Environmental Monitoring Report

Semi-Annual Report
July – December, 2016

VIE: Greater Mekong Sub-region Flood And Drought Risk Management and Mitigation Project

Prepared by Vietnam Water, Sanitation and Environmental JS Company for the Ministry of Agriculture and Rural Development and the Asian Development Bank

ASIAN DEVELOPMENT BANK

MINISTRY OF RURAL DEVELOPMENT AND AGRICULTURAL

CENTRAL OFFICE FOR WATER RESOUCES PROJECT – CPO

BIDDING PACKAGE GMS-4.10

INDEPENDENT ENVIRONMENTAL MONITORING CONSULTANT

SECOND SEMI-ANNUAL ENVIRONMENTAL MONITORING REPORT

GREATER MEKONG SUBREGION FLOOD AND DROUGHT RISK MANAGEMENT AND MITIGATION PROJECT (ADB-GMS1)

INVESTOR	**CONSULTING UNIT**
CENTRAL PROJECT OFFICE - CPO	VIETNAM WATER, SANITATION AND ENVIRONMENTA JS COMPANY

HANOI December, 2016

CURRENCY EQUIVALENTS
(Up to 16th August, 2013)

Currency unit	–	Viet Nam Dong (VND)
$1.00	=	VND 20.815

ABBREVIATIONS

ADB	–	Asian Development Bank
Ban QLDA	–	Project Management Unit
BVMT	–	Environmental protection
CBOs	–	Community Based Organizations
CEMP	–	Community Environmental Management Program
CPMU	–	Central Project Management Unit
CPO	–	Central Project Office
EMP	–	Environmental Management Plan
GOV	–	Government
M&E	–	Monitoring and Evaluation
PPMU	–	Provincial Project management Unit
PRA	–	Public Relative Assessment
QLMT	–	Environmental management
SEMP	–	Site Environmental Management Program
TN&MT	–	Natural resources and Environment
TOR	–	Terms of References
TVGS	–	Monitoring Consultant
DONRE	–	Department of Natural Resources and Environment
IEE	–	Initial Environmental Examination
PMU	–	Project Management Unit
QCVN	–	Vietnam National Environmental Standards

UNITS OF MEASUREMENT

ha	–	Hectare
kg	–	Kilogram
km	–	Kilometer
m	–	Meter
t	–	Ton

NOTES

In this report, "$" refers to US dollars unless otherwise state.

This environmental monitoring report is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature.

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1.1. Project background

Greater Mekong flood subregion and drought risk management and mitigation project (ADB-GMS1) is taken from loans no.2937-VIE (SF) of Asian Development Bank (ADB). The Agreements was signed from 21 December, 2012 and entered into force on 10 May, 2013.The project includes 04 subprojectslocated on 02 provinces Tien Giang and Dong Thap. Construction period of the project expected 03 years. Detail is as following:

(1) Construction of flood control system in Ba Rai – Phu An region, Tien Giang province: Construction of 28 medium and small sewers to create a flooding prevention system protects the safety of people and fruit-growing area for the region between two channels Ba Rai and Phu An thereby boosting socio-economic sustainable development for investment area of the project.

(2) Upgrading saline control system of Go Cong region, Tien Giang province: Construction of 3 new sewers includes Son Quy (B=20m). Nguyen Van Con (B=15m) and Salisete (B=10m) and 1,9km of embankment connecting 03 existing sewers to against salt intrusionfor Go Cong town and Go Cong freshening area of the project;

(3) Improvement and upgrading irrigation channels and supply irrigation water for Plain of Reeds include channels and its length: (i) Khang Chien (32,263km), construction of 20 sewers and culvert system of flood control and drainage, embankment combining with construction of rural traffic road; (ii) Tan Cong Chi – Doc Vang Ha (37,370km), construction of 27 new sewers; and (iii) Cai Cai (19,668km), construction of 5 sewers and 3 bridges which pass over channel. Embankment and upgrading traffic infrastructure along existing system of channels are to improve flooding drainage capacity, mitigatethe damage of flood caused and provide irrgation water for The Plain of Reeds

(4) Embankment erosion control in Thuong Thoi Tien Town, Hong Ngu District, Dong Thap Province: New construction of aferry terminal in district central and 3.224km of embankment, which was broken by flood as well as construction of traffic road along riverbank (7,0m of width with asphalt).

Each subproject includes 04 components:

- Component 1: Enhancing database, information and regional knowledge to manage floods and droughts. Planning design guidelines for flood and drought control system and protection works in MeKong Delta region, Cambodia – Vietnam overflowing flood management ;
- Component 2: Improving infrastructure of drainage system;
- Component 3: Strenthening management capacity based on communities;
- Component 4: Project management.

The objective of project is to improve capacity of community to prepare for. respond to and overcomes the risks of flood and drought caused. reduces maximum the damages of prolonged flood and drought to the local economy and society.

The Project will support GoV to carry out structural and non-structural actions for the preparation and management of disaster risks related to floods and droughts. Floods and droughts will be mitigated by positive impacts of the project. Strengthening capacity and improving management process is one of project's results. Specifically:

- Upgrading irrigation infrastructures include: Dredging, expanding 77km of channel; reinforce 60km of embankment and rural road; construct regulator drainage system, traffic bridge; construction of 3.25km embankment to improve flooding drainage and to ensure safety of people as well as irrigation water source providing to 185,872ha of agricultural land;
- Enhance community capacity to manage floods and droughts with the activities focused on some communes in project area

- Regional cooperation to manage negative issues such as climate change, rising sea level and border overflowing flood; building design standards of flood and drought in the Mekong Delta with the cooperation of MRC and the participartion of Mekong riparian countries.

1.2. Project implementation progress

Table 1.Project implementation progress

11	**Bidding package**	**Contractor selection period**	**Implementation period**	**Begining of construction period**	**Construction progress toDecember/2016**
1	**Civil package GMS 2.6. Upgrading saline control system of Go Cong region, Tien Giang province**	Quater II/2014-IV/2014	3 years	23/February/2016	- Construction progress of Nguyen Van Con sewer: 50% workload. - Construction progress of Salisetsewer:40% workload. - Construction progress of Sơn Quysewer: 5% workload. - Currently, the items are being carried out as following: (1) Culvert wall (2) Cluster of drainage works (3) Pile driving
2	**Civil package GMS 2.7 Construction of flood control system in Ba Rai – Phu An region. Tien Giang province**	Quater II/2014-IV/2014	3 years	has not carried out construction	has not carried out construction. It is being carried out compensation and clearance
3	**Civil packageGMS 2.8. Embankment erosion control in Thuong Thoi Tien Town, Dong Thap Province**	Quater II/2014-IV/2014	3 years	29/December/2015	90% workload: - -Embank along Tien riverbank - Cover road with asphalt near embankment - Construct drainage ditch along embankment - Pave brick on sidewalk - Construct parterre, planting grass and Golden oak along embankment (10m/tree) - Install railing
4	**Civil package GMS 2.9. Improvement and upgrading irrigation channels and supply irrigation water for Plain of Reeds**	Quater II/2014-IV/2014	4 years	Quater IV/2016	Workload carried out is as following: 1) Gathering machineries (2) Set up embankment of soil disposal area

2. INSTITUTIONAL SETUP AND RESPONSIBILITIES FOR EMP IMPLEMENTATION AND SUPERVISON

Institutional responsibilities for environmental management

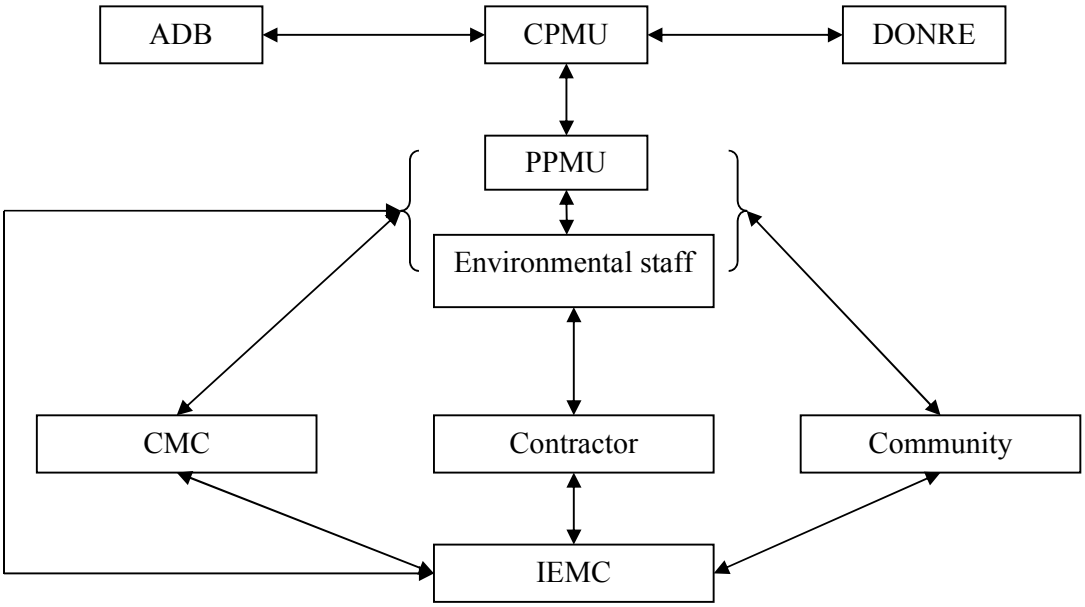


Figure 1.Implementation organization chart

Task, function of agencies/organizations:

Table 2.Responsibilities of environmental management implementation

No	Agency	Responsibilities of environmental management implementation
1	CPO/CPMU	Taking responsibilities for management, monitoring, supervision and preparation of environmental monitoring reports to submit ADB every 6 months Mobilize an independent environmental monitoring consultant during project implementation process to monitor EMP's implementation.
2	PPMU	To be responsible for implementing all of environmental protection activities in the environmental management plan of the sub-projects (EMP) in the preparation stages of pre-construction and construction. Assign environmental staff to supervise environmental protection activities of contractors as well as CSC's monitoring activities Coordinating with local authorities to resolve complaints (if any). Prepare periodic reports to submit CPMU about implementing project plan and environmental management plan of sub-project.
3	Construction contractor	Prepare "Site environmental management plan for construction area of contractor" to meet the requirements for environmental management of sub-project. This plan must be approved by the project owner before proceeding construction. Perform tasks that defined in the Site Environmental Management Plan, effectively carring out mitigation measures during construction and other issues relating to the environmental management plan of sub-project. Reporting to local authorities and PPMU if occuring the environmental accidents and coordinating with relevant parties and stakeholders to resolve it. Resolve complaints relating to the construction and operation of the

No	Agency	Responsibilities of environmental management implementation
		workers.
4	Construction Supervision Consultant	Support PMU for the implementation of environmental management plan approved by ADB in contractor's construction process Periodically making the reports on implementation of EMP at the site including the improved proposals for Contractor's synthesis to submit to PPMU
5	Independent environmental monitoring consultant of project	Strengthen management capacity and environmental monitoring for contractors thoughout EMP guideline and training class Checking, supervise the compliance of contractors with environmental mitigation measures mentioned in the approved EMP/EIA Sampling, analysis and environmental quality assessment to evaluate project's influence level to the environment Prepare periodic reports on implementing environmental safeguard for subproject as required
6	Local community	Residential communities have right and responsibility supervisin activities in the construction process to ensure rights and their safety policies are protected adequately as well as mitigation measures are implemented effectively by contractor and PMU. In case of unexpected problems, they will report to CSC/PMU/CPC.

