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Ref. N° 1247 PAS.CP-P21

Preah Sihanouk Province., September 06th, 2024

Attention: Mr. SANUI KAZUMASA
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Project: Sihanoukville Port New Container Terminal Development Project

Reference: Loan Agreement N° CP-P21 dated 7th August 2017 between the
Royal Government of Cambodia and the Government of Japan.

Subject: Submission of Quarterly Environmental Monitoring Report No. 01
(April-June 2024)

Dear Sir,

With reference to the relevant provisions of Loan Agreement N° CP-P21 dated 21st August 2009 between the Royal Government of Cambodia and the Government of Japan, we, Port Authority of Sihanoukville, would like to submit you the Quarterly Environmental Monitoring Report No. 01 (April-June 2024) of the Sihanoukville Port New Container Terminal Development Project (Phase 1) is enclosed herewith.

Your kind Cooperation and Acknowledgement to the above will be highly appreciated.

Yours sincerely,



LOU KIM CHHUN,
Delegate of the Royal Government of Cambodia
In Charges as Chairman & CEO of PAS

Cc: -Ministry of Environment



**The Royal Government of Cambodia
Port Authority of Sihanoukville (PAS)**



**SIHANOUKVILLE PORT NEW CONTAINER TERMINAL
DEVELOPMENT PROJECT**

JICA ODA LOAN No. CP-P21

QUARTERLY ENVIRONMENTAL MONITORING REPORT

QER-1

FOR CONSULTING SERVICES (CONSTRUCTION SUPERVISION),

CONTRACT No.: 01.PAS.CP-P21



April 2024 – June 2024

NIPPON KOEI



OCGLOBAL

Table of Content

1	OVERVIEW	1
1.1.	On-going Construction Site	1
1.2.	Main Construction Activities	2
1.2.1	Survey Works – Topographic and Hydrographic Survey	2
1.2.2	Soil Investigation	3
1.2.3	New Container Terminal	3
1.2.4	Custom Inspection Yard	3
1.2.5	Access Bridge	3
1.2.6	Access Road	3
1.2.7	Turning Basin	3
1.2.8	Access Channel	3
1.2.9	Disposal Site	4
1.2.10	Temporary Yard	4
1.2.11	Contractor’s and Sub-contractor’s Accommodation	4
2	ENVIRONMENTAL MITIGATION MEASURES	6
2.1.	Water Quality	6
2.2.	Air Quality	6
2.3.	Waste Management	7
2.4.	Noise and Vibration	8
2.5.	Traffic Management	8
2.6.	Social Considerations	8
2.7.	Working Environment and Health	9
2.8.	Communicable Diseases such as HIV/AIDS	9
2.9.	Accident	9
2.10.	Restoration of the Site	10
3	ENVIRONMENTAL MONITORING	10
3.1.	Monitoring Items	10
3.2.	Result of Monitoring	11
3.2.1	Applied Mitigation Measures	11
3.2.2	Result of Water Quality Analysis	16
3.2.3	Result of Environmental Inspection	18
3.3.	Awareness/Training Program	18

List of Tables

Table 1: On-going Operation Sites from April to June 2024	1
Table 2: Number of Workers*	3
Table 3: Activity and Number of Workers*	3
Table 4: Number of Workers* at Temporary Yard	4
Table 5: Number of Workers* at Contractor's and Sub-contractor's Accommodation	5
Table 6: Monitoring Items	10
Table 7: Monitoring Sites for Water Sampling	16
Table 8: Organized awareness/Training Program in April, May and June	19

List of Figures

Figure 1: Project's Activities	2
Figure 2: Project Progress Map by June	2
Figure 3: Contractor's/Sub-contractor's Accommodation	5
Figure 4: Applied Measures in April, May and June	15
Figure 5: Location of the Water Sampling Site	18
Figure 6: Awareness / Training Program in April, May and June	20

Attachment

Attachment 1 JICA MONITORING FORM

1 OVERVIEW

1.1. On-going Construction Site

This report covers the result of environmental monitoring from April to June 2024. On-going operation sites during the reporting period are shown Table 1 and Figure 1. The Project progress map is shown in Figure 2.

Table 1: On-going Operation Sites from April to June 2024

Item No.	Monitoring Site	Working			Remark
		April	May	June	
a). General Works					
1.	Survey Works – Topographic and Hydrographic Survey including Seismic	✓	✓	✓	On-going Internal Survey
2.	Soil Investigation – EGS	✓	✓	✓	Demobilized on 30 June 2024
b). Construction Site					
3.	New Container Terminal	-	-	-	Not commence yet
4.	Custom Inspection Yard	-	-	-	
5.	Access Bridge	-	-	-	
6.	Access Road	-	-	-	
7.	Turning Basin	-	-	-	
8.	Access Channel	-	-	-	
9.	Disposal Site	-	-	-	
c). Temporary Facilities					
10.	Temporary Yard	✓	✓	✓	Commenced on April 2024
11.	Contractor's /Sub Contractor's Accommodation	✓	✓	✓	On-going



Photo 1: Clearance of grass and site in the Temporary Yard in April 2024



Photo 2: Mobilization of equipment for Temporary's Facilities in the Temporary Yard in April 2024

Sihanoukville Port New Container Terminal Development Project
 Quarterly Environmental Monitoring Report QPR-1, April 2024 to June 2024
 Consulting Services (Construction Supervision)



