

Environmental and Social Monitoring Report

Semi-Annual Report (July to December 2019)

June 2020

VIE: WATER SECTOR INVESTMENT PROGRAM – TRANCHE 3

CUA LO TOWN WATER SUPPLY SYSTEM ENHANCEMENT AND EXPANSION PROJECT, NGHE AN PROVINCE

Prepared by Cua Lo Water Supply Joint Stock Company for the Provincial People's Committee of Nghe An Province and the Asian Development Bank

**CUA LO TOWN WATER SUPPLY SYSTEM ENHANCEMENT AND
EXPANSION PROJECT, NGHE AN PROVINCE**

LOAN ADB No.3251-VIE

REPORT ON PERIODIC SOCIO-ENVIRONMENTAL MONITORING

Phase: from 01st July 2019 to 31st December 2019



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Phase: from 01st July 2019 to 31st December 2019

CONTRACT NO: CL-CS 2
PACKAGE: CONSTRUCTION SUPERVISION
PROJECT: CUA LO WATER SUPPLY SYSTEM UPGRADING
AND EXPANDINGPROJECT

| | |
|-------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
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| For and on behalf of Team Leader: | Environmental specialist  |
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ABBREVIATIONS

| | |
|-------|-----------------------------------------------|
| ADB | Asian Development Bank |
| CEMP | Community Environmental Management Plan |
| CSC | Construction Supervision Consultants |
| EMC | Environmental Monitoring Consultant |
| EMP | Environmental Management Plan |
| SEMP | Site Environmental Management Plan |
| GAP | Gender Action Plan |
| GRM | Grievance Redress Mechanism |
| IEE | Initial Environmental Examination |
| JSC | Joint Stock Company |
| MONRE | Ministry of Natural Resources and Environment |
| PIC | Project Implementation Consultant |
| PPC | Provincial People's Committee |
| PMU | Project Management Unit |
| RP | Resettlement Plan |

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1 Introduction and Project Overview

1. Cua Lo Water Supply System Upgrading and Expanding project has a total project investment estimated about USD 16,096,000. Of which ADB loan is USD 13,190,000 and the counterpart fund of Nghe An Provincial People's Committee (PPC) is USD 2,906,000.

2. The Project comprises of 3 following components:

NA-CL-CW1 / ICB contract dated June 12, 2017 between Cua Lo Water Supply Joint Stock Company and Joint Venture of Ha Huy Joint Stock Company, Vietnam Water and Environment Investment Corporation-Vietnam Construction Joint Stock Company build number 12.

- Construction of Nghi Hoa water supply plant in Nghi Hoa commune, Nghi Loc district with capacity 10,000 m³/day connected with existing WTP capacity 3,000 m³/day to reach 13,000 m³/day in 2020. Raw water is taken from Phuong Tich river. Main categories of the project are: Intake works, reservoir, raw water pumping station, treatment plant, water tank, secondary pumping station, chemical room, sludge collection site, and auxiliary works;

Contractor: Ha Huy Joint Stock Company

Commander: Le Quoc Hung

Phone number: +84-979-874-402

Time to start construction: 12 July 2017

Construction completion time: 30 Dec, 2019

- Construction of pressure boost pumping station and office house in Nghi Huong ward, Cua Lo town consisting of water tanks, pumping station, office house, storage, guardhouse, fence, etc.;

Contractor: Vietnam Water Supply and Sewerage Construction Investment Corporation (VIWASEEN)

Commander: Tran Xuan Thai

Phone number: +84-985-112-169

Time to start construction: 12 July 2017

Construction completion time: 30 Dec, 2019

- Construction of transmission pipeline networks and distribution pipeline networks D110÷D450 with the total length of 52.6 km; service network D32÷D90 L= 241.8 km and 7,352 connection points to households. HDPE pipes will be used for the network.

Contractor: Vinaconex 12 Construction Company

Commander: Vu Anh Tuan

Phone number: +84-978-697-313

Time to start construction: 12 July 2017

Construction completion time: 30 Dec, 2019

3. Contract No. NA-CL-CS2 "Construction Supervision for Cua Lo Water Supply System Upgrading and Expanding project" was signed by and between Joint Venture of Viet Nam Water, Sanitation and Environment Joint Stock Company (JSC) and Meinhardt (Vietnam) Ltd. and the Cua Lo Water Supply JSC on 28 June 2016. The consultancy service package was officially commenced on 12 July 2017.

4. According to the contract documents, the construction supervision consultants as well as Cua Lo Water Supply JSC are responsible for monitoring the compliance of environmental and social safeguards during the project implementation. Specifically, the approved Environmental Management Plan (EMP), Resettlement Plan (RP), and Gender Action Plan (GAP) must be complied throughout the project implementation. The progress of updating safeguard documents is as follow:

- Revised EMP was prepared and submitted to ADB on January 9, 2017. ADB had no objection this report on June 20, 2017.
- Resettlement Due Diligence Report for of the raw water intake and booster pumping station, rehabilitation and expansion of the WTP (Before loan fact finding mission - Since payments had already been made without an approved RP) was prepared and approved by ADB on 2014
- Resettlement Due Diligence Report for construction of transmission and distribution network was prepared and submitted to ADB on January 9, 2017. ADB had no objection this report on June 20, 2017.
- Due Diligence Report Items Network pipeline was prepared and submitted to ADB on September 25, 2019

5. This semi-annual monitoring report is to describe the periodically monitoring results on environmental and social safeguards implementation of the project during the last six-month period of 2019 (from July to December 2019).

6. The environmental and social safeguard monitoring by the Consultant is carried out in accordance with the following procedures:

- (i) Work closely with construction supervision consultants (CSC) to complete the log construction process (including the content of the EMP implementation), fill in the monthly monitoring forms;
- (ii) Access to and examine records relating to the compensation, site clearance and resettlement process of the project;
- (iii) Monthly site visit to construction locations of the project; Working with contractors, CSC to understand the progress of the construction and implementation of environmental and social safeguard policies;
- (iv) Directly interview with local households affected by the project construction.

Table 1: Project Overview, Snapshot of Project Progress

| | | |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------|---|
| Project Number and Title: | Loan 3251-VIE -Water Sector Investment Program - Tranche 3 Cua lo Water Supply System Upgrading and Expanding project | |
| Safeguards Category | Environment | B |
| | Indigenous Peoples | C |
| | Involuntary Resettlement | B |
| Reporting period: | July - Dec 2019 | |
| Last report date: | January - June 2019 (June 2019) | |

| | |
|---------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Key project activities since last and this reporting period:</p> | <ul style="list-style-type: none"> - Nghi Hoa Water Plant: as of 31 Dec 2019, the progress rate is estimated at 100% - Pump booster station and office building: as of 31 Dec 2019, the progress rate is estimated at 100% - Transmission pipelines: as of 31 Dec 2019, the progress rate is estimated at 100% - Monitor the environment and promote the completion of occupational safety records for the last 6 months of 2019 of the project <p>For resettlement:</p> <p>Pending issues in resettlement activities in last report with recommendation</p> <ul style="list-style-type: none"> - Finalize and submit DDR (Items Network pipeline) to ADB for approval. - Supervise the site clearance and resettlement of the project in this period: - Supervise the completion of payment for 61 households affected on agricultural land in Nghi Quang commune and Nghi Thi ward, Cua Lo town. Up to the time of making the monitoring report: 100% of the people have received the money and satisfied the compensation unit price, no complaints.¹ <p>Activities for resolving pending issues from last period:</p> <ul style="list-style-type: none"> - DDR (items network pipeline) was submitted to ADB on Sep 2019 - Contractors, construction supervision consultants pay more attention to the protection of workers' health and safety; Ensure traffic safety near the construction site when people pass through here. |
| <p>Report prepared by:</p> | <p>Mr. Tran Phuc Thanh – Deputy Director of Project Management Unit (PMU)</p> |

¹ This verification should have been done at the monitoring period for the last 6 months of 2018. However, in the last 2 monitoring periods, the project social team has not been able to arrange a working schedule with the local authorities. Phuong. Therefore, this task must be moved to the last 6 months of 2019.

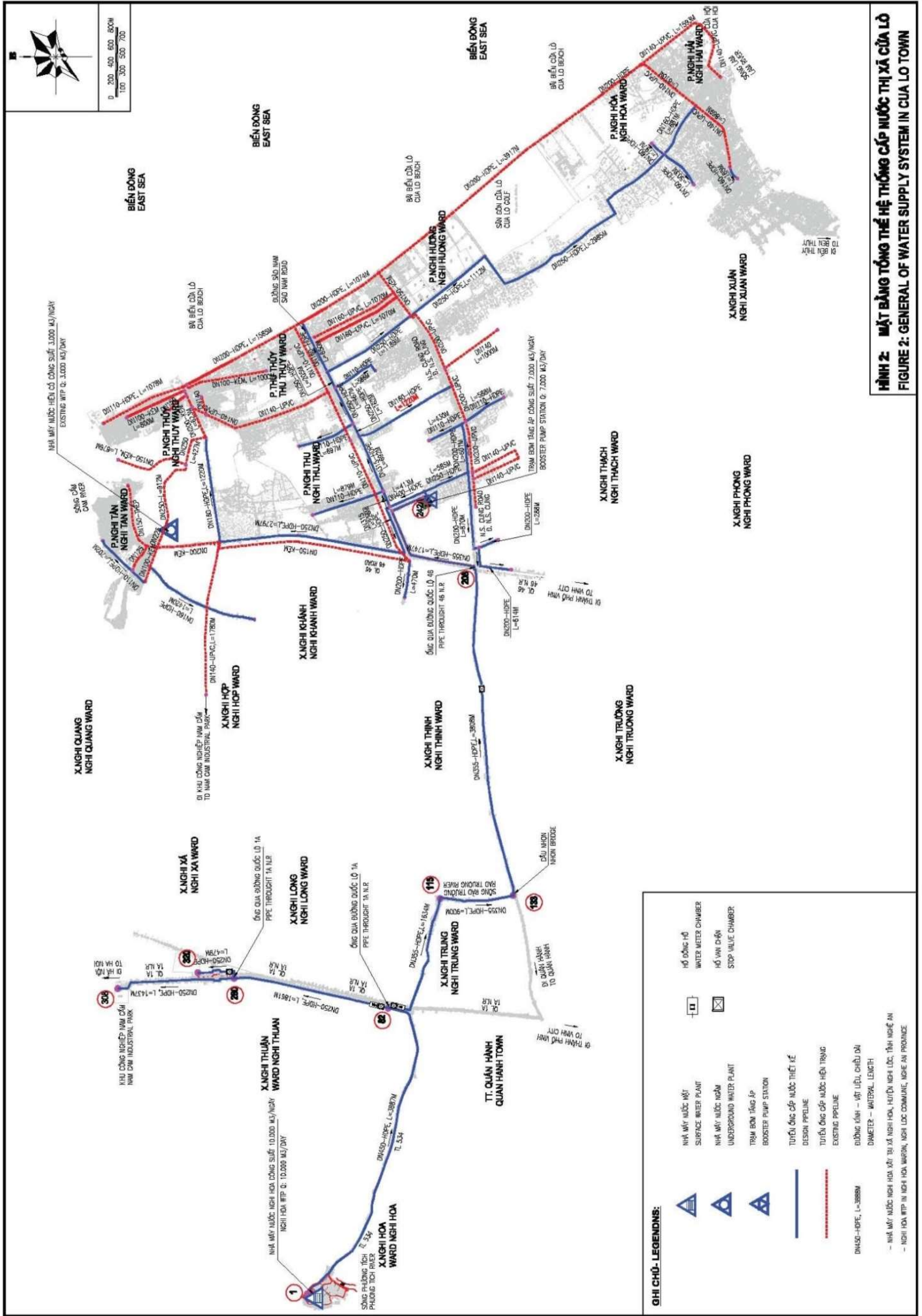


Figure 1. Project's General Layout.

2 Environmental Performance Monitoring

2.1. Summary of Compliance with EMP Requirements (Environmental Performance)

Table 2: Roles and Responsibilities on EMP

| No. | Organization | Responsibilities | Status of Performance Compliance |
|-----|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Project Management Unit (PMU) | <p>For strict compliance with the Environment Management Plan, the PMU should supervise the contractors' undertaking of mitigation measures. With regards to environmental monitoring, the PMU's responsibilities are:</p> <ul style="list-style-type: none"> - Monitoring of environmental related performance indicators - Unscheduled site visit to ensure contractor's compliance to mitigation measures as specified in the contracts. - Review of CSC's periodic reports to ensure compliance to mitigation measures - Review of CSC's reports on general impacts of the project - Reporting to ADB and MONRE on environmental compliance based on CSC's reports, as part of semi-annual reporting duty to ADB - Close cooperation with stakeholders in charge of water supply, environmental sanitation, waste collection etc. to monitor the operation and maintenance during the operational phase. - Coordination of the resolution of public's grievances - Cua Lo PMU's Environmental-Social officer: Mr. Trí (Phone number: +84-916-104-668) | <p>Being complied</p> <ul style="list-style-type: none"> + The form of monitoring of environmental performance indicators is done by the environmental officer of the PMU once a week. Forms are stored in labor safety and environmental records. + Mr. Trí will conduct field inspections once a week. + PMU always reviews the monthly / quarterly progress report of the Construction Supervision Consultant. Issues (if any) will be resolved at the beginning of the month meeting (Attached the minutes of the monthly meeting) + Every week, the Construction Supervision Consultant always reports to the PMU on the construction works that cause environmental impacts of the contractors. In order for PMU to solve this problem promptly. + The PMU submits a social environment monitoring report to ADB, every 6 months. + Complaints and grievances about the project will be summarized by Mr. Trí and reported to PMU's leaders (Cua Lo PMU's Environmental-Social officer: Mr. Trí mobile: +84-916-104-668) |

| | | | |
|---|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2 | Construction Supervision Consultant (CSC) | <p>Supervise construction activities; supervise technical standards and construction progress of contractors.</p> <p>For the environment, the CSC is responsible for supervising the implementation of mitigation measures of contractors according to the requirements in the EMP. This includes the following main tasks:</p> <ul style="list-style-type: none"> - Ensuring contractors and workers have been trained and instructed on environment and safety. - Ensuring that contractors assemble, maintain and clean machine or equipment daily and toilets, drainage system suitable for workers. - Ensuring that contractors have obtained all permissions on discharging wastewater and removing solid waste out of the construction sites. - Checking the safety conditions at the construction sites, such as internal roads, fences, warning signals, lights, electrical safety, and drainage system. - Conducting regular site inspections; conducting environmental effect monitoring in accordance with the monitoring plan cleared by ADB. | <p>Being complied</p> <ul style="list-style-type: none"> + Each construction contractor always has 1 environmental officer and is fully trained in labor safety. The list of trained workers is updated in the contractor's occupational safety and environment profile. Records are kept at the construction office of the contractor. + In the Water Plant Office, Contractor Vietnam Water Supply and Sewerage Construction Investment Corporation (VIWASEEN) has set up a camp for workers meeting labor safety and hygiene standards. + In the Nghi Hoa water plant category: Contractor Ha Huy Joint Stock Company has rented a house next to the construction work as an office building for workers, on the site there is a portable toilet. + In the pipeline category: Contractor Vinaconex 12 Construction Company leases houses + Construction solid waste will be collected, transported and treated by Nghi Loc Green Environment JSC. |
| 3 | Environmental Monitoring Consultant (EMC) | <p>Responsibilities of environmental monitoring consultants include:</p> <ul style="list-style-type: none"> - Ensure that the EMP has been approved and that loan agreements related to environmental safety will be applied and followed throughout the project implementation process; - Ensure that environmental mitigation measures are | <ul style="list-style-type: none"> - Partly complied + Co-ordinate with the PMU and the construction supervision consultant to provide environmental management and minimize the impact necessary to the contractor; + Make a social environment monitoring report every 6 months. However, it has not |

| | | | |
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| | | <p>established as required in project implementation aspects;</p> <ul style="list-style-type: none"> - Evaluate the effectiveness of the mitigation measures applied by the contractor and CSC during the implementation process and make recommendations and recommendations to the PMU for the improvements or improvements needed to meet the requirements. safeguard; - Report periodically to the PMU on the actual implementation of the EMP during the implementation of the project. In case of necessity, more detailed assessment and / or local consultation may be required to identify potential impact and mitigation measures; - Establish standard procedures, methods and forms to assist the PMU and CSC in assessing the Contractor's progress in implementing the necessary monitoring and mitigation measures; - Assist the project management board and its environmental staff to review and examine the detailed design and relevant parts of the Contract Document to ensure compliance with environmental protection and monitoring requirements and mitigation; - Organize regular, quarterly meetings with stakeholders (project management board, contractor, CSC, community representatives and other relevant authorities) to collect Contribute to the development and revision of the plan and strategy for environmental monitoring and overall environmental management. - Organizing the implementation of programs on measurement, | <p>been submitted to PMU and ADB on schedule.</p> |
|--|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|

| | | | |
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| | | <p>sampling and monitoring of environmental norms periodically (every 3 months) during the period of performing the environmental supervision contract.</p> <ul style="list-style-type: none"> - Develop training materials for specialized contents on environmental management and environmental monitoring to train contractors, construction supervision consultants and relevant staff of the PMU school and coordinator of the package) perform the task. - Through the PMU discuss with relevant stakeholders (when necessary) in order to find appropriate solutions for arising problems related to environmental sanitation. - Through the guidance of the PMU, establish and maintain close coordination with the CSC to ensure that relevant environmental regulations, environmental monitoring and mitigation measures, the reporting procedure should be clearly understood and incorporated into the CSC work plan. These procedures also include the recommendation of appropriate sanctions and the procedure for recommending the suspension of construction work at the site once the construction contractor fails to comply with the requirements for environmental safeguards in the test. public; - Assist the CSC to prepare and implement emergency action plans where needed for environmental damage or problems encountered during construction; - Co-ordinate with the PMU and the construction supervision | |
|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

| | | | |
|---|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| | | <p>consultant to provide environmental management and minimize the impact necessary to the contractor;</p> <ul style="list-style-type: none"> - Provide the necessary support to community representatives in the preparation and implementation of community-based environmental management plans. - Assist the PMU to establish and maintain an organizational structure for the environmental management system, monitoring and reporting obligations in coordination with the relevant local environmental management agencies; - Provide support and assistance for environmental training and capacity building programs upon request; - Provides general guidance on the environment required by the PMU to enhance the overall effectiveness of project implementation. | |
| 4 | Contractors | <ul style="list-style-type: none"> - Being obliged to undertake mitigation measures and comply with approved EMP throughout the construction of the project. - throughout the construction of the project, being subjected to the strict supervision of PMU, CSC and EMC, environmental agencies and local communities on EMP compliance | Being complied |

