

Environmental Monitoring Report

Semestral Report
March 2013

GEO: Urban Services Improvement Investment Program – Project 2

Prepared by United Water Supply Company of Georgia, LLC, Government of Georgia for the Asian Development Bank.

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BI ANNUAL ENVIRONMENTAL MONITORING REPORT
PERIOD: JULY 1ST - DECEMBER 31TH 2012

Project Number: 43405
November 2010

Multitranche Financing Facility

Georgia: Urban Services Improvement Investment Program (Tranche 2)

PREPARED BY "UNITED WATER SUPPLY COMPANY OF GEORGIA, LLC", GOVERNMENT OF GEORGIA FOR THE ASIAN
DEVELOPMENT BANK.

Tbilisi, Georgia

31 December 2012

ABBREVIATIONS

| | |
|--------------|---|
| ADB | Asian Development Bank |
| EA | Executing Agency |
| EARF | Environmental Assessment and Review Framework |
| EIA | Environmental Impact Assessment |
| EIP | Environmental Impact Permit |
| EMP | Environmental Management Plan |
| GoG | Government of Georgia |
| USIIP | Urban Sector Improvement Investment Program |
| IA | Implementing Agency |
| IEE | Initial Environmental Examination |
| MDF | Municipal Development Fund |
| MFF | Multi-tranche Financing Facility |
| MoE | Ministry of Environmental Protection |
| MoRDI | Ministry of Regional Development & Infrastructure |
| UWSCG | United Water Supply Company of Georgia |

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I. INTRODUCTION

1. The Urban Services Improvement Investment Program was developed as the Government's response to the lack of adequate and/or safe water supply, sewerage and sanitation in urban areas of Georgia. This is intended to optimize social and economic development in selected urban areas through improved urban water and sanitation services, and will be financed by the ADB through its Multi-tranche Financing Facility. Ministry of Regional Development and Infrastructure is the Executing Agency and United Water Supply Company of Georgia, LLC is the Implementing Agency of the Investment Program. UWSCG is a 100% state-owned company.
2. The Investment Program will improve infrastructure through the development, design and implementation of a series of subprojects, each providing improvements in a particular sector (water supply and/or sewerage) in one town. Subprojects will rehabilitate existing infrastructure and/or create new and expanded infrastructure to meet the present and future demand.
3. The Tranche 2 of the Investment Program includes construction of Anaklia and Mestia Water Supply and Sewerage Distribution Networks and Construction of Anaklia Wastewater Treatment Plant.
4. The following projects are financed under Tranche II:

Contract-1 (UWSC/ICB/CW/2012/ANA-01) Anaklia Water Supply and Sewerage Distribution Networks; The construction/rehabilitation of approximately 54 kilometers of water supply and 58 kilometers of sewerage network includes the extension of the networks to all residents and hotels defined for the year 2040 as well as the connection to Ganmukhuri village, total projected population of about 25,600 people.

Contract-2 (UWSCG/ICB/CW/2011/MES-02) Construction of Mestia Water Supply and Sewerage Distribution Networks; The construction/rehabilitation of approximately 27 kilometers of water supply and 37 kilometers of sewerage network will comprise the whole town of Mestia including the historic center and the future touristic zones covering all residents and hotels defined for the year 2040 thus benefiting total projected population of about 25,300 people.

5. **Contract-3** Construction of Anaklia Wastewater Treatment Plant: The new wastewater treatment plant will be constructed in Anaklia. The treated wastewater will be discharged into Enguri River.

Contract-1: The construction works under Contract 1, had started on 20th of February, 2012 and will be completed on 13th of July, 2013. The proposed Bi-Annual Environmental Monitoring Report is prepared considering the time period from July 2012 to December 2012.

Contract-2: Civil Works Contract for Construction of Mestia Water Supply and Sewerage Distribution Networks - was signed with Joint Venture of New Energy LTD – Georgia and Enguri 2006 LTD -

Georgian 31 October 2011. The construction works under Contract 2 will be completed on 31 October 2013.

Contract-3: Draft bidding documents submitted to ADB.