Photo 3: Aerial view at the Contractor's Temporary Yard in April 2024

Photo 4: Aerial view at the Contractor's Temporary Yard in June 2024

Figure 1: Project's Activities

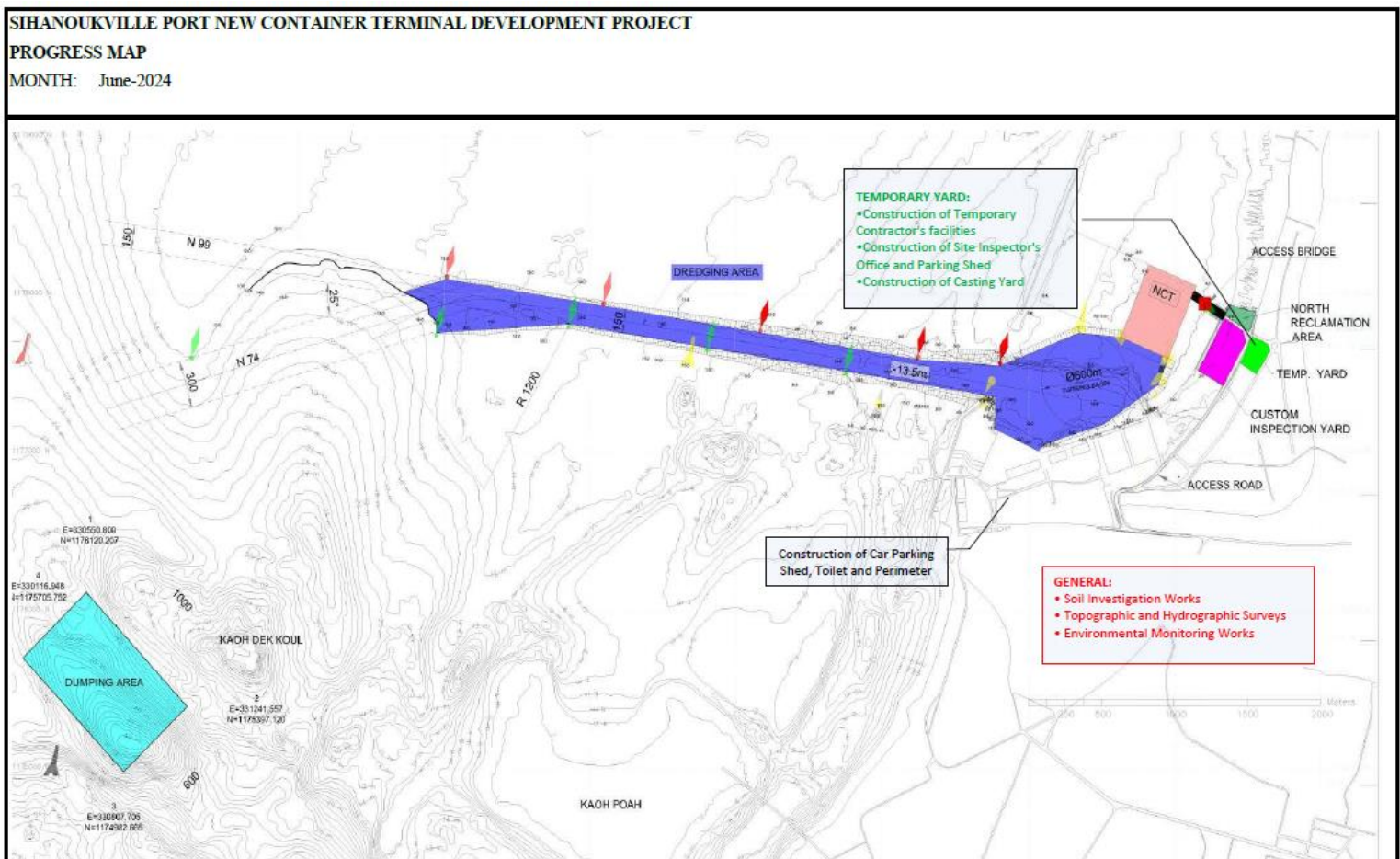


Figure 2: Project Progress Map by June

1.2. Main Construction Activities

During the reporting period, the construction activities were mainly for preparing the upcoming construction such as establishing the Contractor's office, temporary yard and arranging dredger.

1.2.1 Survey Works – Topographic and Hydrographic Survey

(1) Number of Workers

Number of workers during the reporting period is shown in Table 2.

Table 2: Number of Workers*

Number of Workers (Female/Male)	
April and May	June
10 (0/10)	5 (0/5)

Note:

*Number is monthly averaged

(2) Main Activities

-Topographic and hydrographic survey including seismic

1.2.2 Soil Investigation

(1) Number of Workers

Number of the workers during the reporting period is shown in Table 3.

Table 3: Activity and Number of Workers*

Number of Workers (Female/Male)	
April and May	June
18 (1/17)	13 (1/12)

Note:

*Number is monthly averaged

(2) Main Activities

- Exploratory drilling and soil sampling

1.2.3 New Container Terminal

Construction is not yet started.

1.2.4 Custom Inspection Yard

Construction is not yet started.

1.2.5 Access Bridge

Construction is not yet started.

1.2.6 Access Road

Construction is not yet started.

1.2.7 Turning Basin

Construction is not yet started.

1.2.8 Access Channel

Construction is not yet started.

1.2.9 Disposal Site

Construction is not yet started.

1.2.10 Temporary Yard

(1) Number of Workers:

Number of the workers during the reporting period is shown in Table 4.

Table 4: Number of Workers* at Temporary Yard

Number of Workers (Female/Male)	
April and May	June
33 (5/28)	78 (12/66)

Note:

*Number is monthly averaged

**No worker's camp established in the construction site. A house has been rented for worker's accommodation at a 10 minutes' walk from the construction site.

(2) Main Construction Activities:

➤ April & May

- Grading and compaction of Sub-grade
- Spreading, leveling and compaction of Crushed Stone
- Delivery of Reinforcing bar

➤ June

- Contractor's Temporary Yard – Spreading and Compaction
- Construction of Contractor's Office
- Construction of Inspector's office
- Construction of Inspector/Contractor car Parking shed
- Construction of Diesel Oil Storage
- Construction of Temporary Perimeter Fence
- Construction of Motor bike parking
- Construction of Engineer's Facilities

1.2.11 Contractor's and Sub-contractor's Accommodation

(1) Number of Workers: During the reporting period, the Contractor and 3 sub-contractors were in operation. The workers number in each organization were shown in Table 5. The worker's accommodation was prepared by renting houses. No worker's temporary camp is planned to establish. At these rented accommodations, waste water is connected to public drainage system and solid waste is collected by the authorized company regularly.

Table 5: Number of Workers* at Contractor’s and Sub-contractor’s Accommodation

Item No.	Contractor/ Sub-contractors Name	Type of Accommodation	Number of Workers (Female/Male)	
			April & May***	June
1.	Contractor	Worker commuting from their home	23	57
		Worker commuting from worker’s accommodation**	13	44
2.	Kong Vutha	Worker commuting from their home	20	53
		Worker commuting from worker’s accommodation**	18	25
3.	EGS	Worker commuting from their home	0	0
		Worker commuting from worker’s accommodation**	18	18
4.	IESHIMA*	Worker commuting from their home	-	0
		Worker commuting from worker’s accommodation**	-	5
Total number of workers			92	202

* Mobilized on 17 June 2024

**Number is monthly averaged

***No worker’s camp established in the construction site. A house has been rented for worker’s accommodation at a 10 minutes’ walk from the construction site.