3. COMPLIANCE WITH ENVIRONMENT RELATED PROJECT COVENANTS

Table 3. Compliance with environmental related project covenants

No	Environmental covenants	Compliance with environmental covenants at the subprojects			
		GMS 2.6. Upgrading saline control system of Go Cong region, Tien Giang province	**GMS 2.7. Construction of flood control system in Ba Rai – Phu An region, Tien Giang province**	**GMS 2.8. Embankment erosion control in Thuong Thoi Tien Town, Dong Thap Province**	**GMS 2.9. Improvement and upgrading irrigation channels and supply irrigation water for Plain of Reeds**
Appendix 4, section 3 Community based monitoring	1. Set up monitoring activities basing on community	Complied - Community supervision board has been set up	Not yet due	Complied - Community supervision board has been set up	Complied - Community supervision board has been set up
Appendix 5, section 4 **UXO**	2. Removing unexploded ordinaces (UXO)	Complied - Unexploded ordnance have been already removed by professional unit before the commencement of construction	Complied - Unexploded ordnance have been already removed by professional unit before the commencement of construction -	Complied - Unexploded ordnance have been already removed by professional unit before the commencement of construction	Complied - Unexploded ordnance have been already removed by professional unit before the commencement of construction -
Appendix 5, section 5 **Environment**	3. Compliance with Vietnam laws and regulations on environment, safety and health	Complied - Vietnam laws and regulations on environment, safety and health have been applied	Not yet due	Complied - Vietnam laws and regulations on environment, safety and health have been applied	Complied - Vietnam laws and regulations on environment, safety and health have been applied
	4. Compliance with environmental	Partly complied	Not yet due	Partly complied	Partly complied

	safety	Environmental safety has been complied during construction such as equiping labor protective equipment for workers on construction site. Non-complied: - Vehicle washing station has not been set up on site - Lack of direction sign, project's information board on site. - Lack of first-aid kit on site		Environmental safety has been complied during construction such as equiping labor protective equipment for workers on construction site. Non-complied: - Vehicle washing station has not been set up on site - Workers rarely use labor protective equipment - Fire extinguishers haven't been equipped on construction site - Lack of first-aid kit on site	Embankment of mud disposal cells has been constructed according to design standard Non-complied - Workers rarely use labor protective equipment
	5. Compliance with mitigation measures and requirements mentioned in IEE and EMP and other preventing measures, which involved monitoring report	Partly complied - Mitigation measures including covering up transport vehicles, transporting material, cleaning up construction site at the end of day Non-complied: - Watering to reduce dust on site	Not yet due	Complied - Mitigation measures including covering up transport vehicles, transporting material, cleaning up construction site at the end of day Non-complied: - Watering to reduce dust on site	Partly complied - Mitigation measures including covering up transport vehicles, transporting material, cleaning up construction site at the end of day Non-complied: - Watering to reduce dust on site
	6. Priority to implemenation of ADB policies if there are differences between ADB policies and Vietnam laws/regulations	Complied	Not yet due	Complied	Complied
Appendix 5, section 13 **Bidding**	7. Before operating Thong Nhat channel, following completion of works in Plain of Reeds subproject, SARD and mangament unit of Tram Chim national park will sign	Complied - Covering up transport vehicles, watering to reduce. - Installing construction	Not yet due	Complied - Covering up transport vehicles, watering to reduce. - Installing construction	Complied - Covering up transport vehicles, watering to reduce. - Installing construction

document, contract	an agreement on (a) timing and checking water quality at four outlets of Tram Chim national park and (b) arrangements for monitoring	signs, - Infrequently wearing labor protective equipment on site.		signs, - Infrequently wearing labor protective equipment on site.	signs, - Infrequently wearing labor protective equipment on site.
	8. Contractor must comply with requirements and mitigation measures mentioned in IEE, EMP and other preventing measures, which involved monitoring report	No unforeseen environmental risks arised	Not yet due	No unforeseen environmental risks arised	No unforeseen environmental risks arised
	9.Forecast unforeseen environmental risks in IEE, EMP Restate road, infrastructure in case it is damaged by construction activities, transport before completing the project	Restating road hasn't been carried out because it is under construction process	Not yet due	There are no influences to road, infrastructure	Restating road hasn't been carried out because it is under construction process
Appendix 5, section 19 **Grievance redress mechanism**	10.Set up grievance redress mechanism (GRM)	Complied - GRM has been set up for each subproject before construction commencement - GRM is presented at section 6	Not yet due	Complied - GRM has been set up for each subproject before construction commencement - GRM is presented at section	Complied - GRM has been set up for each subproject before construction commencement - GRM is presented at section

4. COMPLIANCE MONITORING

Monitoring methodology: In order to assess compliance with environmental protection measures of contractors, IEMC has carried out monitoring methods as following:

- *Onsite Inspection:* In quarterly monitoring phases, IEMC conduct site visite to construction works to to observe construction acivities and review contractor' performance to comply with environmental protection measures.

- *CSC Monitoring: Setting up environmental monitoring form, strengthening management capacity and environmental monitoring of contractor, CSC:*

+In environmental monitoring phase quarter II/2016, IEMC has set up environmental monitoring forms with performance indicators (PI) based on EMP report for each of subproject and requested CSC to fill out.

+ Besides, IEMC also carried out strengthening management capacity and environmental monitoring of contractor, CSC. CSC has responsible to prepare monthly environmental monitoring reports as well as supervise compliance with environmental mitigation measures of contractors based on environmental monitoring forms. After that, environmental monitoring forms will be synthesized into monthly environmental monitoring reports. In the next periodical monitoring phases.

+ IEMC collected and reviewed those reports (according to the samples in Appendix 3) in order to assess compliance with environmental mitigation measures of contractor.

- *Community based monitoring*: IEMC recorded people's reflection on environmental issues at construction site according to two forms: (1) Directly interview people living around to get their views about environmental issues; (2) Organize meeting with the people to discuss about environmental issues with the participartion of contractors, CSC, community supervision unit and people

4.1. Results of onsite inspection

In two monitoring phases, the third phase performed 10 October - 20 October, 2016 and the fourth phase performed 22 November – 3 December 2016, IEMC realized that outstanding environmental issues in first six month, have been treated thoroughly as well as compliance with environmental protection measures carried out by contractors.

- Construction item of three sewers at Go Cong town, Tien Giang: Construction site of three sewers has been embanked by soil and covered by nylon therefore, it didn't spread out pollutants to water environment

- Construction item of Thuong Thoi Tien embankment: Basically completed underwater construction as well as spraying alsphast on surface road. The remaining workload includes planting trees and grass along left side of embankment so it didn't spread out pollutants to water and air environment

- Construction item of dredging Cai Cai channel: fourth mud diposal cells and pipe system have been completed. The contractor has restated surface road, therefore, it didn't arise potentially environmental issues

Table 4. Environmental issues to be found out by IEMC during onsite inspection

Subproject	Construction item	Environmental issue	Typical image
3rd Quaterly: 10 October - 20 October, 2016			
GMS – 2.6: Subproject "Upgrading saline control system of Go Cong region. Tien Giang province"	Nguyen Van Con sewer	- Runoff water would be polluted and impacted to construction process - Construction area is frequently inundated in rainy season by lack of management (no temporary road built for construction vehicles)	
	Salisete sewer	- The deep excavating pits may cause the dangerous for workers and local people in case of without fence and warning signs	
GMS 2.7. Construction of flood control system in Ba Rai – Phu An region, Tien		Not yet due	
GMS 2.8. Embankment erosion control in Thuong Thoi Tien Town, Dong Thap Province	Thuong Thoi Tien embankment	The concrete mixing station placed near Tien river may cause the Tien river water pollution in case liquid concrete falling down to the river	
GMS 2.9. Improvement and upgrading		Not yet due	

irrigation channels and supply irrigation water for Plain of Reeds			
4th Quaterly: 22 November – 3 December 2016			
GMS – 2.6: Subproject "Upgrading saline control system of Go Cong region. Tien Giang province"	Salisete sewer	Water pipe should be protected in technical box to avoid risks of broken, cracking thereby creating a volume of runoff water, which may affect the environment	
GMS 2.7. Construction of flood control system in Ba Rai – Phu An region, Tien	Not yet due		
GMS 2.8. Embankment erosion control in Thuong Thoi Tien Town, Dong Thap Province	Thuong Thoi Tien embankment	No potentially environmental issues arisen Basically, Thuong Thoi Tien embankment has been done	
GMS 2.9. Improvement and upgrading irrigation channels and supply irrigation water for Plain of Reeds	Mud disposal cells	- Mud disposal cells without fence will cause the dangerous for worker and local people. - The service roads should be gravelled to avoid risks of landslide in case of the big machines going back and forth	

4.2. Results of CSC monitoring

In Table 5, IEMC has monitored compliance with environmental mitigation measures, which were proposed by EMP. In other hand, IEMC has synthesized Performance Indicators (PI) of CSC and contractors, including; (1) Compliance with environmental mitigation measures of contractors and (2)

based on CSC's monthly environmental monitoring reports for each subproject. CSC and contractors finish PI every week.

Status of implementing PI for each civil package is following:

1. CSC and contractors of Go Cong subproject: Complied

2. CSC and contractors of Thuong Thoi Tien subproject: Partly complied (Filling information in PI is quite sketchy)

3. CSC and contractors of Cai Cai channel subproject: Non-complied

Details of PI are attached at Appendix 3.

Monitoring period for each civil package is as following:

Civil package GMS 2.6: From 5 July to 3 December, 2016

Civil package GMS 2.7: Not yet due

Civil package GMS 2.8: From 5 July to 3 December, 2016

Civil package GMS 2.9: From 10 October to 3 December, 2016

Table 5. Environmental protection measures to be performed

No	Environmental protection measures	The implementaion of Environmental protection measures at the subprojects			
		GMS 2.6. Upgrading saline control system of Go Cong region, Tien Giang province	**GMS 2.7. Construction of flood control system in Ba Rai – Phu An region, Tien Giang province**	**GMS 2.8. Embankment erosion control in Thuong Thoi Tien Town, Dong Thap Province**	**GMS 2.9. Improvement and upgrading irrigation channels and supply irrigation water for Plain of Reeds**
1	**Removing UXO**	Complied Unexploded ordinaces have been already removed by professional unit before commencement of construction	Complied Unexploded ordinaces have been already removed by professional unit before commencement of construction	Complied Unexploded ordinaces have been already removed by professional unit before commencement of construction	Complied Unexploded ordinaces have been already removed by professional unit before commencement of construction
2	**Diclosure of RAP, EMP**	Complied - EMP and RAP were prepared and disclosed at ward/commune PCs in project area - A EMP report has been placed at contractor's office on site for compliance with environmental	Complied	Complied - EMP and RAP were prepared and disclosed at ward/commune PCs in project area - A EMP report has been placed at contractor's office on site for compliance with environmental	Complied - EMP and RAP were prepared and disclosed at ward/commune PCs in project area - A EMP report has been placed at contractor's office on site for compliance with environmental

		mitigation measures - VIWASE JS Company is an independent monitoring unit, who has responsible for supervising Environmental safety and RP		mitigation measures - VIWASE JS Company is an independent monitoring unit, who has responsible for supervising Environmental safety and RP	mitigation measures - VIWASE JS Company is an independent monitoring unit, who has responsible for supervising Environmental safety and RP
3	**Prepare onsite environmental mangement plan**	Complied Onsite environmental management plans were set up according to EMP - CSC prepared EMP at its head office on site before the commencement of construction	Not yet due	Complied Onsite environmental management plans were set up according to EMP - CSC prepared EMP at its head office on site before the commencement of construction	Complied Onsite environmental management plans were set up according to EMP - CSC prepared EMP at its head office on site before the commencement of construction
4	**Disposal site of excavating soil/dredging mud**	Complied The amound of soil/muf will be placed on site	Not yet due	Complied The amound of soil/muf will be placed on site	Complied 4 disposal cells have been constructed in Cai Cai channel subproject
5	**Training labor safety**	Complied Contractor carried out training labor safety for workers before commencement of construction - Training images, which were provied by CSC, are attached at Appendix 5	Not yet due	Complied Contractor carried out training labor safety for workers before commencement of construction - Training images, which were provied by CSC, are attached at Appendix 5	Complied Contractor carried out training labor safety for workers before commencement of construction - Training images, which were provied by CSC, are attached at Appendix 5
6	**First-aid kit**	Complied First-aid kits in worker's camps have been equipped fully by	Not yet due	Complied First-aid kits in worker's camps have been equipped fully	Complied First-aid kits in worker's camps have been equipped fully by

		contractor		by contractor	contractor
7	**Provide labor protective equipment**	Partly complied - Gloves, boots and clothes have been equipped by contractor on site - Somtimes, workers didn't use it	Not yet due	Partly complied - Gloves, boots and clothes have been equipped by contractor on site - Somtimes, workers didn't use it	Partly complied - Gloves, boots and clothes have been equipped by contractor on site - Somtimes, workers didn't use it
8	**Increasing people's awareness on HIV/AIDS**	Complied Contractor has establised a training course on HIV/AIDS prevention for workers	Not yet due	Complied Contractor has establised a training course on HIV/AIDS prevention for workers	Complied Contractor has establised a training course on HIV/AIDS prevention for workers
9	**Provide clean water, toilets, trash bins**	Complied Toilets and trash bins have been set up on site Clean water is bought from water supply facilities or households	Not yet due	Complied Toilets and trash bins have been set up on site Clean water is bought from water supply facilities or households	Complied Toilets and trash bins have been set up on site Clean water is bought from water supply facilities or households
10	**Using available borrow pits**	Complied Construction material from available borrow pits have been bought and transported to construction area of subproject works	Not yet due	Complied Construction material from available borrow pits have been bought and transported to construction area of subproject works	Complied Construction material from available borrow pits have been bought and transported to construction area of subproject works
11	**Do not encroach on natural forest**	No natural forest located in construction area	Not yet due	No natural forest located in construction area	Construction activities do not affect natural forest
12	**Set up drainage system on site**	Complied Contractor has set up drainage ditch on site	Not yet due	Complied Contractor has set up drainage ditch on site	Complied Contractor has set up drainage ditch on site
13	**Watering to reduce dust**	Complied Contractor has carried out watering to	Not yet due	Complied Contractor carried out watering to	Complied Contractor carried out watering to reduce dust from