ADB = Asian Development Bank, CSC = construction supervision consultants, EMC = Environmental Monitoring Consultant, PMU = Project Management Unit, MONRE = Ministry of Natural Resources and Environment.

2.1.1. General evaluation of all site locations:

7. During the last 6-month period of 2019, the contractors basically complied with the Environmental Safeguard and Occupational Safety. The contractors implemented the environmental impact mitigation measures under the approved SEMP. The contractors also submitted quarterly environmental monitoring reports for Quarter III and IV of 2019.

8. Environmental and safety achieves

- There was no complaint on Environmental Safeguard and Occupational Safety.
- There is not any accident in the Quarter III & IV of 2019;
- The Contractor has complied with the environmental impact mitigation measures under the approved SEMP and Consultant's requirements.
- The contractor set up accommodation for workers with adequate toilets with electricity and clean water at the construction site.
- The Contractor performed well the construction method for installation of pipelines along traffic roads which do not affect to traffic.

2.1.2. Evaluation of Nghi Hoa water supply plant

9. In the last 6 months of 2019, at the time of visiting the construction site (at the end of December 2019), Nghi Hoa water plant site has basically completed nearly all construction activities and is conducting a trial run. internal. The rest is only (i) Building raw water sedimentation records; (ii) construction of fences (20% of the remaining volume), complete the sedimentation profile and landscape of the plant.

10. According to the assessment results of the monitoring team, due to the construction site is far from local residential areas (the nearest residential households is about from 400m from the construction site), and the construction site is surrounded by a 2m tall iron fence, the environmental impacts from construction activities on the local residents are relatively negligible.

11. The Construction site area is large. Construction materials are gathered neatly and safely. Transportation vehicles are cleaned up before going out the construction site. Traffic route used for material transportation is being watered daily.

12. The number of workers daily working on construction site varies from 20 to 40 persons. Those persons mainly are local people, owning house or renting in local houses near construction site, usually back to their home at the end of working day. Some security guards are arranged to stay overnight at the construction site.

13. Daily waste and construction waste on the site are collected, stored and transported in accordance with regulations.

- Domestic solid wastes: estimated an amount of 10÷20kg/day of domestic solid wastes generated within the construction site by the workers. The wastes include waste foods and plastic packs/bags, paper... This waste amount is collected into a 100L plastic bin setup at the camp area. Daily after working hours, the staffs of Nghi Loc Green Environment JS Company come to collect and transport to the Solid Waste Treatment Complex located in Nghi Yen commune of Nghi Loc district.
- Construction solid wastes: about 15kg/day, included empty packs, waste wood, steel, ... This waste amount is composed of inert and non-hazardous substances, some can be recycled or reused for other purposes. The remains are to be collected within the site and transported and treated by the Nghi Loc Green Environment JS Company.

14. Workers already have labor protection equipment (shoes, helmets).

15. As of the time of reporting, there has been no recorded complaint from local authorities and people on socio-environmental negative issues caused by the project.



Figure 2. Photos of Nghi Hoa Water Treatment Plant (taken in Dec 2019)

Table 3: Summary of Compliance with EMP Requirements (Environmental Performance) at Nghi Hoa Water Treatment Plant

| No. | EMP Requirements | Compliance / Non-Compliance (Comment or Reasons) | Issues for Further Action |
|----------|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|---------------------------------|
| 1 | Implementation arrangement | | |
| 1.1 | Disseminate safety principles to workers | Yes | No |
| 1.2 | License | Yes | No |
| 1.3 | Equipping work safety clothing for workers | Yes | No |
| 1.4 | First-aid kit at camps | Yes | No |
| 1.5 | Periodical health check for workers | Yes | No |
| 1.6 | Camp | | |
| - | Clean water for workers | Yes | No |
| - | Sanitary and safe kitchen | Yes | No |
| - | Wastewater from camps is not stagnant | Yes | No |
| - | Self-decomposing latrines at camp | Yes | No |
| 1.7 | Mobilizing officers who are in charge of environmental safety to be at the site regularly to receive feedback from the community. | Yes | No |

| No. | EMP Requirements | Compliance / Non-Compliance (Comment or Reasons) | Issues for Further Action |
|------------|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|---------------------------------|
| 1.8 | Project and contractor's signboard, (indicating name and phone number of site managers) | Yes | No |
| 1.9 | Relationship between site manager and local authority | Yes | No |
| 1.10 | Relationship between site manager, workers and local people | Yes | No |
| 2 | Mitigation measures | | |
| 2.1 | Minimizing dust/exhaust fumes | | |
| - | Watering sprinkling at specific locations in the dry season. | Yes | No |
| - | Fence/temporary cover for areas near local residences | Yes | No |
| - | Clean mud, soil on truck's wheels. | Yes | No |
| - | Tilting trucks/ means of transportation. | Yes | No |
| - | Trucks carrying sand, soil, stone are not overloaded. | Yes (There is no evidence of load violation recorded so far) | No |
| - | Clean the site after construction | Yes | No |
| - | Trucks/machines are maintained regularly | Yes | No |
| - | Forbidding on-site waste incineration, waste is removed within 24h | Yes | No |
| - | Keeping hazardous waste away from local residence | Yes | No |
| 2.2 | Reduce noise/vibration | | |
| - | Equip safety clothing for workers | Yes (Workers operating Nghi Hoa water plant have been equipped with noise-proof earplugs) | No |
| - | Avoid construction which causes big noise before 5A.M and after 10P.M. | Yes | No |
| - | Suitable construction measures, not causing ground settlement, break to houses and other constructions. | Yes | No |
| 2.3 | Mud from excavation, waste form house around. | | |
| | Get agreement on area for discharging unused soil | Yes | No |
| - | Daily Collecting and discharging at yard agreed by locality. | Yes | No |
| - | Place dust bins at construction sites | Yes | No |
| - | Collecting waste and moved to agreed places, transported to and treated accordingly. | Yes | No |

| No. | EMP Requirements | Compliance / Non-Compliance (Comment or Reasons) | Issues for Further Action |
|-------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| 2.4 | Pollution of surface water caused by construction activities and camps of workers | | |
| - | There is gutter collecting wastewater/stormwater at the site leading to the main sewer of the district | Yes | No |
| - | There are self-decomposing latrines at camp | Yes | No |
| - | Keeping hazardous waste away from water sources. | Yes | No |
| 2.5 | Risks of being flooded temporarily in raining season when drainage system has not been completed. | | |
| - | Preparing plan for dealing with emergency flood | Yes | No |
| 2.6 | Impacts on transportation | | |
| - | Place warning signs / instructions | Yes | No |
| - | Constructing temporary bypasses where needed. | The project does not require this activity | |
| 2.7 | Public safety and health | | |
| - | There are regulations, and training for workers on the regulations and communication to community | Yes | No |
| - | Assemble and maintain instructions, signs warning at construction sites. | Yes | No |
| 2.8 | Impact on business/socio-economic activities. | | |
| - | Clean construction site every day after construction implementation. | Yes | No |
| - | Recovering breakdown of electricity/water supply/communication due to construction implementation. | N/a (There have been no breakdown of electricity/water supply/communication due to construction implementation so far.) | No |
| 2.9 | Fire prevention | | |
| - | There is fire regulations/plan | Yes | No |
| - | Equip fire equipment at warehouse. | Yes | No |
| 2.10 | Social evils | | |
| - | There are construction regulations, such as curfew, alcohol and gambling prohibition | Yes | No |

2.1.3. Evaluation of the pumping station and Office building:

16. In the last 6 months of 2019, at the time of visiting the construction site (end of December 2019). Works on booster pumping stations and offices are 100% completed. It can be seen that the construction site is near the roads with low traffic density. Construction activities are carried out

within the fence. There are no households lying around. Construction materials are neatly and safely collected. Therefore, the social and environmental impacts affecting local people are assessed to be low or negligible.

17. The number of workers daily working on construction site varies from 20 to 40 persons. Those persons mainly are local people, own houses or rented houses near construction site, usually back to their home at the end of working day. Some security guards are arranged to stay overnight at construction site.

18. Daily waste and construction waste on the site are collected, stored and transported in accordance with regulations. Specifically,

- Domestic solid wastes: estimated an amount of 10÷20kg/day of domestic solid wastes generated within the construction site by the workers. The wastes include waste foods and plastic packs/bags, paper... This waste amount is collected into a 100L plastic bin setup at the camp area. Daily after working hours, the staffs of Nghi Loc Green Environment JS Company come to collect and transport to the Solid Waste Treatment Complex located in Nghi Yen commune of Nghi Loc district.
- Construction solid wastes: about 15kg/day, included empty packs, waste wood, steel, ... This waste amount is composed of inert and non-hazardous substances, some can be recycled or reused for other purposes. The remains are to be collected within the site and transported and treated by the Nghi Loc Green Environment JS Company.

19. As of the time of reporting, there have been no recorded complaints from local authorities and people on socio-environmental negative issues caused by the project.



Figure 3. Photos of Pumping Station and Office Building (taken in Dec 2019).

Table 4: Summary of Compliance with EMP Requirements (Environmental Performance) at the Booster station and office site

| No. | EMP Requirements | Compliance / Non-Compliance (Comment or Reasons) | Issues for Further Action |
|-----|----------------------------|--------------------------------------------------|---------------------------|
| 1 | Implementation arrangement | | |

| No. | EMP Requirements | Compliance / Non-Compliance (Comment or Reasons) | Issues for Further Action |
|------------|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|---------------------------|
| 1.1 | Disseminate safety principles to workers | Yes | No |
| 1.2 | License | Yes | No |
| 1.3 | Equipping work safety clothing for workers | Yes | |
| 1.4 | First-aid kit at camps | Yes | No |
| 1.5 | Periodical health check for workers | Yes | No |
| 1.6 | Camp | | |
| - | Clean water for workers | Yes | No |
| - | Sanitary and safe kitchen | Yes | No |
| - | Wastewater from camps is not stagnant | Yes | No |
| - | Self-decomposing latrines at camp | Yes | No |
| 1.7 | Mobilizing officers who are in charge of environmental safety to be at the site regularly to receive feedback from the community | Yes | No |
| 1.8 | Project and contractor's signboard, (indicating name and phone number of site managers) | Yes | No |
| 1.9 | Relationship between site manager and local authority | Yes | No |
| 1.10 | Relationship between site manager, workers and local people | Yes | No |
| 2 | Mitigation measures | Yes | No |
| 2.1 | Minimizing dust/exhaust fumes | | |
| - | Watering sprinkling at specific locations in dry season. | Yes | No |
| - | Fence/temporary cover for areas near local residences | Yes | No |
| - | Clean mud, soil on truck's wheels. | Yes | No |
| - | Tilting trucks/ means of transportation. | Yes | No |
| - | Clean the site after construction | Yes | No |
| - | Trucks/machines are maintained regularly | Yes | No |
| - | Forbidding on-site waste incineration, waste is removed within 24h | Yes | No |
| - | Keeping hazardous waste away from local residence | Yes | No |
| 2.2 | Reduce noise/vibration | Yes | No |
| - | Equip safety clothing for workers | | |

| No. | EMP Requirements | Compliance / Non-Compliance (Comment or Reasons) | Issues for Further Action |
|------------|----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| - | Avoid construction which causes big noise before 5A.M and after 10P.M. | Yes | No |
| - | Suitable construction measures, not causing ground settlement, break to houses and other constructions. | Yes | No |
| 2.3 | Mud from excavation, waste form house around. | | |
| - | Get agreement on area for discharging unused soil | Yes. Excavated materials are used to refill onsite. | No |
| - | Daily Collecting and discharging at yard agreed by locality. | Yes | No |
| - | Place dust bins at construction sites | Yes | No |
| - | Collecting waste and moved to agreed places, transported to and treated accordingly. | Yes | No |
| 2.4 | Pollution of surface water caused by construction activities and camps of workers | Yes | No |
| - | There is gutter collecting wastewater/stormwater at the site leading to the main sewer of the district | Yes (Works of booster pump stations and offices have completed the drainage system, connected to the general drainage system of Cua Lo town) | No |
| - | There are self-decomposing latrines at camp | Yes | No |
| - | Keeping hazardous waste away from water sources. | Yes | No |
| 2.5 | Risks of being flooded temporarily in raining season when drainage system has not been completed. | | |
| - | Preparing plan for dealing with emergency flood | Yes | No |
| 2.6 | Impacts on transportation | | |
| - | Place warning signs / instructions | Yes | No |
| - | Constructing temporary bypasses where needed. | The project does not require this activity | |
| - | Trucks carrying materials/wastes are not overloaded | Yes | No |
| 2.7 | Public safety and health | | |

| No. | EMP Requirements | Compliance / Non-Compliance (Comment or Reasons) | Issues for Further Action |
|-------------|----------------------------------------------------------------------------------------------------|--------------------------------------------------|---------------------------|
| - | There are regulations, and training for workers on the regulations and communication to community | Yes | No |
| - | Assemble and maintain instructions, signs warning at construction sites. | Yes | No |
| 2.8 | Impact on business/socio-economic activities. | Yes | No |
| - | Clean construction site every day after construction implementation. | Yes | No |
| - | Recovering breakdown of electricity/water supply/communication due to construction implementation. | Yes | No |
| 2.9 | Fire prevention | | |
| - | There is fire regulations/plan | Yes | No |
| - | Equip fire equipment at warehouse. | Yes | No |
| 2.10 | Social evils | | |
| - | There are construction regulations, such as curfew, alcohol and gambling prohibition | Yes | No |

2.1.4. Assessment for transmission pipelines

20. The construction and installation of water pipelines along the roads was carried out by rolling, completing and returning the road immediately after the completion of each short section. Plumbing materials and building materials are neatly assembled, safe in the location of the land on both sides of the road.

21. There is no portable toilet for workers, but this is overcome by workers use toilets of the roadside residents.

22. Since the pipelines are all relatively small, the construction and installation were implemented by rolling, completing and returning the road immediately after the completion of each short section, pipe materials had been arranged tidily along the roadsides waiting for the installation, thus the impacts on transportation have been mitigated sufficiently.