Figure 3: Contractor’s/Sub-contractor’s Accommodation

2 ENVIRONMENTAL MITIGATION MEASURES

Based on the Environmental Management Plan (EMP), the Contractor shall implement mitigation measures to avoid or/and minimize any adverse impacts resulting from construction activities on environment.

The following is the mitigation measures in the EMP.

2.1. Water Quality

The impact from dredging, disposal of dredged soil and waste water at the places such as the Contractor's office, the Contractor's camp, laboratory and temporary toilets on water quality shall be monitored.

The following mitigation measures shall be considered;

- Conduct baseline survey to record state of water quality prior to the commencement of any construction activities
- Conduct water quality monitoring throughout construction phase
- Collect waste water from temporary toilet and treat in installing septic tank before discharging to sewer
- Provide proper drainage at the construction site (the Site) and ensure that drains are not blocked by debris or other foreign materials all times to prevent stagnation of water either at the Site or within the port premises due to the construction activities
- Neutralize concrete washing water contains high pH before discharging sewer
- Provide and maintain temporary provisions adequately such as setting ponds, sediment trap, geotextile at installed spillway for reclamation site in order to reduce turbid water flow to surrounding areas
- Check the function of reclamation, soil work and dispersion of soil pollution continually
- Dispose dredged soil at designated dumping site
- Select dredging/dumping equipment taking account for minimizing turbidity
- Install silt fence as required
- Minimize dredging time

2.2. Air Quality

Air pollution is expected mainly from dust and exhaust gas emitted from earthwork, concrete mixing and construction vehicles. Emission of dust and exhaust gas shall be minimized during transporting construction materials and construction activities in applying following mitigation measures;

- Conduct baseline survey to record state of air quality prior to the commencement of any construction activities
- Prepare a method of working and equipment intended to be used on the Site available for inspection and approved by the Engineer before commencement of any works
- Maintain all plant, equipment and vehicles to be used on the Site in good operating condition for not giving rise to excessive exhaust smoke emissions

- Conform to the standards in Sub-decree on Air Pollution and Noise (2000)
- Undertake all times to prevent dust nuisance and excessive exhaust emissions as a result of construction activities
- Spray water when handling material to emit dust
- Load material potential to emit dust not higher than the side and tail boards and cover by a clean tarpaulin
- Spray water on any public road used by vehicles accessing the Site to minimize dust emission
- Provide and maintain wheel and sub-frame cleaning facilities at all vehicles leaving the Site
- Install hoarding to control dust emissions to the operation area of the port where normal activities are being carried out
- Confine haulage and delivery vehicles to designated roadways inside the Site

2.3. Waste Management

Various types of waste are expected to generate from construction works. Construction soil will be generated from site preparation and dredging works. Hazardous waste such as used engine oils and hydraulic fluids are expected to be generated from construction vehicles and equipment. Solid waste such as vegetable waste, bottles, cans, paper will be generated from the Contractor's Office and Camps. Waste management plan to cover all waste type shall be prepared and duly implemented.

The following mitigation measures shall be considered;

- Prepare waste management plan covering all type of waste generated from the project such as construction waste, hazardous waste, vegetable waste, bottles, cans, paper.
- Remove and disposed of all debris from demolition and site preparation works at the designated site
- Provide enough containers on the Site for the temporary storage of solid waste from construction activities
- Separate hazardous and non-hazardous waste
- Provide separate containers for engine oils and hydraulic fluids and store designated place preventing from spillage or leakage and collected by an authorized company regularly
- Collect waste by an authorized company at suitable intervals
- Prohibit on-site incineration of waste
- Educate the workforce on waste management and ensure that no dumping grounds are created within the premises by throwing waste

2.4. Noise and Vibration

Although there is no noise/vibration sensitive area such as hospital or schools in and around the Project site, consideration shall be given along the residential and commercial area of the access road at the time of material delivery and the construction of custom inspection yard or access bridge. The Contractor is required to record the state of noise and vibration level prior to the commencement of any construction activities as baseline and compare the noise or vibration in the construction phase as necessary.

2.5. Traffic Management

The access route for the construction vehicles to the Site is limited and there might some possibility to cause traffic congestion and disturbance to local traffic and residents along road. Therefore, traffic flow shall be well considered when transporting construction materials. In addition, with increase of traffic volume due to construction, risk of traffic accident involving locals will be raised.

The following mitigation measures shall be considered;

- Conduct baseline survey to record state of traffic circulation prior to the commencement of any construction activities
- Prepare traffic management plan to minimize disturbance to local traffic flow and local community and optimize material delivery based on the result of baseline survey
- Re-arrange the traffic management plan according to the daily situation as appropriate
- Prepare temporary schemes of transport routes to minimize the traffic and disturbance to the local population
- Install the road signs in strategic areas near populated areas and hazardous areas at the construction site as necessary
- Maintain road traffic order by fielding traffic men at the areas wherein the construction activity is ongoing
- Install a temporary barricade on the perimeter around the Project Site and provide lighting for the sites prior to evening works
- Provide with pedestrian deck or steel plate for vehicles where it is necessary to cross the open area of excavation or trench.

2.6. Social Considerations

Information dissemination is the key to establish good relationship with neighboring community. The information such as construction location, schedule shall be delivered to local community regularly throughout construction phase. In addition, a grievance desk will be established in PAS and the Contractor's Office for mediate construction related complain by local people.

The following mitigation measures shall be considered;

- Establish a grievance desk in PAS and the Contractor's office for mediating construction related complain by local people
- Prepare brochures on the information of construction area such as location of installed safety buoys, location of the access road used by construction vehicles and schedule of

dredging and disposal of dredged materials and distributed to fishermen, aquaculture producer and residents along the access road via the head of local communities

- Prepare signboards containing the information about the Project, starting and completion date of dredging work for access channel and turning basin inside of breakwater, location of construction work (dredging and disposal work) and contact address of grievance desk installed at jetties

2.7. Working Environment and Health

Due to inflow of construction workers, risk on spreading infectious diseases to the neighbouring community will be raised. Or improper hygiene practice among construction workers creates unhealthy environment. Throughout construction phase, education program on infectious diseases such as COVID 19, Dengue fever, Hepatitis etc. and hygiene practice shall be provided to construction workers constantly. Moreover, first aid outfits and medical staff, sick bay and suitable ambulance service for the Contractor's personnel shall be provided.