		reduce dust from 2 to 4 times per day		reduce dust from 2 to 4 times per day	2 to 4 times per day
14	**Cover up transport vehicles**	Complied Material transport vehicles have been covered up during contruction	Not yet due	Complied Material transport vehicles have been covered up during contruction	Complied Material transport vehicles have been covered up during contruction
15	**Register machineries**	Complied Machineries used on site have been registered periodically	Not yet due	Complied Machineries used on site have been registered periodically	Complied Machineries used on site have been registered periodically
16	**Driving vehicles on the right speed**	Complied Contractor has carried out the speed controll for each driver, who working on civil package through a tranning class of labor safety - Speed limit signs have been set up outsite the construction site	Not yet due	Complied Contractor has carried out the speed controll for each driver, who working on civil package through a tranning class of labor safety	Complied Contractor has carried out the speed controll for each driver, who working on civil package through a tranning class of labor safety
17	**Set up fence around construction site**	Complied Corrugated sheet fence has been set up around construction site	Not yet due	Complied Wire fence and construction signs have been set up around construction site	Non-complied There hasn't had fence around construction site
18	**Install construction signs and warning lights near construction area**	Complied Constructions signs and warning lights have been set up at construction area	Not yet due	Complied Constructions signs and warning lights have been set up at construction area	Complied Constructions signs and warning lights have been set up at construction area
19	**Install construction signs**	Complied Constructions signs have been set up at area of contruction site and near construction site	Not yet due	Complied Constructions signs have been set up at area of contruction site and near construction site	Complied Constructions signs have been set up at area of contruction site and near construction site
20	**Install speed limit**	Complied	Not yet due	Complied	Complied

	signs and waring signs as well as forbidden signs	Seed limit signs have been set up at deserted road Forbidden signs have been set up at the area of only authorized persons allowed		Speed limit signs have been set up at deserted road Forbidden signs have been set up at the area of only authorized persons allowed	Speed limit signs have been set up at deserted road Forbidden signs have been set up at the area of only authorized persons allowed
21	**Mitigate construction activties in nighttime and resting hours**	Complied Construction activities with large noise such as excavating, material transport, etc... have been mitigated in in nighttime and resting hours	Not yet due	Complied Construction activities with large noise such as excavating, material transport, etc... have been mitigated in in nighttime and resting hours	Complied Construction activities with large noise such as excavating, material transport, etc... have been mitigated in in nighttime and resting hours
22	**Set up access roads**	Construction site near traffic road - The subproject didn't construct access road thereby reducing traffic jam	Not yet due	Construction site near traffic road - The subproject didn't construct access road thereby reducing traffic jam	Construction site near traffic road - The subproject didn't construct access road thereby reducing traffic jam
23	**Restate traffic roads if it is damaged by construction activties, transport**	Not implemented (because the project is under construction process)	Not yet due	No damages to traffic road	Being complied (Traffic road has been restated after installing culvert pipeline)
24	**Annouce to community for the interruption of services**	No services interrupted	Not yet due	No services interrupted	No services interrupted
25	**Provide barells to containt oil waste**	Complied - Contractor didn't store Diezen oil on site - Barrels have been provided for workers in order to containt oil waste	Not yet due	Complied - Contractor didn't store Diezen oil on site - Barrels have been provided for workers in order to containt oil waste	Complied - Contractor stored Diezen oil on site - Oil warehouse's ground has been paved by cement - Barrels have been provided for workers in order to containt oil waste
26	**Do not discharge**	Non-complied	Not yet due	Non-complied	Non-complied

	domestic wastewater into channels, canals	- Wastewater has been dischared ditectly into environment without settling tank		- Wastewater has been dischared ditectly into environment without settling tank	- Wastewater has been dischared ditectly into environment without settling tank
27	**Ensure camps' sanitary condition**	Complied Toilets and trash bins have been set up at worker's camp	Not yet due	Complied Toilets and trash bins have been set up at worker's camp	Complied Contractor hire people's standard toilet for workers.
28	**Gather construction materials away riverbank or fenced it up**	Complied Solid waste, construction materials have been gathered away away riverbank or fenced it up	Not yet due	Complied Solid waste, construction materials have been gathered away away riverbank or fenced it up	Complied Solid waste, construction materials have been gathered away away riverbank or fenced it up
29	**Set up sedimentation ponds of drainage system**	Non-complied	Not yet due	Non-complied	Non-complied
30	**Do not discharge wet concrete into channels, canals**	Complied Contractor reminded workers for illegally discharging wet concrete into channel, canals	Not yet due	Complied Contractor reminded workers for illegally discharging wet concrete into channel, canals	Complied Contractor reminded workers for illegally discharging wet concrete into channel, canals
31	**Clean up construction site at the end of the day**	Complied Activities such as collecting solid waste, assigning person to clean up construction have been performed	Not yet due	Complied Activities such as collecting solid waste, assigning person to clean up construction have been performed	Complied Activities such as collecting solid waste, assigning person to clean up construction have been performed
32	**Clean up transport vehicles**	Partly complied Not almost transport vehicles washed down	Not yet due	Partly complied Not almost transport vehicles washed down	Partly complied Not almost transport vehicles washed down
33	**Set up grievance redress mechainsm**	Partly complied d	Partly complied	Partly complied	Partly complied
34	**Publicize people's**	Haven't had any	Haven't had	Haven't had any	Haven't had any

	complaints	complaints	any complaints	complaints	complaints

There are 6 Performance Indicator (PI) are attached at Appendix 3 in the report.

Remark:

On site, construction units have actively carried out environmental protection measures such as daily cleaning up the site, performing labour safety measures (construction signs, first-aid boxs on site…). Besides, construction activities of contractor don't cause negative impacts to surrounding residential areas – contractor doesn't perform construction activities at nighttime and almost no machines with large noise.

For the items of bidding package ICB GMS - 2.8: Thuong Thoi Tien embankment: construction progress of segments K1, K2 and K3 has almost completed so generation of dust, garbage, noise during construction is insignificant. Worker's camps have been already dismainted except a remaining camp to contain embankment paving slabs.

For the bidding package GMS – 2.6: Basically, contractor in charge of the construction of Nguyen Van Con sewer, Saliset sewer and Son Quy sewer has carried out well environmental protection measures on site. However, vehicle washing station has not yet been set up on site.

For the bidding package 2.9, "Improvement and upgrading irrigation channels and supply irrigation water for Plain of Reeds", it has not carried out construction activties at monitoring period so there are no environmental issues arise. Contractor gathered machineries and construction materials neatly as well as fencing disposal area.

4.3. Results of community based monitoring

As there were no new construction items, so the IEMC met only a few households around the project's construction area and conducted some community counseling for two subproject which are GMS 2.6 and GMS 2.8. For the GMS 2.9 package, just gathering machines to prepare the construction, IEMC did not interview in-depth households around the site.

On third phase (10 October to 20 October 2016) and fourth phase (22 November to 3 December, 2016):

- Civil package GMS 2.6: 30 interviewed persons

- Civil package GMS 2.8: 20 interviewed persons

- Civil package GMS 2.9: 10 interviewed persons

Total 60 people are directly interviewed among them 20 are female (30%.)

During the meeting, the contents have been presented including:

1. Dissemination of project's information

2. General direction of GoV's environmental protection policies and ADB's environmental safeguard policies.

3. Consultation about construction issues for people: People's Assessment of local environmental quality before and after the project's implementation.

Images of the Public consultation are shown in Appendix 1

Table 6. Synthetizing People's opinion

No	Project	People's opinion	Project
1	GMS 2.6. Upgrading saline control system of Go Cong region, Tien Giang province	Nguyen Van Con sewer - Material transport vehicles should cover up carefully to avoid scarletting mud/soil on routes	- Constractor should set up a vehicle cleaning station on site
		Son Quy sewer - Because construction area is located far from residential area so it does not cause any	- CSC, PMU should supervise tightly environmental sanitation ensuring of

		influences to households.	contractors
		Saliset sewer - Currently, Salisetsewer is in construction phase. However, it doesn't cause much negative influences to people	- CSC, PMU should supervise tightly environmental sanitation ensuring of contractors
2	GMS 2.8. Embankment erosion control in Thuong Thoi Tien Town, Dong Thap Province	Local people are welcome and willing to support project. Construction of river embankment will improve people's living environment as well as landscape	
3	GMS 2.9. Improvement and upgrading irrigation channels and supply irrigation water for Plain of Reeds	Cai Cai channel - Environmental protection measures have been carried out well by contractor. Currently, there haven't had any environmental issues affecting people's life	- CSC, PMU should supervise tightly environmental sanitation ensuring of contractors

5. ENVIRONMENTAL EFFECTS MONITORING

5.1. Purpose, sampling method and location

In order to examine the impacts on the surrounding projects, the consultant conducted a sampling program from 20 November to 29 November, 2016 including 13 air samplings, 29 surface water samplings, 17 ground water samplings, 21 soil/mud samplings surrounding the sub-project activities and sensitive sites. The indicators have been analyzed including air quality (dust, noise, vibration, SO2, NO2, CO), surface water quality (pH, salinity, electricial conductivity, DO, BOD5, COD, NH4+, NO2- NO3-, PO43-, Zn, Pb, Hg Coliform, oil and grease), ground water quality (pH, hardness, salinity, TSS, DO, COD, NH4 of N, NO2- of N, NO3- of N, Cl-, Fe, Total of Zn, As, Ecoli, Coliform) Soil/Mud quality (pHKCl, pHH2O, total salt, soluble aluminum, total N, total P, Zn, Pb, As, Cd). The samples have been taken according to Vietnam Standards or the International Organization for Standardization (ISO).

The sampling locations are shown from Figure 3 to Figure 11 below. Sampling results have been analysed and indicators are attached at Appendix 2.

5.2. Monitoring result

A. Subproject "Embankment erosion control in Thuong Thoi Tien Town. Hong Ngu District. Dong Thap Province"

Figure 2.Sampling map – Thuong Thoi Tien subproject

Note:

Air sample **Ground sample**

Water sample **Mud/soil sample**

- **Air environment**

Air sampling locations are linked with construction area of Thuong Thoi Tien embankment and road (along Tien riverbank)

Measurement result of noise achieves QCVN26:2010/BTNMT – National technical regulation on noise

Measurement result of vibration achieves QCVN27:2010/BTNMT – National technical regulation on vibration

Measurement result of ambient air at the various locations on TSP, SO_2, NO_2 and CO achieves *QCVN05:2013/BTNMT – National technical regulation on ambient air quality*.

The analysis results show that mitigation measures of dust, noise have been carried out well thereby mitigating negative impacts of dust, noise to the air environment

- **Surface water quality**

Air sampling locations are linked with construction area of Thuong Thoi Tien embankment and road (along Tien riverbank)

Surface water quality along embankment system applied ***QCVN08-MT:2015/BTNMT – National technical regulation surface water (column A2: should apply appropriate techiques before using for living purpose and water supply)*** at 04 monitoring locations: first point of embankment system (M1)., Ngang wharf (M2), Tan Chau ferry terminal (M3) and final point of embankment system (M4). Specifically:

- Parameters such heavy metal, oil and grease are in allowabe limit according to QCVN08-MT:2015/BTNMT expect pH parameter. Tien river water along construction area has signs of a slight organic pollution with parameter COD at 04 sampling locations exceeds QCVN from 1.04

to 1.21 times.BOD_5 of samples M1, M2, M3 exceeds QCVN08-MT:2015/BTNMT column A2 from 1.08to 1.41times. Water source in those places has signs of microbiological pollutiom. Parameter Coliform in ¾ the number of samples exceeds QCVN from 1.3to 3.8times. Analysis results show that surface water resource is polluted by organic matters. Organic pollution is arised by daily acitivities of people along Tan Chau ferry, not completely caused by construction activities. The analysis results aslo show that there is no significant increase of concentration of pollutants, which mentioned in EIA and EMP report. It can be seen that construction contractor has carried out fairly well management measures of solid waste, wastewater, oil waste as well as preventing those pollutants run off into riverbed

- **Ground water quality**

Groundwater sampling locations are is to determine how influence levels of construction activties affect groundwater quality.

According to ***QCVN09-MT:2015/BTNMT – National technical regulation on groundwater quality***. groundwater quality of project area achieves allowable limit. However, there are several parameters exceeding the allowable limit such as COD (1.5-1.75 times), NH_4^+ (1.45-1.5 times) and the parameter NO_3^- of N1 sample (1.24 times). Compared with analysis results in the previous monitoring phase and environmental data in EIA, EMP report. Quality of groundwater didn't change significantly. Therefore, it can be understood as construction activities do not affect groundwaterenvironment

- **Soil quality**

Air sampling locations are linked with construction area of Thuong Thoi Tien embankment and road (along Tien riverbank)

In order to assess environmental quality of soil. Consultant has taken and analyzed 02 surface soil/mud in construction area of embankment system. Analysis result in Table A.4 according to ***QCVN03-MT:2015/BTNMT – National technical regulation on heavy metal limit in soil*** shows that:

Concentration of some heavy metals such as Zn, Pb, As, Cdis not exceed and in allowable limits. Gathering construction materials wouldn't cause the increase of soil environment pollution.