23. Construction transmission pipeline has progressed, the contractor has enlisted to have the construction site right there. Basically, the pipeline has been installed 100% in volume.



Figure 4: Construction of distribution pipeline²

Table 5: Summary of Compliance with EMP Requirements (Environmental Performance) for transmission pipelines

| No. | EMP Requirements | Comment or Reasons for Compliance / Non-Compliance | Issues for Further Action |
|----------|--------------------------------------------|----------------------------------------------------|---------------------------|
| 1 | Implementation arrangement | | |
| 1.1 | Disseminate safety principles to workers | Yes | No |
| 1.2 | License | Yes | No |
| 1.3 | Equipping work safety clothing for workers | Yes | No |
| 1.4 | First-aid kit at camps | Yes | No |
| 1.5 | Periodical health check for workers | Yes | No |
| 1.6 | Camp | | |

² Photo source: excerpt from the construction supervision report of the project's water pipelines

| No. | EMP Requirements | Comment or Reasons for Compliance / Non-Compliance | Issues for Further Action |
|------------|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|---------------------------|
| - | Clean water for workers | Yes | No |
| - | Sanitary and safe kitchen | Yes | No |
| - | Wastewater from camps is not stagnant | Yes | No |
| - | Self-decomposing latrines at camp | Yes | No |
| 1.7 | Mobilizing officers who are in charge of environmental safety to be at the site regularly to receive feedback from the community | Yes | No |
| 1.8 | Project and contractor's signboard, (indicating name and phone number of site managers) | Yes | No |
| 1.9 | Relationship between site manager and local authority | Yes | No |
| 1.10 | Relationship between site manager, workers and local people | Yes | No |
| 2 | Mitigation measures | Yes | No |
| 2.1 | Minimizing dust/exhaust fumes | | |
| - | Watering sprinkling at specific locations in dry season. | Yes | No |
| - | Fence/temporary cover for areas near local residences | Yes | No |
| - | Clean mud, soil on truck's wheels. | Yes | No |
| - | Tilting trucks/ means of transportation. | Yes | No |
| - | Clean the site after construction | Yes | No |
| - | Trucks/machines are maintained regularly | Yes | No |
| - | Forbidding on-site waste incineration, waste is removed within 24h | Yes | No |
| - | Keeping hazardous waste away from local residence | Yes | No |

| No. | EMP Requirements | Comment or Reasons for Compliance / Non-Compliance | Issues for Further Action |
|------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------|---------------------------|
| 2.2 | Reduce noise/vibration | Yes | No |
| - | Equip safety clothing for workers | | |
| - | Avoid construction which causes big noise before 5A.M and after 10P.M. | Yes | No |
| - | Suitable construction measures, not causing ground settlement, break to houses and other constructions. | Yes | No |
| 2.3 | Mud from excavation, waste form house around. | | |
| - | Get agreement on area for discharging unused soil | Yes | No |
| - | Daily Collecting and discharging at yard agreed by locality. | Yes | No |
| - | Place dust bins at construction sites | Yes | No |
| - | Collecting waste and moved to agreed places, transported to and treated accordingly. | Yes | No |
| 2.4 | Pollution of surface water caused by construction activities and camps of workers | Yes | No |
| - | There is gutter collecting wastewater/stormwater at the site leading to the main sewer of the district | Yes | No |
| - | There is seft-decomposing latrines at camp | Yes | No |
| - | Keeping hazardous waste away from water sources. | Yes | No |
| 2.5 | Risks of being flooded temporarily in raining season when drainage system has not been completed. | | |
| - | Preparing plan for dealing with emergency flood | Yes | No |

| No. | EMP Requirements | Comment or Reasons for Compliance / Non-Compliance | Issues for Further Action |
|-------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------|---------------------------|
| 2.6 | Impacts on transportation | | |
| - | Place warning signs / instructions | Yes | No |
| - | Constructing temporary bypasses where needed. | The project does not require this activity | |
| - | Trucks carrying materials/wastes are not overloaded | Yes | No |
| 2.7 | Public safety and health | | |
| - | There is regulations, and training for workers on the regulations and communication to community | Yes | No |
| - | Assemble and maintain instructions, signs warning at construction sites. | Yes | No |
| 2.8 | Impact on business/socio-economic activities. | Yes | No |
| - | Clean construction site every day after construction implementation. | Yes | No |
| - | Recovering breakdown of electricity/water supply/communication due to construction implementation. | Yes | No |
| 2.9 | Fire prevention | | |
| - | There is fire regulations/plan | Yes | No |
| - | Equip fire equipment at warehouse. | Yes | No |
| 2.10 | Social evils | | |
| - | There is construction regulations, such as curfew, alcohol and gambling prohibition | Yes | No |

2.2. Issues for Further Action

The environmental and labor safety issues that existed from previous monitoring periods have been completely solved. Contractors participating in the construction are strictly following it. No action is currently required.

Table 6: Issues for Further Action

| Issue | Required Action | Responsibility and Timing | Resolution |
|----------------------------------------------|-----------------|---------------------------|------------|
| Old Issues from Previous Reports | | | |
| Nghi Hoa Water Treatment Plant Site | | | |
| None | - | - | - |
| Pump Station and Office Building Site | | | |
| None | - | - | - - |
| Transmission pipelines | | | |
| None | - | - | - - |
| New Issues from This Report | | | |
| Nghi Hoa Water Treatment Plant Site | | | |
| None | - | - | - |
| Pump Station and Office Building Site | | | |
| None | - | - | - |
| Transmission pipelines | | | |
| None | | - | |

2.3. Other activities (Environmental sampling)

24. According to the periodic environmental monitoring program complying with the law, Cua Lo Water Supply JSC has cooperated with the Consulting Unit - VINAGREEN Environment and Investment Consultant JSC and Thai Duong Environmental Treatment and Monitoring JSC to sample, measure, analyze and make the reports at the site for quarter III & IV of 2019 of Cua Lo Water Supply System Upgrading and Expanding Project.

25. The periodic environmental monitoring will provide an overall assessment of the environmental quality at the project area, assessments of the environmental quality of the site to meet the requirements by the competent state authority for timely warning of unusual developments or pollution risks, and provide a basis for monitoring the environmental changes of the project, helping the project owner and the authorities have measures to prevent and actively cope with environmental problems that may occur during the construction process.

2.3.1. ADB approved sampling plan

26. Table 7 shows the environmental effect monitoring plan in the IEE³ approved by ADB.

Table 7: Environmental sampling plan during the Construction Phase

| Mitigation Measures | Monitoring parameters | Location | Method | Frequency |
|------------------------------------------------|---------------------------|---------------------------|------------------------------------------------------------------|----------------------------|
| Monitoring of suspended dust and noxious fumes | Dust, CO, NOx, SOx, wind, | - 1 point in Nghi Hoa WTP | Take air sample for analysis and compare the result with related | Every quarter in 18 months |

³<https://www.adb.org/projects/documents/viet-nam-water-sector-investment-program-cua-lo-ws-ieee>

| Mitigation Measures | Monitoring parameters | Location | Method | Frequency |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| | | <ul style="list-style-type: none"> - 1 point in Booster pumping station (near Sao Nam road) - 1 point in Nguyen Hue road. - 1 point in Mai Thuc Loan road - 1 point in Nguyen Sinh Cung road - 2 point in network pipelines (Binh Minh road). | Vietnam Standards QCVN 05:2015/BTNMT | |
| Monitoring of noise | Leq, L50 and Lmax | As the same ambient air monitoring locations as above | Measure at site and compare the results with relevant standards (QCVN 26: 2010) | Every quarter in 18 months |
| Monitoring of vibration | Acceleration Speed Frequency | <ul style="list-style-type: none"> - 1 point in Phuong Tich Bridge (Transmission pipelines) - 1 point in Rao Truong Bridge (Transmission pipelines) - 1 point in Sao Nam Road (distribution pipelines) - 1 point in Binh Minh Road (distribution pipelines) | Measure at site and compare the results with relevant standards (QCVN 27: 2010) | Every quarter in 18 months |
| Surface water quality | pH, TSS, DO, COD, BOD5, ammonium (NH ₄) by N, nitrite, nitrate (NO ₃ ⁻), Phosphate, Floating oil Coliform | <ul style="list-style-type: none"> - 02 points in Phuong Tich River - 01 point in Rao Truong River; - 01 point in Cam River; - 02 points in pond in Cua Lo Town (01 point in pond Nghi Khanh commune; 01 point in pond Nghi Huong Ward) | Take water sample for analysis and compare result with related Vietnam Standards (QCVN 08-mt:2015/BTNMT; QCVN 40:2011/BTNMT) | Every quarter in 18 months |

(Results of analysis of environmental samples in the 3rd and 4th quarter of 2019 are attached in Appendix 3.)

27. Weather in the 3rd & 4th quarter of 2019

| | 3 rd quarter of 2019 (autumn) | | | 4 th quarter of 2019 (Winter) | | | | |
|--------------------|-------------------------------------------|-------------|-------------|------------------------------------------|-------------|-------------|-------|-----|
| Charact eristic | July 2019 | Aug 2019 | Sep 2019 | Oct 2019 | Nov201 9 | Dec 2019 | Total | |
| Normal | 9 | 10 | 10 | 14 | 9 | 10 | 52 | 30% |
| Sunny | 22 | 16 | 11 | 6 | 15 | 19 | 89 | 51% |
| Rainy | 1 | 5 | 09 | 9 | 6 | 2 | 32 | 19% |
| Stomy | | | | | | | | |

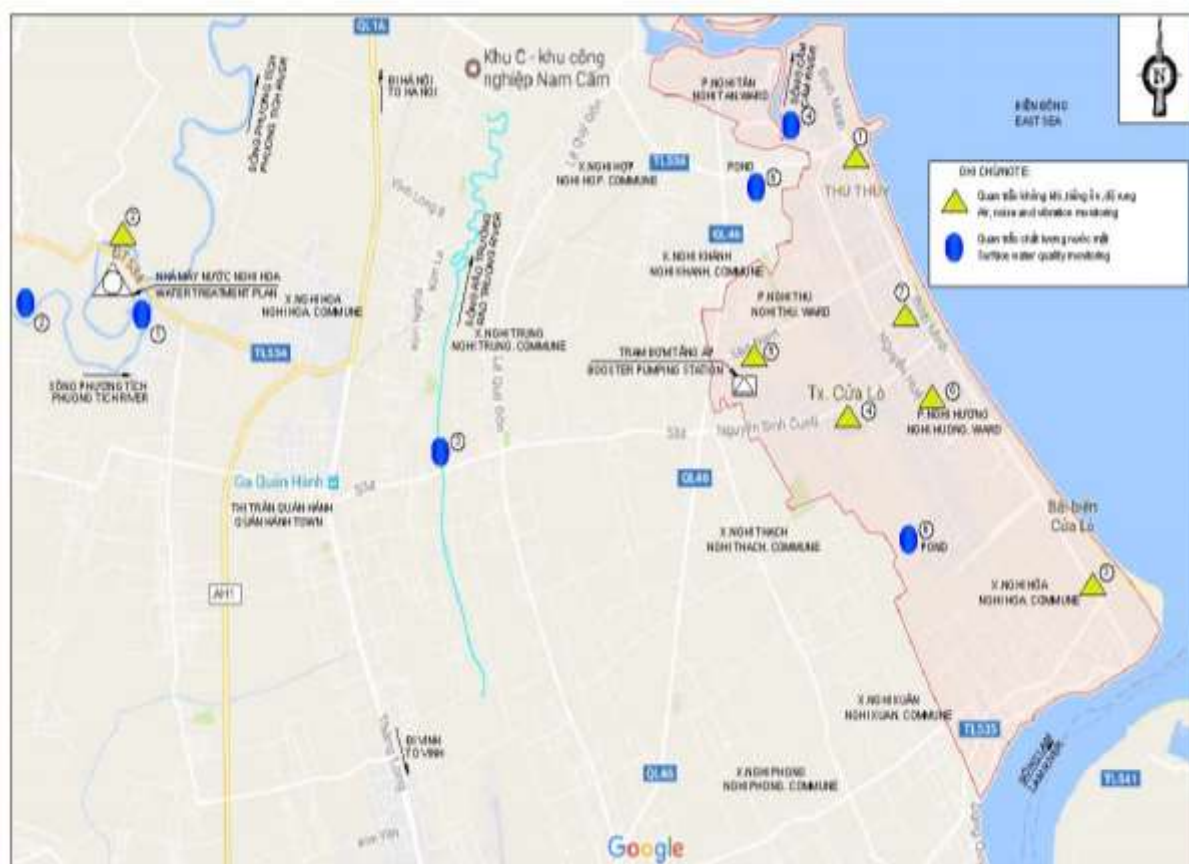


Figure 5: Sampling map

2.3.2. Environmental Quality Analytical Results

a) Results of air analysis

Table 8: Analysis results of the quality of air and noise (3rd quarter of 2019)

| No | Parameter | Unit | Result | | | | | | | GHCP (allowable limit) |
|----|----------------------|------|--------|-----|------|------|------|------|------|---------------------------|
| | | | KK1 | KK2 | KK3 | KK4 | KK5 | KK6 | KK7 | |
| 1 | Temperature | °C | 29 | 28 | 28.7 | 29.4 | 29.2 | 29.0 | 28.8 | - |
| 2 | Humidity | % | 78 | 75 | 79 | 77 | 75 | 76 | 72 | - |
| 3 | Atmospheric pressure | atm | 620 | 612 | 627 | 612 | 608 | 625 | 615 | - |

| | | | | | | | | | | |
|----|-----------------|--------------------------|------|------|------|------|------|------|------|-------------------------|
| 4 | Speed of winds | m/s | 1.2 | 1.5 | 1.0 | 1.4 | 1.2 | 1.8 | 2.0 | - |
| 5 | Wind direction | - | NW | NW | NW | NW | NW | NW | NW | - |
| 6 | Dust | $\mu\text{g}/\text{m}^3$ | 142 | 155 | 151 | 162 | 158 | 147 | 140 | 300 |
| 7 | CO | $\mu\text{g}/\text{m}^3$ | 1820 | 1992 | 1908 | 1902 | 1872 | 1884 | 1808 | 30.000 |
| 8 | SO ₂ | $\mu\text{g}/\text{m}^3$ | 148 | 132 | 135 | 144 | 151 | 135 | 140 | 350 |
| 9 | NO ₂ | $\mu\text{g}/\text{m}^3$ | 127 | 144 | 141 | 137 | 125 | 118 | 112 | 200 |
| 10 | Noise | dBA | 62 | 58 | 60 | 61 | 60 | 64 | 66 | 70^(*) |

(Source: Analytical center and environmental geodesic Phuong Nam, Sep 2019)

Table 9: Analysis results of the quality of air and noise – 4th quarter of 2019

| No | Parameter | Unit | Results | | | | | | | GHCP (allowable limit) |
|----|----------------------|--------------------------|---------|------|------|------|------|------|------|------------------------------|
| | | | KK1 | KK2 | KK3 | KK4 | KK5 | KK6 | KK7 | |
| 1 | Temperature | °C | 34 | 35 | 35.2 | 34.5 | 34 | 36 | 34.2 | - |
| 2 | Humidity | % | 65 | 61 | 62 | 68 | 61 | 60 | 64 | - |
| 3 | Atmospheric pressure | atm | 550 | 562 | 548 | 584 | 602 | 618 | 592 | - |
| 4 | Speed of winds | m/s | 2 | 2.2 | 1.8 | 1.9 | 2.5 | 2.0 | 1.6 | - |
| 5 | Wind direction | - | NE | NE | NE | NE | NE | NE | NE | - |
| 6 | Dust | $\mu\text{g}/\text{m}^3$ | 164 | 148 | 156 | 178 | 166 | 141 | 147 | 300 |
| 7 | CO | $\mu\text{g}/\text{m}^3$ | 1882 | 1825 | 1720 | 1981 | 1948 | 1820 | 1810 | 30.000 |
| 8 | SO ₂ | $\mu\text{g}/\text{m}^3$ | 150 | 142 | 128 | 128 | 142 | 112 | 122 | 350 |
| 9 | NO ₂ | $\mu\text{g}/\text{m}^3$ | 118 | 102 | 109 | 115 | 108 | 92 | 104 | 200 |
| 10 | Noise | dBA | 64 | 61 | 62 | 64 | 63 | 62 | 65 | 70^(*) |

(Source: Analytical center and environmental geodesic Phuong Nam, Dec 2019)

Notes:

GHCP (allowable limit): NTR 05:2013/MONRE: National Technical Regulation about the ambient air quality.