6. The Project's Environmental Impact Monitoring and Mitigation is carried out in accordance with the Environmental Management Plans prepared by the UWSCG / Consultant. The construction activities affecting the environment are as follows:
 - a. Contractor's mobilization and site installation;
 - b. Excavation works;
 - c. Removal of soil;
 - d. Pipe installation;
 - e. Surface water drainage during rains;
 - f. Backfilling and compaction.
7. The following items are monitored during the implementation of the project:
 - a. Air Quality;
 - b. Noise;
 - c. Groundwater Disposal;
 - d. Loss of Top Soil.
8. The only parameters monitored during the construction period were dust control to keep air quality at acceptable level, noise, loss of top soil and groundwater disposal. Dust control issue is working positively to avoid complains from local residents.
9. The subproject construction sites under both Contracts 1 and 2 were located in Government owned land. There are no protected areas, wetlands, mangroves, or estuaries. There are no land acquisition and resettlement issues involved. Trees, vegetation (mostly shrubs and grasses), and animals in the subproject sites are those commonly found in built-up areas. The geological structure of the area is stable and no potential land subsidence is foreseen.

A. Construction activities and Project Progress during previous 6 months

10. The activities which were carried out by the Contractors under contract 1 (Anaklia Site) in the past 6 months (July-December 2012) are as follows:
 - a. Installation of Sewer Pipes DN100 – 3772m;
 - b. Installation of Sewer Pipes DN200 – 9328m;
 - c. Installation of Sewer Pipes DN300 – 14404m;
 - d. Installation of Sewer Pipes DN400 – 4738m;
 - e. Installation of Sewer Pipes DN500 – 15.8m;

- f. Installation of Sewer Pressure Pipes DN110 – 4874m;
- g. Installation of Sewer Pressure Pipes DN160 – 1747m;
- h. Installation of Sewer Pressure Pipes DN200 – 472m;
- i. Installation of Sewer Pressure Pipes DN225 – 984m;
- j. Installation of Sewer Pressure Pipes DN280 – 1212m;
- k. Installation of Water Supply Pipes DN25 – 5595m;
- l. Installation of Water Supply Pipes DN32 – 173m;
- m. Installation of Water Supply Pipes DN63 – 6282m;
- n. Installation of Water Supply Pipes DN110 – 19219m;
- o. Installation of Water Supply Pipes DN160 – 4478m;
- p. Installation of Water Supply Pipes DN355 – 7750m;
- q. Installation of Water Supply Pipes DN400 – 2792m;
- r. Installation of precast Manholes – 921pc;
- s. Installation of inspection shafts – 2pc.

The activities which were carried out by the Contractors under contract 2 (Mestia Site) in the past 6 months (July-December 2012) are as follows:

- a. Installation of 143 water and sewer chambers;
- b. Installation of sewer pipes DN200mm - 9376m;
- c. Installation of sewer pipes DN100mm - 3078m;
- d. Installation of sewer pipes DN300mm - 480m;
- e. Installation of water supply pipes DN125mm - 270m;
- f. Installation of water supply pipes DN110mm - 1112m.

B. Environmental Management Team

- 11.** In compliance with the reorganization which took place in UWSCG the Department of Quality Management, Resettlement and Environment Protection was abolished. Ms. Tinatin Zhizhiashvili, former head of department left job for a new company. Ms. Ketevan Chomakhidze is the only representative of environmental team employed by UWSCG and hired per requirements of ADB / EARF. She is responsible for the environmental and safety management of ADB financed projects.
- 12.** Temporary responsible for environmental management under Contract 1 is Mr. Gocha Gvinjilia, in future is planned to hire environmental specialist. Previous environmental specialist Mr. George Gagishvili is gone abroad for personal business.

Temporary responsible for environmental management under Contract 2 is Mr. Irakli Tsurstumia, in future is planned to hire environmental specialist.

13. The following works were performed by the environmental management team:

- Explaining the Environmental Management Plan (EMP) to the Contractor, the site staff, the supervisors and other relevant personnel;
- On-site supervision of construction activities;
- Monitoring and implementation of the EMP;
- Ensuring that the contractor understands what is to be done to rectify and address any issues identified through monitoring.

