

SEMI-ANNUAL ENVIRONMENTAL MONITORING REPORT

Project Number: 43405-028

Reporting Period: January-June 2019

GEORGIA: URBAN SERVICES IMPROVEMENT INVESTMENT PROGRAM (TRANCHE 6) (FINANCED BY THE ASIAN DEVELOPMENT BANK)

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For: The Ministry of Regional Development and Infrastructure of Georgia and the Asian Development Bank

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ABBREVIATIONS

ADB	Asian Development Bank
DC	Design Consultant
DEPRP	Department of Environmental protection, Resettlement and Construction Permit
DIPDR	Department of International Procurement and Donors Relations
EA	Executing Agency
EARF	Environmental Assessment and Review Framework
EHS	Environmental Health & Safety
EIA	Environmental Impact Assessment
EIP	Environmental Impact Permit
EMP/ SSEMP	Environmental Management Plan/ Site-Specific Environmental Management Plan
ES/ SES	Environmental Specialist/ Senior Environmental Specialist
GoG	Government of Georgia
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
IA	Implementing Agency
IPMO	Investment Program Management Office
IEE	Initial Environmental Examination
MFF	Multi-tranche Financing Facility
MEPA	Ministry of Environmental Protection and Agriculture
MoRDI	Ministry of Regional Development & Infrastructure
NEA	National Environmental Agency
OJSC	Open Joint Stock Company
SC	Supervision Consultant
USIIP	Urban Sector Improvement Investment Program
UWSCG	United Water Supply Company of Georgia
WSS	Water Supply & Sewerage

1. INTRODUCTION

1.1 Preamble

1. This report represents the Semi - Annual Environmental Monitoring Review (SAEMR) for the Urban Services Improvement Investment Program, Tranche 6.
2. This report is the 4th Environmental Monitoring Review (EMR) of USIIP/Tranche 6.

1.2 Headline Information

3. Based on the changes to the project design within the framework of the MAR-01 sub-project, in particular, Construction of Waste Water System and Collector in Bolnisi, IEE originally prepared in August 2016 was updated and approved in January 2019.

2. PROJECT DESCRIPTION AND CURRENT ACTIVITIES

2.1 Project Description

4. 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 is financed by the ADB through its Multi-tranche Financing Facility. The Ministry of Regional Development and Infrastructure is the Executing Agency and the United Water Supply Company of Georgia, LLC is the Implementing Agency of the Investment Program. UWSCG is a 100% state-owned company.
5. 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. Water supply improvements will include source augmentation and head works, pumping systems, treatment facilities, transmission and distribution network; and, sewerage improvement works will include sewer network, pumping stations, main collectors and waste water treatment plants.
6. Tranche 6 of the Investment Program includes:
 - Construction of Water Supply and Waste Water Systems in Marneuli and Construction of Waste Water System and Collector in Bolnisi (MAR-01);
 - Construction of Waste Water Treatment Plant in Marneuli (MAR-02);
 - Construction of Water Supply System in Chiatura (CHI-01);
 - Construction of Waste Water Treatment Plant in Chiatura (CHI-02)

The following projects are financed under Tranche 6:

7. **Construction of Water Supply and Waste Water Systems in Marneuli and Construction of Waste Water System and Collector in Bolnisi (MAR-01):** Mar-01 project envisages the rehabilitation and construction of reservoirs with the total capacity of $12,000\text{M}^3=(2\times 3000+3\times 2000)$; construction of cast iron transmission pipeline with the diameter of 700 mm - 10 km and 600 mm – 4km; construction of network with Polyethylene pipes of OD 50 to OD 500. The project measures for the sewer network comprise the lying about 150 km new gravity pipes (DN 150 to DN 800) and 2.7 km new pressure pipes (OD 110 and OD 225). There will be 9 new wastewater pumping stations; 600mm to 1000 mm diameter inspection wells (concrete or polyethylene) and 400 mm diameter house connections (polyethylene). Proposed project envisages construction of sewerage system in Bolnisi which will work entirely by gravity (DN 200 and DN 250 HDPE pipes) and will be connected at 3 different points to the future DN 500 HDPE interceptor that will convey the collected sewer from Bolnisi to Marneuli WWTP.
8. Three separate IEEs were prepared for MAR-01 project: Improvement of Marneuli Water Supply System (August 2016); Improvement of Marneuli Wastewater System (August 2016); Improvement of Bolnisi Wastewater System (August 2016) and further updated and approved in January 2019 due to the finalization of the project design (please see para 3 above).
9. The contract No P43405-ICB-MAR-01 was signed on November 20, 2018 with “Akelik Group OJSC” (Azerbaijan), The date of completion of the contract is March 29, 2021.

10. **Construction of Waste Water Treatment Plant in Marneuli (MAR-02).** The project comprises of the construction of new Wastewater Treatment Plant in Marneuli with the capacity of 9,931 m³/day.
11. No contract was signed under MAR-02 sub-project during the reporting period.
12. **Construction of Water Supply System in Chiatura (CHI-01).** The work under the CHI-01 project comprises the rehabilitation and construction of the water supply network, transmission pipeline and Reservoirs. In particular, Chi-01 project envisages construction of network in Chiatura and Navardzeti, construction of a transmission lines, the rehabilitation of existing reservoirs and construction of 2 new reservoirs one near the intake and one new reservoir in Bisi, construction of pumping stations and replacement of network pipelines, more detailed information is provided in chapter 31 below.
13. The contract No P43405-ICB-CHI-01 was signed on August 21, 2017 with “Akkord Industry Construction Investment Corporation” OJSC” (Azerbaijan), the original completion date 15 April 2019 was extended by the 21 December 2019.
14. **Construction of Waste Water Treatment Plant in Chiatura (CHI-02):** The project comprises of the construction of new Wastewater Treatment Plant in Chiatura. Capacity of the WWTP is not determined as yet.
15. No contract was signed under CHI-02 sub-project during the reporting period.

2.2 Project Contracts and Management

16. The following agencies are involved in implementing the Investment program: Ministry of Regional Development and Infrastructure (MoRDI) is the Executing Agency (EA) responsible for management, coordination and execution of all activities funded under the loan. MoRDI has overall responsibility for compliance with loan covenants.
17. Ministry of Environmental Protection and Agriculture of Georgia (MEPA). MEPA has the overall responsibility for protection of environment in Georgia. The Department of Permits of MEPA is responsible for reviewing EIAs and for issuance of the Environmental Permits. MEPA is the main state body pursuing state policy in the sphere of environment. Their functions for regulating economic or development activities with regard to environmental protection include:
 - Issuing permits for project development (Environmental Decision)
 - Setting emission limits and issuing surface water intake and discharge consents
 - Responding to incidents and complaint
18. United Water Supply Company of Georgia (UWSCG) is the implementing agency (IA), which is responsible for administration, implementation (design, construction and operation) and all day-to-day activities under the loan. Since September 2018, the Investment Program Management Office (IPMO) under UWSCG is Project Management Department, the Head of Department is Mr. Giorgi Archaia. Environmental issues are followed by the Department of Environmental Protection and Permits of UWSCG. The head of the department is Ms. Maka Goderdzishvili. Ms. Ketevan Chomakhidze is the Environmental Specialist of USIIP under the Department of Environmental Protection and Permits.
19. UWSCG as responsible IA for the project recruited a Supervision Consultant (SC) – Hill International N.V. (Netherlands) under T6. The national and international team of consultants assists UWSCG in the supervision of the construction of subprojects under

the USIIP. The SC also provides capacity building training to contractor staff in the management and operation and maintenance of the subprojects.