(*): NTR 26:2015/BTNMT: National Technical Regulation about the noise.

- + KK1: At Nguyen Sinh Cung street, coordinates X: 2078456; Y: 601044.
- + KK2: At Nguyen Hue Street, coordinates X: 2079042; Y: 602877;
- + KK3: At the area of Mai Thuc Loan Street, coordinates X: 2079131; Y: 602965;
- + KK4: At Binh Minh street (opposite Ban Toi hotel), coordinates: X: 2078428; Y: 601032;
- + KK5: At Binh Minh street (opposite Saigon - Kim Lien hotel), coordinate X: 2079017; Y: 602885;
- + KK6: At the booster pumping station, near Sao Nam street, coordinates X: 2078904; Y: 600476;
- + KK7: At Nghi Hoa water treatment plant, coordinates X: 2080285; Y: 591345.

28. **Comments:** The obtained analytical results of air quality and noise level in the project area (the 3rd and 4th quarters of 2019) show that: all the monitored parameters of air quality were meeting the allowable limits in accordance with QCVN 05:2013/BTNMT - National technical regulations on ambient air quality. The monitored noise levels at 7 monitoring points were meeting the allowable limit in accordance with QCVN 26:2010/BTNMT - National technical regulation on noise.

b) Vibration

Table 10: Measurement results of the vibration– 3rd quarter of 2019

| No | Parameter | Unit | Results | | | | GHCP (allowable limit) |
|----|-----------|------|---------|----|----|----|---------------------------|
| | | | R1 | R2 | R3 | R4 | |
| 1 | Vibration | dB | 65 | 63 | 64 | 61 | 75 |

(Source: Analytical center and environmental geodesic Phuong Nam, Sep 2019)

Table 11: Measurement resultsof the vibration 4th quarter of 2019

| No | Parameter | Unit | Results | | | | GHCP (allowable limit) |
|----|-----------|------|---------|----|----|----|---------------------------|
| | | | R1 | R2 | R3 | R4 | |
| 1 | Vibration | dB | 70 | 68 | 67 | 65 | 75 |

(Source: Analytical center and environmental geodesic Phuong Nam, Dec 2019)

Notes:

GHCP: QCVN 27:2010/BTNMT: National Technical Regulation about the vibration.

- + R1: At Phuong Tich Bridge (transmission pipeline), coordinates: X: 2078017; Y: 591456;
- + R1: At Rao Truong Bridge (transmission pipeline), coordinates: X: 2077846; Y: 595972;
- + R3: At Sao Nam street (distribution pipeline), coordinates: X: 2080282; Y: 591340;
- + R4: At Binh Minh street (distribution pipeline), coordinates: X: 2079230; Y: 603300;

29. **Comments:** The obtained analytical results of vibration level in the project areas show that: vibration levels in the project areas were meeting the allowable limits in accordance with QCVN 27:2010/BTNMT: National Technical Regulation about the vibration.

c) Analysis Results of surface water.

Table 12. Analysis Results of surface water – 3rd quarter of 2019

| No | Parameter | Unit | Results | | | | | | GHCP (allowable limit) |
|----|------------------------------|------|---------|------|------|------|------|------|---------------------------|
| | | | NM1 | NM2 | NM3 | NM4 | NM5 | NM6 | |
| 1 | PH | - | 7.4 | 7.5 | 7.2 | 7.2 | 7.0 | 7.4 | 5.5-9 |
| 2 | DO | mg/l | 5.9 | 6.1 | 5.8 | 4.9 | 5.2 | 5.0 | ≥ 4 |
| 3 | COD | mg/l | 20.2 | 22.5 | 26.0 | 22.5 | 26.2 | 26.8 | 30 |
| 4 | BOD ₅ (20°C) | mg/l | 13.2 | 13.5 | 12 | 13.2 | 14.4 | 12,7 | 15 |
| 5 | TSS | mg/l | 38.5 | 37 | 41.3 | 32.7 | 35.2 | 37 | 50 |
| 6 | NH ₄ ⁺ | mg/l | 0.4 | 0.45 | 0.6 | 0.52 | 0.55 | 0.6 | 0.9 |
| 7 | NO ₃ ⁻ | mg/l | 6.0 | 6.2 | 7.2 | 5.7 | 6.4 | 5.8 | 10 |

| | | | | | | | | | |
|----|-------------------------------|-------------|------|-------|------|-------|-------|------|------|
| 8 | NO ₂ ⁻ | mg/l | 0.03 | 0.032 | 0.04 | 0.028 | 0.035 | 0.03 | 0.05 |
| 9 | PO ₄ ³⁻ | mg/l | 0.12 | 0.1 | 0.17 | 0.21 | 0.18 | 0.2 | 0.3 |
| 10 | Grease | mg/l | 0.48 | 0.46 | 0.61 | 0.62 | 0.54 | 0.55 | 1 |
| 11 | Coliform | MPN/100 mml | 4200 | 4300 | 4800 | 4500 | 4200 | 4300 | 7500 |

(Source: Analytical center and environmental geodesic Phuong Nam, Sep 2019)

Table 13: Analysis Results of surface water– 4th quarter of 2019

| No | Parameter | Unit | Results | | | | | | GHCP (allowable limit) |
|----|-------------------------------|-------------|---------|-------|-------|-------|-------|-------|------------------------|
| | | | NM1 | NM2 | NM3 | NM4 | NM5 | NM6 | |
| 1 | PH | - | 7.6 | 7.4 | 7.3 | 7.7 | 7.4 | 7.9 | 5.5-9 |
| 2 | DO | mg/l | 5.2 | 5.0 | 5.5 | 5.2 | 5.8 | 6.4 | ≥ 4 |
| 3 | COD | mg/l | 24.2 | 20.5 | 21.8 | 25.5 | 21.3 | 24.8 | 30 |
| 4 | BOD ₅ (20°C) | mg/l | 11.2 | 10.6 | 11.8 | 14.5 | 13.2 | 12.9 | 15 |
| 5 | TSS | mg/l | 44.5 | 43.7 | 41.1 | 44.1 | 41.5 | 42.7 | 50 |
| 6 | NH ₄ ⁺ | mg/l | 0.52 | 0.48 | 0.41 | 0.31 | 0.35 | 0.42 | 0.9 |
| 7 | NO ₃ ⁻ | mg/l | 3.2 | 4.8 | 4.6 | 3.8 | 4.1 | 3.7 | 10 |
| 8 | NO ₂ ⁻ | mg/l | 0.035 | 0.039 | 0.044 | 0.044 | 0.041 | 0.037 | 0.05 |
| 9 | PO ₄ ³⁻ | mg/l | 0.18 | 0.25 | 0.21 | 0.18 | 0.21 | 0.17 | 0.3 |
| 10 | Grease | mg/l | 0.6 | 0.52 | 0.61 | 0.55 | 0.47 | 0.39 | 1 |
| 11 | Coliform | MPN/100 mml | 4,700 | 4,600 | 4,500 | 4,700 | 4,600 | 4,600 | 7,500 |

(Source: Analytical center and environmental geodesic Phuong Nam, Dec2019)

Notes:

GHCP: QCVN 08-MT:2015/BTNMT: National technical regulation about the surface water quality.

- + NM1: At Phuong Tich bridge (the first point), coordinates: X: 2078175; Y: 591458;
- + NM2: At Phuong Tich bridge (the second point), coordinates: X: 2079981; Y: 591657;
- + NM3: Surface water on Rao Truong River (near Nhon Bridge), coordinates: X: 2077848; Y: 595975;
- + NM4: On Cam River, coordinates: X: 2085180; Y: 594907;
- + NM5: Surface water on ponds in Nghi Huong ward, coordinates: X: 2078967; Y: 602631;
- + NM6: Surface water on ponds in Nghi Khanh commune, coordinates: X: 2080250; Y: 599570;

30. **Comments:** Through the measurement and analysis of 6 surface water samples in the project area, it is shown that the monitoring parameters in the last 6 months of 2019 are within the permitted limits in QCVN 08-MT: 2015/BTNMT (column B1).

3 Occupational, Health and Safety (OHS) Performance Monitoring

3.1 OHS for worker

31. After previous monitoring periods. Up to now, the Contractor has fully complied with the work of health protection for workers such as: equipping medical cabinets and protective equipment for workers including noise protection buttons, hats and protective clothing. The health of workers and workers on the site is generally good.

Table 14: Issues on OHS for worker

| Issue | Required Action | Responsibility and Timing | Resolution |
|----------------------------------------------|-----------------|---------------------------|------------|
| Old Issues from Previous Reports | | | |
| Nghi Hoa Water Treatment Plant Site | | | |
| None | - | - | |
| Pump Station and Office Building Site | | | |
| None | | - | |
| Transmission pipelines | | | |
| None | | - | |
| New Issues from This Report | | | |
| Nghi Hoa Water Treatment Plant Site | | | |
| None | | - | |
| Pump Station and Office Building Site | | | |
| None | | - | |
| Transmission pipelines | | | |
| None | | - | |

3.2 Public Safety

As noted in 3 construction items including: Nghi Hoa Water Plant, Nghi Huong booster pumping station, especially along the pipeline, there is no record of complaints of households living along the road. construction. The rolling method combined with the method of watering to minimize dust in place has limited dust dispersion on sunny days. Frequency of 2times/day

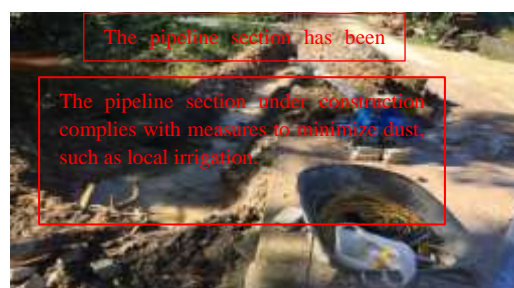


Table 15: Issues on Public Safety

| Issue | Required Action | Responsibility and Timing | Resolution |
|----------------------------------------------|-----------------|---------------------------|------------|
| Old Issues from Previous Reports | | | |
| Nghi Hoa Water Treatment Plant Site | | | |
| None | | - | |
| Pump Station and Office Building Site | | | |
| None | | - | |
| Transmission pipelines | | | |
| None | | - | |
| New Issues from This Report | | | |
| Nghi Hoa Water Treatment Plant Site | | | |
| None | | | |
| Pump Station and Office Building Site | | | |
| None | | | |
| Transmission pipelines | | | |
| None | | | |

4 Information Disclosure and Socialization including Capability Building

32. During field monitoring from 28th to 31st Dec 2019, the consultant also consulted some project area residents on environmental issues that occurred during the construction process of the contractor.

Table 16: Residents' Feedback on the Project

| No. | Projects | Residents' feedbacks | Mitigation measures |
|-----|----------------------------|-----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| 1 | WTP | - Construction activities at this project do not affect our daily life | - Continual CSC's and PMU's strict supervision of sanitation and environmental safeguards |
| 2 | Booster station and office | - Construction activities at this project do not affect our daily life | - Continual CSC's and PMU's strict supervision of sanitation and environmental safeguards |
| 3 | Transmission pipelines | - The project is constructed quickly, does not scatter construction waste, so it does not affect the travel of people | - Continual CSC's and PMU's strict supervision of sanitation and environmental safeguards |

| | | | |
|--|--|---------------------------------------------|--|
| | | - Workers' activities are orderly and quiet | |
|--|--|---------------------------------------------|--|

33. Capacity building and community protection activities during project documentation phase are detailed in the approved IEE/EMP, RP and GAP reports. During the construction phase, the following activities have been done by the environmental specialist:

- Training/guiding on site for the contractors and construction supervising engineers about the EMP implementation during construction phase;
- Training/guiding on site for the contractors and supervising engineers to fulfil the on-site construction diary, weekly monitoring forms, to disclose the construction plans to the local authorities and communities before implementation;
- Working with the local communities for guiding and instruction about the roles of the environmental community monitoring;
- Organizing meetings with PMU and CMC to discuss on the project's EMP implementation and monitoring.

34. For this monitoring period, the environmental specialist conducted following activities:

- Interviewing/consulting with some randomly selected local people living around the project areas about the environmental and social impacts caused by the project;
- Organizing meetings with PMU's staff and CMC to discuss on the project's EMP implementation and monitoring.

5 Grievance Redress Mechanism

35. For each of the item, Grievance Redress Mechanism (GRM) has been set up to resolve complaints in a timely manner, namely:

- In each construction site, there is signage showing full information about the work, contractor, CSC, the project owner, site managers, contact details of project owner, and site manager.
- For each site, there is always the presence of a PMU officer, a CSC staff, and the site manager
- In case of grievance and complain, public members may dial the site manager, CSC, PMU's representative or seek them at the site to express their grievance or demand to resolve, mitigate or compensate for issues.
- In case of failure to come to an agreement, public members may lodge their grievance at the sites with the PMU's representative, CSC, site managers or at the PMU office. Within a month of admission, PMU director shall delegate an officer to work with involved parties including site managers, PMU's representatives, CSC and affected persons on remedial or offsetting actions.
- In case of inability to come to a satisfactory resolution, public members may appeal to higher authority in accordance with legal procedures.

Table 17: Details of personnel in charge of GRM at the sites:

| No | Items | Name | Position | Phone number |
|----|-------------------|--------------------|--------------|--------------|
| 1 | WTP | Mr. Le Quoc Hung | Site Manager | 0979874402 |
| 2 | Booster station | Mr. Tran Xuan Thai | Site Manager | 0985112169 |
| 3 | Transmission line | Mr. Vu An Tuan | Site Manager | 0978697313 |

36. Over the course of implementation, as of July 2019 to Dec 2019 there has been no complaints from local authority and the public on adverse impacts on the environment and community done by the project.

Table 18: Grievances Received

| Type of Grievance | Details (Date, person, address, contact details, etc.) | Required Action, Responsibility and Timing | Resolution |
|-----------------------------------------|--------------------------------------------------------|--------------------------------------------|------------|
| Old Issues from Previous Reports | | | |
| None | | | |
| New Issues from This Report | | | |
| None | - | - | - |

6 Resettlement, Social safeguards and Gender

6.1 Resettlement, Social safeguards

37. **Status of safeguards documents** that was/will be prepared from beginning as of reporting period;

- Reports that have been prepared and approved include:
 - + At project preparation stage, an Initial Environmental Examination (IEE) including environmental management plan (EMP) was prepared for the project in compliance with ADB's Safeguard Policy Statement (SPS, 2009). The IEE and EMP were disclosed on the project website in 2014.
 - + Resettlement Due Diligence Report was prepared and submitted to ADB on January 9, 2017. ADB had no objection this report on June 20, 2017.
 - + Social environment monitoring report for the last 6 months of 2017
 - + Social environment monitoring report for the first 6 months of 2018
 - + Resettlement Due Diligence Report (Items: Network pipeline) was prepared and submitted to ADB on Sep 25, 2019.
- Reports that have been prepared but not yet approved include:
 - + Social environment monitoring report for the last 6 months of 2018
 - + Social environment monitoring report for the first 6 months of 2019
 - + Social environment monitoring report for the last 6 months of 2019

38. **Pending issues and recommendation from last report and main activities that have been done in this period for resolving these pending issues:**

- No land acquisition of 02 households who disagree to receive compensation for site clearance in the Office and booster pump station in Nghi Huong ward, Cua Lo town.
 - + Project Management Board - Cua Lo Water Joint Stock Company adjusts construction detailed planning at 1/500 scale. Submit to Nghe An Provincial People's Committee for approval. Purpose: to narrow the area of the scope of the item to not recover the land of 02 households in Nghi Huong ward - Cua Lo town
 - + Nghe An Provincial People's Committee issued Decision No. 1381 / QD-UBND April 26th, 2019 on approving the adjustment of detailed planning for construction of pumping station and office building at a scale of 1/500 in Ward Nghi Huong, Cua Lo town
 - + The problem has been resolved.
- 08 land graves have not been removed from the scope of Nghi Hoa water plant

- + Cua Lo Water Supply Joint Stock Company sent Official Letter No. 51 / CV-CNCL dated January 22, 2019 on requesting Vietnam Water and Environment Joint Stock Company to adjust the construction to suit the actual construction situation.
- + Purpose: Removing 08 land graves from Nghi Hoa water plant without having to relocate and clear the ground.
- + The problem has been resolved.
- Payment of compensation to 61 households affected by temporary agricultural land when constructing the transmission pipeline through Nghi Quang commune and Nghi Thu ward in Cua Lo town
 - + The construction contractor actively paid for all 61 households on May 15, 2018
 - + Social monitoring consultant worked with People's Committee and representatives of affected people in Nghi Quang commune and Nghi Thu ward in Cua Lo town on September 3 to 4, 2019 to verify people's satisfaction. People are compensated.
 - + The problem has been resolved.