C. Project Organization

14. Project organization for the awarded contracts listed above is given in the table below.

| Contract # | Employer | Contractor |
|---|-----------------|---|
| Contract-1 (UWSC/ICB/CW/2012/ANA-01) | UWSCG | Joint Venture of Peri Ltd and Modern Business Group LLC |
| Contract -2 (UWSCG/ICB/CW/2011/MES-02) | UWSCG | Joint Venture of New Energy LTD – Georgia and Enguri 2006 LTD |

II. ENVIRONMENTAL MONITORING

15. During the last six months no environmental issues or complaints were received from the local residents.

16. The Contractor kept records of industrial safety; environmental considerations of the construction sites; air quality, noise, loss of top soil and groundwater disposal; within the reporting period, no adverse environmental impacts related to the works have been noted or observed.

17. Within the reporting period Peri Ltd monitored and addressed the issue of air quality, noise, loss of top soil and groundwater disposal.

A. Air quality

18. Material (aggregate and sand) is brought to the site when required. Speedy completion of work and proper site clearance after completion are ensured. Wheels and undercarriage of haul trucks are washed prior to leaving construction site.

19. In order to limit soil disturbance, the access to the site is limited to construction workers and the site is fenced.

- 21. Dust is controlled through watering the roads where driving can easily generate dust. Excavated mounds of soil are damped down by water spray. Tarpaulins are used to cover loose materials that are transported to and from the site by track.
- 22. Dust generation is controlled while unloading the loose material at the site by sprinkling water inside barricaded area.

B. Noise

- 23. The Contractor has employed practical means to minimize noise resulting from construction work. The plan of transportation routes are agreed with Municipality and Police. Wheels and undercarriage of haul trucks were cleaned.
- 24. Drivers were informed to limit speed 20-25 KMPH to avoid use of horn in the town. Local population was informed about project works. No nighttime activities took place.

C. Groundwater disposal

- 25. The groundwater pumped from the trench are discharged into the nearby surface water drain with virtually no settlement of solids. This is leading to a buildup of sediment in the bottom of the drain with an associated environmental impact.
- 26. In order to remove any solid matter, groundwater from the trenches are pumped with water pumps, they have installed filter that don't let any settlement of solids to flow through with water.

D. Loss of top soil

- 27. No topsoil was identified and subsequently stripped at the construction site within the reporting period.

III. ENVIRONMENTAL MANAGEMENT

A. Site Inspections

- 28. The Contractor's field inspectors performed daily site visits to the project sites. UWSCG Environmental team visited on project sites minimum once a month. Environmental Consultant performed weakly site inspections.

B. Reporting

- 29. The Contractor submitted quarterly statements to the UWSCG/environmental management team describing their environmental monitoring activities.

C. Corrective Action Plans

30. No corrective actions were recommended during the reporting period of July 2012 – December 2012.

D. Consultation and Complaints

31. No complaints were received during the reporting period.

IV. ANNEXA: MONITORING DATA

| No | Impacts | Mitigation measures | Implementation/ Compliances | Comments |
|---------------------|---|---|---|--------------|
| Anaklia Site | | | | |
| Construction | | | | |
| 1 | Impacts caused by excavation and generation of waste soil | <ul style="list-style-type: none"> Utilize surplus/waste soil for other construction activities or to raise the ground-level of low level sites | <p>Surplus waste material was transferred to temporary disposal area.</p> <p>From the temporary disposal area waste soil materials are transferred for road surface repair works.</p> | Satisfactory |
| 2 | Loss of top soil | <ul style="list-style-type: none"> Top soil of about 1 ft depth (0.3 m) shall be removed and stored separately during excavation work, and after pipeline construction the same soil shall be replaced on the top | Due to the location where works were ongoing no topsoil stripping and storage was required. | Satisfactory |
| 3 | Groundwater disposal | <ul style="list-style-type: none"> In order to remove any solid matter it is recommended to install a settlement tank between the groundwater pump and the discharge point. This mitigation measure will minimize any negative environmental impact on the surface water as well | Groundwater from the trenches are pumped with water pumps, they have installed filter that don't let any settlement of solids to flow through with water. | Satisfactory |
| 4 | Erosion due to excavation/refilling | <ul style="list-style-type: none"> No trees shall be removed on the slopes; clearing of shrub, bushes and grass shall be limited to actual construction area only; no clearance is allowed for activities such as | For the reporting period there was no need for removal of vegetation, trees, or bushes. | Satisfactory |