The following mitigation measures shall be considered;

- Provide education program on infectious diseases such as COVID 19, Dengue fever, Hepatitis etc. and hygiene practice for construction workers
- Provide first aid outfits at each construction site.
- Provide medical staff, sick bay and suitable ambulance service at the contractor's office

2.8. Communicable Diseases such as HIV/AIDS

Mitigation measures against HIV/AIDS infection will be implemented through awareness program and other educational information in order to reduce the risk of infection among the construction related personnel and workers at the construction sites and the local community as well as promote early diagnosis and to assist affected individuals.

In addition, daily HIV/AIDS clinic service room to be established in the Contractor's site office for providing STI and HIV/AIDS screening, diagnosis, counselling and testing for all construction personnel and workers.

2.9. Accident

In order to reduce the risk of accident resulting from construction activities, the following mitigation measures shall be considered:

- Train the Contractor's Employees on safety regularly
- Restrict a maximum speed of 8 km per hour on the Site and 20 km passing access road
- Distribute information on construction work to fishermen, aquaculture who travel access channel and residents along the access road
- Provide secure storage facilities which is designed for the prevention of spillage or leakage into surface water or soil for all Hazardous Substances and chemicals to be used on the Site
- Install marker buoy in dredging area, reclamation area and disposal area
- Navigate vessels for construction material transportation safety

2.10. Restoration of the Site

During the construction phase, structures such as the Contractor’s office, stockyard and workshop will be constructed at the temporarily borrowed area. Unless otherwise specified by the Employer, these areas shall be reinstated to the original state as much as practical upon the Taking-Over of the Works by the Employer. Demobilization shall include dismantling and removal of all temporary buildings, structures and utilities.

The following mitigation measures shall be considered:

- Take responsible for compensating any damages caused to property resulting from construction works.
- Reinstatement all areas of land used or occupied by the Contractor for the temporary works to the original features as much as practical upon the Taking-Over of the Work by the Employer.

3 ENVIRONMENTAL MONITORING

3.1. Monitoring Items

The environmental monitoring comprised of water quality monitoring and compliance monitoring.

The monitoring items, location, parameters and frequency are summarized in Table 6. Item 3 to Item 12 will be carried out as compliance monitoring monthly.

Table 6: Monitoring Items

Monitoring Item		Locations	Parameters	Frequency
1.	Water Quality 1	1. Spillway at Reclamation site 2. Inside of Breaking Water 3. Dredging Basin 4. Dredging Channel 5. Disposal site	Turbidity (NTU)	Every working day at 1, 2., 3., 4. and 5.
2.	Water Quality 2	1. Inside of Breaking Water 2. Dredging Basin 3. Dredging Channel 4. Batching Plant	1.2.3. pH, COD, DO, BOD ⁵ , Cr ⁵⁺ , T-N, T-P, Oil and Greases, Coliform Bacteria 4.pH only	Once in dry and rainy season in a year throughout construction phase except Batching Plant (monthly)
3.	Air quality	1. Access road to the new container terminal 2. Check the condition of all plant, equipment and vehicles to be used on the Site by using daily maintenance checklist	1. Visual Inspection 2. Visual Inspection, Record of daily maintenance checklist	Daily
4.	Waste Management	1. the Contractor’s Office/Laboratory 2. the Contractor’s Accommodations 3. Construction sites	Visual Inspection	Monthly
5.	Traffic Management	1. Commercial area along the access road 2. Along national road No.4 near Gate	Check the Traffic Management Plan, Visual Inspection, Record of training on traffic safety to drivers	Monthly
6.	Social Considerations	Neighboring community including fishermen	Record of information dissemination activities on construction schedule, location	As Appropriate

Sihanoukville Port New Container Terminal Development Project
 Quarterly Environmental Monitoring Report QPR-1, April 2024 to June 2024
 Consulting Services (Construction Supervision)

Monitoring Item		Locations	Parameters	Frequency
7.	Hygiene Practice	1. the Contractor's Office/Laboratory 2. the Contractor's Accommodations	Visual Inspection	Monthly
8.	Health Management	the Contractor's Office (Clinic)	Record of patient	Monthly
9.	HIV/AIDS	All construction personnel	Record of program	Once in 6 Months
10.	Accident	1. Stockyard 2. All construction sites	1. Record of inventory of all Hazardous Substances and Chemicals stored at the Site 2. Record of accident, Record of training	Monthly
11.	Safety navigation for fisherman	Construction sites (offshore)	Status of safety navigation for construction vessels	Every day
12.	Restoration of the Site	Temporary borrowed land	Visual inspection	On completion of construction activities

3.2. Result of Monitoring

3.2.1 Applied Mitigation Measures

The following is the main mitigation measures applied by the Contractor during the reporting period. Photos taken these mitigation activities are shown in Figure below. The result of environmental management during the reporting period is summarized in Attachment 1 JICA MONITORING FORM.

- **Anti-Pollution**

- Conduct baseline survey to record state of water quality, seabed quality, air quality, noise and vibration, traffic account in dry season (April and May 2024) (Photo 1 and 2) prior to the commencement of any construction activities.
- Water quality at batching plant. The Contractor contacted with Chip Mong Concrete Mixing Plant as a concrete supplier. Chip Mong Concrete Mixing Plant has existing waste water treatment. Non-treated wastewater was discharged because those treated wastewater were reused to clean the ball truck of mixing truck (Photo 3 and Photo 4).
- Spray water to control dust twice or more in a day under the dry weather (Photo 5) and regular air quality inspection via visual inspection (Photo 6)
- Check the construction vehicles regularly
- Segregate waste into domestic waste (Photo 7), recyclable waste (cans, glasses, plastic waste, paper) (Photo 8) and hazardous waste (Photo 9) at the collecting in the construction sites and transported to the dumping site of local authority by the Contractor once in a month (Photo 10). All of these wastes are collected regularly by KSWM Co., Ltd (Authorized Disposal Company of Port Authority of Sihanoukville – PAS) and disposed of regularly from Monday to Saturday at the dumping site. The waste dumping site of KSWM is located in O Ta Sek Village, O Oknha Heng Commune, Prey Nob District, Preah Sihanouk Province and the contract made between the PAS and KSWM Co., Ltd.
- Maintain construction equipment (Photo 11)