20. The SC assists UWSCG in ensuring that the subprojects are implemented according to the specified standards. SC assignment also includes the supervising of the implementation of the environmental management plans.
21. All mitigation measures during construction are implemented by the contractor: "Akkord Industry Construction Investment Corporation" OJSC, under CHI-01 sub-project. Contractor's EH&S Specialist - Mr. Tamaz Ulumbelashvili is responsible for environmental health and safety issues during construction process. Contractor is monitored by the environmental specialist – Mr. Rezo Ehlukidze of SCt/Hill and Environmental Specialist of UWSCG/USIIP Ms. Ketevan Chomakhidze. Environmental Specialists of SC and UWSCG/USIIP conducted routine observations and surveys of project sites, issues non-conformance notes. ES of SC prepares quarterly environmental reports and submits to UWSCG.
22. All mitigation measures under MAR-01 sub-project are implemented by the contractor: "Akelik Group OJSC" (Azerbaijan). Contractor's H&S Specialist - Mr. Vakhtang Burchuladze and Environmental Specialist Mr. Paata Chakotadze are responsible for environmental health and safety issues during construction process. Contractor is monitored by the environmental specialist – Mr. Rezo Ehlukidze of SCt/Hill and Environmental Specialist of UWSCG/USIIP Ms. Ketevan Chomakhidze. Environmental Specialists of SC and UWSCG/USIIP conducted routine observations and surveys of project sites, issues non-conformance notes. ES of SC prepares quarterly environmental reports and submits to UWSCG.
23. The Contractor, prior to the onset of the construction, is obliged to conduct a number of studies and develop environmental plans, including "Site Environment Management Plan" (SEMP). Such plans can be further subdivided into Topic Specific or Site Specific EMP's. The number of such plans will depend upon the type of project, complexity and sensitivity of the receiving environment.
24. Topic Specific EMPs are developed on a topic by topic basis. For example:
 - Waste Management Plans;
 - Traffic Management Plans;
 - Protected Species Management Plans;
 - Water Management Plans.
25. These plans are detailed and set out how the project will address potential issues identified in the impact assessment process and ensure that specific mitigation and monitoring measures are fully implemented. A topic specific environmental management plan will cover all of the project.
26. The environmental specialist of UWSCG/USIIP assists and advise the Department of Environmental Protection and Permits of UWSCG for implementation of USIIP in compliance with the ADB Safeguard Policy Statement 2009 and National Legislation, and oversee the work of DCs and SCs in safeguards compliance. ES supports DEPP in EARF implementation, in particular, reviewing IEE/EIA Reports, overseeing implementation of EMPs, Reviewing and approving SEMP's and carrying out training and capacity-building activities in cooperation with Supervision Company. The ES prepares Semi-annual and annual environmental monitoring reports and submits to ADB.
27. Department of Environmental Protection and Permits of UWSCG is responsible for the implementation of mitigation and monitoring measures during construction and operation

of subprojects under USIIP. Currently DEPP is staffed with a Head of Department and 4 specialists, those are responsible for environmental safeguard and construction permission issues.

28. ADB is the donor financing the Investment Program. Environmental management organization is shown in Figure 1 and Figure 2.

Figure 1: Structure Diagram of the Environmental Management Unit of UWSCG

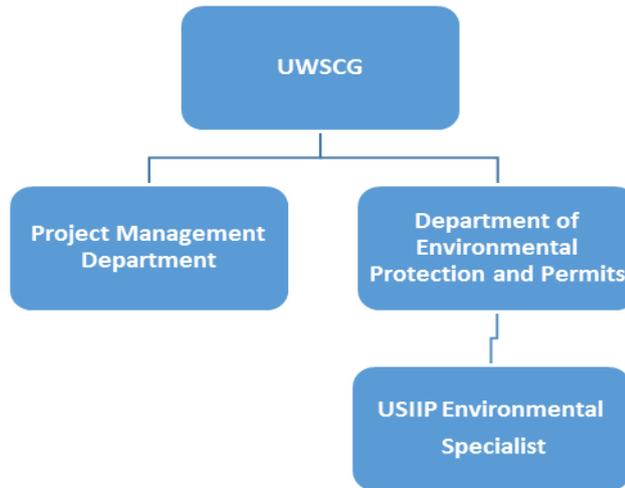
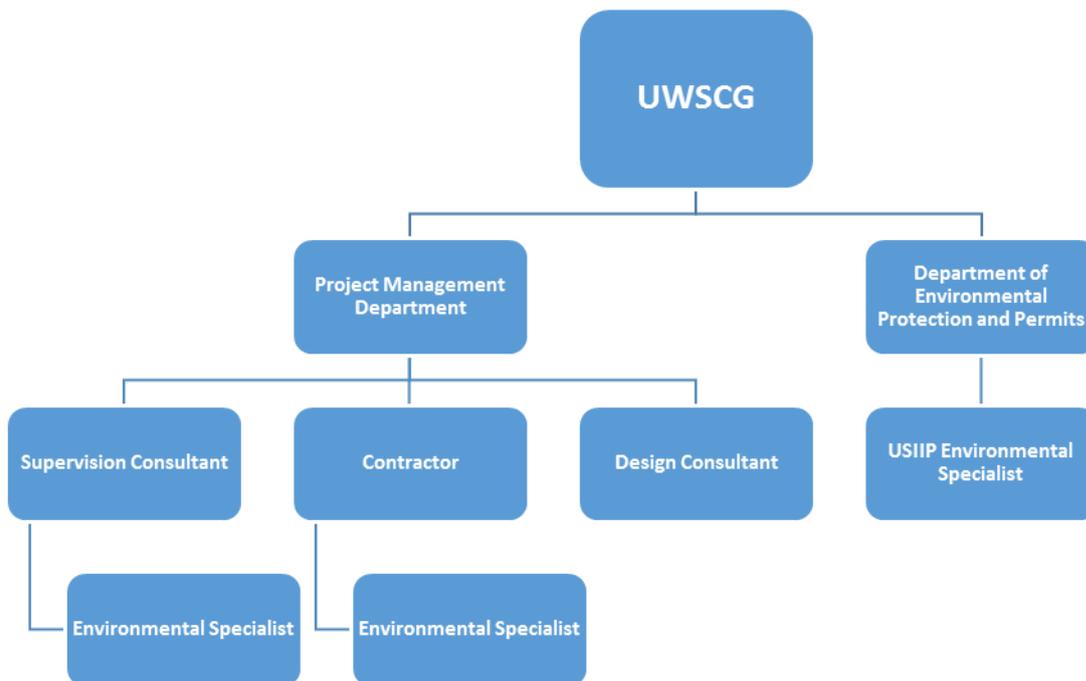


Figure 2: Structure Diagram of the Agencies Involved in Investment Program Implementation



29. Main organizations involved in the project and related to environmental safeguard are presented in the table 1 below:

Table 1: List of Main Organizations under USIIP/T6

Type of project participant	Name of Agency/Company	Environmental Staff	Name and contact details
Lender	Asian Development Bank	Head Office, Environmental Specialist, Portfolio, Results, Safeguards and Gender Unit (PSG), CWRD.	Duncan Lang dlang@adb.org
		Associate Safeguards Officer Georgia Resident Mission Asian Development Bank	Nino Nadashvili Tel: +995 595 070442 nnadashvili@adb.org
		ADB RETA International-Regional Environmental Consultant	Keti Dgebuadze Tel: +995 577232937 ketdgeb@yahoo.com
Borrower	UWSCG	UWSCG, Department of Environmental Protection and Permits, Head	Ms. Maka Goderdzishvili Tel: +995 599 229925 E-mail: m.goderdzishvili@water.gov.ge
		UWSCG/IPMO Department of Projects Management, Head	Mr. Giorgi Archaia Tel: +995 577 380213 E-mail: G.Archaia@water.gov.ge
Borrower	UWSCG/USIIP/T6	Environmental Specialist	Ms. Ketevan Chomakhidze Tel: +995 577 380309 E-mail: Chomakhidzek@yahoo.com
Supervision Consultant	Supervision Consultant: Hill International N.V. (Netherlands)	Environmental Specialist:	Mr. Rezo Enukidze Tel: +995 599 164 469 E-mail:

Type of project participant	Name of Agency/Company	Environmental Staff	Name and contact details
			r.enukidze@gmail.com
Contractor CHI-01	“Akkord Industry Construction Investment Corporation” OJSC (Azerbaijan)	EH&S Specialist	Environmental Specialist of CC: Name: Mr. Tamaz Ulimbelashvili Tel: +995 591 061 820 E-mail: tamazi.ulumbelashvili@akkord.az
Contractor MAR-01	Akelik Group OJSC (Azerbaijan)	EH&S Specialist	Mr. Vakhtang Burchuladze Tel: +995 577477432 E-mail: v.burchuladze@akelik.ge
		HSE Manager	Mr. Natig Aliev E-mail: aliyevnatig@mail.ru Mob: +995 593 60 44 48
		HSE Engineer	Mr. Zaur Askerov E-mail: askerovzaur43@gamil.com Mob: +995 593 39 00 29

2.3 Project Activities During Current Reporting Period

- 30.** During the reporting period, construction work under T6 were carried out within the framework of the CHI-01 and MAR-01 sub-projects and therefore in this Semi-annual EMR these two sub-projects are reported.
- 31.** Date of Signature of Works Contract under CHI-01 sub-project is 21 August 2017. Commencement Date for the Works was 23 October 2017. The time for Completion of construction works was 540 days, with completion day by 15 April 2019. Revised time for Completion is 790 days with revised completion date 21 December 2019. Defects Notification Period (DNP) is 365 days, ending on 14 April 2020.

32. The contract consists of the following works:

- The rehabilitation of the existing WS system by replacing the old pipework;
- Connection of the new pipes to the existing pipes;

33. The overall progress of the laid pipes at the end of the reporting period is 99.98% for the CHI-01 project. More detailed information about the construction work performed during the reporting period under the project CHI-01 is presented in Table 2 below.

Table 2: Construction progress under CHI-01 project

Pipeline	Unit	Quantity (BoQ)	Cumulative to date	Progress
Main Transmission Line	m	15.858	15.581	98,3%
Distribution Network	m	66.470	65.713	98,9%
DN355 Bisi-CPS Transmission	m	745	557	74,8%
DN160 CPS-Lezhubani	m	2.165	2115	97,7%
DN160 CPS-Perevisi	m	1.237	1818	147,0%
DN225 CPS-Rustaveli	m	1.300	1310	100,8%
DN225 Lezhubani Res to PS	m	292	320	109,6%
Q200 ST Lezhubani PS - Memorial Res	m	1.645	1942	118,1%
Q100 ST Perevisi PS - Tekhisa Res	m	1.710	2046	119,6%
DN160 Memorial-Navardzeti	m	1.560	1470	94,2%
Total Laid Pipe	m	91.422	91.402	99,98%
House Connection	n	10.600	0	0%
Crossings	n	10	2	20%
Hydraulic Chambers	m3	1.219	215,58	18%
Hydrants	n	228	181	79%
Reinstatement of Asphalt	m2	34.300	0	0%
Reinstatement of Concrete Pavement	m2	4.600	0	0%

34. The overall progress of the works carried out under the Mar-01 project is 2%. The total volume of the new water supply network is 7.5 km out of 188 km. No construction work on the rehabilitation of wastewater has yet been carried out. The sewage network to be constructed as part of the subproject MAR-01 is 220 km.

35. Only excavation works were conducted at the construction site of the Jandari reservoir (MAR-01). Concreting works will begin in July 2019 and will be reflected in the EMR July-December 2019.

2.4 Description of Any Changes to Project Design

N/A

2.5 Description of Any Changes to Agreed Construction methods

N/A

3. ENVIRONMENTAL SAFEGUARD ACTIVITIES

3.1 General Description of Environmental Safeguard Activities

- 36.** Individual and joint on-site monitoring activities were conducted by Environmental Monitoring Specialist of SC and Environmental Specialist of USIIP on a regular basis, during the period January-June 2019. Also unscheduled monitoring visits were carried out and on-site verbal instructions have been given to the contractor and its environmental team non-compliance notes has been issued to the contractor as needed. Mitigation measures to reduce major environmental impacts have been instructed to contractors during the monitoring visits.
- 37.** The monitoring activities included:
- The monitoring of compliance of construction activities under CHI-01 project sites to the IEE/EMP requirements;
 - The monitoring of compliance of construction activities under CHI-01 project sites to the IEE/EMP requirements;
- 38.** Environmental, H&S Specialist, Mr. Tamaz Ulimbelashvili hired by Contractor under the CHI-01 sub-project conducted the day-to-day monitoring of the construction sites, developed the monthly monitoring reports and submitted to SC/Hill.
- 39.** Environmental, H&S Specialist, Mr. Vakhtang Burchuladze hired by Contractor under the MAR-01 sub-project conducted the day-to-day monitoring of the construction sites, developed the monthly monitoring reports and submitted to SC/Hill.
- 40.** Environmental Monitoring Specialist hired by Contractor under the CHI-01 project conducted the day-to-day monitoring of the construction sites, developed the monthly monitoring reports and submitted to SC/Hill.
- 41.** Environmental Monitoring Specialist, Ms. Rezo Enukidze was hired by SC under CHI-01 and MAR-01 sub-project of USIIP/T6. SC/Hill developed quarterly monitoring reports for UWSCG/USIIP based on the monthly reports submitted by Contractor, and based on environmental site inspection.
- 42.** ES of USIIP performed monitoring of contractor's performance with the approved EMPs and SSEMPs, environmental standards and other environmental commitments of the contractor. ES developed Semi-annual and Annual Environmental Monitoring Reports (SAEMR) and submitted to ADB based on the quarterly reports prepared by SC and monitoring results.
- 43.** The construction activities affecting the environment during the reporting period are as follows:
- Excavation works
 - Removal of Top Soil
 - Removal of Surplus Soil
 - Backfilling of Trenches
- 44.** In accordance with the IEE, and the accompanying Environmental Monitoring Plan (EMP), the Contractor is required to undertake parametric measurements and observations on air quality, noise and socio-cultural resources. The monitoring guidelines were set as shown in the Table 3 below.