| No | Impacts | Mitigation measures | Implementation/ Compliances | Comments |
|---------------------|---|---|---|--------------|
| Anaklia Site | | | | |
| | | <p>material/waste storage, concrete mixing, etc.;</p> <ul style="list-style-type: none"> • Proper compaction of refilled soil the material shall be refilled in layers and compacted properly layer by layer; • In the steep slopes, local grass species shall be planted on the refilled trenches | | |
| 5 | Impacts due to construction in the river | <ul style="list-style-type: none"> • Schedule the construction work during low flow season avoiding rainy and summer seasons; work may preferably be conducted after rains and before (May/June) or in November; • Water flow shall not be interrupted completely/diverted; work shall be conducted on the one-side of the stream, that water to flows on the other side; • Enclose the construction area (e.s with sand bags) so that water do not enter into construction site; • Water collected in the trench shall be disposed safely so that silt water do not get mixed in the river water | <p>The Project works do not include any works that might impact / disturb the river.</p> <p>If any potential risks identified all mitigation measures will be considered.</p> | Satisfactory |
| 6 | Impact on surface water bodies due to construction under rain | <ul style="list-style-type: none"> • Avoid scheduling excavation work during the rainy season; | Trenches are not left for long period of time and especially | Satisfactory |

| No | Impacts | Mitigation measures | Implementation/ Compliances | Comments |
|---------------------|--|--|--|--------------|
| Anaklia Site | | | | |
| | | <ul style="list-style-type: none"> • Complete pipe laying work in excavated stretches and refill before monsoon; • Complete the excavation and foundation during dry season; • In unavoidable circumstances, protect open trenches from entry of rain water by raising earthen bunds with excavated soil; • Confine construction area including the material storage (sand and aggregate) so that runoff from upland areas doesn't enter the site; • Ensure that drains are not blocked with excavated soil | <p>during night time. To protect trenches from surface water entry special berms are used.</p> <p>As for the materials, they are protected with plastic liner.</p> | |
| 7 | Impact on air quality due to dust generation | <ul style="list-style-type: none"> • Cover or damp down by water spray excavated mounds of soil to control dust generation; • Apply water prior to leveling or performing any other earth moving activity to keep the soil moist throughout the process; • Bring the material (aggregate and sand) as and when required; • Ensure speedy completion of work and proper site clearance after completion; | Dust is controlled through watering the roads through the populated area where driving can easily generate dust. Access to site is restricted. | Satisfactory |

| No | Impacts | Mitigation measures | Implementation/ Compliances | Comments |
|---------------------|---|---|--|--------------|
| Anaklia Site | | | | |
| | | <ul style="list-style-type: none"> • Use tarpaulins to cover loose material that is transported to and from the site by truck; • Control dust generation while unloading the loose material (particularly aggregate and sand) at the site by sprinkling water/unloading inside barricaded area; • Clean wheels and undercarriage of haul trucks prior to leaving construction site; • Restricted access to the work area except workers to limit soil disturbance and prevent access by fencing the site | | |
| 8 | Removal of vegetation/trees for construction and impacts due to presence of open trenches | <ul style="list-style-type: none"> • Avoid tree cutting by small change of layout plan/alignment; • In unavoidable cases, plant two trees of same species for each tree that is cut for construction; • Bushes and grasses shall be cleared only in actual construction area all other preparatory works (material storage) shall be conducted on barren lands where there is no vegetation; • Use excavated soil for refilling the pipeline trench; avoid sand layer on the top of the pipe in inaccessible areas to avoid importing | No tree, bush or vegetation cover was removed in the reporting period. | Satisfactory |