- Complete the soil investigation on 27 June 2024: The Sub-contractor EGS collected all the remaining Bentonite bags and properly sealed them in black plastic to bring back to Vietnam, also the excess hazardous liquid (Sinopec) and empty plastic container were brought back to Vietnam (Photo 12).
- **Health and Sanitation**
 - Keep the site and temporary facilities clean and tidy (Photo 13)
 - Prepare first aid kit at the Contractor's office and resting place (Photo 14)
 - Organize awareness training/program on HIV/AIDS, anti-pollutions (see 3.3 Awareness/Training Program)
 - Station a full-time nurse and medical aide at the clinic established in the Contractor's office for taking care of all construction personnel. The clinic open while operating construction works throughout the construction phase. Patients treated at the clinic was 55 in June 2024. No record of patients in April and May.
- **Accident.**
 - No record of accident until the end of June 2024
- **Traffic Management**
 - Continue monitor the traffic condition. Monitoring was observed at two different times; weekdays and weekends in two locations (T1 – at commercial area near the construction site and T2 – along National Road 4 next to gate 3)
 - At the evening of weekdays, at T2, the traffic is busy.
 - On weekend, at T1, the traffic is moderate traffic jam because of an increase in vehicles numbers of people coming in and out for weekend.
 - Train a flagman on how to control the traffic during busy time (Photo 15)
- **Social Considerations**
 - 4 signboards for the local community are under fabrication and will be installed in July 2024.
 - Distribute a Brochures (in Khmer Language) on 29 June 2024 to help people understand the project activities and share opinions and requests on the project in the meeting (Photo 16)
 - No complaint from fishermen regarding Soil Investigation and Dredging works in the area of the New Container Terminal
- **Restoration the Site:**
 - It is not applicable since the construction activity is not yet commenced. The Photo 17 shows the overview of temporary yard before construction that will be kept as reference record for evaluating the state of restoration at the time of construct completion.



Photo 1: Water sampling activity at Proposed Container Basin (W4) in April 2024

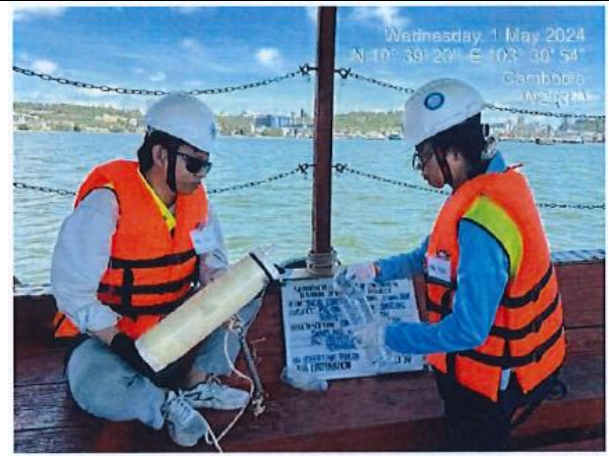


Photo 2: Water sampling activity at Proposed Container Terminal (W2) in May 2024



Photo 3: Mixer Truck Cleaning of Ball Drum and Chute at Chip Mong Concrete Mixing Plant in May 2024



Photo 4: Provisional Tank for Contaminated Water at Chip Mong Concrete Mixing Plant in May 2024



Photo 5: Grading, Compaction, and Watering at Temporary Yard in April 2024



Photo 6: Air Quality Monitoring at Commercial access road in May 2024



Photo 7: Waste bins and separated waste by type at Construction Yard in May 2024



Photo 8: Segregated Carton was handled to vendor for recycle in May 2024



Photo 9: Hazardous Waste Handling (Sinopec – Hydraulic Oil) in May 2024

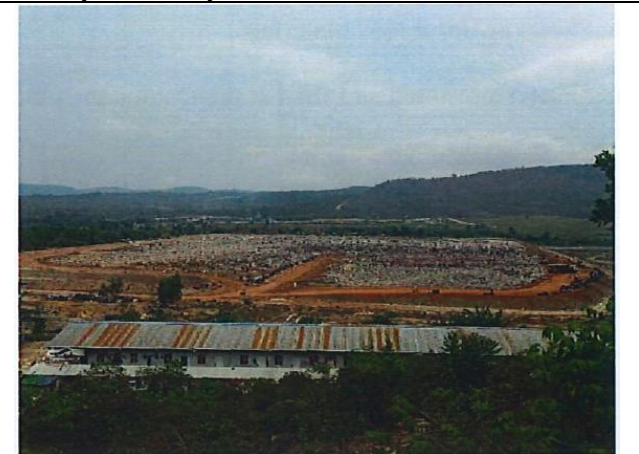


Photo 10: Disposal Area at Prey Nob District, Kampong Som Province in May 2024



Photo 11: Inspection of Construction Equipment at the Contractor's Office in May 2024



Photo 12: Bentonite Bag in Sealed Black Plastic in June 2024



Photo 13: Lavatory at the Temporary Yard in May 2024



Photo 14: Inspection of First Aid Kits kept at Sub-contractor Site in May



Photo 15: On-site Flagman Awareness Training at Temporary Yard in May 2024



Photo 16: Distributing Brochures on Project Information in June 2024



Photo 17: Aerial Photos of Temporary Yard before Construction in March 2024



Figure 4: Applied Measures in April, May and June

3.2.2 Result of Water Quality Analysis

(1) Monitoring Sites and Parameters

There are two purposes for conducting water sampling. One is to monitor the impact on water quality resulting from the construction activities such as dredging works in and around dredging area (Item No.1 to No.5 in Table below). Another purpose is to monitor the quality of treated waste water at the discharge point. (Item No. 6 and No.7 in Table below).

The water is sampled at the designated site and analysed either on the spot or at the Laboratory of Ministry of Environment.

Table below shows the designated sites for water quality monitoring with required monitoring parameters. The location of each sampling site is shown in Figure below.