B. Subproject: "Improvement and upgrading irrigation channels and supply irrigation water for Plain of Reeds"

- **Air environment**

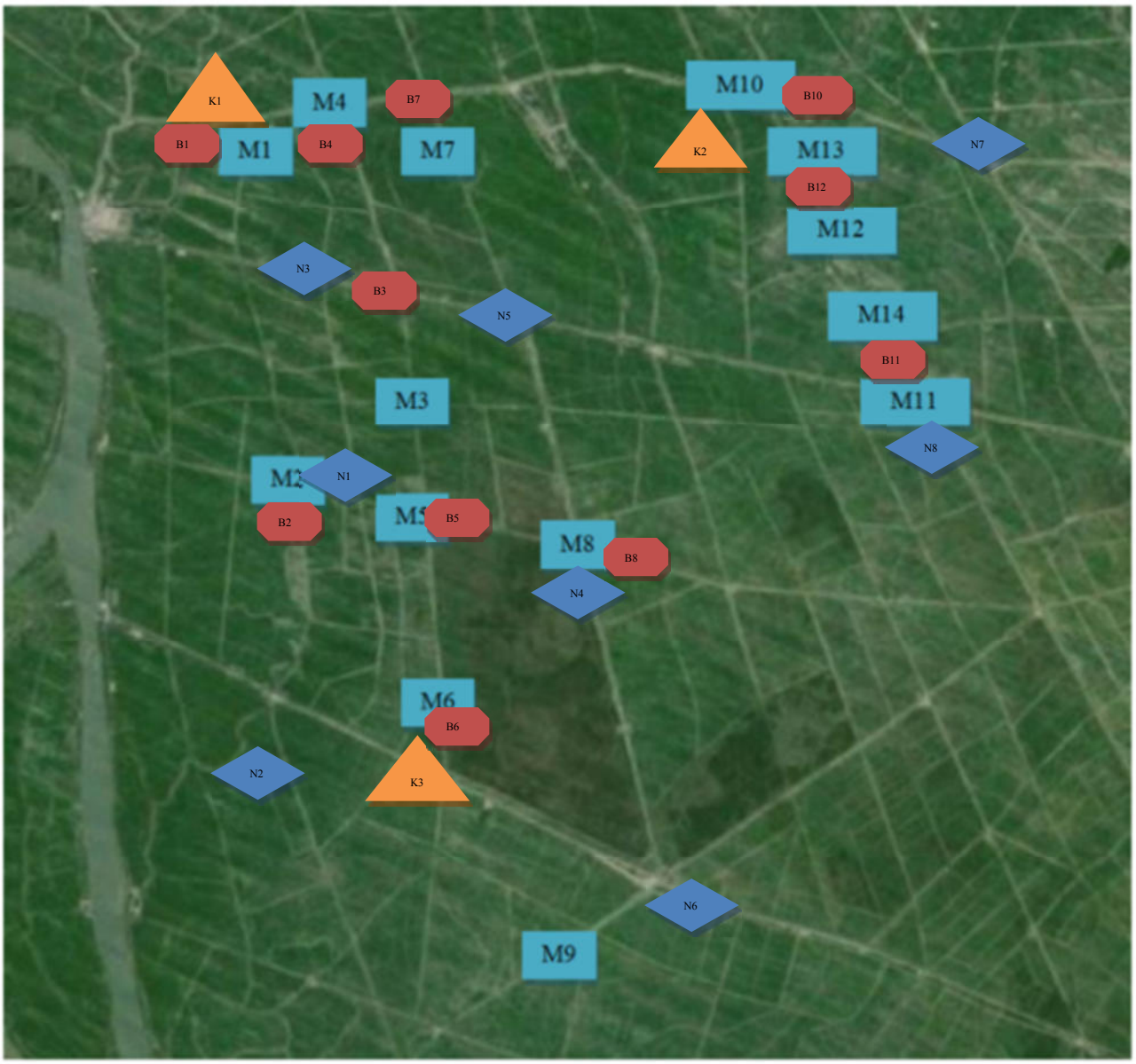


Figure 3.Map of air sampling – Dong Thap Muoi subproject (Plain of Reeds)

Air sampling locations are linked with material transport routes, construction area of Khang Chien channel, Plain of Reeds subproject

Analysis results show that air environmental quality in project area is good, all parameters represent air environment and vibration in construction area of project achieve allowable limit *QCVN05:013/BTNMT– National technical regulation on noise* and *QCVN27:2010/BTNMT– National technical regulation on vibration*.The analysis results show that mitigation measures of dust, noise have been carried out well thereby mitigating negative impacts of dust, noise to the air environment

- **Surface water quality**

Surface water sampling locations M1, M2 are linked with material transport route, construction area of Khang Chien channel, Plain of Reeds subproject. Remaining surface water sampling locations are linked with areas, where are going to dredge channels such as Thong Nhat, Tan Cong Chi and Cai Cai thereby assessing background environmental condition.

Analysis results show that, surface water samples of 4 channels have polluted by microorganisms, demand of biological oxygen also exceeds allowable limits according to QCVN08-MT:2015/BTNMT

National technical regulation surface water, column A2: should apply appropriate techiques before using for living purpose and water supply.

Parameters such as heavy metal, oil and grease, NH_4^+ are within allowable limits according to QCVN08-MT:2015/BTNMT, column A2.

Parameter NO_2^- of samples M6, M9 and M11 exceeds allowable limit according to QCVN08-MT:2015/BTNMT, column A2

Parameter BOD_5 of the samples M1, M5, M6, M7, M8, M9, M10,M11, M12, M13 and M14 exceeds allowable limit from 1.07 to 1.77 times according to QCVN08-MT:2015/BTNMT, column A2.

Parameter PO_4^{3-} of the samples M1, M2, M4, M8, M9 and M11 exceeds allowable limit from 1.05 to 1.4 times according to QCVN08-MT:2015/BTNMT, column A2.

Parameter Coliform of the samples M1, M2, M3, M4, M5, M6, M7, M8, M10, M11, M12 and M14 exceeds allowable limit from 1.03 to 2.86 times according to QCVN08-MT:2015/BTNMT, column A2

Surface water pollution could be arised by daily activities of people along channels such as discharging domestic wastewater, waterway traffic activities. However, there is no a significant change on water quality of channel before construction. It can be understood as mitigation measures of surface water pollution have been carried out fairly good by contractor.

- **Groundwater quality**

Groundwater sampling locations are is to determine how influence levels of construction activties affect groundwater quality.

Analysis result of groundwater of 08 drilling wells shows that groundwater quality is polluted by parameter Coliform, which exceeds allowable limit from 1.3to2.67times according to***QCVN09-MT:2015/BTNMT – National technical regulation on groundwater quality***. Paramater COD exceeds allowable limitfrom 1.09 to 3.25 times. Salinity parameter of N2 sample exceeds allowable limit 1.3 times according to QCVN 09-MT:2015/BTNMT.

- **Soil environment**

Soil sampling locations Đ1, Đ2 are linked with dredging activities of Khang Chien channel. Remaining soil sampling locations are going to link with dredging activities of channels: Thong Nhat, Tan Cong Chi and Cai Cai.

Analysis result shows that all parameters analyzed achieve allowable limit QCVN 03-MT:2015/BTNMT – National technical regulation on heavy metal limit in soil. Gathering dredging mud at disposal site on construction site does not cause ambient environmental pollution

C. Subproject: "Upgrading saline control system of Go Cong region, Tien Giang province"

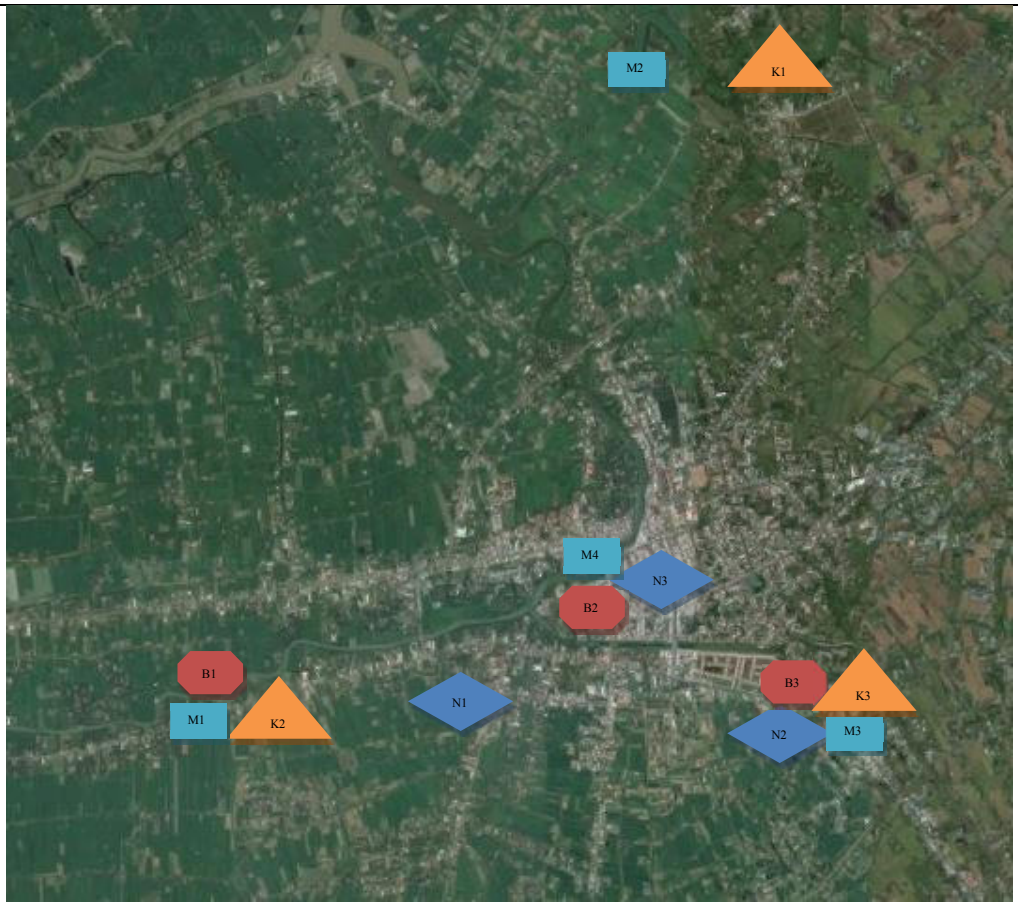


Figure 4.Sampling map of Go Cong subproject

Note:

Air sample **Ground sample**

Water sample **Mud/soil sample**

- **Air environment**

Air sampling locations are linked with construction sites of culverts: Nguyen Van Con, Salisete, Son Quy.

Analysis result of air quality shows that air environment basically is in good condition, particle concentration ranges from 0.14-0.21 mg/l, have not exceeded allowable limits QCVN05:2013/BTNMT– National technical regulation on ambient air quality (Particle < 0.3 mg/l).

ParametersNOx, $SO_2$and CO in air environment are in allowable limits QCVN05:2013/ BTNMT.

Virbation in monitoring locations is also in allowable limits of QCVN27:2010/BTNMT.

Noise ranges from 62 to 71 dBA. However,sometimes, noise parameter exceeds allowable limit according to QCVN26:2010/BTNMT(Noise<70dBA).

The analysis results show that mitigation measures of dust have been carried out fairly good thereby mitigating negative impacts of dust to ambient air environment. However, sometimes, gathering construction machineries and equipment had increased noise in project area but its impact is localized and in the short time.

- **Surface water quality**

Surface water sampling locations are linked with construction sites of culverts: Nguyen Van Con, Salisete, Son Quy.

Based on analysis result and QCVN08-MT:2015/BTNMT – National technical regulation on surface water quality, column B1: using for irrigation purpose show that parameter Coliform exceeds 1.3 times allowable limit according to QCVN08-MT:2015/BTNMT, column B1. The remaining parameters are within allowable limit. Basically, construction activities have not caused the increase of surface water pollution on the channel.

- **Groundwater quality**

Groundwater sampling locations are is to determine how influence levels of construction activties affect groundwater quality.

Based on analysis result of 03 groundwater samples and QCVN 09-MT:2015/BTNMT – National technical regulation on groundwater qualityshow that:

- pH, hardness, salinity, COD, NH_4^+, NO_2^-,NO_3^- and heavy metals Fe, Pb, As, Zn, Pb, Hgof groundwater samples are withinallowable limits
- Coliform parameter of samples exceeds allowable limit from 4.3 to 6
- Undergournd water quality is not affected by installing culvert pipeline because the depth of installed culvery pipeline is insignificant. Nomarlly, depth of access to groundwater is about 200m.

- **Soil environment**

Soil sampling locations are linked with construction activities, installation of culverts: Nguyen Van Con, Salisete and Son Quy.

Analysis result of 03 soil samples will be compared with QCVN03-MT-:2015/BTNMT – National technical regulation on heavy metal limit. Concentration of some heavy metals such as Zn, Pb, As, Cd is in allowable limits. Gathering soil/mud does not cause ambient environmental pollution. However, contractor should be fenced up material gathering area for environmental sanitation.