Table 3: Parametric Measurement Guidelines

Parameters	Frequency & Location	Remarks
CHI-01		
Air Quality	Air Quality Reservoirs, Networks, Transmission Main	Watering site during excavation works to avoid dust spreading Conduct measurements of Dusts Mg/m ³ ; CO Mg/m ³ ; NO ₂ Mg/m ³ ; SO ₂ Mg/m ³
Noise	Noise, Quarterly Reservoirs, Networks, Transmission Main	Ensure that all equipment & vehicles used for construction activity are in good condition Limiting working hours to 8 am – 6 pm
Incorrect surplus/waste soil management	Monthly during the site Inspection and audit	Utilize surplus/waste soil for beneficial purposes such as in construction or to raise the ground-level of low lying sites. Dispose extra waste soil at special disposal place identified by Municipality
Cultural heritage Disturbance to cultural resources	Every time along the alignment Archaeological & Cultural Properties	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. Calling in the state archaeological authority if a find is suspected, and taking any action they require to ensure its removal or protection.
MAR-01		
Air Quality	Air Quality Reservoirs, Networks, Transmission Main	Watering site during excavation works to avoid dust spreading Conduct measurements of Dusts Mg/m ³ ; CO Mg/m ³ ; NO ₂ Mg/m ³ ; SO ₂ Mg/m ³
Noise	Noise, Quarterly Reservoirs, Networks, Transmission Main	Ensure that all equipment & vehicles used for construction activity are in good condition Limiting working hours to 8 am

Parameters	Frequency & Location	Remarks
		– 6 pm
Incorrect surplus/waste soil management	Monthly during the site Inspection and audit	Utilize surplus/waste soil for beneficial purposes such as in construction or to raise the ground-level of low lying sites. Dispose extra waste soil at special disposal place identified by Municipality
Cultural heritage Disturbance to cultural resources	Every time along the alignment Archaeological & Cultural Properties	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. Calling in the state archaeological authority if a find is suspected, and taking any action they require to ensure its removal or protection.

45. There are no protected areas, wetlands, mangroves, or estuaries. 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.

3.2 Site Audit

46. Regular inspection and monitoring of construction sites under CHI-01 and MAR-01 sub-project were conducted by ESs of USIIP and SC/HILL. The schedule of Joint inspection and summary of audits carried out under sub-projects are provided in the Table 4 below.

Table 4. Summary of site audits

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	
Continuously during reporting period (January-June 2019)	“Akkord Industry Construction Investment Corporation” OJSC CHI-01	Environmental, H&S Specialist of Contractor Mr. Tamaz Ulimbelashvili	Day to day monitoring of sites Compliance with Environmental and HES requirements	Safety issues on construction sites, Workers always should use complete PPE	Prepare Monthly Environmental Monitoring Reports and send to SC
		Environmental	Compliance	Poor	Prepare

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	
		Specialist of Supervision Company HILL Mr. Rezo Enukidze	with Environmental and HES requirements	Housekeeping	Quarterly Environmental Monitoring Reports and send to UWSCG Issue non-compliance if necessary
13 February 2019		Environmental Specialist of USIIP Ms. Ketevan Chomakhidze Senior Specialist of UWSCG/ DEPP, Ms. Liza Chovelidze	Regular monitoring of sites	<p>Proper warning and information signs should be arranged at the entrance of the site</p> <p>All construction materials should be properly segregated and stored adequately</p> <p>Proper waste (Hazardous, Household) containers with roof should be installed at the storage area</p> <p>Waste should be placed only at the proper waste container</p> <p>All types of waste should be removed from the territory timely and fully</p> <p>Proper fuel/oil spill response items (sand, sawdust, special containers) should be available at the site</p> <p>All spots of oil spills should be remediated immediately</p>	<p>Verbal instruction was given and Non-Compliance Notice was issued to contractor (Please see Annex C)</p> <p>After issuing Non-Compliance Notice Corrective Action Plan (CAP) was developed by contractor (Please see example in Annex D)</p>

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	
				<p>Containers with fuel/lubricant should be managed properly (stored at the proper organized place with concrete floor and roofing) to avoid leakage and ground contamination</p> <p>Equipment & vehicles used for construction activities should be in good condition (no leakage)</p> <p>Storage territory internally should be arranged properly and cleaned regularly The Camp yard should be covered with gravel</p>	
19 February 2019		<p>RETA International Environmental Consultant of ADB under RETA 8663 - Ms. Ketil Dgebuadze.</p> <p>Environmental Specialist of USIIP Ms. Ketevan Chomakhidze</p>	ADB Safeguards Compliance Review Mission	<p>SC to employ national H&S officer to provide the supervision of the Contractor and their safety team – Q2, 2019.</p> <p>CC to sign agreement with licensed company for disposal of hazardous waste.</p> <p>CC to perform the next parametric measurements of air, noise, vibration, water on a quarterly basis according to</p>	Mission's Note developed and send to UWSCG by Environmental Consultant of ADB under RETA 8663 - Ms. Ketil Dgebuadze

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	
		Environmental Specialist of SC Mr. Rezo Eukidze Environmental, H&S Specialist of Contractor Mr. Tamaz Ulimbelashvili		<p>IEE/EMP and ADB requirements - in May 2019.</p> <p>CC H&S Officer to prepare log book for fixing accidents and near misses and kept at camp site.</p> <p>GRM log book to be prepared and kept at camp site. CC to install lightning system near the open trenches during night time to avoid accidents.</p>	
5 March 2019		<p>Environmental Specialist of USIIP Ms. Ketevan Chomakhidze</p> <p>Environmental Specialist of SC Mr. Rezo Eukidze Environmental, H&S Specialist of Contractor Mr. Tamaz Ulimbelashvili</p>	Monthly monitoring of sites	<p>Baseline Environmental Quality Measurement of Noise, Air and Vibration to be conducted before starting any construction activities</p> <p>The amount of Top Soil indicated in the relevant SEMP must be properly stored</p> <p>Construction site should be properly fenced from all sides and equipped with lockable gate</p> <p>Proper warning and information signs should be arranged at the</p>	<p>Verbal instruction was given and Non-Compliance Notice was issued to contractor (Please see Annex C)</p> <p>After issuing Non-Compliance Notice Corrective Action Plan (CAP) was developed by contractor (Please see as an example Annex D)</p>

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	
				<p>entrance and perimeter of the site</p> <p>High visible safety signs/tapes and trench side barriers around of deep open excavation should be installed from all sides to avoid accidents of local population</p> <p>Soil (surplus/accumulated soil) for backfilling purposes should be managed/stored properly on the territory primarily agreed with the Municipality</p> <p>Workers always should use complete PPE and Safety norms during working at height should be provided</p> <p>Construction waste should be timely removed from the construction site and disposed properly</p> <p>Containers with fuel/lubricant should be managed properly (stored at the proper organised place with concrete floor and roofing) to avoid leakage and</p>	

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	
				<p>ground contamination</p> <p>All construction materials should be properly segregated and stored adequately Proper waste containers should be installed and labeled (Household waste and Hazardous waste)</p> <p>Waste should be placed only at the proper waste container and discharged timely Site internally should be arranged properly and cleaned regularly</p>	
20-21 March 2019		<p>Environmental Specialist of SC Mr. Rezo Eukidze</p> <p>Environmental, H&S Specialist of Contractor Mr. Tamaz Ulimbelashvili</p>	Monthly monitoring of sites	Housekeeping at sites is on a very poor level	<p>Verbal Instructions given to contractor.</p> <p>Completed</p>
2 May 2019		<p>Environmental Specialist of SC Mr. Rezo Eukidze SC/HILL Team Leader Mr. Grand Murdie</p>		<p>Spillage of fuel occurring from items of equipment, including fuel transfer/filling from the on-site stationary fuel tanker.</p> <p>It is not sufficient Merely to scatter sand over any fuel spillages and the absorbents</p>	<p>Verbal Instructions given to contractor, on-site trainings was carried out and non-compliance letter was issued by SC/HILL to contractor.</p> <p>Completed</p>

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	
				must be gathered and disposed as hazardous waste.	
28 May 2019		Environmental Specialist of SC Mr. Rezo Enukidze	Monitoring of improvements after the official letter issued by the Regional Office of the Department of Environmental Supervision of the Ministry of Environment and Agriculture of Georgia on the illegal disposal of inert waste on David Akmashenebeli's Street in Chiatura (Please see Letter of the MoEPA and its Regional Office of Environmental protection Annex F) Photo of site: 	Representatives of the Department of Environmental Protection and Permits, of UWSCG as well as USIIP ES visited the site to conduct monitoring of the cleaning up activities after the strong instruction and official communication to contractor to remove the illegal waste from site	Strong instruction was given to contractor and to send improved photos of sites to SC and UWSCG Contractor improved the situation and sent the improved photos of site: 
17 June 2019		ADB, CEF - Mr. Duncan Lang RETA	Monitoring and audit of construction sites	SC to employ national H&S officer to provide the supervision of the Contractor	Verbal instruction was given to contractor to improve the

¹ GEO country Annual Environmental Safeguard Mission was conducted in 18-25 July 2019, main findings of this Mission will be reflected in SAEMR of July-December 2019.