Table 7: Monitoring Sites for Water Sampling

Item	No. in the Location Map	Monitoring Site	Required Parameters	Water Sampled			Remarks
				April	May	June	
1.	W2	New Container Terminal/Spillway	Turbidity	-	-	-	<ul style="list-style-type: none"> - Every 6 hours during any construction activities in and around New Container Terminal construction site, - 200m and 500m from discharge point of Spillway
2.	W 3	Inside of Breaking Water near Aquaculture Area	Turbidity Water Temperature °C Salinity % Total Suspended Solids (TSS) mg/l pH Value at Ambient Temperature Biochemical Oxygen Demand (BOD ₅) mg/l Dissolved Oxygen (DO) mg/l Chemical Oxygen Demand (COD), mg/l, Total Nitrogen (T-N) mg/l Total Phosphorus (T-P) mg/l Oils and Greases, mg/l Coliform Bacteria	-	-	-	<ul style="list-style-type: none"> - Every 6 hours during operating construction activities - Once in Dry and Rainy Season
3.	W 4	Dredging Basin	Turbidity Water Temperature °C Salinity % Total Suspended Solids (TSS) mg/l pH Value at Ambient Temperature Biochemical Oxygen Demand (BOD ₅) mg/l Dissolved Oxygen (DO) mg/l Chemical Oxygen Demand (COD), mg/l, Total Nitrogen (T-N) mg/l Total Phosphorus (T-P) mg/l Oils and Greases, mg/l	-	-	-	<ul style="list-style-type: none"> - Every 6 hours during dredging - 100m,500m, 1,000m from dredging point - Once in Dry and Rainy Season

Sihanoukville Port New Container Terminal Development Project
 Quarterly Environmental Monitoring Report QPR-1, April 2024 to June 2024
 Consulting Services (Construction Supervision)

Item	No. in the Location Map	Monitoring Site	Required Parameters	Water Sampled			Remarks
				April	May	June	
			Coliform Bacteria				
4.	W 5	Dredging Channel	Turbidity Water Temperature °C Salinity % Total Suspended Solids (TSS) mg/l pH Value at Ambient Temperature Biochemical Oxygen Demand (BOD ₅) mg/l Dissolved Oxygen (DO) mg/l Chemical Oxygen Demand (COD), mg/l, Total Nitrogen (T-N) mg/l Total Phosphorus (T-P) mg/l Oils and Greases, mg/l Coliform Bacteria	-	-	-	Every 6 hours during dredging Once in Dry and Rainy Season
5.	W 6	Diposal Site	Turbidity Water Temperature °C Salinity % Total Suspended Solids (TSS) mg/l pH Value at Ambient Temperature Biochemical Oxygen Demand (BOD ₅) mg/l Dissolved Oxygen (DO) mg/l Chemical Oxygen Demand (COD), mg/l, Total Nitrogen (T-N) mg/l Total Phosphorus (T-P) mg/l Oils and Greases, mg/l Coliform Bacteria	-	-	-	Every 6 hours during dredging Once in Dry and Rainy Season
6.	W7	Batching Plant	pH	-	-	-	As required
7.	W8	Laboratory	pH	-	-	-	Monthly

Note:

1. Water sampling at **W1** Near Residential Area was conducted in the pre-construction phase as a baseline survey
2. Batching Plant belongs to the private company called “Chip Mong Company”.

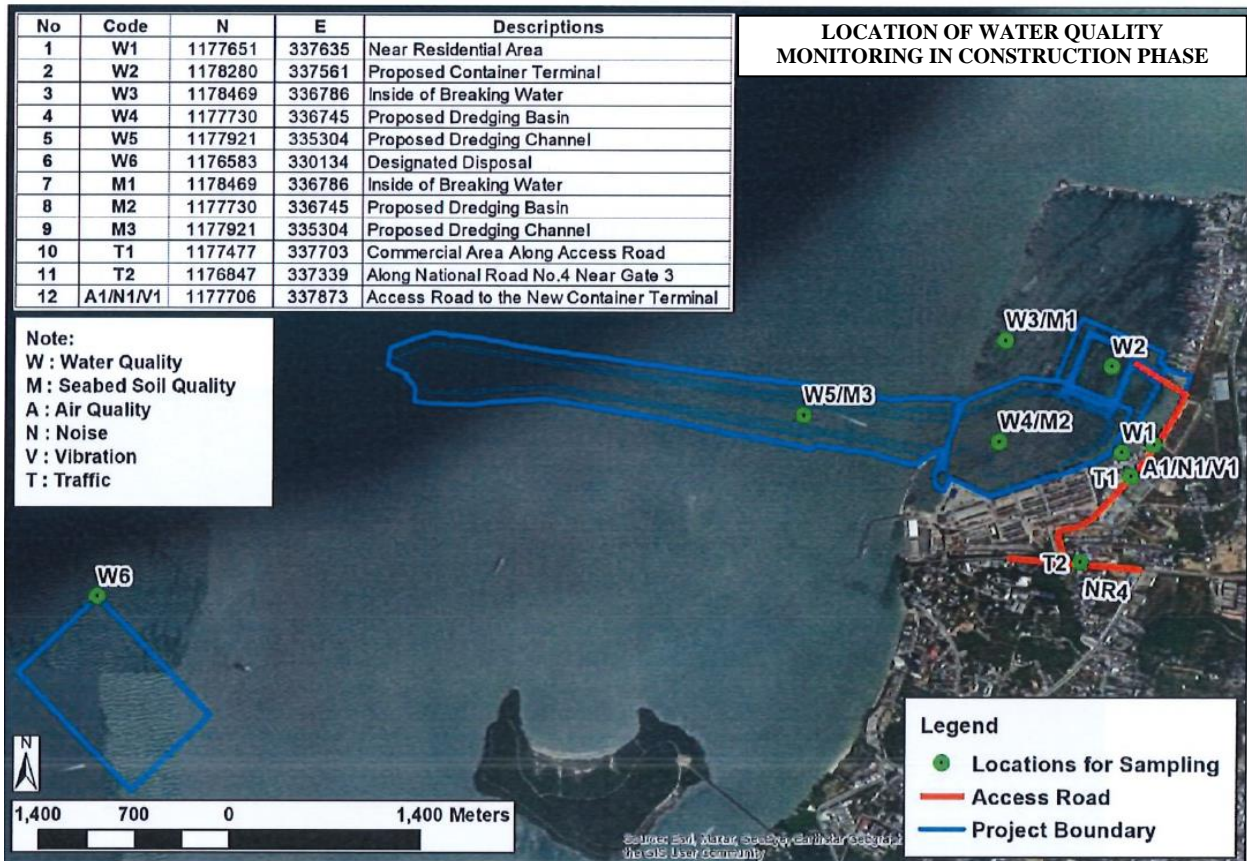


Figure 5: Location of the Water Sampling Site

(2) Result of Water Quality Analysis

No water sampling was conducted during the reporting period.

3.2.3 Result of Environmental Inspection

The environmental inspection was not conducted since there was no on-going construction site during the reporting period.

3.3. Awareness/Training Program

HIV/AIDS awareness program/training is required to organize for the Contractor’s employees in every 6 months. The first HIV/AIDS Awareness/Training Program was organized in 5 June 2024 for TOA Staff which was lectured by Dr. Im Sarun, Sun Shine Organization. The HIV/AIDS internal training was conducted by medical team of TOA on June.