D. Subproject: "Construction of flood control system in Ba Rai – Phu An region. Tien Giang province"(not due yet)

- **Air and noise quality**

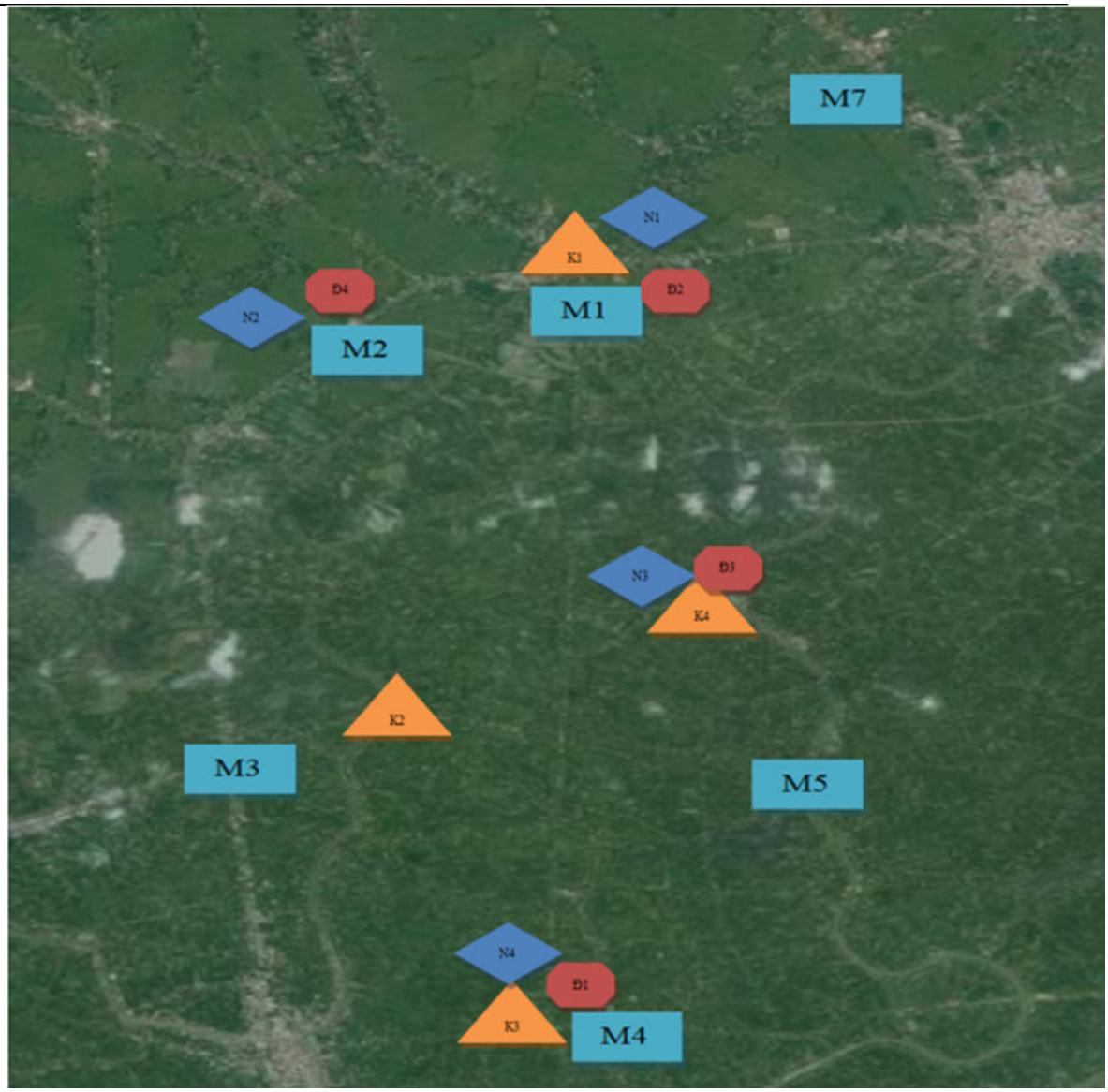


Figure 5.Map of air sampling (Ba Rai - Phu An subproject)

Air sampling locations are linked with areas, where are going to construct culverts: Giong Tre 1, Thong Luu, Cai La, and Tham Ron.

- Contaminants such as NO_x, SO_2 and CO are in allowable limits of QCVN05:2013/BTNMT. The current status of air environment is fairly good because project hasn't been constructed.

➢ ***Surface quality***

Surface water sampling locations are linked with areas, where are going to construct culverts: Giong Tre, Rach Giong, Thong Luu, Cai La, Thay Thanh, Tham Ron and Lo Lang

Based on QCVN08-MT:2015/BTNMT - column A2, shows that:

- pH ranges from 6.4to 7.4 and in allowable limit ofQCVN08-MT:2015/BTNMT, column A2

- Parameter Dissolve oxygen (DO) of M1, M2, M5, M6 and M7 does not achieve allowable limit of QCVN08-MT:2015/BTNMT.

- BOD_5parameter of some surface water samples M1, M2, M5, M6 and M7 exceeds allowable limits from 1.27to 2.35 times according to QCVN08-MT:2015/BTNMT, column A2.

- COD parameter some surface water samples M1, M2, M5, M6 and M7 exceeds allowable limit from 1.21 to 1.36 times according to QCVN08-MT:2015/BTNMT, column A2

- NO_2^- parameter of surface water samples M1, M2, M5 and M6 exceeds allowable limit from 3.8 to 7.4 times according to QCVN08-MT:2015/BTNMT, column A2

- Parameters NH4+, NO3-, Pb, Hg, Zn, As are in allowable limits of QCVN08-MT:2015/BTNMT, column A2.

Currently, the project has not been constructed so there are no construction activities affecting surface water quality. Surface water pollution could be arised by daily activities of local people through littering and discharging domestic wastewater into the channel.

Those surface water samples are monitored at area, which is going to construct Ba Rai-Phu An subproject's works

- ***Groundwater quality***

Groundwater sampling locations are is to determine how influence levels of construction activties will affect groundwater quality.

Analysis results show that most parameters are within allowable limit of QCVN09-MT:2015/BTNMT, however, parameter Coliform exceeds allowable limit from 2.17 to 3.3 times.

- **Soil quality**

Soil sampling locations are linked with areas, where are going to construct culverts: Giong Tre, Cai La, Tham Ron and Giach Rong.

Concentration of Cu, Zn, Pb, As and Cd achieves allowable limit of QCVN03-MT:2015/BTNMT– National technical regulations on heavy metal limit in soil.

6. GRIEVANCE REDRESS MECHANISM

For each subproject, GRM has been set up to quickly solve people's complaints. Specifically:

- On construction site, it is necessary to set up bulletin board with comprehensive information on subproject, Construction unit, CSC, Investor, Site manager and address, phone number for Investor communication

- For each subproject, there are always one PMU's staff, one CSC's staff and a Site manager on construction site.

- If occurring any complaints, people are able to directly contact with Site manager, CSC and PMU's representative through phone number mentioned above. On the other hand, people can propose their complaints on environmental issues on construction site for resolving, overcoming and compensation.

- If two parties could not make a deal, people can send their complaints to representative of Subproject management unit, CSC, Site manager on site or send it to Subproject management unit's headquarter. Within one month after receiving complaints, Director of Subproject management unit will in charge of complaints, apponit staff to reslove relevant parties including Site manager, representative of Subproject management unit, CSC and affected people on compensation and overcoming consequences.

- If it is not sastifed, people can pursue their case to the higher level government for settlement.

The procedure includes 4 following steps to receive feedback from people:

- **Step 1**: Feedbacks of affected people about the sub -project or unexpected losses will initially provide through words or papers from people to Commune level. Theses feedbacks can be discussed in a informal meeting between people and CPC chairman. CPC chairman will be responsible for resolve difficulty during 15 days from the day of receiving feedback.

- **Step 2**: In case people do not understand, do not agree or do not have feedback from CPC in 15 days, people can petition to PMU of the sub – project to solve in 1 month from the day of receiving feedback.

- **Step 3**: In case people are unable to satisfy with the decision of PPMU or do not reply so they can complain to Tien Giang PC. By dint of that, PPC and the representative of CPMU will make Decision during 30 days from the day of receiving feedback.

- **Step 4**: If people do not satisfy with the Decision of PPC and CPMU or do not receive feedback from PPC during stipulated time, affected people are able to pursue to Province People's Court about their cases.

However, during project construction, there have not arised any complaints from people.

IEMC realized that people grasp the process of reflecting issues to authorized unit in case of incidents occur. However, IEMC still disseminated Grievance redress mechanism to people and community monitoring board in environmental tranining class

Additional, contractors should carry out mitigation measures to reslove incidents as soon as possible, ensure people's living condition.

Table 7. List of key staffs of each sub – project

	GMS 2.6. Upgrading saline control system of Go Cong region, Tien Giang province	**GMS 2.7. Construction of flood control system in Ba Rai – Phu An region, Tien Giang province**	**GMS 2.8. Embankment erosion control in Thuong Thoi Tien Town, Dong Thap Province**	**GMS 2.9. Improvement and upgrading irrigation channels and supply irrigation water for Plain of Reeds**
PPMU's staffs	Nguyen Van Mot 0918949669	Non - complied	Nguyen Truong Giang 0975278127	Non - complied
CSC's staffs	Nguyen Thanh Long 0984843184	Non - complied	Tran Van Hanh (K1, K2 segment) 0944809875	Non - complied
Site managers on construction area	Pham Tuan Anh (Nguyen Van Con sewer) 012693301745 Tran Ngoc An (Son Quy sewer) 0966743762 Pham Van Thanh (Saliset sewer ()0918806773	Non - complied	Do Duy Khuong 0984065999 Vu Sy Hoang (K3 segment) 0944473214	Non - complied

7. INSTITUTIONAL STRENGTHENING AND TRAINING

Environmental monitoring and training program for CSC and contractors

Consultant explained clearly objectives, contentson environmental protection and management measures to CSC and contractors as well as remind them to comply with management measures, environmental protection during project construction phase. During construction process, contractors and CSCS will coordinate with PMU to control the implementation of environmental minimization measure tighly and will be respobsible to overcome environmental issues arise.

CSC have submitted monthly environmental reports fully as well as 6 Performance Indicators (PI) to PPMU

PMU's hot line has provided already to strengthen effectiveness of risk control, environmental incidents and collects information, environmental pollution issues arising during project implementation.

8. KEY ENVIRONMENTAL ISSUE

Table 8.Key Issues Identified, Actions Taken, Additional Action Required

No	Bidding package	Name of contractor	Environmental outstanding issues in first 6 months	Mitigation measures	Responsibility should be carried out	Period for overcoming consequences	Resloved environmental issues in the last 6 months
II	**Biding packages GMS – 2.6: Subproject "Upgrading saline control system of Go Cong region. Tien Giang province"**						
1	Nguyen Van Con sewer	*Construction contractor:* Tien Giang construction and investment JS company *CSC:*Infrastructure development and construction consulting JS company	- Vehicle washing station has not been set up on site.	- It is necessary to set up vehicle washing station on site	- Contractor	- After implementing the next construction activity.	- Non-complied
			- Submit environmental report in delay and lack of measures to resolve environmental outstanding issues.	- Fully submitt Environmental monitoring report on schedule	- CSC	- End of December/2016	- Submit report in delay
2	Salisete sewer	*Construction contractor:* Tien Giang construction and investment JS company *CSC:*Infrastructure development and construction consulting JS company	- Domestic waste such as nylon bags scattered on site	- It is necessary to assign staff for cleaning up construction site and area around construction site	- CSC, contractor	- Daily clean up on site	- Cleaned site
			- Vehicle washing station has not been set up on site	- It is necessary to set up vehicle washing station on site	- Contractor	- 3 days	- Non-complied
			- Submit environmental report in delay and lack of measures to resolve environmental outstanding issues.	- Submitt Environmental monitoring report on schedule	- CSC	- End of December/2016	- Submit report in delay
3	Son Quy sewer	*Construction contractor:* East Asia international	- Sometime, workers do not use labor protective equipment	- Remind workers for using labor protective equipment	- CSC, contractor	- After implementing the next construction activity.	- Complied

		corporation *CSC:*Infrastructure development and construction consulting JS company	- Vehicle washing station has not been set up on site	- It is necessary to set up vehicle washing station on site	- Contractor	- 3 days	- Non-complied
			- Submit environmental report in delay and lack of measures to resolve environmental outstanding issues.	Submitt Environmental monitoring report on schedule	- CSC	- End of December/2016	- Submit report in delay
I	**Bidding packages ICB GMS – 2.8: Subproject "Embankment erosion control in Thuong Thoi Tien Town. Hong Ngu District. Dong Thap Province"**						
4	Construction of K1, K2 embankment segment from starting point of embankment to Tan Chau ferry	*Construction contractor* Association with Bao Chung JS company and Hai Son development and investment company-Corporation no.86 *CSC:*Infrastructure development and construction consulting JS company	- Vehicle washing station has not been set up on site	It is necessary to set up vehicle washing station on site	- Contractor	- 3 days	- Non-complied
			- Sometime, workers did not use labor protective equipment	Remind workers for using labor protective equipment	- CSC, contractor	- After implementing the next construction activity.	- Complied
			- Contractor has not carried out the submission of Environmental monitoring report fully. IEMC also reminded CSC to quickly complete environmental monitoring report and submit it to PPMU	Submitt Environmental monitoring report on schedule	- CSC	- End of December/2016	- Complied
5	Construction of K3 embankment	*Construction contractor:* Association with	- Vehicle washing station has not been set up on site	It is necessary to set up vehicle washing station on site	- Contractor	- 3 days	- Non-complied

	segment	Hiep Thanh one member Ltd.company and Hai Son development and investment company-Corporation no.86 *CSC:*Infrastructure development and construction consulting JS company	- Contractor has not carried out the submission of Environmental monitoring report fully. IEMC also reminded CSC to quickly complete environmental monitoring report and submit it to PPMU	Submitt Environmental monitoring report on schedule	- CSC, contractor	- After implementing the next construction activity.	- Complied
			- Dredged deep pits near traffic road	Setting up fence	- CSC	- End of December/2016	- Complied
III. GMS 2.9: Improvement and upgrading irrigation channels and supply irrigation water for Plain of Reeds							
6	Improvement and upgrading irrigation channels and supply irrigation water for Plain of Reeds	*Construction contractor:* Association with Bao Chung JS company and Hai Son development and investment company-Corporation no.86 *CSC:*Infrastructure development and construction consulting JS company	- Lack of construction signs, speed limit signs	- Set up construction signs, speed limit signs	- Contractor, CSC	- One day for preparation	- Complied
			- Fencing up disposal site of soil/mud is farily sketchy near primary school Tan Thanh A1	- Prepare warning signs, reinforce fence at disposal site of soild/mud	- Contractor, CSC	- One day for preparation	- Complied

9. CONCLUSION AND RECOMMENDATION

9.1. Overall Progress of Implementation of Environmental Management Measures

- The contractors have carried out environmental minimization measures however it still have had shortcomings. Contractor should follow environmental minimization measures, which mentioned in environmental management plan (EMP). Environmental impact assessment and environmental monitoring documents of the Project also were sent to contractors and CSC thereby strengthening environmental management plan as well as minimization measures.