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	
		<p>International Environmental Consultant of ADB under RETA 8663 - Ms. Ketil Dgebuadze.</p> <p>Environmental Specialist of USIIP Ms. Ketevan Chomakhidze</p> <p>Environmental Specialist of SC Mr. Rezo Enukidze</p> <p>Environmental, H&S Specialist of Contractor Mr. Tamaz Ulimbelashvili</p>		<p>and their safety team – Q3, 2019.</p> <p>Not completed</p> <p>CC to sign agreement with licensed company for disposal of hazardous waste.</p> <p>Completed</p> <p>CC H&S Officer to prepare log book for fixing accidents and near misses and kept at camp site.</p> <p>Completed</p> <p>GRM log book to be prepared and kept at camp site.</p> <p>Completed</p> <p>Reinstatement by asphalt layer of tranches within Chiatura network as far as possible as these present driving hazard and community annoyance.</p> <p>Not yet completed</p>	<p>situation during the Annual Safeguard Mission.</p>
Continuously during reporting period (January-June 2019)	<p>“Akelik Group OJSC” (Azerbaijan) MAR-01</p>	<p>Environmental, H&S Specialist of Contractor Mr. Vakhtang Burchuladze</p>	<p>Day to day monitoring of sites Compliance with Environmental and HES requirements</p>	<p>Safety issues on construction sites, Workers always should use complete PPE</p>	<p>Prepare Monthly Environmental Monitoring Reports and send to SC</p>
		<p>Environmental Specialist of Supervision Company HILL</p>	<p>Compliance with Environmental and HES</p>	<p>Poor Housekeeping</p>	<p>Prepare Quarterly Environmental Monitoring</p>

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	
		Mr. Rezo Ehlukidze	requirements		Reports and send to UWSCG Issue non-compliance if necessary
1 February 2019		Environmental Specialist of USIIP Ms. Ketevan Chomakhidze Environmental, H&S Specialist of Contractor Mr. Vakhtang Burchuladze	Regular Environmental monitoring of sites	Construction site should be properly fenced from all sides and equipped with lockable gate Proper warning and information signs should be arranged at the entrance and perimeter of the site	Verbal instruction was given to contractor to improve the situation
8 April 2019		Environmental Specialist of USIIP Ms. Ketevan Chomakhidze Environmental, H&S Specialist of Contractor Mr. Vakhtang Burchuladze	Regular Environmental monitoring of sites	Baseline Environmental Quality Measurement of Noise, Air and Vibration to be conducted before starting any construction activities The amount of Top Soil indicated in the relevant SEMP must be properly stored Construction site should be properly fenced from all sides and equipped with lockable gate Proper warning and information signs should be arranged at the entrance and	Verbal instruction was given and Non-Compliance Notice was issued to contractor (Please see Annex C) After issuing Non - Compliance Notice Corrective Action Plan (CAP) was developed by contractor (Please see an example in Annex D)

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	
				<p>perimeter of the site</p> <p>High visible safety signs/tapes and trench side barriers around of deep open excavation should be installed from all sides to avoid accidents of local population</p> <p>Soil (surplus/accumulated soil) for backfilling purposes should be managed/stored properly on the territory primarily agreed with the Municipality</p> <p>Workers always should use complete PPE and Safety norms during working at height should be provided</p> <p>Construction waste should be timely removed from the construction site and disposed properly</p> <p>Containers with fuel/lubricant should be managed properly (stored at the proper organised place with concrete floor and roofing) to avoid leakage and ground contamination</p> <p>All construction</p>	

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	
				<p>materials should be properly segregated and stored adequately</p> <p>Proper waste containers should be installed and labeled (Household waste and Hazardous waste)</p> <p>Waste should be placed only at the proper waste container and discharged timely</p> <p>Site internally should be arranged properly and cleaned regularly</p>	
15 April 2019		<p>Environmental Specialist of USIIP Ms. Ketevan Chomakhidze</p> <p>Environmental, H&S Specialist of Contractor Mr. Vakhtang Burchuladze</p>	Monthly monitoring of sites	Construction waste should be timely removed from the construction site and disposed properly	Verbal instruction was given to contractor to improve the situation
7 June 2019		<p>Environmental Specialist of USIIP Ms. Ketevan Chomakhidze</p> <p>Environmental, H&S Specialist of Contractor Mr. Vakhtang Burchuladze</p>	Monthly monitoring of sites	Containers with fuel/lubricant should be managed properly (stored at the proper organised place with concrete floor and roofing) to avoid leakage and ground contamination	Verbal instruction was given to contractor to improve the situation

Date of Visit	Name of Company Name of Contract	Auditors Name	Purpose of audit	Summary of any Significant Findings	

3.3 Issues Tracking (Based on Non-Conformance Notices)

47. Non-Conformances have been observed during the site visits under CHI-01 and MAR-01 sub-projects. The contractors were always informed on the detected non-conformances and were demanded to improve on the deadline set and send photos of improvements. Environmental team of HILL and UWSCG/USIIP monitored the improvements during the next monitoring visits. All Non-conformance Notices issued during the reporting period is presented in ANNEX C of this Semi-Annual EMR.

48. A summary of the identified environmental issues for January-June 2019 is presented in table 5 and Table 6 below.

Table 5: Summary of Issues Tracking Activity for Current Period CHI-01

Summary Table CHI-02

Total Number of Issues for Project	32
Issues Opened This Reporting Period	5
Issues Closed This Reporting Period	24
Percentage Closed	75%

Table 6: Summary of Issues Tracking Activity for Current Period MAR-01

Summary Table MAR-01

Total Number of Issues for Project	19
Issues Opened This Reporting Period	4
Issues Closed This Reporting Period	15
Percentage Closed	79%

3.4 Trends

49. Summary of identified trends under CHI-01 and MAR-01 sub-projects during the reporting period – January-June 2019 is presented in the table 7 below.

Table 7: Summary of identified trends in environmental issues

Semi-Annual EMR No	Total No of Issues	% issues Closed	% issues closed late
1 July-December 2018	² 20	54%	46%
2 January-June 2019	³ 51	77%	23%

50. All major Non-Conformances under USIIP/T6 during the reporting period are provided in an Annex C of this report.

3.5 Unanticipated Environmental Impacts or Risks

Not yet applicable

² The total number of issues include only CHI-01 sub-project, since during July-December 2019, no construction work was carried out under the MAR-01 sub-project.

³ The total number of issues include both CHI-01 and MAR-01 sub-projects

4. RESULTS OF ENVIRONMENTAL MONITORING

4.1 Overview of Monitoring Conducted during Current Period

51. During the reporting period Environmental measurements of Noise level and ambient air Quality were carried out by contractor under CHI-01 sub-project.
52. Noise and air pollution standards defined by IFC/WHO 1999, are presented in the Table 8 and 9 below.