Apart from the HIV/AIDS awareness/training program, the awareness programs on anti-pollution and environmental protection were organized several times in this period. The content of the Awareness/Training Programs organized in this period is shown in Table below.

The photos taken at the Awareness/Training Program are shown in Figure 6.

Sihanoukville Port New Container Terminal Development Project
 Quarterly Environmental Monitoring Report QPR-1, April 2024 to June 2024
 Consulting Services (Construction Supervision)

Health and Safety training was conducted by Health and Safety team and recorded in Monthly Project Progress of each month.

Table 8: Organized awareness/Training Program in April, May and June

Date	Location	Topic	Number of Participants	Lectured by
April 01	TOA (Contractor) Site Office	Environmental Induction – EGS team	06	By Environment Team of TOA
April 05	TOA (Contractor) Site Office	Environmental Induction – MoE	02	
April 20	Contractor’s Temporary Yard	Environmental Induction – Kong Vutha	18	
April 20	Contractor’s Site office	Environmental Induction – Kong Vutha	08	
April 22	Contractor’s Site Office	Environmental Induction – Kong Vutha	04	
April 23	Contractor’s Site Office	Environmental Induction – Kong Vutha	02	
April 29	Contractor’s Site Office	Environmental Induction – Key Consultant Cambodia (KCC)	04	
April 29	Contractor’s Site Office	Environmental Induction – Key Consultant Cambodia (KCC)	06	
May 02	Contractor’s Site Office	Environmental Induction – Key Consultant Cambodia (KCC)	12	
May 08	Contractor’s Site Office	Environmental Induction – EGS team	18	
June 10	Contractor’s Site Office	Environmental Induction Induction on Newly Hired Personnel of Kong Vutha	14	
June 11	Contractor’s Temporary Yard	Environmental Induction Re-induction on deployed Personnel of Kong Vutha on waste segregation	It’s re-fresh training.	
June 12	Contractor’s Site Office	Environmental Induction Induction on Newly Hired Personnel of Kong Vutha	03	By Environment Team of TOA
June 15	Contractor’s Site Office	Environmental Induction Induction on Newly Hired Personnel of Kong Vutha	05	
June 19	Contractor’s Site Office	Environmental Induction Induction on Newly Hired Personnel of Kong Vutha	05	
June 24	Contractor’s Site Office	Environmental Induction Induction on Newly Hired Personnel of Kong Vutha	07	
June 27	Contractor’s Site Office	Environmental Induction Induction on Newly Hired Personnel of Chip Mong Driver	14	
June 29	Contractor’s Site Office	Environmental Induction – IESHIMA	05	
June 5	TOA (Contractor) Site Office	STD&HIV/AIDS Prevention & Awareness Programme	43	
June 20	Jetty	SID & HIV/AIDS Education and Condom Distribution – TOA Boat Operator	7	Medical Nurse of TOA
April – June	In Project Site	On-site Flagman Awareness	2	By Safety and Medical Staffs of TOA in cooperate with Sun Shine Clinic
		Incident/Accident Reporting	13	
		Risk Assessment Awareness	4	
		First Aid Training	11	
		Emergency Communication Network (Table Top Drill)	7	
		CPR/AED Training – Learn to Use an AED	2	
		Defensive Driving	20	
		Signal man training	6	
		Boat Safe Transfer	7	



Photo 1: STD&HIV/AIDS Training of TOA Staff
– Photo Taken on 5 June 2024



Photo 2: STD & HIV/AIDS Training for TOA
Boat Operator – Photo Taken on 20 June 2024



Photo 3: Incident/Accident Training – Photo
Taken on 12 June 2024



Photo 4: First Aid Training/CPR/AED Training –
Photo Taken on 17 June 2024

Figure 6: Awareness / Training Program in April, May and June

Attachment 1

JICA MONITORING FORM

MONITORING FORM

Period: between April and June, 2024

Monitored by: Mayumi GOTO (Environmental Specialist)

1. Responses/Actions to Comments and Guidance from Government Authorities and the Public

Monitoring item	Monitoring results during report period
Responses/Actions to Comments and Guidance from Government Authorities	None

2. Mitigation Measures

Monitoring Location:

Location		On-going Construction Site		
		April	May	June
1	New Container Terminal	-	-	-
2	Custom Inspection Yard	-	-	-
3	Access Bridge	-	-	-
4	Access Road	✓	✓	✓
5	Turning Basin	-	-	-
6	Access Channel	-	-	-
7	Disposal Site	-	-	-
8	Temporary Yard/Laboratory/Clinic	✓	✓	✓
9	Contractor's/Sub-contractor's Accommodation	✓	✓	✓

Note: *No worker's camp established. The Contractor as well as the Sub-contractor are rented houses for their personnel.

**There is no road construction for accessing to the sites. The construction vehicles use existing road to the construction sites.

[Construction Phase]

- Air Quality (Emission Gas / Ambient Air Quality)

Monitoring item	Measure-ment point	Monitoring Frequency	Implementation Schedule	Monitoring result during report period
Maintain vehicles in good condition	8	Everyday	Throughout construction stage	Confirmed Condition of construction vehicles were checked regularly based on the check sheet
Sprinkle water to control dust	1,2,4,8	Everyday	Throughout construction stage	Confirmed Water was sprayed twice or more in a day under dry weather at the temporary yard where the temporary facilities such as the Contractor's office, workshop were under construction.
Cover load-carrying platform properly when carrying fine construction materials or earth/sand	4	Everyday	Throughout construction stage	Confirmed

- Water Quality

Monitoring item	Measure-ment point	Monitoring Frequency	Implementation Schedule	Monitoring result during the report period
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Sihanoukville Port New Container Terminal Development Project
 Quarterly Environmental Monitoring Report QPR-1, April 2024 to June 2024
 Consulting Services (Construction Supervision)

Monitoring item	Measurement point	Monitoring Frequency	Implementation Schedule	Monitoring result during the report period
Apply counter measures on controlling pH as appropriate	8	Monthly	Throughout construction stage	Not applicable during the reporting period
Apply provisions on protection from water pollution such as sediment traps, silt traps at the spillway	1, 2	Monthly	Throughout construction stage	Not applicable during the reporting period
Apply provisions on protection from soil erosion such as management of excavated soil (keep the stock piled excavated soil moist or cover during dry season, dump excess soil to the designated place etc.) as appropriate	1.2	Monthly	Throughout construction stage	Not applicable during the reporting period