| No | Impacts | Mitigation measures | Implementation/ Compliances | Comments |
|---------------------|---|--|---|--------------|
| Anaklia Site | | | | |
| | | <p>material and related disturbances;</p> <ul style="list-style-type: none"> • Trench construction shall be taken up in small segments, so that work (excavation, pipe laying and refilling) in each segment is completed in a day. No trenches shall be kept open in the night/after work hours. This will prevent any safety risk to wild animals | | |
| 9 | Disturbance to business, people, activities and socio-cultural resources due to construction work | <ul style="list-style-type: none"> • Inform all residents and businesses about the nature and duration of any work well in advance so that they make necessary preparations; • Limit dust by removing waste soil quickly; by covering and watering stockpiles, and covering soil with tarpaulins when carried on trucks; • Provide wooden walkways/planks across trenches for pedestrians and metal sheets where vehicle access is required; • Increasing workforce to complete the work in minimum time in the town | All mitigation measures were fully addressed. | Satisfactory |
| 10 | Disturbance/nuisance/noise due to construction activity including haulage of material/waste | <ul style="list-style-type: none"> • Plan transportation routes in consultation with Municipality and Police; • Schedule transportation activities in a way | Tarpaulins were used to cover loose material that is transported to and from the site | Satisfactory |

| No | Impacts | Mitigation measures | Implementation/ Compliances | Comments |
|---------------------|--|---|---|--------------|
| Anaklia Site | | | | |
| | | <p>to avoid peak traffic periods;</p> <ul style="list-style-type: none"> • Use tarpaulins to cover loose material that is transported to and from the site by truck; • Control dust generation while unloading the loose material at the site by sprinkling water; • Clean wheels and undercarriage of haul trucks prior to leaving construction site; • Educate drivers: limit speed between 20-25 KMPH and avoid use of horn in the town; • Earmark parking place for construction equipment and vehicles when idling; no parking shall be allowed on the roads, that may disturb the traffic movement; • Provide prior information on works to local people about work to local residents; • No nighttime construction activities including material/waste haulage; | <p>by truck.</p> <p>Dust generation is controlled while unloading the loose material at the site by sprinkling water.</p> <p>No parking is allowed on the roads, to avoid disturbing traffic movement.</p> <p>Information on works was provided to local residents prior to start of works.</p> <p>No nighttime construction activities were carried out.</p> | |
| 11 | Socio-economic benefits from employing local people in construction work | <ul style="list-style-type: none"> • To the extent possible labor force must be drawn from the local community; • Contractor should at least source 50% of unskilled labor force from local communities | The Contractor took best efforts to meet the requirements. | Satisfactory |
| 12 | Impacts due to import of labor and | <ul style="list-style-type: none"> • In unavoidable case of sourcing labor from | Contractor provided workers | Satisfactory |

| No | Impacts | Mitigation measures | Implementation/ Compliances | Comments |
|---------------------|---|---|--|--------------|
| Anaklia Site | | | | |
| | establishment of temporary labor camps | <p>other areas, provide adequate housing facilities so that there are no impacts and conflict with the local people;</p> <ul style="list-style-type: none"> • Establish temporary labor camps in consultation with the local authority; • belabor camps to be located away from water bodies; • No clearance of trees vegetation shall be allowed for establishment of camps; • Provide all basic amenities (water supply and sanitation, waste collection & disposal, first aid facilities, etc); • Contractor shall provide fire wood and no worker shall be allowed to cut any tree; • Ensure regular and clean maintenance of the camp; | <p>with required accommodation and in some cases took additional expenses.</p> <p>No new camps /accommodation were built to avoid impact on environment.</p> <p>Workers live in hired local resident houses where all communal services are provided</p> | |
| 13 | Safety risk for local residents and workers | <ul style="list-style-type: none"> • Follow standard and safe procedures for all activities – such as provision of shoring in deep trenches (>2 m); • Exclude public from the site – enclose construction area, provide warning and sign boards, security personnel; • Provide adequate lighting to avoid | <p>Contractor's safety advisor is controlling sites. All workers are equipped with relevant PPE.</p> <p>Safety belts are not required as there aren't any works on height.</p> | Satisfactory |