39. **The impact**

- Land and assets on land temporarily affected by the project have been paid and site clearance completed

40. **Progress of Detail design approved, DMS and compensation plan:**

In the last 6 months of 2019, there is no problem of paying ground clearance

Detailed compensation plans are approved in the following documents:

- For pumping station and office building in Nghi Huong ward, Cua Lo town, Nghe An province: detailed compensation plan approved in Document No. 20 / TC-KH dated 26 / 12/2012 of People's Committee of Cua Lo Town. Clean land was handed over first phase to the investor according to Decision no.44/QD-UBND dated 30 January, 2018 of Nghe An PPC's.
- For construction of the water treatment plant in Nghi Hoa commune, Nghi Loc district, Nghe An province: detailed compensation plan approved in Decision No. 2393 / QD-UBND dated December 28, 2012 of Nghi Loc District People's Committee.

A Resettlement Due Diligence Report (DDR) for the first two components (including:

- Construction of pumping station and office building in Nghi Huong ward Cua Lo town, and construction of the water treatment plant in Nghi Hoa commune Nghi Loc district) was prepared by the investor and approved by ADB in 2014.
- In May 2018, based on the detailed design of transmission pipeline, the People's Committee of Nghi Quang commune and the People's Committee of Nghi Thu ward, in collaboration with the contractor Ha Huy and the Management Board of the Water Supply Project of Cua Lo Town, carried out inventory of asset on the land of 61 affected households during construction.
- Unit price of compensation: negotiate with the people themselves
- Amount paid: VND 25,759,070
- Resettlement Due Diligence Report (Items: Network pipeline) was prepared and submitted to ADB on Sep 25, 2019.

41. **Updates on consultation activities during the monitoring period (with supporting documentation)**

- Social monitoring consultant worked with People's Committee and representatives of affected people in Nghi Quang commune and Nghi Thu ward in Cua Lo town on September 3 to 4, 2019 to verify people's satisfaction. People are compensated. Minute of two theses meetings was attached in appendix 2

42. **Hand over land process:**

- The handover of land to implement construction of all items of the project has been completed in the first 6 months of 2019

43. **Grievance:**

- As of Dec 2019, no complaints from local residents and authorities were recorded for negative environmental and social impacts due to project construction in three project categories including: Nghi Hoa water plant, Nghi Huong booster pump station and transmission pipeline
- For construction of transmission pipeline: As stated in the previous report, the construction of the clean water transmission pipeline only temporarily affects people. Up to now, 100% volume has been completed. Work on return the premises is being carried out smoothly.

6.2 As for Gender

44. Related to gender equality during approach, participation, and beneficiary from the project, Consultants has consulted to Investor and relevant contractors in order to ensure gender equality and give priorities to women, who participate into public consultation, community-based monitoring. Representatives of the local Women's Union are always invited to the consultation meeting for comments on the project. Consultants also consulted with Investor and contractors in order to guarantee gender equality and give priorities to women, who want to work in the project (including during both construction phase and the subsequent operational phase).

Date of update: 31th Dec, 2019.

Table 19: Gender action plan

| Project output | Gender Action Plan | Updated Progress | | | | | | | Issues/challenges and Recommendation | | | | | | | | | | | | | | |
|-------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------|---------------|--------------------------|--|--|--------------------------------------|---------------------------------------|----------|---------------------------|---------------------|---------------|--------------------------|--------|----|-----|-------|--|--|--|--|
| Output 1: Increased coverage planning and construction of water supply and distribution systems | T.1. At least 40% of residents consulted on construction design and planning are women | <p><u>On-going/Achieved</u></p> <p>The project conducted four consultations in Nghi Tan - Cua Co and Nghi Hop wards in Nghi Loc district on water supply issues for local people. There are 115 people, of which 45 are women.</p> <p>In May 2018, the project management board also conducted a consultation meeting in Nghi Thu ward and Nghi Quang commune to solve piping construction problems and pay support to 61 households with pipelines. delivery passes. There were 61 participants, of which 27 were women.</p> <table><tr><td></td><td>Female</td><td>Total</td><td colspan="4">% of female participation</td></tr><tr><td>Cua Lo</td><td>72</td><td>176</td><td colspan="4">40.9%</td></tr></table> <p>The main concerns of females were raised under these consultations including (1) avoid construction in the peaking time; (2) complete work as fast as possible; (3) ensure the hygiene condition; (4) provide job opportunities if available; (5) water supplying, piping construction and support for affected households .</p> <p>Basically acceptable.</p> | | | | | | | | Female | Total | % of female participation | | | | Cua Lo | 72 | 176 | 40.9% | | | | |
| | | Female | Total | % of female participation | | | | | | | | | | | | | | | | | | | |
| Cua Lo | 72 | 176 | 40.9% | | | | | | | | | | | | | | | | | | | | |
| | T.2. 100% coverage of identified poor and women headed HH within the project area. | <p><u>On-going/Achieved</u></p> <p>PMU commits to 100% connection for poor households in the project area when the water supply network is completed.</p> <p>The percentage is calculated by the number of households that have been connected to the clean water pipelines as follows:</p> <table><tr><td></td><td>Total number of households connected.</td><td>Poor HHs</td><td>Poor HHs connected.</td><td>% Poor HHs coverage</td><td>Poor and FFHs</td><td colspan="2">% Poor and FHHs coverage</td></tr></table> | | | | | | | | Total number of households connected. | Poor HHs | Poor HHs connected. | % Poor HHs coverage | Poor and FFHs | % Poor and FHHs coverage | | | | | | | | |
| | Total number of households connected. | Poor HHs | Poor HHs connected. | % Poor HHs coverage | Poor and FFHs | % Poor and FHHs coverage | | | | | | | | | | | | | | | | | |

| Project output | Gender Action Plan | Updated Progress | | | | | | | Issues/challenges and Recommendation | | | | | | | | | | | | | | | | | | | | |
|----------------------------------|---------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------|-----|------|-----|------|--------------------------------------|---------|----------|----------|----------------|----|-----|-------|------------------|----|----|-----|---------------------|----|-----|-------|-------|-----|-----|-----|--|
| | | Cua Lo | 7352 | 1763 | 630 | 100% | 474 | 100% | | | | | | | | | | | | | | | | | | | | | |
| | A.1. Equal employment opportunities and equal pay for equal work for women and men in civil works | <u>On-going/Achieved</u> The policy of the Cua Lo water supply company and the construction contractor is to always create the maximum working and living conditions for the teams of workers working on the site. The construction teams deploy the contracting volume of work items As noted at the Nghi Hoa water plant project. Each group of workers has 6 people, women account for 50% The average salary is 300,000 VND / day / person for female workers. and VND 350,000 / person / day for male employees | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | T3. Target 30% female laborers in unskilled civil works with support of local Women’s Unions | <u>On-going/Achieved</u> The total number of workers working at the construction site of the contractors is recorded as follows: <table><tr><td>Contractor personnel statistics.</td><td>Females</td><td>Total</td><td>% Female</td></tr><tr><td>Hà Huy Company</td><td>45</td><td>140</td><td>32,1%</td></tr><tr><td>ViWaseen Company</td><td>33</td><td>90</td><td>36%</td></tr><tr><td>Vinaconex12 Company</td><td>39</td><td>114</td><td>34,2%</td></tr><tr><td>Total</td><td>117</td><td>344</td><td>34%</td></tr></table> | | | | | | | Contractor personnel statistics. | Females | Total | % Female | Hà Huy Company | 45 | 140 | 32,1% | ViWaseen Company | 33 | 90 | 36% | Vinaconex12 Company | 39 | 114 | 34,2% | Total | 117 | 344 | 34% | |
| Contractor personnel statistics. | Females | Total | % Female | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hà Huy Company | 45 | 140 | 32,1% | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ViWaseen Company | 33 | 90 | 36% | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Vinaconex12 Company | 39 | 114 | 34,2% | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total | 117 | 344 | 34% | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | T4. Target 30% female employment in technical (field and laboratory), community liaison | <u>On-going/Achieved</u> The number of women working for Cua Lo Water Supply Company are 15 out of employees, accounting for 31,25%. <table><tr><td>field</td><td>Total</td><td>% Female</td></tr></table> | | | | | | | field | Total | % Female | | | | | | | | | | | | | | | | | | |
| field | Total | % Female | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Project output | Gender Action Plan | Updated Progress | | | | | | | | Issues/challenges and Recommendation | | |
|----------------|---------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----|--------|-------|-------|--------|----------|--------------------------------------|-------------------|------|
| | and managerial roles in PMU (and or WSC) | Technical | | | 2/15 | | 13,3% | | | | | |
| | | Community liaison | | | 4/15 | | 26,7% | | | | | |
| | | Managerial roles | | | 2/15 | | 13,3% | | | | | |
| | | Customer service | | | 7/15 | | 46,7% | | | | | |
| | T5. Target 25% women in CSBs (at ward level), CRCs and PMUs | <u>On-going/Achieved</u> Each community monitoring board has 5 members. There are 3 males and 2 females, accounting for 40% This index is basically satisfactory | | | | | | | | | | |
| | | | CSBs | | | CRCs | | | PMU | | % of total female | |
| | | Female | Total | % | Female | Total | % | Female | Total | % | | |
| | | Cua Lo | 20 | 50 | 40.0 | 4 | 12 | 33,3 | 2 | 7 | 28.5 | 34.3 |
| | A2. Train all CSB members–men and women–on various aspects of project oversight | <u>On-going/achieved</u> 5 people in every community monitoring board were all trained on environmental protection monitoring until the project was completed. | | | | | | | | | | |
| | | | | | Female | | Total | | % Female | | | |
| | | Nghi Hoa water plant | | | 5 | | 5 | | 100% | | | |
| | | Booster pumping station | | | 5 | | 5 | | 100% | | | |
| | | Transmission pipeline | | | 20 | | 20 | | 100% | | | |
| | | Total | | | 30 | | 30 | | 100% | | | |
| | A3. Separate women’s latrines and living | <u>On-going/achieved</u> | | | | | | | | | | |

| Project output | Gender Action Plan | Updated Progress | Issues/challenges and Recommendation | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------|-------------|-------------------|-------------|-------------------|-------|-----|----|------|------|------|----|---|-----|-----|-------|-------|-----|-------|-------|--|--|
| | quarters at construction sites | At the construction site, there are separate toilets for men and women. Built according to the technical design of the project. There are no difficulties. | | | | | | | | | | | | | | | | | | | | | | | |
| Output 2: Improved business planning, asset and financial management Improve operation and maintenance, improve strategic analysis and planning of the water supply companies and effective monitoring and evaluation | A4. Water tariff increase agreed at midterm review with gender and affordability considerations | <p><u>On-going/achieved</u></p> <p>According to the approved project, the water price increases according to the schedule of 2 years. Each time the increase ups to 24%.</p> <p>The ability to pay is calculated in detail according to the price increase schedule which ensures that poor households pay less than 6% of their total income is acceptable.</p> <p>During the mission in December 2019, gender experts collaborated with PMU to re-examine the affordability of poor households following the decision to raise water prices of Nghe An Provincial People's Committee in Decision No. 41/2018 / QD-UBND, October 2, 2018. After interviewing 100 households in the project area about agreeing to pay clean water prices at the annual increase according to the decision of the provincial People's Committee, the results are as follows:</p> <table><tr><td></td><td></td><td>Frequency</td><td>Ratio</td><td>Actual rate</td><td>Accumulated ratio</td></tr><tr><td rowspan="3">Value</td><td>yes</td><td>95</td><td>95.0</td><td>95.0</td><td>95.0</td></tr><tr><td>no</td><td>5</td><td>5.0</td><td>5.0</td><td>100.0</td></tr><tr><td>Total</td><td>100</td><td>100.0</td><td>100.0</td><td></td></tr></table> <p>5% of interviewed households do not agree to pay if water price increases and switch to another type. However, the water price for poor households remains at VND 6500 / m3 compared to Decision No. 37/2016 / QD-UBND of Nghe An Provincial People's Committee.</p> | | | Frequency | Ratio | Actual rate | Accumulated ratio | Value | yes | 95 | 95.0 | 95.0 | 95.0 | no | 5 | 5.0 | 5.0 | 100.0 | Total | 100 | 100.0 | 100.0 | | |
| | | | Frequency | Ratio | Actual rate | Accumulated ratio | | | | | | | | | | | | | | | | | | | |
| Value | yes | 95 | 95.0 | 95.0 | 95.0 | | | | | | | | | | | | | | | | | | | | |
| | no | 5 | 5.0 | 5.0 | 100.0 | | | | | | | | | | | | | | | | | | | | |
| | Total | 100 | 100.0 | 100.0 | | | | | | | | | | | | | | | | | | | | | |
| | A5. Provide gender awareness training for all levels of WSC, project staff, | <p><u>On-going/achieved</u></p> <p>15/15 female employees of Cua Lo Water Supply Joint Stock Company and local Women's Union have been trained and trained on gender awareness.</p> | | | | | | | | | | | | | | | | | | | | | | | |

| Project output | Gender Action Plan | Updated Progress | Issues/challenges and Recommendation |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| | subproject steering committees, CSBs, and consultants to increase sensitivity on water and gender issues, including through exposure visits for female staff of WSC and Women's Union members. | | |
| | T6. Target 50% female staff for new recruits in each PMU and water companies/enterprises in technical and project management positions | <p><u>On-going/achieved</u></p> <p>Currently, Cua Lo Water Supply PMU has 7 members, including 2 newly appointed female staff. Accounting for 100% of new employees</p> | |
| | T7. Ensure 30% female staff participation in training on technical issues like water supply management, scheme operations and maintenance | <p><u>On-going/achieved</u></p> <p>1 out of 3 people appointed by the company is female. accounting for 33%.</p> | |

| Project output | Gender Action Plan | Updated Progress | Issues/challenges and Recommendation |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| | (including NRW reduction) | | |
| | A6. Partner with Women's Union and Community Health Centers in IEC planning and delivery that target both male and female residents and local authorities' representatives equally | <p><u>On-going/achieved</u></p> <p>PMU of Cua Lo Water Supply Joint Stock Company cooperates with the People's Committee of Cua Lo Town; Television in Cua Lo town; Local Women's Union, to prepare communication materials and broadcast on Cua Lo Town Radio</p> <p>PMU of Cua Lo Water Supply Joint Stock Company cooperates with the People's Committee of Cua Lo Town; Television in Cua Lo town; Local Women's Union, to prepare communication materials and broadcast on Cua Lo Town Radio</p> <p>During the implementation of the project, the Government of Cua Lo Town also closely directed to overcome the bad works of the project. Besides, the TV station and the press always timely reported the work that has been done in the water supply project in Cua Lo town. Help people capture information and raise awareness about clean water. Specifically:</p> <p>https://baonghean.vn/cong-ty-cp-cap-nuoc-cua-lo-mo-rong-cong-suat-cap-nuoc-10000-m3-ngay-161245.html</p> <p>http://cualo.vn/chu-tich-hdnd-thi-xa-cua-lo-khao-sat-mot-so-van-de-cu-tri-kien-nghi-ve-du-an-cap-nuoc-sach/</p> <p>https://www.moitruongvadothi.vn/tai-nguyen/nuoc/cua-lo-nghe-an-dau-tu-he-thong-cap-nuoc-dong-bo-hien-dai-a64103.html</p> | |
| | A7. Gender-responsive IEC materials integrating women's issues and needs, disseminated | <p><u>On-going: More data needed</u></p> <p>The IEC document has met the gender information within the scope of the project</p> | PMUs are requested to provide evidence of gender-responsive IEC |

