathroom facilities for men and women.

- Workers in isolation should limit their movements in areas which are also used by unaffected workers (shared areas), and should avoid using these areas when unaffected workers are present. Where workers in isolation need to use shared spaces (such as kitchens/canteens), arrangements should be made for cleaning prior to and after their use of the facilities. The number of staff involved in caring for those in isolation, including providing food and water, should be kept to a minimum and appropriate Personal Protection Equipment (PPE) should be used by those staff.
- At a minimum, isolation areas should be cleaned daily and healthcare professionals should visit workers in the isolation areas daily. Cleaners and healthcare professionals should wear appropriate PPE and ensure good hygiene when visiting workers in isolation. Further information is provided by WHO in *Home care for patients with suspected novel corona virus (COVID-19)*
- Visitors should not be allowed until the worker has shown no signs and symptoms for 14 days.

### **(c) Preparing for an Outbreak**

2. Medical staff at the facilities or medical service personnel for the facilities should be trained and be kept up to date on Country and WHO advice (<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance>) and recommendations on Covid-19. They should take stock of the equipment and medicines that are present on site and ensure that there are good supplies of any necessary treatments, including paracetamol/acetaminophen and other medicine in line with country and WHO guideline.
3. The following measures should be considered (as appropriate):
  - Ensure medical facilities or camp site are stocked with adequate supplies of medical Personal Protective Equipment (PPE), as a minimum: (a) Gowns, aprons; (b) Medical masks and some respirators (N95 or FFP2); (c) Gloves; and (d) Eye protection (goggles or face screens).
  - Cleaners also need to be provided with PPE and disinfectant. Minimum PPE to be used when cleaning areas that have been or suspected to have been contaminated with Covid-19 are: (a) Gowns, aprons; (b) Medical masks; (c) Gloves; (d) Eye protection (goggles or face screens); and (e) Boots or closed work shoes. Cleaners should be trained in how to safely put on and use PPE by medical staff, in necessary hygiene (including hand washing) prior to, during and post cleaning duties, and in waste control (including for used PPE and cleaning materials).
  - The medical staff should run awareness campaigns, training and arrange for appropriate posters, signs and advisory notices to be posted on site to advise

workers on how to minimize the spread of the disease, including: (a) to self-isolate if they feel ill or think they may have had contact with the virus, and to alert medical staff; (b) to regularly wash hands thoroughly with soap and water – many times per day; (c) how to avoid disease spread when coughing/sneezing (cough sneeze in crook of elbow or in a tissue that is immediately thrown away), and not to spit; and (d) to keep at least 2 meters or more away from colleagues.

- Hand washing stations should be set up at key places throughout site, including at entrances/exits to work areas, wherever there is a toilet, canteen/food and drinking water, or sleeping accommodation, at waste stations, at stores and at communal facilities. Each should have a supply of clean water, liquid soap and paper towels (for hand drying), with a closed waste bin (for used paper towels) that is regularly emptied and disposed off following government guideline.
- Where wash stations cannot be provided (for example at remote locations), alcohol-based hand rub should be provided. Enhanced cleaning arrangements should be put in place, to include regular and deep cleaning using disinfectant of catering facilities/canteens /food/drink facilities, latrines/toilets/showers, communal areas, including door handles, floors and all surfaces that are touched regularly. Worker accommodation will be in good state for keeping clean and hygienic, and for cleaning to minimize spread of infection.
- Working methods should be reviewed and changed as necessary to reduce use of PPE, in case supplies of PPE become scarce or hard to obtain. For example, water sprinkling systems at crushers and stock piles should be in good working order, trucks covered, water suppression on site increased and speed limits on haul roads lowered to reduce the need for respiratory (N95) dust masks.

#### **(d) Contingency Planning for an Outbreak**

4. The contingency plan to be developed by contractor should set out what procedures will be put in place in the event of Covid-19 reaching the site and it should be developed in consultation with national and local healthcare facilities and PMU/DOW, DPWT and/or EDPD/PTI, to ensure that arrangements are in place for the effective containment, care and treatment of workers who have contracted Covid-19.
5. The contingency plan should also consider the response if a significant number of the workforce becomes ill, when it is likely that access to and from a site will be restricted to avoid spread. The following measures should be considered, as appropriate:
  - Contingencies should be developed and communicated to the workforce for: (a) Isolation and testing procedures for workers (and those they have been in contact with) that display symptoms; (b) Care and treatment of workers, including where and how this will be provided; and (c) Getting adequate supplies of water, food, medical supplies and cleaning equipment in the event of an outbreak on site, especially should access to the site become restricted or movements of supplies limited. The contingency plan shall be align with the government guideline.

- Specifically, the plan should set out what will be done if someone is suspected to become ill with Covid-19 at a worksite. The plan should: (a) Set out arrangements for putting the person in a room or area where they are isolated from others in the workplace, limiting the number of people who have contact with the person and contacting the local health authorities; (b) Consider how to identify persons who may be at risk (e.g. due to a pre-existing condition such as diabetes, heart and lung disease, or as a result of older age), and support them, without inviting stigma and discrimination into your workplace; and (c) Consider contingency and business continuity arrangements if there is an outbreak in neighboring communities.
- Arrangements for the storage and disposal arrangements for medical waste, which may increase in volume and which can remain infectious for several days (depending upon the material). The support that site medical staff may need, as well as arrangements for transporting (without risk of cross infection) sick workers to intensive care facilities or into the care of national healthcare facilities should be discussed and agreed.
- How to maintain worker and community safety on site should works be suspended or illness affect significant numbers of the workforce at any point. It is important that worksite safety measures are reviewed by a safety specialist and implemented prior to work areas being suspended.

#### **(e) Communicating the plans**

6. In order to reduce the risk of social stigma<sup>14</sup> or discrimination, and to ensure that individuals roles and responsibilities are clear, the preparation measures and contingency plans should be communicated widely. Workers, sub-contractors, suppliers, adjacent communities, and local healthcare authorities should all be made aware of the preparations that have been made.
7. When communicating to the workforce, their roles and responsibilities should be outlined clearly, and the importance for their colleagues, the local communities and their families that the workers follow the plans should be stressed. Workers may need to be reassured that they there will be no retaliation or discrimination if they self-isolate as a result of feeling ill, and also with respect to the compensation or insurance arrangements that are in place. Further guidance on preventing social stigma as a result of Covid-19 is available in WHO guidelines.

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<sup>14</sup> Social stigma in the context of health is the negative association between a person or group of people who share certain characteristics and a specific disease.

## **ATTACHMENT 9: MINUTES OF MEETING AND LIST OF PARTICIPANTS, NOVEMBER 2020 TO APRIL 2022,**

1. During November 2020 to April 2022, fourteen (14) consultation meetings with local communities in the Project area were and local authorities from provincial line departments have been conducted. The consultation meeting topics included: (i) project description and its potential (positive and negative) impacts, (ii) the proposed mitigation measures; (iii) concerns and recommendations on the project designs, impacts and mitigation measures, and compensation unit rate and amount.
2. The minutes of meetings and list of participants are provided in separate file.