| No | Impacts | Mitigation measures | Implementation/ Compliances | Comments |
|---------------------|---|---|--|--------------|
| Anaklia Site | | | | |
| | | accidents; <ul style="list-style-type: none"> • Ensure that all workers are provided with and use safety - helmets, hand gloves, boots, masks, safety belts (while working at heights etc); • Maintain accidents records and report regularly | No accidents were reported. | |
| 14 | Historical, archeological chance finds during excavation | <ul style="list-style-type: none"> • Contractor shall put in place a protocol for conducting any excavation work, to ensure that any chance finds are recognized and measures are taken to ensure they are protected and conserved. This should involve: <ul style="list-style-type: none"> ○ Excavation observed by a specialist with archaeological field training; ○ Stopping work immediately to allow further investigation if any finds are suspected; ○ In case of suspected archeological find contact archeological authority and take any action they require to ensure its removal or protection. | During these three months no finding was discovered. In case any finding all mitigation measures will be closely followed. | Satisfactory |
| 15 | Cumulative impacts – repeated disturbance to roads and people | <ul style="list-style-type: none"> • Harmonize the schedule of construction works in harmony with other ongoing | During last three months no complaints were received. | Satisfactory |

| No | Impacts | Mitigation measures | Implementation/ Compliances | Comments |
|---------------------|---------|--|--------------------------------|----------|
| Anaklia Site | | | | |
| | | works; <ul style="list-style-type: none"> • Schedule the water transmission line work before road work | | |

| No | Impacts | Mitigation measures | Implementation/ Compliances | Comments |
|---------------------|---|--|---|--------------|
| Mestia Site | | | | |
| Construction | | | | |
| 1 | Impacts caused by excavation and generation of waste soil | <ul style="list-style-type: none"> • Utilize surplus/waste soil for other construction activities or to raise the ground-level of low level sites | <p>Surplus waste material was transferred to temporary disposal area.</p> <p>From the temporary disposal area waste soil materials are transferred for road surface repair works.</p> | Satisfactory |
| 2 | Loss of top soil | <ul style="list-style-type: none"> • Top soil of about 1 ft depth (0.3 m) shall be removed and stored separately during excavation work, and after pipeline construction the same soil shall be replaced on the top | Due to the location where works were ongoing no topsoil stripping and storage was required. | Satisfactory |

| No | Impacts | Mitigation measures | Implementation/ Compliances | Comments |
|--------------------|--|--|---|--------------|
| Mestia Site | | | | |
| 3 | Erosion due to excavation/refilling | <ul style="list-style-type: none"> • No trees shall be removed on the slopes; clearing of shrub, bushes and grass shall be limited to actual construction area only; no clearance is allowed for activities such as material/waste storage, concrete mixing, etc.; • Proper compaction of refilled soil the material shall be refilled in layers and compacted properly layer by layer; • In the steep slopes, local grass species shall be planted on the refilled trenches | Mitigation measures have been dally implemented. | Satisfactory |
| 4 | Impacts due to construction in the river | <ul style="list-style-type: none"> • Schedule the construction work during low flow season avoiding rainy and summer seasons; work may preferably be conducted after rains and before (May/June) or in November; • Water flow shall not be interrupted completely/diverted; work shall be conducted on the one-side of the stream, that water to flows on the other side; • Enclose the construction area (e.s with sand bags) so that water do not enter into construction site; • Water collected in the trench shall be | <p>The Project works do not include any works that might impact / disturb the river.</p> <p>If any potential risks identified all mitigation measures will be considered.</p> | Satisfactory |

| No | Impacts | Mitigation measures | Implementation/ Compliances | Comments |
|--------------------|---|---|---|--------------|
| Mestia Site | | | | |
| | | disposed safely so that silt water do not get mixed in the river water | | |
| 5 | Impact on surface water bodies due to construction under rain | <ul style="list-style-type: none"> • Avoid scheduling excavation work during the rainy season; • Complete pipe laying work in excavated stretches and refill before monsoon; • Complete the excavation and foundation during dry season; • In unavoidable circumstances, protect open trenches from entry of rain water by raising earthen bunds with excavated soil; • Confine construction area including the material storage (sand and aggregate) so that runoff from upland areas doesn't enter the site; • Ensure that drains are not blocked with excavated soil | <p>Trenches are not left for long period of time and especially during night time.</p> <p>Excavation works are completed during the dry season.</p> | Satisfactory |
| 6 | Impact on air quality due to dust generation | <ul style="list-style-type: none"> • Cover or damp down by water spray excavated mounds of soil to control dust generation; • Apply water prior to leveling or performing any other earth moving activity to keep the soil moist throughout the process; | Dust is controlled through watering the roads through the populated area where driving can easily generate dust. | Satisfactory |