| Project output | Gender Action Plan | Updated Progress | | | | | | | Issues/challenges and Recommendation | | | | | | | | | | | | | | | | | | | | | |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------------|-------|-------------|--|--|----------------------------------------------------------------|---------------|--|--|------------------|--|--|--|--------|-------|-------------|--------|-------|-------------|--------|----|----|------|----|----|------|--|
| | through channels accessed by women | | | | | | | | materials to ADB by the next progress report by December 2019. | | | | | | | | | | | | | | | | | | | | | |
| | T8. Ensure 30% of meter readers and 50% of IEC facilitators employed by WSC and PMU are women | <u>On-going/achieved</u> There are 13-meter readers, of which, 100% of them are women and 11 staff work as communication facilitators, account to 100%. <table><tr><td></td><td colspan="3">Meter readers</td><td colspan="3">IEC facilitators</td></tr><tr><td></td><td>Female</td><td>Total</td><td>% of female</td><td>Female</td><td>Total</td><td>% of female</td></tr><tr><td>Cua Lo</td><td>13</td><td>13</td><td>100%</td><td>11</td><td>11</td><td>100%</td></tr></table> | | | | | | | | Meter readers | | | IEC facilitators | | | | Female | Total | % of female | Female | Total | % of female | Cua Lo | 13 | 13 | 100% | 11 | 11 | 100% | |
| | Meter readers | | | IEC facilitators | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Female | Total | % of female | Female | Total | % of female | | | | | | | | | | | | | | | | | | | | | | | | |
| Cua Lo | 13 | 13 | 100% | 11 | 11 | 100% | | | | | | | | | | | | | | | | | | | | | | | | |
| | A8. During construction, inform women of water supply interruption schedules to enable better household planning and minimize disruptions | <u>On-going/achieved</u> In the last 6 months of 2019, the construction of transmission pipelines does not affect the current situation of water supply. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | A9. Disaggregate customer feedback by sex for use in future planning and in project quarterly reports and biannual GAP Progress Reports | <u>On-going/achieved</u> There are currently no feedback or complaints from the community. The Cua Lo water supply company receives feedback from people through two channels of information 1. From the hotline phone number: 0383943177 2. Customer support department: 091 314 87 68 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Project output | Gender Action Plan | Updated Progress | Issues/challenges and Recommendation | | | | | | | | | | | |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------|--------------------------|---------------------|---------------|--------------------------|--------|------|-----|------|-----|------|
| Output 3: Effective NRW reduction | A10.Publicize water tariff roadmap which integrates gender and affordability concerns informed by VWU participation in roadmap planning exercises | <p>The route for price increase is published in the feasible study report at the People's Committees of 11 wards/communes under the project.</p> <p>Prior to the preparation of the project report, the project team consulted in 11 wards, including representatives of local women's unions.</p> <p>Clean water price in Cua Lo town is taken by Cua Lo water supply joint stock company according to unit price of Nghe An clean water joint stock company approved in Decision No. 41/2018 / QD-UBND Nghe An province on valuing urban clean water consumption produced and supplied by Nghe An Water Supply Joint Stock Company.⁴</p> <p>Note: In this decision gender issues have not been addressed</p> | | | | | | | | | | | | |
| | A11.Ensure appropriate monitoring mechanism and staff resourcing for the implementation of decree 117/2007 and Decree 124/2011 to ensure lifeline tariff and free connections to 100% of identified poor and women-headed households. | <p><u>On-going/ compliance /achieved/</u></p> <p>The PMU is in compliance with the law to ensure that 100% of poor and female headed households have access to clean water</p> <p>Mr. Tri who takes responsibility of social safeguard in PMU is assigned to monitor free connections for poor households and keep a record of connection confirmations when completing the project.</p> <p>The social supervisor will update the situation to the project completion report</p> <table><tr><td></td><td>Poor HHs</td><td>Poor HHs connected.</td><td>% Poor HHs coverage</td><td>Poor and FFHs</td><td>% Poor and FHHs coverage</td></tr><tr><td>Cua Lo</td><td>1763</td><td>630</td><td>100%</td><td>474</td><td>100%</td></tr></table> | | Poor HHs | Poor HHs connected. | % Poor HHs coverage | Poor and FFHs | % Poor and FHHs coverage | Cua Lo | 1763 | 630 | 100% | 474 | 100% |
| | Poor HHs | Poor HHs connected. | % Poor HHs coverage | Poor and FFHs | % Poor and FHHs coverage | | | | | | | | | |
| Cua Lo | 1763 | 630 | 100% | 474 | 100% | | | | | | | | | |

CRC = Compensation and Resettlement Committee; CSB = Community Supervision Board; HH = Household; IEC = Information, Education and Communication; MBC = Metering, Billing and Collection; PMU = Project Monitoring Unit; VWU = Viet Nam Women's Union; WSC = Water Supply Company.

⁴ <https://baonghean.vn/de-xuat-giam-gia-tieu-thu-nuoc-sach-tai-khu-vuc-do-thi-cua-nhieu-huyen-233948.html>

7 Conclusion and recommendation

45. By the time of reporting (Dec 31th, 2019), basically the project's EMPs has been implemented & compliance well by the contractors and PMU.

46. Compensation and site clearance for the project had been carried out by the local authorities (Cua Lo Town People's Committee) from 2012 to 2019. The compensation process was complied with Vietnamese laws and regulations and also adapting with ADB's social safeguards policies. All pending issues from the previous period have been solved and completed. Compensation for ground clearance is basically completed and handover of the ground in time for the work construction project. At the time of reporting, AHs and local people have no complaint and satisfy with project.

47. For the next monitoring period, additional impacts as well as complaint of local people (if any) will be continued to monitor and timely resolve

Appendix 1: Results of analysis of environmental samples during construction phase

✚ Sample analysis results of the 3rd quarter

The results of analysis of air samples (k1, k2, k3) of the 3rd quarter of 2019

Laboratory: Phuong Nam Center for environmental analysis and measurement.



TRUNG TÂM PHÂN TÍCH VÀ ĐO ĐẠC MÔI TRƯỜNG PHƯƠNG NAM

Địa chỉ: Số 15 Đoàn Thị Điểm- Phường 4 - Tp. Vũng Tàu.

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PHIẾU KẾT QUẢ PHÂN TÍCH

Số: 1044 /PHUONGNAM/2019

1. Khách hàng: Công ty Cổ phần tư vấn đầu tư và Môi trường VINAGREEN
2. Địa chỉ: LK 18, khu đô thị Hadico 30, xóm 20, xã Nghi Phú, Tp Vinh, Nghệ An
3. Địa điểm lấy mẫu: Khu vực dự án nâng cấp, mở rộng hệ thống cấp nước thị xã Cửa Lò, tỉnh Nghệ An.
3. Loại mẫu: Mẫu không khí, tiếng ồn
4. Vị trí lấy mẫu:
 - + Khu vực đường Nguyễn Sinh Cung
 - + Khu vực đường Nguyễn Huệ
 - + Khu vực đường Mai Thúc Loan
5. Ngày lấy mẫu: 16/09/2019

Kí hiệu: Tọa độ:
 KK1 X: 2078456; Y: 601044
 KK2 X: 2079042; Y: 602877
 KK3 X: 2079131; Y: 602965

Ngày trả kết quả: 22/09/2019

| TT | Thông số | ĐVT | Phương pháp thử | Kết quả | | | QCVN 05:2013/BTNMT |
|----|--------------------|-------------------|--------------------|---------|------|------|-----------------------|
| | | | | KK1 | KK2 | KK3 | |
| 1 | Nhiệt độ | °C | QCVN 46:2012/BTNMT | 29 | 28 | 28,7 | - |
| 2 | Độ ẩm | % | QCVN 46:2012/BTNMT | 78 | 75 | 79 | - |
| 3 | Áp suất khí quyển | atm | HD81-PPDN-ASKK | 620 | 612 | 627 | - |
| 4 | Vận tốc gió | m/s | QCVN 46:2012/BTNMT | 1,2 | 1,5 | 1,0 | - |
| 5 | Hướng gió | - | GPS 64s | TB | TB | TB | - |
| 6 | Bụi tổng số (TSP)* | µg/m ³ | TCVN 5067:1995 | 142 | 155 | 151 | 300 |
| 7 | CO | µg/m ³ | HD24-PPT-CO | 1820 | 1992 | 1908 | 30000 |
| 8 | SO ₂ | µg/m ³ | TCVN 5971:1995 | 148 | 132 | 135 | 350 |
| 9 | NO ₂ | µg/m ³ | TCVN 6137:2009 | 127 | 144 | 141 | 200 |
| 10 | Tiếng ồn | dBA | TCVN 7878-2:2010 | 62 | 58 | 60 | 70 ⁽¹⁾ |

Ghi chú:

"-" Tức là không quy định;

- QCVN 05:2013/BTNMT: Quy chuẩn kỹ thuật quốc gia về chất lượng không khí xung quanh.

- (1): QCVN 26:2010/BTNMT: Quy chuẩn kỹ thuật quốc gia về tiếng ồn.

- Kết quả chỉ có giá trị đối với mẫu thử nghiệm.

- Không được trích sao một phần kết quả này nếu không được sự đồng ý của PTN.

Trưởng phòng phân tích


 Nguyễn Thị Xuân

KT.Giám đốc Trung tâm
 Phó Giám Đốc


 Nguyễn Thị Duyên

The results of analysis of air samples (k4, k5, k6, k7) of the 3rd quarter of 2019
Laboratory: Phuong Nam Center for environmental analysis and measurement.



**TRUNG TÂM PHÂN TÍCH VÀ ĐO ĐẠC
MÔI TRƯỜNG PHƯƠNG NAM**

Địa chỉ: Số 15 Đoàn Thị Điểm- Phường 4 - Tp. Vũng Tàu.
Điện thoại: 0254.3563356 Fax: 0254.3563363



PHIẾU KẾT QUẢ PHÂN TÍCH

Số: 1045 /PHUONGNAM/2019

1. Khách hàng: Công ty Cổ phần tư vấn đầu tư và Môi trường VINAGREEN
2. Địa chỉ: LK 18, khu đô thị Hadico 30, xóm 20, xã Nghi Phú, Tp Vinh, Nghệ An
3. Địa điểm lấy mẫu: Khu vực dự án nâng cấp, mở rộng hệ thống cấp nước thị xã Cửa Lò, tỉnh Nghệ An.
3. Loại mẫu: Mẫu không khí, tiếng ồn
4. Vị trí lấy mẫu:
 - + Tại đường Bình Minh (đối diện khách sạn Bạn Tôi)
 - + Tại đường Bình Minh (đối diện KS Sài Gòn – Kim Liên)
 - + Tại trạm bơm tăng áp, gần đường Sào Nam
 - + Khu vực Nhà máy nước Nghi Hòa
5. Ngày lấy mẫu: 16/09/2019

Kí hiệu: Tọa độ:
 KK4 X: 2078428 ; Y: 601032
 KK5 X: 2079017; Y: 602885
 KK6 X: 2078904; Y: 600476
 KK7 X: 2080285; Y: 591345

Ngày trả kết quả: 22/09/2019

| TT | Thông số | ĐVT | Phương pháp thử | Kết quả | | | | QCVN 05:2013/BTNMT |
|----|--------------------|-------------------|-----------------------|---------|------|------|------|-----------------------|
| | | | | KK4 | KK5 | KK6 | KK7 | |
| 1 | Nhiệt độ | °C | QCVN 46:2012/BTNMT | 29,4 | 29,2 | 29,0 | 28,8 | - |
| 2 | Độ ẩm | % | QCVN 46:2012/BTNMT | 77 | 75 | 76 | 72 | - |
| 3 | Áp suất khí quyển | atm | HD81-PPDN- ASKK | 612 | 608 | 625 | 615 | - |
| 4 | Vận tốc gió | m/s | QCVN 46:2012/BTNMT | 1,4 | 1,2 | 1,8 | 2,0 | - |
| 5 | Hướng gió | - | GPS 64s | TB | TB | TB | TB | - |
| 6 | Bụi tổng số (TSP)* | µg/m ³ | TCVN 5067:1995 | 162 | 158 | 147 | 140 | 300 |
| 7 | CO | µg/m ³ | HD24-PPT-CO | 1902 | 1872 | 1884 | 1808 | 30000 |
| 8 | SO ₂ | µg/m ³ | TCVN 5971:1995 | 144 | 151 | 135 | 140 | 350 |
| 9 | NO ₂ | µg/m ³ | TCVN 6137:2009 | 137 | 125 | 118 | 112 | 200 |
| 10 | Tiếng ồn | dBA | TCVN 7878- 2:2010 | 61 | 60 | 64 | 66 | 70 ⁽¹⁾ |

Ghi chú:

- " " Tức là không quy định;
- QCVN 05:2013/BTNMT: Quy chuẩn kỹ thuật quốc gia về chất lượng không khí xung quanh.
- (1): QCVN 26:2010/BTNMT: Quy chuẩn kỹ thuật quốc gia về tiếng ồn.
- Kết quả chỉ có giá trị đối với mẫu thử nghiệm.

Trưởng phòng phân tích

Nguyễn Thị Xuân

**KT.Giám đốc Trung tâm
Phó Giám Đốc**

Nguyễn Thị Duyên

The analysis results of surface water samples (NM1, NM2, NM3) of the 3rd quarter of 2019

Laboratory: Phuong Nam Center for environmental analysis and measurement.



**TRUNG TÂM PHÂN TÍCH VÀ ĐO ĐẠC
MÔI TRƯỜNG PHƯƠNG NAM**

Địa chỉ: Số 15 Đoàn Thị Điểm- Phường 4 - Tp. Vũng Tàu.

Điện Thoại: 0254.3563356

Fax: 0254.3563363



PHIẾU KẾT QUẢ PHÂN TÍCH

Số: 1046 /PHUONGNAM/2019

1. Khách hàng: Công ty Cổ phần tư vấn đầu tư và Môi trường VINAGREEN
 2. Địa chỉ: LK 18, khu đô thị Hadico 30, xóm 20, xã Nghi Phú, Tp Vinh, Nghệ An
 3. Địa điểm lấy mẫu: Khu vực Dự án nâng cấp, mở rộng hệ thống cấp nước thị xã Cửa Lò, tỉnh Nghệ An.
 3. Loại mẫu: Mẫu nước mặt
 4. Vị trí lấy mẫu: Nước mặt trên cầu Phương Tích (điểm 1)
 Nước mặt trên cầu Phương Tích (điểm 2)
 Nước mặt ở sông Rao Trường
 5. Ngày lấy mẫu: 16/09/2019
- Kí hiệu: NM1 X: 2080175; Y: 591458
 NM2 X: 2079981; Y: 591657
 NM3 X: 2077848; Y: 595975
 Ngày trả kết quả: 22/09/2019

| TT | Thông số | ĐVT | Phương pháp thử | Kết quả | | | QCVN 08-MT:2015/ BTNMT |
|----|-------------------------------|------------|-------------------------------------------------|---------|-------|------|------------------------------|
| | | | | NM1 | NM2 | NM3 | |
| 1 | pH | Thang pH | TCVN 6492:2011 | 7,4 | 7,5 | 7,2 | 5,5-9 |
| 2 | DO | mg/l | TCVN 7325:2016 | 5,9 | 6,1 | 5,8 | ≥4 |
| 3 | COD | mg/l | SMEWW 5220C:2012 | 20,2 | 22,5 | 26,0 | 30 |
| 4 | BOD ₅ (20°C) | mg/l | TCVN 6001:2008 | 13,2 | 13,5 | 12,0 | 15 |
| 5 | TSS | mg/l | TCVN 6625:2000 | 38,5 | 37 | 41,3 | 50 |
| 6 | NH ₄ ⁺ | mg/l | EPA Method 350.2 | 0,4 | 0,45 | 0,6 | 0,9 |
| 7 | NO ₃ ⁻ | mg/l | SMEWW 4500-NO ₃ ⁻ .E:2012 | 6,0 | 6,2 | 7,5 | 10 |
| 8 | NO ₂ ⁻ | mg/l | TCVN 6178:1996 | 0,03 | 0,032 | 0,04 | 0,05 |
| 9 | PO ₄ ³⁻ | mg/l | TCVN 6202:2008 | 0,12 | 0,1 | 0,17 | 0,3 |
| 10 | Dầu mỡ | mg/l | SMEWW 5520B:2012 | 0,48 | 0,46 | 0,61 | 1 |
| 11 | Coliform | MPN/100 ml | TCVN 6187-2:2009 | 4.200 | 4300 | 4800 | 7.500 |

Ghi chú:

"-" Tức là không quy định;

- QCVN 08-MT:2015/BTNMT: Quy chuẩn kỹ thuật quốc gia về chất lượng nước mặt.