- For the bidding package ICB GMS 2.8: Workload was nearly complete so generation of environmental issues is insignificant

- The bidding package GMS 2.6: CSC and contractors has carried out environmental protection measures as mentioned in EMP report. Contractors have carried out mitigation measures of dust however, vehicle washing station has not been set up on site. Constractors should set up vehicle washing station on site in the next time.

- The bidding package GMS 2.9: Contractor has not carried out mitigation measures fully such as carefuly fencing up at disposal site with the big depth; forbidden signs, waterway warning signs, floats, speep limit signs on construction site. The contractor should quickly overcome and complete environmental mitigation measures before implementing the next construction activties.

- CSC's periodically environmental monitoring reports have not submitted on schedule

9.2. Action Recommended

- PMU, CSC and IEMC will continually coordinate construction monitoring and environmental management. CSC and contractors should follow EMP to carry out environmental minimization measures on site better.

- Recommends CSC carrying out seriously environmental monioring forms and submits these forms to the staff of PMU for the preparation of plans to promtly solve environmental issues as well as incidents.

- Recommends CSC and contractor maintaining and ensuring fully workers' safety condition such as camps. labor protective gears. medical kit on site. etc… subproject PMU should supervise. check and remind contractors to implement those safety condtions.

- IEMC will conduct environmental monitoring phase 5 in April, 2017.

APPENDICES

Appendix 1 – Some environmental issues found out by IEMC during monitoring phase 2016

Đồng Tháp

GMS 2.8 bidding package: Embankment erosion control in Thuong Thoi Tien Town, Dong Thap Province

H1. The concrete mixing station placed near Tien river

Tiền Giang

H1. The runoff water, which appears on construction site of Nguyen Van Con sewer

GMS 2.6 bidding package: Upgrading saline control system of Go Cong region. Tien Giang province

H2. The deep excavating pits without fence and warning signs at construction site of Saliset sewer

H3. Water pipe with no protection by technical box

GMS 2.9. Improvement and upgrading irrigation channels and supply irrigation water for Plain of Reeds

H4. Mud disposal cells without fence

Appendix 2 – Analysis result

- ***Sampling method of surface water sample***

Sampling method of surface water sample bases on Vietnam standards (TCVN) and International Organization for Standardization (ISO), as following:

- TCVN 6663-1:2011 (ISO 5667-2:2006): Sampling technique
- TCVN 6663-3:2003 (ISO 5667-3:1985): Storage and analysis of sample
- TCVN 5994:1995 (ISO 5667-4:1987): Sampling at natural and artificial lakes
- TCVN 6663-6:2008 (ISO 5667-5:2005): Sampling at channel/canal, stream

Some parameters of surface water sample are directly analyzed at field such as pH, Salinity, Electricial conductivity, DO. Surface water samples are taken, stored in bottles and brought to the laboratory for the analysis of remaining parameter.

- ***Sampling method of ground water sample***

Sampling method of ground water sample bases on Vietnam standards (TCVN) and International Organization for Standardization (ISO), as following:

- TCVN 6663-1:2011 (ISO 5667-1:2006): Plans program and sampling technique
- TCVN 6663-3:2008 (ISO 5667-3:2003): Storage and analysis of sample
- TCVN 6663-11:2011 (ISO 5667-11:2009): Ground water sampling

Some parameters of groundwater sample are directly analyzed at field such as pH, Hardness, salinity,TSS, DO. Groundwater samples are taken, stored in bottles and brought to the laboratory for the analysis of remaining parameter.

- ***Sampling method of air sample***

Sampling method of air sample bases on Vietnam standards (TCVN) and International Organization for Standardization (ISO), as following:

- TCVN 7726:2007 (ISO 10498:2004): Measurement, analysis and sampling of SO_2 parameter on the field
- TCVN 5972:1995 (ISO 8186:1989): Measurement, analysis and sampling of CO parameter on the field TCVN 5067:1995: Measurement, analysis and sampling of TSP parameter on the field
- TCVN 6137:2009 (ISO 6768:1998): Measurement, analysis and sampling of NO_2 parameter on the field
- TCVN 7878-1:2008 (ISO 1996-1:2003): Basic parameters and assessment methods
- TCVN 7878-2:2008 (ISO 1996-2:2003): Determination of sound pressure level and assessment methods

Some parameters of air samples are directly analyzed at field such as Dust, Noise, vibration.

- ***Sampling method of mud/soil***

- TCVN 5297:1995 (ISO 1996-2:2003): General technique requirements of mud/soil sampling
- TCVN 7538-2:2005 (ISO 10381-2:2002): Technique of mud/soil sampling
- TCVN 6647:2007 (ISO 11464:2006): Preliminary treatment of mud/soil samples for chemical and physical analysis

Soil/mud samples all are taken, stored in specialized plastic bags and brought to the laboratory for the analysis.

Purpose, monitoring locations and analysis parameters are presented in the following table:

Table 9. Purpose, monitoring locations and analysis parameters

No	Environmental factor	Monitoring location	Parameter	Basis and sampling purpose
I	**GMS 2.6. Upgrading saline control system of Go Cong region, Tien Giang province**			
	Air	3 sampling locations: - K 1: On Highway 50, at the bridge passing over Son Quy ditch (10°23'18"N 106°40'45"E) - K 2: On internal road, in front of Nguyen Van Con sewer (10°21'12"N 106°39'09"E) - K3: On construction area of Salisete sewer and existing road (10°21'15"N 106°41'04"E)	Dust, Noise, vibration, SO_2, NO_2, CO	The number of samples, sampling locations, analysis parameters are based on proposal of EMP and meet Independent environmental monitoring contract signed between VIWASE and CPO Proposed air sampling locations based on characteristics are near construction site of drainage culverts, transport routes and residential area Air sampling is to assess how influence level of construction activities affect air environment and the efficiency of contractor's mitigation measures
	Surface water	4 sampling locations: M1: On Vam Giong- Go Cong ditch, faraway 100m of distance from Nguyen Van Con sewer to the Go Cong town (10°21'14.0"N 106°39'06"E) M2: On Son Quy ditch, faraway 100m of distance from Son Quy sewer to the Go Cong sewer (10°23'15"N 106°40'24"E) M3: On Salieste channel, faraway 100m of distance from Salisete sewer to the Go Cong town (10°21'17"N 106°41'09"E) M4: On Van Rong – Go Cong ditch, at Long Chanh bridge (10°21'41"N 106°40'17"E)	pH, Salinity, Electricial conductivity, DO, BOD_5, COD, NH_4^+ ; NO_2^- ; NO_3^- PO_4^{3-}, Zn, Pb, Hg, Coliform , Oil and grease	The number of samples, sampling locations, analysis parameters are based on proposal of EMP and meet Independent environmental monitoring contract signed between VIWASE and CPO Sampling locations near construction site of drainage culverts, transport routes and near people housing
	Groundwater	3 sampling locations: N1: At Mr.Nguyen Van Tai's hom, new market village, Long Hoa commune, Go Cong town (Nguyen Van Con sewer). (10°21'15"N 106°39'50"E) N2: At Ms.Truong Thi Thoi's home, village 3, ward 5, road 862, Go Cong town (Salisete sewer). (10°21'14"N 106°41'02"E)	pH, Hardness, salinity,TSS, DO, COD, NH_4-N, NO2-N, NO3-N, Cl-, Fe, Zn, As, Ecoli, Coliform.	The number of samples, sampling locations, analysis parameters are based on proposal of EMP and meet Independent environmental monitoring contract signed between VIWASE and CPO Groundwater sampling is to determine how influence levels of construction activties affect groundwaterquality

		N3: At Mr.Tran Thanh Hoa's home, Hoang Gia village, Long Hung commune, Go Cong town (Son Quy sewer). (10°23'14"N 106°40'26"E)		
	Soil/mud	3 sampling locations: Đ1: On Vam Giong- Go Cong ditch, construction area of Nguyen Van Con sewer (10°21'14.0"N 106°39'06"E) Đ2: On Son Quy ditch, construction area of Son Quy sewer (10°23'15"N 106°40'24"E) Đ3: On Salisete channel, construction area of Salisete sewer (10°21'17"N 106°41'09"E)	pHkcl, pH_{H2O}, total soluble salt, Al, Total N, Total P, Zn, Pb, As, Cd	The number of samples, sampling locations, analysis parameters are based on proposal of EMP and meet Independent environmental monitoring contract signed between VIWASE and CPO. During construction, it is necessary to gather dredging mud from channels on construction site. Afterthat, the amount of dredging mud will be made use of leveling. Soil/mud sampling is to assess quality of soil/mud and its influence to the ambient environment during gathering on construction site
II	**GMS 2.7: Construction of flood control system in Ba Rai – Phu An region, Tien Giang province**			
	Air	4sampling locations: - K1: Giong Tre 1 sewer (10°24'40"N 106°05'04"E) - K2: Thong Luu sewer (10°22'12"N 106°03'16.0"E) - K3. Cai La sewer (10°19'51.1"N 106°03'29"E) - K4: Tham Rom sewer (10°22'31.8"N 106°04'56.3"E)	Dust, Noise, vibration, SO_2, NO_2, CO	The number of samples, sampling locations, analysis parameters are based on proposal of EMP and meet Independent environmental monitoring contract signed between VIWASE and CPO Sampling locations near construction site of drainage culverts, transport routes and near residential areas
	Surface water	7 sampling locations: M 1: Giong Tre 1 sewer (10°24'40"N 106°05'04"E) M 2: Rach Giong sewer (10°23'27.2"N 106°03'18.8"E) M 3: Thong Luu sewer (10°22'11"N 106°03'15.9"E) M 4. Cai la sewer (10°19'51.0"N 106°03'28.5"E) M 5: Thay Thanh sewer (10°21'15.4"N 106°04'57."E) M 6: Tham Ram sewer (10°22'31.4"N 106°04'56.2"E) M 7: Lo Lang sewer (10°25'45.3"N 106°06'35.6"E)	pH, Salinity, Electricial conductivity, DO, BOD_5, COD, NH_4^+ ; NO_2^- ; NO_3^- PO_4^{3-}, Zn, Pb, Hg, Coliform , Oil and grease	The number of samples, sampling locations, analysis parameters are based on proposal of EMP and meet Independent environmental monitoring contract signed between VIWASE and CPO. Sampling locations near construction site of drainage culverts, transport routes and near people housing
	Groundwater	4 sampling locations: N1: At Mr.Nguyen Van Be's home, Binh Phu commune (10°23'45.4"N 106°04'42.5"E) N2: At Mr. Tran Ba Loc's home, village 6, Phu An	pH, Hardness, salinity,TSS, DO, COD, NH_4-N, NO2-N, NO3-N, Cl-, Fe, Zn, As, Ecoli,	The number of samples, sampling locations, analysis parameters are based on proposal of EMP and meet Independent environmental monitoring contract signed between VIWASE and CPO