| No | Impacts | Mitigation measures | Implementation/ Compliances | Comments |
|--------------------|---|---|--|--------------|
| Mestia Site | | | | |
| | | <ul style="list-style-type: none"> • Bring the material (aggregate and sand) as and when required; • Ensure speedy completion of work and proper site clearance after completion; • Use tarpaulins to cover loose material that is transported to and from the site by truck; • Control dust generation while unloading the loose material (particularly aggregate and sand) at the site by sprinkling water/unloading inside barricaded area; • Clean wheels and undercarriage of haul trucks prior to leaving construction site; • Restricted access to the work area except workers to limit soil disturbance and prevent access by fencing the site | <p>Tarpaulins are used to cover loose material that is transported by truck.</p> <p>Access to the work area is restricted by fencing the site.</p> | |
| 7 | Removal of vegetation/trees for construction and impacts due to presence of open trenches | <ul style="list-style-type: none"> • Avoid tree cutting by small change of layout plan/alignment; • In unavoidable cases, plant two trees of same species for each tree that is cut for construction; • Bushes and grasses shall be cleared only in actual construction area all other preparatory works (material storage) shall | No tree, bush or vegetation cover was removed in the reporting period. | Satisfactory |

| No | Impacts | Mitigation measures | Implementation/ Compliances | Comments |
|--------------------|---|--|--|--------------|
| Mestia Site | | | | |
| | | be conducted on barren lands where there is no vegetation; | | |
| 8 | Disturbance to business, people, activities and socio-cultural resources due to construction work | <ul style="list-style-type: none"> • Inform all residents and businesses about the nature and duration of any work well in advance so that they make necessary preparations; • Limit dust by removing waste soil quickly; by covering and watering stockpiles, and covering soil with tarpaulins when carried on trucks; • Provide wooden walkways/planks across trenches for pedestrians and metal sheets where vehicle access is required; • Increasing workforce to complete the work in minimum time in the town | All mitigation measures were fully addressed. | Satisfactory |
| 9 | Disturbance/nuisance/noise due to construction activity including haulage of material/waste | <ul style="list-style-type: none"> • Plan transportation routes in consultation with Municipality and Police; • Schedule transportation activities in a way to avoid peak traffic periods; • Use tarpaulins to cover loose material that is transported to and from the site by truck; • Control dust generation while unloading the loose material at the site by sprinkling | <p>Tarpaulins were used to cover loose material that is transported to and from the site by truck.</p> <p>Dust generation is controlled while unloading the loose material at the site by sprinkling water.</p> <p>Wheels and undercarriage of</p> | Satisfactory |

| No | Impacts | Mitigation measures | Implementation/ Compliances | Comments |
|--------------------|---|---|--|--------------|
| Mestia Site | | | | |
| | | <p>water;</p> <ul style="list-style-type: none"> • Clean wheels and undercarriage of haul trucks prior to leaving construction site; • Educate drivers: limit speed between 20-25 KMPH and avoid use of horn in the town; • Earmark parking place for construction equipment and vehicles when idling; no parking shall be allowed on the roads, that may disturb the traffic movement; • Provide prior information on works to local people about work to local residents; • No nighttime construction activities including material/waste haulage; | <p>haul trucks were washed prior to leaving construction site.</p> <p>No parking is allowed on the roads, to avoid disturbing traffic movement.</p> <p>Information on works was provided to local residents prior to start of works.</p> <p>No nighttime construction activities were carried out.</p> | |
| 10 | Socio-economic benefits from employing local people in construction work | <ul style="list-style-type: none"> • To the extent possible labor force must be drawn from the local community; • Contractor should at least source 50% of unskilled labor force from local communities | The Contractor took best efforts to meet the requirements. | Satisfactory |
| 11 | Impacts due to import of labor and establishment of temporary labor camps | <ul style="list-style-type: none"> • In unavoidable case of sourcing labor from other areas, provide adequate housing facilities so that there are no impacts and conflict with the local people; | Contractor provided workers with required accommodation and in some cases took additional expenses. | Satisfactory |