Table 8: Noise Level Guidelines

Noise Receptor	dB National Regulations		dB WHO	
	Daytime 07:00 - 22:00	Nighttime 22:00 - 07:00	Daytime 07:00- 22:00	Nighttime 22:00- 07:00
Residential; institutional; educational	55	45	55	45
Industrial; commercial	70	70	70	70

53. Air pollution standards by IFC/WHO 1999, are presented in the Table 10 below.

Table 9: Air pollution Guidelines

Contaminants	IFC/WHO Guideline Value (Limit mg/m ³)
1	2
Inorganic dust	(*IFC does not have a standard for "inorganic dust". Instead IFC applies standards for PM2.5 and PM10). PM10 – 0,02/1 Year 0,05/24 Hour PM2,5-0,01/1 Year 0,025/24 Hour
Carbonic monoxide	n/a
Nitrogen dioxide (NO ₂)	0,2/ 1 Hour 0,04/1 Year
Aldehyde	n/a

54. Monitoring measurements of noise, vibration ambient air quality under CHI-01 sub-project were conducted by OJSC "Akkord Georgia" and Ltd "GREENTECs" on 9 January 2019 and 6 April 2019. Location and data are included in the table 10 below. The next monitoring measurements will be conducted in May 2019 and results will be reflected in the next January-June EMR 2019.

55. According to data received in January and April 2019 noise level exceeds the standards of the National Regulations and World Health Organization (IFC/WHO),1999 in Chiatura and therefore additional mitigation measures are required and presented in Table12: Recommendations to Address Environmental Issues under CHI-01 sub-project. IFC/WHO standards for Noise and Air pollution are presented in Tables 8 and 9 above. It should be noted also that measurements carried out at construction sites (at sources), were temporary and conducted during the daytime from 13:10 pm to 17:00 pm and no complaints were received from the local population about the noise during the reporting period.

Table 10: Environmental Quality Measurement Noise, Vibration, Dust

Measurement Point	Measurement Results								
9 January 2019									
Location	Coordinates	Noise dB (max)	Vibro Speed		Vibro Acceleration		Dust Mg/M ³		
			mm/s	db	m/s ²	db	PM ₂₅	PM ₁₀	Total
“Sahkere Chiatura Road” 7+120	38T0365554 4687004	91.2	0.9	85	1.9	125	0.138	0.178	0.460
“Sahkere Chiatura Road” 7+300	38T035379 4686963	79.4	0.1	66	0.2	106	0.165	0.214	0.479
“Sahkere Chiatura Road” 12+20	38T362052 4684982	82.9	0.3	76	0.2	106	0.127	0.165	0.423
6 April 2019									
Chiatura Street, George’s street T-20	38T0358802 4682566	91.2	0.2	72	0.5	114	0.112	0.163	0.212
Chiatura Street, George’s street T-15-19	38T0358729 4682484	70.2	0.1	66	0.1	100	0.098	0.126	0.184
Chiatura Street, George’s street T-15-19	38T358573 4682226	53.3	<0.1	<66	<0.1	<100	0.53	0.081	0.116

56. Monitoring measurements of noise, vibration ambient air quality under MAR-01 sub-project were conducted by contractor on 8 April 2019. Location and data are included in the table 11 below.

57. According to data received in 8 April 2019 noise level exceeds the standards of the National Regulations and World Health Organization (IFC/WHO),1999 in Marneuli and therefore additional mitigation measures are required and presented in Table12: Recommendations to Address Environmental Issues under CHI-01 and MAR-01 sub-projects. IFC/WHO standards

for Noise and Air pollution are presented in Tables 8 and 9 above. It should be noted also that measurements carried out at construction sites, were temporary and conducted during the daytime from 12:10 pm to 16:30 pm and no complaints were received from the local population about the noise during the reporting period.

Table 11: Environmental measurements results:

N	Location	GPS coordinates WGS 84	Measurement Results										
			Dust (PM) Mg/M ³		(CO) mg/m ³		(NO ₂) mg/m ³		(SO ₂) mg/m ³		Noise Db (max)		Vibration mm/s ²
			Results	Permissible	Results	Permissible	Results	Permissible	Results	Permissible	Results	Permissible	
1	Marneuli, Jandari Reservoir	N4594928 E482960	0.062	0.15- average 0.5 max.	0.41	3- average 5-max.	0.02	0,04 average 0,2 max.	<0,1	0,125 average 0.35 max	55	55	0
2	Marneuli CAMP	N4594089 E485290	0.063		0.22		0.01		<0,1		46	85	0
3	Qolagiri Headwork Existing PS	N4588150 E472297	0.052		0.18		0.01		<0,1		97	85	0.03
4	Qolagiri Headwork 5m from existing PS	N4588144 E476300	0.064		0.18		0.01		<0,1		85	85	0.01
5	Qolagiri Headwork 20m from existing PS	N4588135 E476313	0.078		0.18		0.01		<0,1		66	85	0
6	Marneuli Construction Water reservoir	N4593240 E482561	0.049		0.24		0.02		<0,1		45	55	0

4.2 Trends

58. All mitigation measures identified within the IEE/EMP, SEMP's under CHI-01 project are effective and no additional measures are required.

4.3 Summary of Monitoring outcomes

59. Noise level during the construction period under CHI-01 sub-project exceeds the existing standards of IFC/WHO and therefore the following additional mitigations measures are required: Plan activities in consultation with SC and IPMO/UWSCG so that activities with the greatest potential to generate noise are planned during periods of the day that will result in least disturbance; Noisy construction activities will be avoided during night time; All construction equipment and vehicles shall be well maintained, regularly inspected for noise emissions. Detailed mitigation measures to improve the situation on site are provided in Table 11 below. SC and UWSCG/USIIP will monitor the improvements under CHI-01 sub-project and reflect findings in the next Semi-annual EMR in January-June 2019.

4.4 Material resources Utilization

4.4.1 Current Period

60. Despite the numerous requests from UWSCG to contractors and the supervision consultant to provide information on material resources used during the reporting period, no information was provided on the use of water resources, electricity, etc. The UWSCG will hold additional meetings with SC and CC to ensure providing of necessary information by the end of the next reporting period - June 2019 and this information will be reflected in the next Semi-annual EMR in January-June 2019.
61. 45. The following information was provided by the contractor within the framework of the MAR-01 sub-project on the use of material resources during the reporting period - January-June 2019.
62. Electricity consumption for 6 months amounted to 1956.5 kV. There is no information about water consumption, as water was connected to CAMP, and, accordingly, water meters were installed only by the end of June 2019. Information on water consumption will be presented in the next EMR - July-December 2019.

4.4.2 Cumulative Resources Utilization

N/A

4.5 Waste Management

4.5.1 Current Period

63. At the construction sites under the CHI-01 and MAR-01 sub-projects are mainly produced household, construction (inert, surplus soil) and hazardous waste.
64. Mainly household waste is collected in municipal containers which are served by the local cleaning service.
65. Amount of Solid Waste generated during the reporting period within the framework of the MAR-01 sub-project is 2500m³. No information was provided about the generated solid waste during the reporting period within the CHI-01 sub-project.

66. The construction waste under both sub-projects are allocated at the construction site is removed for its final disposal that is managed by formal agreement with local municipality or Ltd “Solid Waste Management Company”.
67. Hazardous waste (lubricant residues and etc) were stored according to all the safety norms after the strong instruction given by SC and UWSCG. In the case of formation such kind of waste, contractor has to write to the management of the municipality or the company who is licensed to recycle/decontaminate such kind of waste. Also contractors have special container with proper labelling at the construction site.