- Cột B1: Dùng cho mục đích tưới tiêu, thủy lợi hoặc các mục đích sử dụng khác có yêu cầu chất lượng nước tương tự hoặc các mục đích sử dụng như loại B2.

- Kết quả chỉ có giá trị đối với mẫu thử nghiệm.

Trưởng phòng phân tích

Nguyễn Thị Xuân

**KT.Giám đốc Trung tâm
Phó Giám Đốc**

Nguyễn Thị Duyên

The analysis results of surface water samples (NM4, NM5, NM6) of the 3rd quarter of 2019

Laboratory: Phuong Nam Center for environmental analysis and measurement.



**TRUNG TÂM PHÂN TÍCH VÀ ĐO ĐẠC
MÔI TRƯỜNG PHƯƠNG NAM**

Địa chỉ: Số 15 Đoàn Thị Điểm- Phường 4 - Tp. Vũng Tàu.

Điện Thoại: 0254.3563356

Fax: 0254.3563363



PHIẾU KẾT QUẢ PHÂN TÍCH

Số: 1047 /PHUONGNAM/2019

1. Khách hàng: Công ty Cổ phần tư vấn đầu tư và Môi trường VINAGREEN
2. Địa chỉ: LK 18, khu đô thị Hadico 30, xóm 20, xã Nghi Phú, Tp Vinh, Nghệ An
3. Địa điểm lấy mẫu: Khu vực Dự án nâng cấp, mở rộng hệ thống cấp nước thị xã Cửa Lò, tỉnh Nghệ An.
3. Loại mẫu: Mẫu nước mặt
4. Vị trí lấy mẫu: Nước mặt tại Sông Cẩm
Nước mặt tại ao hồ phường Nghi Hương
Nước mặt ao hồ xã Nghi Khánh
5. Ngày lấy mẫu: 16/09/2019

Kí hiệu:

Tọa độ:

NM4 X: 2085195; Y: 594926

NM5 X: 2078916; Y: 602599

NM6 X: 2080244; Y: 599749

Ngày trả kết quả: 22/09/2019

| TT | Thông số | ĐVT | Phương pháp thử | Kết quả | | | QCVN 08-MT:2015/ BTNMT |
|----|-------------------------------|----------|-------------------------------------------------|---------|-------|-------|------------------------------|
| | | | | NM4 | NM5 | NM6 | |
| 1 | pH | Thang pH | TCVN 6492:2011 | 7,2 | 7,0 | 7,4 | 5,5-9 |
| 2 | DO | mg/l | TCVN 7325:2016 | 4,9 | 5,2 | 5,0 | ≥4 |
| 3 | COD | mg/l | SMEWW 5220C:2012 | 22,5 | 26,2 | 26,8 | 30 |
| 4 | BOD ₅ (20°C) | mg/l | TCVN 6001:2008 | 13,2 | 14,4 | 12,7 | 15 |
| 5 | TSS | mg/l | TCVN 6625:2000 | 32,7 | 35,2 | 37 | 50 |
| 6 | NH ₄ ⁺ | mg/l | EPA Method 350.2 | 0,52 | 0,55 | 0,6 | 0,9 |
| 7 | NO ₃ ⁻ | mg/l | SMEWW 4500-NO ₃ ⁻ :E:2012 | 5,7 | 6,4 | 5,8 | 10 |
| 8 | NO ₂ ⁻ | mg/l | TCVN 6178:1996 | 0,028 | 0,035 | 0,03 | 0,05 |
| 9 | PO ₄ ³⁻ | mg/l | TCVN 6202:2008 | 0,21 | 0,18 | 0,2 | 0,3 |
| 10 | Dầu mỡ | mg/l | SMEWW 5520B:2012 | 0,62 | 0,54 | 0,55 | 1 |
| 11 | Coliform | mg/l | TCVN 6187-2:2009 | 4500 | 4.200 | 4.300 | 7.500 |

Ghi chú:

- " - " tức là không quy định;
- QCVN 08-MT:2015/BTNMT: Quy chuẩn kỹ thuật quốc gia về chất lượng nước mặt.
- Cột B1: Dùng cho mục đích tưới tiêu, thủy lợi hoặc các mục đích sử dụng khác có yêu cầu chất lượng nước tương tự hoặc các mục đích sử dụng như loại B2.
- Kết quả chỉ có giá trị đối với mẫu thử nghiệm.

Trưởng phòng phân tích


Nguyễn Thị Xuân

**KT.Giám đốc Trung tâm
Phó Giám Đốc**


Nguyễn Thị Duyên

The results of vibration measurement results (R1; R2; R3; R4) of the 3rd quarter of 2019
Laboratory: Phuong Nam Center for environmental analysis and measurement.



**TRUNG TÂM PHÂN TÍCH VÀ ĐO ĐẠC
MÔI TRƯỜNG PHƯƠNG NAM**

Địa chỉ: Số 15 Đoàn Thị Điểm- Phường 4 - Tp. Vũng Tàu.
Điện thoại: 0254.3563356 Fax: 0254.3563363



PHIẾU KẾT QUẢ PHÂN TÍCH

Số: 1048 /PHUONGNAM/2019

1. Khách hàng: Công ty Cổ phần tư vấn đầu tư và Môi trường VINAGREEN
2. Địa chỉ: LK 18, khu đô thị Hadico 30, xóm 20, xã Nghi Phú, Tp Vinh, Nghệ An
3. Địa điểm lấy mẫu: Khu vực dự án nâng cấp, mở rộng hệ thống cấp nước thị xã Cửa Lò, tỉnh Nghệ An.
3. Loại mẫu: Độ rung
4. Vị trí lấy mẫu:

| | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| + Tại Cầu phương Tích (tuyến ống truyền tải) + Tại Cầu Rao Trường (tuyến ống truyền tải) + Tại đường Sào Nam (tuyến phân phối) + Tại đường Bình Minh (tuyến phân phối) | Ki hiệu: Tọa độ: R1 X: 2078017; Y: 591456 R2 X: 2077846; Y: 595972 R3 X: 2080282; Y: 591340 R4 X: 2079230; Y: 603300 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
5. Ngày lấy mẫu: 16/09/2019 Ngày trả kết quả: 22/09/2019

| TT | Thông số | ĐVT | Phương pháp | Kết quả | | | | QCVN 27:2010/BTNMT |
|----|----------|-----|----------------|---------|----|----|----|-----------------------|
| | | | | R1 | R2 | R3 | R4 | |
| 1 | Độ rung | dB | TCVN 6963:2001 | 65 | 63 | 64 | 61 | 75 |

Ghi chú:

"-" Tức là không quy định;

- QCVN 27:2010/BTNMT: Quy chuẩn kỹ thuật quốc gia về độ rung.

- Kết quả chỉ có giá trị đối với mẫu thử nghiệm.

- Không được trích sao một phần kết quả này nếu không được sự đồng ý của PTN.

Trưởng phòng phân tích

Nguyễn Thị Xuân

KT.Giám đốc Trung tâm
Phó Giám Đốc



Nguyễn Thị Duyên

✚ Sample analysis results of the 4th quarter

The results of analysis of air samples (k1, k2, k3) of the 4th quarter of 2019
Laboratory: Phuong Nam Center for environmental analysis and measurement.



**TRUNG TÂM PHÂN TÍCH VÀ ĐO ĐẠC
MÔI TRƯỜNG PHƯƠNG NAM**

Địa chỉ: Số 15 ĐoànThị Điểm- Phường 4 - Tp. VũngTàu.

ĐiệnThoại: 0254.3563356

Fax: 0254.3563363



PHIẾU KẾT QUẢ PHÂN TÍCH

Số: 1455 /PHUONGNAM/2019

1. Khách hàng: Công ty Cổ phần tư vấn đầu tư và Môi trường VINAGREEN
2. Địa chỉ: LK 18, khu đô thị Hadico 30, xóm 20, xã Nghi Phú, Tp Vinh, Nghệ An
3. Địa điểm lấy mẫu: Khu vực dự án nâng cấp, mở rộng hệ thống cấp nước thị xã Cửa Lò, tỉnh Nghệ An.
3. Loại mẫu: Mẫu không khí, tiếng ồn
4. Vị trí lấy mẫu:
 - + Khu vực đường Nguyễn Sinh Cung
 - + Khu vực đường Nguyễn Huệ
 - + Khu vực đường Mai Thúc Loan
5. Ngày lấy mẫu: 20/12/2019

Kí hiệu: Tọa độ:
 KK1 X: 2078456; Y: 601044
 KK2 X: 2079042; Y: 602877
 KK3 X: 2079131; Y: 602965

Ngày trả kết quả: 26/12/2019

| TT | Thông số | ĐVT | Phương pháp thử | Kết quả | | | QCVN 05:2013/BTNMT |
|----|--------------------|-------------------|--------------------|---------|------|------|-----------------------|
| | | | | KK1 | KK2 | KK3 | |
| 1 | Nhiệt độ | °C | QCVN 46:2012/BTNMT | 34 | 35 | 35,2 | - |
| 2 | Độ ẩm | % | QCVN 46:2012/BTNMT | 65 | 61 | 62 | - |
| 3 | Áp suất khí quyển | atm | HD81-PPDN-ASKK | 550 | 562 | 548 | - |
| 4 | Vận tốc gió | m/s | QCVN 46:2012/BTNMT | 2 | 2,2 | 1,8 | - |
| 5 | Hướng gió | - | GPS 64s | ĐB | ĐB | ĐB | - |
| 6 | Bụi tổng số (TSP)* | µg/m ³ | TCVN 5067:1995 | 164 | 148 | 156 | 300 |
| 7 | CO | µg/m ³ | HD24-PPT-CO | 1882 | 1825 | 1720 | 30000 |
| 8 | SO ₂ | µg/m ³ | TCVN 5971:1995 | 150 | 142 | 128 | 350 |
| 9 | NO ₂ | µg/m ³ | TCVN 6137:2009 | 118 | 102 | 109 | 200 |
| 10 | Tiếng ồn | dBA | TCVN 7878-2:2010 | 64 | 61 | 62 | 70 ⁽¹⁾ |

Ghi chú:

- " " Tức là không quy định;
- QCVN 05:2013/BTNMT: Quy chuẩn kỹ thuật quốc gia về chất lượng không khí xung quanh.
- (1): QCVN 26:2010/BTNMT: Quy chuẩn kỹ thuật quốc gia về tiếng ồn.
- Kết quả chỉ có giá trị đối với mẫu thử nghiệm.
- Không được trích sao một phần kết quả này nếu không được sự đồng ý của PTN.

Trưởng phòng phân tích

**KT.Giám đốc Trung tâm
Phó Giám Đốc**

Nguyễn Thị Xuân

Nguyễn Thị Duyên

The results of analysis of air samples (k4, k5, k6, k7) of the 4th quarter of 2019
Laboratory: Phuong Nam Center for environmental analysis and measurement.



**TRUNG TÂM PHÂN TÍCH VÀ ĐO ĐẠC
MÔI TRƯỜNG PHƯƠNG NAM**

Địa chỉ: Số 15 Đoàn Thị Điểm- Phường 4 - Tp. Vũng Tàu.

Điện Thoại: 0254.3563356

Fax: 0254.3563363



PHIẾU KẾT QUẢ PHÂN TÍCH

Số: 1456 /PHUONGNAM/2019

1. Khách hàng: Công ty Cổ phần tư vấn đầu tư và Môi trường VINAGREEN
2. Địa chỉ: LK 18, khu đô thị Hadico 30, xóm 20, xã Nghi Phú, Tp Vinh, Nghệ An
3. Địa điểm lấy mẫu: Khu vực dự án nâng cấp, mở rộng hệ thống cấp nước thị xã Cửa Lò, tỉnh Nghệ An.
3. Loại mẫu: Mẫu không khí, tiếng ồn
4. Vị trí lấy mẫu:

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| + Tại đường Bình Minh (đối diện khách sạn Bạt Tới) + Tại đường Bình Minh (đối diện KS Sài Gòn – Kim Liên) + Tại trạm bơm tăng áp, gần đường Sào Nam + Khu vực Nhà máy nước Nghi Hòa | Kí hiệu: Tọa độ: KK4 X: 2078428 ; Y: 601032 KK5 X: 2079017; Y: 602885 KK6 X: 2078904; Y: 600476 KK7 X: 2080285; Y: 591345 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
5. Ngày lấy mẫu: 20/12/2019 Ngày trả kết quả: 26/12/2019

| TT | Thông số | ĐVT | Phương pháp thử | Kết quả | | | | QCVN 05:2013/BTNM T |
|----|--------------------|-------------------|-----------------------|---------|------|------|------|---------------------------|
| | | | | KK4 | KK5 | KK6 | KK7 | |
| 1 | Nhiệt độ | °C | QCVN 46:2012/BTNMT | 34,5 | 34 | 36 | 34,2 | - |
| 2 | Độ ẩm | % | QCVN 46:2012/BTNMT | 68 | 61 | 60 | 64 | - |
| 3 | Áp suất khí quyển | atm | HD81-PPDN- ASKK | 584 | 602 | 618 | 592 | - |
| 4 | Vận tốc gió | m/s | QCVN 46:2012/BTNMT | 1,9 | 2,5 | 2,0 | 1,6 | - |
| 5 | Hướng gió | - | GPS 64s | ĐB | ĐB | ĐB | ĐB | - |
| 6 | Bụi tổng số (TSP)* | µg/m ³ | TCVN 5067:1995 | 178 | 166 | 141 | 147 | 300 |
| 7 | CO | µg/m ³ | HD24-PPT-CO | 1981 | 1948 | 1820 | 1810 | 30000 |
| 8 | SO ₂ | µg/m ³ | TCVN 5971:1995 | 128 | 142 | 112 | 122 | 350 |
| 9 | NO ₂ | µg/m ³ | TCVN 6137:2009 | 115 | 108 | 92 | 104 | 200 |
| 10 | Tiếng ồn | dBA | TCVN 7878- 2:2010 | 64 | 62 | 62 | 65 | 70 ⁽¹⁾ |

Ghi chú:

"-" Tác là không quy định;

- QCVN 05:2013/BTNMT: Quy chuẩn kỹ thuật quốc gia về chất lượng không khí xung quanh.

- ⁽¹⁾: QCVN 26:2010/BTNMT: Quy chuẩn kỹ thuật quốc gia về tiếng ồn.

- Kết quả chỉ có giá trị đối với mẫu thử nghiệm.

Trưởng phòng phân tích


Nguyễn Thị Xuân

**KT.Giám đốc Trung tâm
Phó Giám Đốc**


Nguyễn Thị Duyên

The analysis results of surface water samples (NM1, NM2, NM3) of the 4th quarter of 2019

Laboratory: Phuong Nam Center for environmental analysis and measurement.



**TRUNG TÂM PHÂN TÍCH VÀ ĐO ĐẠC
MÔI TRƯỜNG PHƯƠNG NAM**

Địa chỉ: Số 15 Đoàn Thị Điểm- Phường 4 - Tp. Vũng Tàu.