| No | Impacts | Mitigation measures | Implementation/ Compliances | Comments |
|--------------------|---|--|--|--------------|
| Mestia Site | | | | |
| | | <ul style="list-style-type: none"> • Establish temporary labor camps in consultation with the local authority; • belabor camps to be located away from water bodies; • No clearance of trees vegetation shall be allowed for establishment of camps; • Provide all basic amenities (water supply and sanitation, waste collection & disposal, first aid facilities, etc); • Contractor shall provide fire wood and no worker shall be allowed to cut any tree; • Ensure regular and clean maintenance of the camp; | <p>No new camps / accommodation were built to avoid impact on environment.</p> <p>Workers live in hired local resident houses where all communal services are provided</p> | |
| 12 | Safety risk for local residents and workers | <ul style="list-style-type: none"> • Follow standard and safe procedures for all activities – such as provision of shoring in deep trenches (>2 m); • Exclude public from the site – enclose construction area, provide warning and sign boards, security personnel; • Provide adequate lighting to avoid accidents; • Ensure that all workers are provided with and use safety - helmets, hand gloves, | <p>Contractor's safety advisor is controlling sites. All workers are equipped with relevant PPE.</p> <p>No accidents were reported during the reporting period.</p> | Satisfactory |

| No | Impacts | Mitigation measures | Implementation/ Compliances | Comments |
|--------------------|---|---|--|--------------|
| Mestia Site | | | | |
| | | boots, masks, safety belts (while working at heights etc); <ul style="list-style-type: none"> • Maintain accidents records and report regularly | | |
| 13 | Historical, archeological chance finds during excavation | <ul style="list-style-type: none"> • Contractor shall put in place a protocol for conducting any excavation work, to ensure that any chance finds are recognized and measures are taken to ensure they are protected and conserved. This should involve: <ul style="list-style-type: none"> ○ Excavation observed by a specialist with archaeological field training; ○ Stopping work immediately to allow further investigation if any finds are suspected; ○ In case of suspected archeological find contact archeological authority and take any action they require to ensure its removal or protection. | During these three months no finding was discovered. In case any finding all mitigation measures will be closely followed. | Satisfactory |
| 14 | Cumulative impacts – repeated disturbance to roads and people | <ul style="list-style-type: none"> • Harmonize the schedule of construction works in harmony with other ongoing works; • Schedule the water transmission line work | During last three months no complaints were received. | Satisfactory |

| No | Impacts | Mitigation measures | Implementation/ Compliances | Comments |
|-------------|---------|---------------------|--------------------------------|----------|
| Mestia Site | | | | |
| | | before road work | | |

V. ANNEX B: PHOTO LOG



Photo No. 1 Storing of construction materials in the territory of warehouse.

Anaklia Water Supply and Sewerage Distribution Networks – Project Area



Photo No. 2 Crossing of road

Anaklia Water Supply and Sewerage Distribution Networks – Project Area



Photo No. 3 Storing of construction materials in the territory of warehouse.

Anaklia Water Supply and Sewerage Distribution Networks – Project Area



Photo No. 4 Storing of construction materials (manholes) outside the territory of warehouse.

Anaklia Water Supply and Sewerage Distribution Networks – Project Area



Photo No. 5 Storing of construction materials (manholes) outside the territory of warehouse.

Anaklia Water Supply and Sewerage Distribution Networks – Project Area



Photo No. 6 Storing of construction materials (manholes) outside the territory of warehouse.

Anaklia Water Supply and Sewerage Distribution Networks – Project Area



Photo No. 7 Work process.

**Water Supply and Wastewater Improvement Project in Anaklia –
Project Area**



Photo No. 8 Warehouse.

**Water Supply and Wastewater Improvement Project in Anaklia –
Project Area**



Photo No. 9 Work process

Construction of Mestia Water Supply and Sewerage Distribution Networks



Photo No. 10 Work process

Construction of Mestia Water Supply and Sewerage Distribution Networks



Photo No. 11 Trenches Excavation works

Construction of Mestia Water Supply and Sewerage Distribution Networks



Photo No. 12 Worker equipped with safety clothing

Construction of Mestia Water Supply and Sewerage Distribution Networks



Photo No. 13 Work process in village.

Construction of Mestia Water Supply and Sewerage Distribution Networks



Photo No. 14 Tarpaulins are used to cover loose materials that are transported to and from the site by track.

Construction of Mestia Water Supply and Sewerage Distribution Networks