4.5.2 Cumulative Waste Generation

Not yet applicable.

4.6 Health and Safety

4.6.1 Community Health and Safety

68. No community incidents have been reported by SC during reporting period under CHI-01 and MAR-01 sub-projects.

4.6.2 Worker Safety and Health

69. Environmental H&S specialist of contractor under CHI-01 sub-project Mr. Tamaz Ulumbelashvili was performing day-to-day monitoring of Health & Safety on the Sites and press the Contractor to improve the provision of trench barriers in roads and to provide suitable work boots for the labour force.
70. Health & safety and environment issues which were covered during the reporting period are as follows:
- Ground works;
 - Manual works;
 - Removal waste;
 - PPE;
 - Housekeeping;
 - Reinforcement;
 - Dust and Noise Measurements
 - Upgrade Safety Hard and Warning Barricade
71. The following Near-Misses were reported by SC under CHI-01 sub-project, which may be resulted in community and workers' Health and Safety problems:
- Single row of plastic security tape acting as a fence which is inadequate and ineffective. In addition, no night warning lamps are being used for the open trenches;
 - Safety issues on construction sites, Workers always should use complete PPE
72. Workers incident and accidents occurred during the reporting period under CHI-01 sub-project, these were injury to Security Guard, Mr. Khvicha Macharashvili and the Death of Akkord Worker, Mr. Ambrosi Modebadze, and more details are provided in the para 73 and 74 below and Annex E to this report.

- 73.** On June 25, 2019, when approaching to the entrance gate to the Contractor's yard, Mr. Khvicha Macharashvili sustained a gash to his head when struck by a piece of reinforcing steel cast aside unknowingly by the driver of a vehicle who wished to enter the gate but was unable to do so because of the reinforcing steel holding the gate in the closed position. Mr. Macharashvili was detained in hospital for several days for observation.
- 74.** In the same day after the incident/injury of the Security Guard in 20 min. interval Mr. Ambrosi Modebadze, was apparently boarding a minibus to return to Site after eating lunch at the canteen in the Contractor's yard, when it seems he suffered a heart attack. An ambulance was called, but it took twenty minutes to arrive, after which the responders pronounced Mr. Modebadze dead at the scene, seemingly without any efforts to resuscitate him. The police later arrived and apparently declared that there were no suspicious circumstances and no criminal case to answer, and the body was returned to the family. See Annex G for detailed letter regarding the incident.
- 75.** The recommendations and actions foreseen for this incident by the ADB Mission will be respected and appropriately reflected in the next Semi-annual EMR as of Jul-Dec 2019. These recommendations will include preparation of a full incident report, with all details of the incident. The report should also include a section of lessons learned.
- 76.** The Supervision Consultant HILL will also conduct a follow-up investigation of the Contractor to verify the availability of first aid services, training and the adequacy of H&S personnel in the light of the incident.
- 77.** During the reporting period, Near-Misses were identified by ES of USIIP during the monitoring of the site visit within the framework of the MAR-01 subproject. These Near Misses include:
- Special equipment during working at heights should be used at CAMP site
 - Electrical cables were not properly used. Electrical plug missing, no insulation.
- 78.** SC and UWSCG / USIIP strictly requested from contractor to adequately fill the Near Misses forms and reflect in their monthly monitoring reports.

4.7 Training

- 79.** On site environmental safeguard training were conducted for environmental teams of CHI-01 project on a regular bases during the site visits. Environmental specialists of contractors were introduced with all necessary safeguard requirements of ADB/SPS 2009.
- 80.** The main issues of discussion were the obligations of contractor in terms of environmental safeguards and issues that are to be managed during construction process.

5. FUNCTIONING OF THE SEMP

5.1 SEMP Review

81. The following SEMPs have been prepared and approved under CHI-01 sub-project.

- SEMP for CAMP site (approved in August 2018)
- SEMP for Sachkhere Reservoir (approved in August 2018);
- SEMP for Bisi Reservoir (approved in September 2018);
- SEMP for Lezhubani Reservoir (approved in September 2018);
- SEMP for Navardzeti Reservoir (approved in September 2018);
- SEMP for Perevisy Reservoir (approved in September 2018);
- SEMP for Rustaveli reservoir (approved in September 2018);
- SEMP for Tekhisa Reservoir (approved in September 2018);
- SEMP for Chiatura Well fields (approved in November 2018)

82. The following SEMPs have been prepared and approved under MAR-01 sub-project during the reporting period, January-June 2019:

- SEMP for Jandary Reservoir (approved in March 2019)
- SEMP for Kolagiri Pumping Station (approved in March 2019);
- SEMP for CAMP (approved in May 2019);

83. All SEMPs were prepared by Contractor, endorsed by SC and approved by UWSCG. SEMPs were reviewed/commented by the RETA International Environmental Consultant of ADB under RETA 8663 - Ms. Ketii Dgebuadze.

6. GOOD PRACTICE AND OPPORTUNITY FOR IMPROVEMENT

6.1 Good Practice

Not yet applicable.

6.2 Opportunities for Improvement

Not yet applicable.

7. SUMMARY AND RECOMMENDATIONS

7.1 Summary

- 84.** During the reported period construction activities were implemented under CHI-01 sub-project. Contractors have intensified all activities to improve the progress of the works on sites. Individual and Joint on-site monitoring activities were conducted by Environmental Monitoring Specialist of SC/HILL and UWSCG/USIIP on a regular basis.
- 85.** Day-to-day monitoring of the construction sites were carried out by the environmental Specialists of Contractor, monthly monitoring reports were developed and sent to Supervision Consultant.
- 86.** Environmental Monitoring Specialist of Hill, Mr. Rezo Enukidze conducted monthly monitoring of project sites under T6 and developed Non-Conformance Notice were required. He also developed quarterly environmental monitoring reports based on the monthly reports submitted by Contractor and environmental site inspections and submit to UWSCG.
- 87.** The monitoring activities included monitoring of compliance of construction activities to the IEE/EMP and SEMP requirements under CHI-01 sub-project.
- 88.** Environmental Specialist of USIIP Ms. Kate Chomakhidze performed monitoring of contractor's performance in accordance with the requirements of approved IEE/EMPs, SEMP, and other environmental commitments of the contractor. USIIP/ES developed Semi-annual monitoring reports and submitted to ADB based on the quarterly reports prepared by SC and results of monitoring of construction sites.
- 89.** Also unscheduled monitoring visits were carried out and Non-Conformance Notice has been issued to the contractor by the environmental specialist of UWSCG/USIIP if needed. Mitigation measures in order to reduce major environmental impacts have been instructed to CCs during the monitoring visits as well.
- 90.** In accordance with the IEE, and the accompanying Environmental Monitoring Plan (EMP), the Contractor is required to undertake parametric measurements and observations on air quality and noise.
- 91.** Noise level exceeded the existing standards of national and international regulations under CHI-01 sub-project. Additional mitigation measures to improve the situation is provided in the Table 11 below.