Điện Thoại: 0254.3563356

Fax: 0254.3563363



PHIẾU KẾT QUẢ PHÂN TÍCH

Số: 1457 /PHUONGNAM/2019

1. Khách hàng: Công ty Cổ phần tư vấn đầu tư và Môi trường VINAGREEN
 2. Địa chỉ: LK 18, khu đô thị Hadico 30, xóm 20, xã Nghi Phú, Tp Vinh, Nghệ An
 3. Địa điểm lấy mẫu: Khu vực Dự án nâng cấp, mở rộng hệ thống cấp nước thị xã Cửa Lò, tỉnh Nghệ An.
 3. Loại mẫu: Mẫu nước mặt
 4. Vị trí lấy mẫu: Nước mặt trên cầu Phương Tích (điểm 1)
 Nước mặt trên cầu Phương Tích (điểm 2)
 Nước mặt ở sông Rao Trường
 5. Ngày lấy mẫu: 20/12/2019
- Kí hiệu: NM1 NM2 NM3
 Tọa độ: X: 2080175; Y: 591458
 X: 2079981; Y: 591657
 X: 2077848; Y: 595975
 Ngày trả kết quả: 26/12/2019

| TT | Thông số | ĐVT | Phương pháp thử | Kết quả | | | QCVN 08-MT:2015/ BTNMT |
|----|-------------------------------|------------|-------------------------------------------------|---------|-------|-------|------------------------------|
| | | | | NM1 | NM2 | NM3 | |
| 1 | pH | Thang pH | TCVN 6492:2011 | 7,0 | 7,2 | 7,6 | 5,5-9 |
| 2 | DO | mg/l | TCVN 7325:2016 | 6,0 | 6,2 | 5,5 | ≥4 |
| 3 | COD | mg/l | SMEWW 5220C:2012 | 24,1 | 24,5 | 25,0 | 30 |
| 4 | BOD ₅ (20°C) | mg/l | TCVN 6001:2008 | 11,8 | 11,1 | 12,7 | 15 |
| 5 | TSS | mg/l | TCVN 6625:2000 | 35,2 | 38 | 44,8 | 50 |
| 6 | NH ₄ ⁺ | mg/l | EPA Method 350.2 | 0,6 | 0,71 | 0,58 | 0,9 |
| 7 | NO ₃ ⁻ | mg/l | SMEWW 4500-NO ₃ ⁻ .E:2012 | 4,8 | 5,4 | 6,5 | 10 |
| 8 | NO ₂ ⁻ | mg/l | TCVN 6178:1996 | 0,02 | 0,022 | 0,018 | 0,05 |
| 9 | PO ₄ ³⁻ | mg/l | TCVN 6202:2008 | 0,1 | 0,12 | 0,22 | 0,3 |
| 10 | Dầu mỡ | mg/l | SMEWW 5520B:2012 | 0,35 | 0,4 | 0,52 | 1 |
| 11 | Coliform | MPN/100 ml | TCVN 6187-2:2009 | 3.900 | 3800 | 4200 | 7.500 |

Ghi chú:

"-" Tức là không quy định;

- QCVN 08-MT:2015/BTNMT: Quy chuẩn kỹ thuật quốc gia về chất lượng nước mặt.

- Cột B1: Dùng cho mục đích tưới tiêu, thủy lợi hoặc các mục đích sử dụng khác có yêu cầu chất lượng nước tương tự hoặc các mục đích sử dụng như loại B2.

- Kết quả chỉ có giá trị đối với mẫu thử nghiệm.

Trưởng phòng phân tích

**KT.Giám đốc Trung tâm
Phó Giám Đốc**


Nguyễn Thị Xuân


Nguyễn Thị Duyên

The analysis results of surface water samples (NM4, NM5, NM6) of the 4th quarter of 2019

Laboratory: Phuong Nam Center for environmental analysis and measurement.



**TRUNG TÂM PHÂN TÍCH VÀ ĐO ĐẠC
MÔI TRƯỜNG PHƯƠNG NAM**

Địa chỉ: Số 15 Đoàn Thị Điểm- Phường 4 - Tp. Vũng Tàu.

Điện Thoại: 0254.3563356

Fax: 0254.3563363



PHIẾU KẾT QUẢ PHÂN TÍCH

Số: 1458 /PHUONGNAM/2019

1. Khách hàng: Công ty Cổ phần tư vấn đầu tư và Môi trường VINAGREEN
2. Địa chỉ: LK 18, khu đô thị Hadico 30, xóm 20, xã Nghi Phú, Tp Vinh, Nghệ An
3. Địa điểm lấy mẫu: Khu vực Dự án nâng cấp, mở rộng hệ thống cấp nước thị xã Cửa Lò, tỉnh Nghệ An.
3. Loại mẫu: Mẫu nước mặt
4. Vị trí lấy mẫu:
 - Nước mặt tại Sông Cẩm
 - Nước mặt tại ao hồ phường Nghi Hương
 - Nước mặt ao hồ xã Nghi Khánh
5. Ngày lấy mẫu: 20/12/2019

Kí hiệu:

Tọa độ:

NM4 X: 2085195; Y: 594926

NM5 X: 2078916; Y: 602599

NM6 X: 2080244; Y: 599749

Ngày trả kết quả: 26/12/2019

| TT | Thông số | ĐVT | Phương pháp thử | Kết quả | | | QCVN 08-MT:2015/ BTNMT |
|----|-------------------------------|----------|-------------------------------------------------|---------|-------|-------|------------------------------|
| | | | | NM4 | NM5 | NM6 | |
| 1 | pH | Thang pH | TCVN 6492:2011 | 7,5 | 7,3 | 7,6 | 5,5-9 |
| 2 | DO | mg/l | TCVN 7325:2016 | 5,8 | 5,5 | 6,0 | ≥4 |
| 3 | COD | mg/l | SMEWW 5220C:2012 | 18,0 | 21,2 | 26,2 | 30 |
| 4 | BOD ₅ (20°C) | mg/l | TCVN 6001:2008 | 10,5 | 12,8 | 11,0 | 15 |
| 5 | TSS | mg/l | TCVN 6625:2000 | 38,2 | 40,5 | 36,8 | 50 |
| 6 | NH ₄ ⁺ | mg/l | EPA Method 350.2 | 0,72 | 0,79 | 0,58 | 0,9 |
| 7 | NO ₃ ⁻ | mg/l | SMEWW 4500-NO ₃ ⁻ .E:2012 | 4,4 | 5,2 | 5,0 | 10 |
| 8 | NO ₂ ⁻ | mg/l | TCVN 6178:1996 | 0,018 | 0,021 | 0,02 | 0,05 |
| 9 | PO ₄ ³⁻ | mg/l | TCVN 6202:2008 | 0,12 | 0,31 | 0,28 | 0,3 |
| 10 | Dầu mỡ | mg/l | SMEWW 5520B:2012 | 0,41 | 0,48 | 0,6 | 1 |
| 11 | Coliform | mg/l | TCVN 6187-2:2009 | 3900 | 4.400 | 4.000 | 7.500 |

Ghi chú:

"-" Tức là không quy định;

- QCVN 08-MT:2015/BTNMT: Quy chuẩn kỹ thuật quốc gia về chất lượng nước mặt.

- Cột B1: Dùng cho mục đích tưới tiêu, thủy lợi hoặc các mục đích sử dụng khác có yêu cầu chất lượng nước tương tự hoặc các mục đích sử dụng như loại B2.

- Kết quả chỉ có giá trị đối với mẫu thử nghiệm.

Trưởng phòng phân tích


Nguyễn Thị Xuân

**KT.Giám đốc Trung tâm
Phó Giám Đốc**


Nguyễn Thị Duyên

The results of vibration measurement results (R1; R2; R3; R4) of the 4th quarter of 2019
Laboratory: Phuong Nam Center for environmental analysis and measurement.



**TRUNG TÂM PHÂN TÍCH VÀ ĐO ĐẠC
MÔI TRƯỜNG PHƯƠNG NAM**

Địa chỉ: Số 15 Đoàn Thị Điểm- Phường 4 - Tp. Vũng Tàu.
Điện Thoại: 0254.3563356 Fax: 0254.3563363



PHIẾU KẾT QUẢ PHÂN TÍCH

Số: 1459 /PHUONGNAM/2019

1. Khách hàng: Công ty Cổ phần tư vấn đầu tư và Môi trường VINAGREEN
2. Địa chỉ: LK 18, khu đô thị Hadico 30, xóm 20, xã Nghi Phú, Tp Vinh, Nghệ An
3. Địa điểm lấy mẫu: Khu vực dự án nâng cấp, mở rộng hệ thống cấp nước thị xã Cửa Lò, tỉnh Nghệ An.
3. Loại mẫu: Độ rung
4. Vị trí lấy mẫu:
 - + Tại Cầu phương Tích (tuyến ống truyền tải)
 - + Tại Cầu Rao Trường (tuyến ống truyền tải)
 - + Tại đường Sào Nam (tuyến phân phối)
 - + Tại đường Bình Minh (tuyến phân phối)
5. Ngày lấy mẫu: 20/12/2019

Kí hiệu: Tọa độ:
 R1 X: 2078017; Y: 591456
 R2 X: 2077846; Y: 595972
 R3 X: 2080282; Y: 591340
 R4 X: 2079230; Y: 603300

Ngày trả kết quả: 26/12/2019

| TT | Thông số | ĐVT | Phương pháp | Kết quả | | | | QCVN 27:2010/BTNMT |
|----|----------|-----|----------------|---------|----|----|----|-----------------------|
| | | | | R1 | R2 | R3 | R4 | |
| 1 | Độ rung | dB | TCVN 6963:2001 | 62 | 60 | 64 | 65 | 75 |

Ghi chú:

"-" Tức là không quy định;

- QCVN 27:2010/BTNMT: Quy chuẩn kỹ thuật quốc gia về độ rung.

- Kết quả chỉ có giá trị đối với mẫu thử nghiệm.

- Không được trích sao một phần kết quả này nếu không được sự đồng ý của PTN.

Trưởng phòng phân tích

Nguyễn Thị Xuân

KT.Giám đốc Trung tâm
Phó Giám Đốc



Nguyễn Thị Duyên

Appendix 2: Minutes of consultation on supervision of the situation of households temporarily affected on agricultural land at the completion of the pipeline construction

Nghi Thu, ngày 04 tháng 09 năm 2019

BIÊN BẢN THAM VẤN

Vv. Giám sát công tác chi trả hỗ trợ cho các hộ dân bị ảnh hưởng tạm thời đất nông nghiệp trong trình thi công tuyến ống thuộc dự án cấp nước thị xã Cửa Lò

I. THÀNH PHẦN THAM GIA:

1. Đại diện UBND phường Nghi Thu:

- Ông: Phùng Trọng Thọ Chức vụ: Chủ tịch UBND phường Nghi Thu

2. Đại diện chủ đầu tư Công ty CP Cấp nước Cửa Lò:

- Ông: Nguyễn Đậu Lương Chức vụ: Phó ban QLDA.

3. Đại diện đơn vị tư vấn giám sát : Công ty cổ phần Nước và Môi trường Việt Nam

- Bà : Hồ Thị Hương Chức vụ: Chuyên gia xã hội.

II. NỘI DUNG:


a. Đại diện UBND phường Nghi Thu

Hiện nay, quá trình thi công tuyến ống truyền tải HDPE DN250 thuộc Quốc lộ 46 từ km2 ÷ km2 + 800 qua địa bàn phường Nghi Thu đã hoàn thành. Tuyến ống có đi qua phần đất nông nghiệp của một số hộ dân trong xã. Gây ảnh hưởng đến cây cối, hoa màu trên phần đất thuộc các hộ dân. Tuy nhiên chủ đầu tư và nhà thầu thi công đã thỏa thuận và hỗ trợ thiệt hại các tài sản trên đất cho người dân.

b. Đại diện người dân

- Chúng tôi đã đồng ý nhận tiền hỗ trợ theo đơn giá được chủ đầu tư và nhà thầu đề xuất
- Chúng tôi đã hài lòng và nhận đầy đủ tiền được nhà thầu chi trả

ĐẠI DIỆN UBND PHƯỜNG NGHI THU


Phùng Trọng Thọ

ĐẠI DIỆN NGƯỜI DÂN



Nguyễn Đậu Lương

ĐẠI DIỆN TƯ VẤN

Danh sách thành phần tham dự
Dự án : Cấp nước thị xã Cửa Lò
Địa điểm : phường Nghi Thu, thị xã Cửa Lò, tỉnh Nghệ An

[illegible]

Nghi Thu, Sep 04, 2019

CONSULTATION VERSION

Etc. Supervising the payment of support for households temporarily affected by agricultural land in the pipeline construction of Cua Lo town water supply project

I. PARTICIPANTS

1. Representative of Nghi Thu ward People's Committee:
 - Mr. Phung Truong Tho Position: Chairman of Nghi Thu ward People's Committee
2. Representative of investor of Cua Lo Water Supply Joint Stock Company:
 - Mr. Nguyen Dau Luong Position: Deputy Project Management Unit.
3. Representative of supervision consultancy unit: Vietnam Water and Environment Joint Stock Company
 - Ms: Ho Thi Huong Position: Social expert.

II. CONTENT:

a. Representative of Nghi Thu ward People's Committee

Currently, the construction process of HDPE DN250 transmission pipeline belonging to Highway 46 from km2 ÷ km2 + 800 through Nghi Thu ward area has been completed. The pipeline passes through agricultural land of some households in the commune. Affecting trees and crops on land belonging to households. However, the investor and the construction contractor have agreed and supported the property damage to the people.

b. Representative of the people

- We have agreed to receive the support according to the unit price proposed by the investor and contractor
- We were satisfied and received full money paid by the contractor

**REPRESENTATIVE OF THE WARD
PEOPLE'S COMMITTEE**

REPRESENTATIVE INVESTOR

REPRESENTATIVE CONSULTANT

REPRESENTATIVE OF THE PEOPLE

Nghi Quang, ngày 03 tháng 09 năm 2019

BIÊN BẢN THAM VẤN

Vv. Giám sát công tác chi trả hỗ trợ cho các hộ dân bị ảnh hưởng tạm thời đất nông nghiệp trong trình thi công tuyến ống thuộc dự án cấp nước thị xã Cửa Lò

I. THÀNH PHẦN THAM GIA:

1. Đại diện UBND xã Nghi Quang:

- Ông: Nguyễn Đình Thanh Chức vụ: Chủ tịch UBND xã Nghi Quang
- Ông: Nguyễn Hoàng Vinh Chức vụ: Cán bộ địa chính xã Nghi Quang

2. Đại diện chủ đầu tư Công ty CP Cấp nước Cửa Lò:

- Ông: Nguyễn Đậu Lương Chức vụ: Phó ban QLDA.

3. Đại diện đơn vị tư vấn giám sát : Công ty cổ phần nước và Môi trường Việt Nam

- Bà : Hồ Thị Hương Chức vụ: Chuyên gia xã hội.

II. NỘI DUNG:

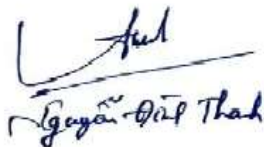
a. Đại diện UBND xã Nghi Quang

Hiện nay, quá trình thi công tuyến ống truyền tải HDPE DN250 thuộc tỉnh lộ 536 từ km 3 km4 + 315 qua địa bàn xã Nghi Quang đã hoàn thành. Tuyến ống có đi qua phần đất nông nghiệp của một số hộ dân trong xã. Gây ảnh hưởng đến cây cối, hoa màu trên phần đất thuộc các hộ dân. Tuy nhiên chủ đầu tư và nhà thầu thi công đã thỏa thuận và hỗ trợ thiệt hại các tài sản trên đất cho người dân.

b. Đại diện người dân

- Chúng tôi đã đồng ý nhận tiền hỗ trợ theo đơn giá được chủ đầu tư và nhà thầu đề xuất
- Chúng tôi đã hài lòng và nhận đầy đủ tiền được nhà thầu chi trả

ĐẠI DIỆN UBND XÃ NGHI QUANG



ĐẠI DIỆN NGƯỜI DÂN



ĐẠI DIỆN CHỦ ĐẦU TƯ

ĐẠI DIỆN TƯ VẤN

Danh sách thành phần tham dự
Dự án : Cấp nước thị xã Cửa Lò
Địa điểm : xã Nghi Quang, huyện Nghi Lộc, tỉnh Nghệ An

[illegible]

Nghi Quang, Sep 03, 2019

CONSULTATION VERSION

Etc. Supervising the payment of support for households temporarily affected by agricultural land in the pipeline construction of Cua Lo town water supply project

I. PARTICIPANTS

1. Representative of Nghi Quang Commune People's Committee:

- Mr. Nguyen Dinh Thanh Position: Chairman of Nghi Quang Commune People's Committee
 - Mr. Nguyen Hoang Vinh Position: Cadastral official in Nghi Quang commune
- 2. Representative of investor of Cua Lo Water Supply Joint Stock Company:**

- Mr. Nguyen Dau Luong Position: Deputy Project Management Unit.
- 3. Representative of supervision consultancy unit: Vietnam Water and Environment Joint Stock Company**
- Ms: Ho Thi Huong Position: Social expert.

II. CONTENT:

a. Representative of Nghi Quang Commune People's Committee

Currently, the process of constructing HDPE DN250 transmission pipeline of provincial road 536 from km 3 km4 + 315 through Nghi Quang commune has been completed. The pipeline passes through agricultural land of some households in the commune. Affecting trees and crops on land belonging to households. However, the investor and the construction contractor have agreed and supported the property damage to the people.

b. Representative of the people

- We have agreed to receive the support according to the unit price proposed by the investor and contractor
- We were satisfied and received full money paid by the contractor

**REPRESENTATIVE OF THE NGHI
QUANG COMMUNE**

REPRESENTATIVE INVESTOR

REPRESENTATIVE OF THE PEOPLE

REPRESENTATIVE CONSULTANT