		commune (Rach Giong sewer) (10°23'28"N 106°03'20.3"E) N3: At Mrs. Nguyen Thi Nhi's home, village 1, Cam Son commune (10°22'48.9"N 106°04'21.6"E) N4: At Mrs.Huynh Thi Nhi's home, village Hiep Phu, Hiep Duc commune (Cai La sewer) (10°19'46.9"N 106°03'28.0"E)	Coliform.	Groundwater sampling is to determine how influence levels of construction activties affect groundwater quality
	Soil/mud	4 sampling locations: Đ1: Cai La sewer (10°19'51"N 106°03'29"E) Đ2: Giong Tre 1 sewer (10°24'39"N 106°05'04"E) Đ3: Tham Rom sewer (10°22'31"N 106°04'57"E) Đ4: Rach Giong sewer , village 1, Phu An commune (10°23'27"N 106°03'19"E)	pHkcl, pH_{H2O}, total soluble salt, Al, Total N, Total P, Zn, Pb, As, Cd	The number of samples, sampling locations, analysis parameters are based on proposal of EMP and meet Independent environmental monitoring contract signed between VIWASE and CPO. During construction, it is necessary to gather dredging mud from channels on construction site. Afterthat, the amount of dredging mud will be made use of leveling. Soil/mud sampling is to assess quality of soil/mud and its influence to the ambient environment during gathering on construction site
III	**GMS 2.8. Embankment erosion control in Thuong Thoi Tien Town, Dong Thap Province**			
	Air	3 sampling location: K1: First point of embankment system at Thuong Phuoc 2 commune, Hong Ngu district (10°48'50,9"N 105°13'45,8"E) K2: Tan Chau ferry terminal, Thuong Thoi Tien commune (10°48'10,5"N 105°14'55,2"E) K3: Final point of embankment system, Thuong Thoi Tien (10°48'22,1"N 105°10',4"E)	Dust, Noise, vibration, SO_2, NO_2, CO	The number of samples, sampling locations, analysis parameters are based on proposal of EMP and meet Independent environmental monitoring contract signed between VIWASE and CPO Proposed air sampling locations based on characteristics are near construction site of drainage culverts, transport routes and residential area Air sampling is to assess how influence level of construction activities affect air environment and the efficiency of contractor's mitigation measures
	Surface water	4 sampling location: - M1: First point of embankment system, Thuong Phuoc commune, Hong Ngu district(10°48'55.7"N105°13'49.9"E) - M2: Ngang wharf - Thuong Phuoc commune, Hong Ngu district (10°48'45"N 105°14'10"E) - M3: Tan Chau ferry terminal – Thuong Thoi Tien commune (10°48'24"N 105°14'53")	pH, Salinity, Electricial conductivity, DO, BOD_5, COD, NH_4^+ ; NO_2^- ; NO_3^- PO_4^{3-}, Zn, Pb, Hg, Coliform , Oil and grease	The number of samples, sampling locations, analysis parameters are based on proposal of EMP and meet Independent environmental monitoring contract signed between VIWASE and CPO Sampling locations near construction site of drainage culverts, transport routes and near people housing

		- M4: Final point of embankment system - Thuong Thoi Tien commune (10°48'24"N 105°15'10"E)		
	Groundwater	2 sampling location: N1:Drilling well at Mr.Nguyen Van Dung. Village 3, Thuong Phuoc 2 commune, Ngang wharf, Thuong Thoi Tien town (10°48'47.0"N 105°14'07.5"E) N2: Drilling well at Mr. Nguyen Van Chuc – Thuong Thoi Tien commune, Hong Ngu district (10°48'36.3"N 105°14'53.1"E)	pH, Hardness, salinity,TSS, DO, COD, NH_4-N, NO2-N, NO3-N, Cl-, Fe, Zn, As, Ecoli, Coliform.	The number of samples, sampling locations, analysis parameters are based on proposal of EMP and meet Independent environmental monitoring contract signed between VIWASE and CPO Groundwater sampling is to determine how influence levels of construction activties affect groundwater quality
	Soil/mud	2 sampling location: B1: Near material gathering area of the first point of embankment, Thuong Phuoc 2 commune, Hong Ngu district (10°49'1"N 105°13'54"E) B2: Final point of embankment– Thuong Phuoc Tien commune(10°48'23"N 105°15'10"E)	pHkcl, pH_{H2O}, total soluble salt, Al, Total N, Total P, Zn, Pb, As, Cd	The number of samples, sampling locations, analysis parameters are based on proposal of EMP and meet Independent environmental monitoring contract signed between VIWASE and CPO During construction, it is necessary to gather dredging mud from channels on construction site. Afterthat, the amount of dredging mud will be made use of leveling. Soil/mud sampling is to assess quality of soil/mud and its influence to the ambient environment during gathering on construction site
IV	**GMS 2.9. Improvement and upgrading irrigation channels, and supply irrigation water for Plain of Reeds**			
	Air	3 sampling location: K1: First point of Khang Chien channel connecting to Tan Thanh – Lo Gach channel(10°50'56,3"N 105°22'41,2"E) K2: Wharf of Ngoc Long Son market (first point of Cai Cai channel) (10°54'20"N 105°31'25"E) K3: First point of Provincial Highway 844 connecting to Thong Nhat channel (10°40'57"N 105°29'31"E)	Dust, Noise, vibration, SO_2, NO_2, CO	The number of samples, sampling locations, analysis parameters are based on proposal of EMP and meet Independent environmental monitoring contract signed between VIWASE and CPO Proposed air sampling locations based on characteristics are near construction site of drainage culverts, transport routes and residential area Air sampling is to assess how influence level of construction activities affect air environment and the efficiency of contractor's mitigation measures
	Surface water	14 sampling location: M1: Letfside of Khang Chien channel, faraway 100m of distance from Khang Chien bridge to the downstream(10°50'54"N 105°22'42"E) M2: Letfside of Khang Chien channel,faraway	pH, Salinity, Electricial conductivity, DO, BOD_5, COD, NH_4^+ ; NO_2^- ; NO_3^- PO_4^{3-}, Zn, Pb, Hg, Coliform , Oil and grease	The number of samples, sampling locations, analysis parameters are based on proposal of EMP and meet Independent environmental monitoring contract signed between VIWASE and CPO Sampling locations near construction site of drainage

		100m of distance from An Binh channel to the downstream(10°45'08"N 105°25'36.0"E) M3: Thong Nhat channel, faraway 100m of distance from An Phong channel to the downstream(10°36'50"N 105°29'36"E) M4 Thong Nhat channel connecting to Tan Thanh – Lo Gach channel(10°51'36"N 105°24'06"E) M5: Thong Nhat channel connecting to An Phong – Tan Phuoc channel(10°47'04"N 105°27'01"E) M6: Thong Nhat channel connecting to Thanh Binh – Tam Nong channel(10°39'47.5"N 105°29'44"E) M7: Tan Cong Chi channel connecting to Thanh Lap channel(10°50'06"N 105°27'24"E) M8: Tan Cong Chi channel,Tam Nong general hospital(10°40'35"N 105°33'45"E) M9: Tan Cong Chi channel, the segmentconnecting to Doc Vang Ha channel(10°38'33"N 105°32'23"E) M10: Rightside of Cai Cai channel,faraway 100m of distance from Tan Thanh – Lo Gach channel to the downstream (10°54'21"N 105°31'27"E) M11: Cai Cai channel, the segment connecting to Hồng Ngự-Vĩnh Hưng channel(10°49'53"N 105°35'40"E) M12: Cai Cai channel, the starting point of Tan Thanh A bridge(10°51'31"N 105°33'25"E) M13: Cai Cai channel, it is expected for no.1 mud cell (10°53'58"N 105°31'38"E) M14: Cai Cai channel, segment under the bridge across Cai Cai channel, it is expected for no.4 mud cell(10°51'48"N 105°33'22"E)		culverts, transport routes and near people housing
	Groundwater	8 sampling location: N1: Pumping station at residential area Phu Lam, Phu Thanh B commune (intersection of Kinh Ca No bridge) (10°45'05.5"N 105°25'38.5"E) N2: Water supply station no.755, DT844 street, An Long commune, Tam Nong district(10°41'45"N	pH, Hardness, salinity,TSS, DO, COD, NH_4-N, NO2-N, NO3-N, Cl-, Fe, Zn, As, Ecoli, Coliform.	The number of samples, sampling locations, analysis parameters are based on proposal of EMP and meet Independent environmental monitoring contract signed between VIWASE and CPO Groundwater sampling is to determine how influence levels of construction activties affect groundwater quality.

		105°23'38"E) N3: Mr. Truong Van Xe's home, village 2, An Binh B commune, Hong Ngu district (10°48'40.2"N 105°24'54.3"E) N4: House no.96, K10, Phu Hiep village, Tam Nong district, DT843 street, Dong Thap province (10°45'47.6"N 105°30'27.4"E) N5: Mr. An's home, under footbridge An Phuoc (10°48'55N 105°28'25.0"E) N6: Water supply station, Tra Dam commune, Tan Cong Sinh district(10°41'43"N 105°34'52"E) N7: At the market near Cai Cai channel, faraway 100m of distance from Tan Thanh – Lo Gach channel to the downstream(10°54'19"N 105°31'24"E) N8: Near Cai Cai channel, Anh Dung village, Tan Thanh A commune, Dong Thap province (10°51'25"N105°33'25"E)		
	Soil/mud	<u>12 sampling location:</u> Đ1: Letfside of Khang Chien channel, faraway 100m of distance from Khang Chien bridge to the downstream (10°50'54"N 105°22'42"E) Đ2: Letfside of Khang Chien channel,faraway 100m of distance from An Binh channel to the downstream luru (10°45'07"N 105°25'36"E) Đ3: Thong Nhat channel, faraway 100m of distance from An Phong channel to the downstream (10°36'49.5"N 105°29'36"E) Đ4: Thong Nhat channel connecting to Tan Thanh – Lo Gach channel (10°51'37"N 105°24'05"E) Đ5: Thong Nhat channel connecting to An Phon – Tan Phuoc channel (10°47'04"N 105°27'01"E) Đ6: Thong Nhat channel connecting to Thanh Binh – Tam Nong channel (10°39'47.6"N 105°29'44.7"E) Đ7: Tan Cong Chi channel connecting to Thanh Lap channel(10°50'06"N 105°27'25"E)	pHkcl, pH_{H2O}, total soluble salt, Al, Total N, Total P, Zn, Pb, As, Cd	The number of samples, sampling locations, analysis parameters are based on proposal of EMP and meet Independent environmental monitoring contract signed between VIWASE and CPO During construction, it is necessary to gather dredging mud from channels on construction site. Afterthat, the amount of dredging mud will be made use of leveling. Soil/mud sampling is to assess quality of soil/mud and its influence to the ambient environment during gathering on construction site

		Đ8: Tan Cong Chi channel,Tam Nong general hospital (10°40'35"N 105°33'45"E) Đ9: Tan Cong Chi channel, the segment coonecting to Doc Vang Ha channel (10°38'33"N 105°32'23"E) Đ10: Rightside of Cai Cai channel,faraway 100m of distance from Tan Thanh – Lo Gach channel to the downstream (10°54'19"N 105°31'27"E) Đ11: Cai Cai channel, the segment connecting to Hồng Ngự-Vĩnh Hưng channel (10°49'52.4"N 105°35'40.46"E) Đ12: Cai Cai channel, the segment under Tan Thanh A bridge (10°51'31"N 105°33'24"E)		

Appendix 3 – Environmental monitoring form
Performance Indicators (PI) no 1. Design and preparation

Monitoring date: From…… to…….

	Yes	No	Note
1. Has demining work done before starting construction yet?			
2. Do sub-project's designs meet the technical and healthy safety standards?			
3. Did an approved RP disseminate for affected households/personnel? Have the compensation done yet?			
4. For components relating to sub-project:			
a. Road, embankment, irrigation work, water supply system, the protecting embankment: Did those designs have fully the drainage system for discharge flood?			
5. Did Contractor prepare the approved EMP (on site), which was based on the approved IEE and updated EMP?			
6. Did Contractor publicly announce the nature, level and cost of project?			
7. Did the concrete mixing station place in the safe distance with the households, schools, hospitals and commune agencies?			
8. Did contractor have agreement with the landowners for temporary using land for worker's camps, access road and other temporary facilities?			
9. Were dumps of soil waste selected with the consultation of local authority?			
10. Have official procerdues recorded using excavating land pits and quarry mines?? 11. Did every excavating land pits and quarry mines have recorded official license?			
Point (1-10; total 10)			

Performance Indicators (PI) no 2. Labor regulations

Monitoring date: From…… to…….

	Yes	No	Note
12. Were local authority consulted on planning for the workers camps' location yet?			
13. Were the supervisor or other staffs on site trained about the medical solution in the case of emergence? 14. Was the medical equipment and mannual prepared for worker at site?			
15. Was workers guided about i) medical sanitary measures in camps; ii) how to contact local community; iii) environmental protection measures in sub-project area (such as ban hunting,forest destruction, etc…)			
16. Did Contractor or Inspectorate of the Department of Healthimplement awareness raising programe?			
17. Did contractor provide labor safety equipment such as helmets, silencers, masks, boots and glasses and guide how to use for worker?			
18. Did the camps install clean water system, sanitary toilets, sanitary washing facilities, bins?			
Point (11-16; Total 6)			

Performance Indicators (PI) no 3. Biodiversity

Monitoring date: From…… to…….