- Water Sampling

Item	Unit	Measured Value			Country's Standards*	Remarks (Measurement Frequency, Method, etc.)
		Apr	May	Jun		
Turbidity	W2 New Container Terminal/Spillway	NTU	-	-	<+5 NTU	No sampling
	W3 Inside of Break Water		-	-		No sampling
	W4 Dredging Basin		-	-		No sampling
	W5 Dredging Channel		-	-		No sampling
	W6 Disposal Site		-	-		No sampling
pH	W8 Laboratory	mg/l	-	-	<9	No sampling
TSS**	W2 New Container Terminal/Spillway	mg/l	-	-	<80	To be sampled once in dry and rainy season in a year throughout construction works Next sampling is planned to be conducted in April, 2025
	W3 Inside of Break Water		-	-		
	W4 Dredging Basin		-	-		
	W5 Dredging Channel		-	-		
	W6 Disposal Site		-	-		
pH**	W2 New Container Terminal/Spillway	mg/l	-	-	7.0-8.3	
	W3 Inside of Break Water		-	-		
	W4 Dredging Basin		-	-		
	W5 Dredging Channel		-	-		
	W6 Disposal Site		-	-		
BOD5**	W2 New Container Terminal/Spillway	mg/l	-	-	<80	
	W3 Inside of Break Water		-	-		
	W4 Dredging Basin		-	-		
	W5 Dredging Channel		-	-		
	W6 Disposal Site		-	-		
COD**	W2 New Container Terminal/Spillway	mg/l	-	-	2-8	
	W3 Inside of Break Water		-	-		
	W4 Dredging Basin		-	-		
	W5 Dredging Channel		-	-		
	W6 Disposal Site		-	-		
T-N**	W2 New Container Terminal/Spillway	mg/l	-	-	0.2-1.0	
	W3 Inside of Break Water		-	-		
	W4 Dredging Basin		-	-		
	W5 Dredging Channel		-	-		
	W6 Disposal Site		-	-		
T-P**	W2 New Container Terminal/Spillway	mg/l	-	-	0.02-0.9	
	W3 Inside of Break Water		-	-		
	W4 Dredging Basin		-	-		
	W5 Dredging Channel		-	-		
	W6 Disposal Site		-	-		

Sihanoukville Port New Container Terminal Development Project
 Quarterly Environmental Monitoring Report QPR-1, April 2024 to June 2024
 Consulting Services (Construction Supervision)

Item	Unit	Measured Value			Country's Standards*	Remarks (Measurement Point, Frequency, Method, etc.)
		Apr	May	Jun		
Oils and Greases**	W2 New Container Terminal/Spillway	mg/l	-	-	-	<15.0
	W3 Inside of Break Water		-	-	-	
	W4 Dredging Basin		-	-	-	
	W5 Dredging Channel		-	-	-	
	W6 Disposal Site		-	-	-	
Coliform Bacteria**	W2 New Container Terminal/Spillway	<1000	-	-	-	MPN/100ml
	W3 Inside of Break Water		-	-	-	
	W4 Dredging Basin		-	-	-	
	W5 Dredging Channel		-	-	-	
	W6 Disposal Site		-	-	-	

Note: **No national standard: Result at W3 Inside of Break Water at Baseline Survey +5NTU to be set as the standard

- Waste

Monitoring item	Measurement point	Frequency	Implementation phase	Monitoring result during report period
Install waste baskets	1	Monthly	Throughout construction stage	Not applicable
	2			Not applicable
	3			Not applicable
	8			Confirmed
	9			Confirmed
Make an arrangement to sort out recyclable waste such as paper, cans, thins, bottles, cardboard and non-recyclable waste	8	Monthly	Throughout construction stage	Confirmed
	9			Waste was collected and transported to the authorized dumping sites regularly Recyclable waste was collected separately and sold to the waste collector
Store hazardous waste separately and collect by the authorized agency	8	Monthly	Throughout construction stage	Not Confirmed Storage space need install roof and discharge point
Remove all surplus material and left in a clean and tidy condition after completion	8	At the completion of the construction		Not applicable during the reporting period

- Traffic Management

Monitoring item	Measurement point	Frequency	Implementation phase	Monitoring result during report period
On the day-to-day traffic condition to be reflected on the traffic management plan	4	Monthly	Throughout construction stage	Confirmed

- Safety Navigation

Monitoring item	Measurement point	Frequency	Implementation phase	Monitoring result during report period
Vessels navigated for construction material transportation safety	1,3,5,6	Monthly	Throughout construction stage	Confirmed
Safety buoys installed to prevent the entrance of fishery boat to construction area	1,3,5,6	Monthly	Throughout construction stage	Confirmed

Sihanoukville Port New Container Terminal Development Project
 Quarterly Environmental Monitoring Report QPR-1, April 2024 to June 2024
 Consulting Services (Construction Supervision)

- Health and Hygiene

Monitoring item	Measurement point	Frequency	Implementation phase	Monitoring result during report period
Keep the site and temporary facilities clean and tidy	1,2,8	Monthly	Throughout construction stage	Confirmed
Install first aid kits in place	1,2,5,6,8,9	Monthly	Throughout construction stage	Confirmed
Education on health to the Contractor's employees regularly	8	Monthly	Throughout construction stage	Confirmed

- Communal Diseases

Monitoring item	Measurement point	Frequency	Implementation phase	Monitoring result during report period
Awareness/Training on HIV/AIDS provided to the Contractor's employees	Record of training	Every 6 months	Throughout construction stage	Confirmed HIV/AIDS awareness program will be conducted in July

-Accident

Monitoring item	Measurement point	Frequency	Implementation phase	Monitoring result during report period
Train the Contractor's employees on safety regularly	Record of accident	Monthly	Throughout construction stage	Confirmed No accidents reported

-Social Considerations

Monitoring item	Measurement point	Frequency	Implementation phase	Monitoring result during report period
Brochures on the information of construction area prepared and distributed via the head of local communities to fishermen, fish farms and residents along the access road	Record of distribution	Quarterly	Throughout construction stage	Confirmed Brochures on the information of construction such as location of dredging area and period were delivered to locals at the office of local community Signboards containing the information of the project location, dredging period and location will be installed at 4 locations around the Project area
Updated dredging schedule to be informed to the chief of nonboring communities constantly via SNS	Record of communication	Whenever updated the schedule	Throughout construction stage	Under preparation