	Yes	No	Note
19. Did project avoid encroaching natural forest area? Or did project provide the acess road to protected area?			
20. Did project avoid the disadvantage on water quality and natural flow?			
21. Did the worker's camps place out of forest area? Did Contactor prohibit the workers hunting and?			
22. Did contractor only use the material sources from existing quarry mines or soil pits in project area and was limited tightly?			
23. With the irrigation projects, were the effection of ecosystem in agricultural restricted by management work of intergrated pest?			
Point (17-21; Total 5)			

Performance Indicators (PI) no 4. The community-based-on monitoring

Monitoring date: From…… to…….

	Yes	No	Note
24. Had contractor published a announcement that related to community's complaint?			
25. Had community consultation about construction, environmental impacs and community's complaint system done yet?			
Point (22-23; Total 2)			

Performance Indicators (PI) no 5. Safety and convenience for the community in project area

Monitoring date: From…… to…….

	Yes	No	Note
26. Do the road in neighborhood area provide temporarily when need?			
27. Do the road leading to neigheborhood area are recoveredwhen the construction finish?			
28. Do construction time are adjusted to reduce noise to the residential area, hospital and school?			
29. Do contractor have limit the construction ranger to mitigate impacts to community?			
30. Do physical impacts to public infrastructure in construction process are mitigated?			
31. Was construction material transported on allowable route?			
32. Were construction equipments maintained in good condition?			
33. Were vehices operated correctly by limited speed?			
34. Have material transport vehicles been covered while transporting on the public road?			
35. Are there watering to prevent dust?			
36. Did Contractor install signboards and signal lights near construction area/works on public road?			
37. Was there any prohibition signs at the entrance of site?			
Point (24-35; total 12)			

Performance Indicators (PI) no 6. Water/Hydrological pollution

Monitoring date: From…… to…….

	Yes	No	Note
38. Were worker's camps cleaned?			
39. Were fuel, oil and chemicals stored in project area covered fully (covered and digged drainage dtichs)?			
40. Was untreated domestic wastewater allowed discharging into the cannals?			
41. Were cleanup activities postponed as heavy rain coming?			
42. Did Contractor prevent the concrete trucks dumping surplus concrete into channels?			
43. Were the existing cannals, channels splited by sub-project (in stuation of making road) been remained and maintained during construction process?			
44. Were the interruptions of irrigation and/or water supply to community affected in sub-project be avoided or mitigated?			
45. Have any sedimentation ponds set up to collect wastewater from drainage system?			
Point (36-43; Total 8)			

Appendix 4 – Circulars on environmental monitoring

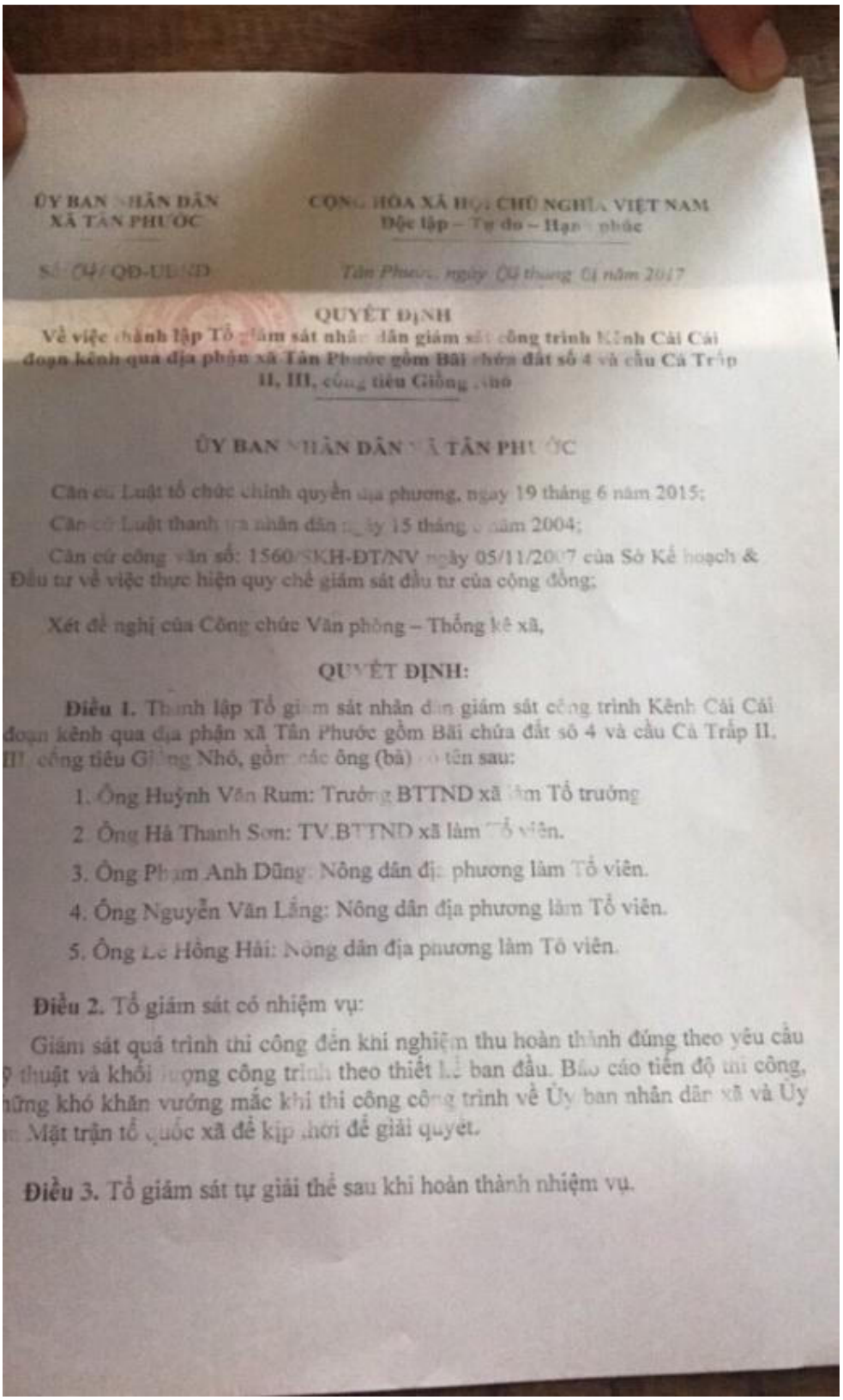
- Circular 28/2011/TT-BTNMT regulated on technical process for monitoring ambient air environment and noisedated 01/August/2011;

- Circular 29/2011/TT-BTNMT regulated on technical process for monitoring continental surface waterđịa dated 01/August/2011;

-Circular 30/2011/TT –BTNMT regulated on technical process for monitoring groundwater dated 01/August/2011;

- Circular 33/2011/TT-BTNMT regulated on technical process for monitoring soil dated 01/August/2011;

Appendix 5: Legal documents



ỦY BAN NHÂN DÂN
XÃ TÂN PHƯỚC

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập – Tự do – Hạnh phúc

Số: 04/ QĐ-UBND

Tân Phước, ngày 09 tháng 01 năm 2017

QUYẾT ĐỊNH

Về việc thành lập Tổ giám sát nhân dân giám sát công trình Kênh Cái Cái đoạn kênh qua địa phận xã Tân Phước gồm Bãi chứa đất số 4 và cầu Cà Trấp II, III, cống tiêu Giồng Nhỏ

ỦY BAN NHÂN DÂN XÃ TÂN PHƯỚC

Căn cứ Luật tổ chức chính quyền địa phương, ngày 19 tháng 6 năm 2015;

Căn cứ Luật thanh tra nhân dân ngày 15 tháng 6 năm 2004;

Căn cứ công văn số: 1560/SKH-ĐT/NV ngày 05/11/2007 của Sở Kế hoạch & Đầu tư về việc thực hiện quy chế giám sát đầu tư của cộng đồng;

Xét đề nghị của Công chức Văn phòng – Thống kê xã,

QUYẾT ĐỊNH:

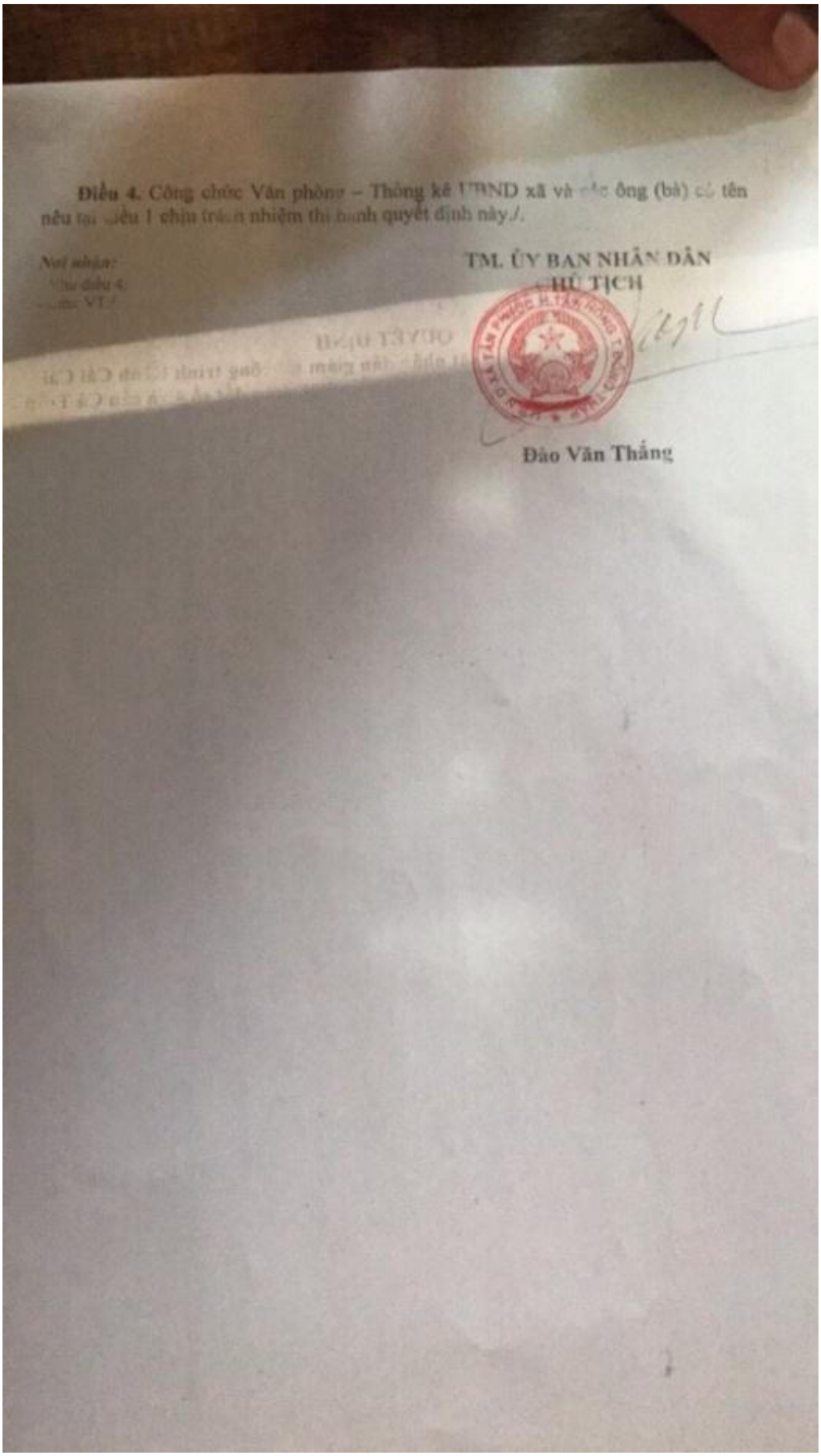
Điều 1. Thành lập Tổ giám sát nhân dân giám sát công trình Kênh Cái Cái đoạn kênh qua địa phận xã Tân Phước gồm Bãi chứa đất số 4 và cầu Cà Trấp II, III, cống tiêu Giồng Nhỏ, gồm các ông (bà) có tên sau:

1. Ông Huỳnh Văn Rum: Trưởng BTTND xã làm Tổ trưởng
2. Ông Hà Thanh Sơn: TV.BTTND xã làm Tổ viên.
3. Ông Phạm Anh Dũng: Nông dân địa phương làm Tổ viên.
4. Ông Nguyễn Văn Lắng: Nông dân địa phương làm Tổ viên.
5. Ông Lê Hồng Hải: Nông dân địa phương làm Tổ viên.

Điều 2. Tổ giám sát có nhiệm vụ:

Giám sát quá trình thi công đến khi nghiệm thu hoàn thành đúng theo yêu cầu kỹ thuật và khối lượng công trình theo thiết kế ban đầu. Báo cáo tiến độ thi công, những khó khăn vướng mắc khi thi công công trình về Ủy ban nhân dân xã và Ủy ban Mặt trận tổ quốc xã để kịp thời để giải quyết.

Điều 3. Tổ giám sát tự giải thể sau khi hoàn thành nhiệm vụ.



Điều 4. Công chức Văn phòng – Thống kê UBND xã và các ông (bà) có tên nêu tại điều 1 chịu trách nhiệm thi hành quyết định này./.

Nơi nhận:
- Như điều 4;
- Lưu: VT./.

TM. ỦY BAN NHÂN DÂN
CHỦ TỊCH

Đào Văn Thắng