7.2 Recommendations

- 92.** The following activities are recommended for the next reporting period, January-June 2019:
- 93.** During the reporting period, from January to June 2019, the T6 of Investment Program was implemented in accordance with the requirements of ADB - SPS 2009 and the National Legislation.
- 94.** CC and SC to consider issue of hiring of separate H&S Officer;

95. More detailed recommendations for the implementation of T6 during the next reporting period January-June 2019 are provided in the table 12 below:

Table 12: Recommendations to Address Environmental Issues under CHI-01 sub-project

Recommendations CHI-01 sub-project	
Recommendations CHI-01	Implementation status and date
Construction site should be properly fenced from all sides and equipped with lockable gate	The contractor is given a strong instruction to improve the situation by the mid July 2019 and constantly maintain an improved standard.
Proper warning and information signs should be arranged at the entrance and perimeter of the site	
High visible safety signs/tapes and trench side barriers around of deep open excavation should be installed from all sides to avoid accidents of local population	
Construction waste should be timely removed from the construction site and disposed properly	
Noise from the construction activities should not cause disruption and nuisance to nearby community and other sensitive receptors (i.e. school, hospitals).	<p>Instruction are given to contractor to improve the situation and to conduct following mitigation measures by the July 2019:</p> <p>Plan activities in consultation with SC and IPMO/UWSCG so that activities with the greatest potential to generate noise are planned during periods of the day that will result in least disturbance;</p> <p>Noisy construction activities will be avoided during night time;</p> <p>All construction equipment and vehicles shall be well maintained, regularly inspected for noise emissions;</p> <p>Impose speed limits on construction vehicles to minimize emissions along areas where sensitive receptors are located (i.e. temples, hospitals, schools, houses)</p> <p>Install noise barriers (e.g.,</p>

Recommendations CHI-01 sub-project	
	<p>panels, curtains, or partitions) to reduce the emission of engine noise.</p> <p>Conduct meetings with population and provide information related to schedule of construction activities and noise caused by the project activities.</p>
Recommendations MAR-01	Implementation Status and Date
Soil (surplus/accumulated soil) for backfilling purposes should be managed/stored properly on the territory primarily agreed with the Municipality	The contractor is given a strong instruction to improve the situation by the mid July 2019 and constantly maintain an improved standard.
Containers with fuel/lubricant should be managed properly (stored at the proper organised place with concrete floor and roofing) to avoid leakage and ground contamination	
All construction materials should be properly segregated and stored adequately	
Noise from the construction activities should not cause disruption and nuisance to nearby community and other sensitive receptors (i.e. school, hospitals).	<p>Instruction are given to contractor to improve the situation and to conduct following mitigation measures by the July 2019</p> <p>Plan activities in consultation with SC and IPMO/UWSCG so that activities with the greatest potential to generate noise are planned during periods of the day that will result in least disturbance;</p> <p>Noisy construction activities will be avoided during night time;</p> <p>All construction equipment and vehicles shall be well maintained, regularly inspected for noise emissions;</p> <p>Impose speed limits on</p>

Recommendations CHI-01 sub-project

	<p>construction vehicles to minimize emissions along areas where sensitive receptors are located (i.e. temples, hospitals, schools, houses)</p> <p>Install noise barriers (e.g., panels, curtains, or partitions) to reduce the emission of engine noise.</p> <p>Conduct meetings with population and provide information related to schedule of construction activities and noise caused by the project activities.</p>
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96. Conduct monitoring of Noise and Air quality under CHI-01 project at the nearest sensitive receptors on the quarterly basis. The schedule of environmental quality measurements to be carried out during the next reporting period, July-December 2019 is presented in the table 13 below.

Table 13: Conduct Monitoring of Environmental Quality under CHI-01 project

Parameters	Quarterly measurement
Dust	September, December 2019
Vibration	September, December 2019
Carbon monoxide	September, December 2019
Nitrogen dioxide	September, December 2019
Noise	September, December 2019

97. Conduct baseline and quarterly monitoring of Noise and Air quality under MAR-01 project at the nearest sensitive receptors. The schedule of environmental quality measurements to be carried out during the next reporting period, July-December 2019 is presented in the table 14 below.

Table 14: Conduct Monitoring of Environmental Quality under MAR-01 project

Parameters	Quarterly measurement
------------	-----------------------

Dust	September, December 2019
Vibration	September, December 2019
Carbon monoxide	September, December 2019
Nitrogen dioxide	September, December 2019
Noise	September, December 2019

ANNEXES

ANNEX A: ENVIRONMENTAL QUALITY MEASUREMENT DATA

Measurement Data – CHI-01 (9 January 2019)

საქართველო შპს "გრინტექსი"				GEORGIA "GREENTECs" LTD						
საქართველო, 0131, თბილისი, გ. ბრტყინვალეს ქ. 21, ბ.12, ტელ: 595 30-01-24, E-mail: waterdept_int@yahoo.com J2, #21, G. Brtskvinvale str, Tbilisi, 0131, Georgia, Tel (+995) 95-30-01-24, E-mail: waterdept_int@yahoo.com										
დია სააქციო საზოგადოების "აკორდ ინდუსტრიული სამშენებლო საინვესტიციო კორპორაციის" წარმომადგენლობა საქართველოში "აკკორდ ჯორჯია" Open Joint Stock Company "Akkord Industrial Construction Investment Corporation" in Georgia "Akkord Georgia" პაერის მტვერით დაბინძურების, ხმაურის და ვიბრაციის გაზომვების შედეგები 09.01.2019 წ. 11 ⁰⁰ – 13 ⁰⁰ Dust air pollution, noise and vibration measurements on 09.01.2019. 11 ⁰⁰ – 13 ⁰⁰										
№	გაზომვის წერტილის Measurement point		გაზომვის შედეგები Measurement results							
	ადგილ მდებარეობა Location	კოორდი- ნატები Coordinates	ხმაურ ი A _{max} დბ Noise A _{max} db	ვიბრო სიჩქარე Vibro Speed		ვიბრო აჩქარება Vibro acceleration		მტვერი მგ/მ ³ Dust mg / m ³		
								Pm ₁₀	Pm _{2.5}	Total
				მმ/წმ mm/s	დბ db	მ/წმ ² m/s ²	დბ db			
1	საჩხერე- ჭიათურის გზა Sachkhere- Chiatura road 7+120	38T0365554 4687004	91.2	0.9	85	1.9	125	0.138	0.178	0.460
2	საჩხერე- ჭიათურის გზა Sachkhere- Chiatura road 7+300	38T0365379 4686963	79.4	0.1	66	0.2	106	0.165	0.214	0.479
3	საჩხერე- ჭიათურის გზა Sachkhere- Chiatura road 12+00	38T362052 4684982	82.9	0.3	76	0.2	106	0.127	0.165	0.423

nitrogen dioxide and carbon monoxide - ჰაერში CO/NO₂
ჯამური ნახშირწყალბადების - total hydrocarbon MiniRae 7600;
გოგირდის დიოქსიდის - sulfur dioxide – WASP-XM-E-SO₂.

2001 წლის 16 აგვისტოს, საქართველოს შრომის, ჯანმრთელობისა და სოციალური დაცვის
მინისტრის ბრძანება №297/ნ, გარემოს ხარისხობრივი მდგომარეობის ნორმების დამტკიცები
შესახებ: / August 16, 2001, the Ministry of Labor, Health and Social Affairs of Georgia №297 / N,
approval environmental quality of the norms:
დამტვერიანობის ნორმა შეადგენს 0.5 მგ/მ³; / Dust norm is 0.5 mg / m³;
აზოტის დიოქსიდის ნორმა შეადგენს 0.2 მგ/მ³; / nitrogen dioxide norm is 0.2 mg / m³;
გოგირდის დიოქსიდის ნორმა შეადგენს 0.5 მგ/მ³; / sulfur dioxide norm is 0.5 mg / m³;
ნახშირბადის მონოოქსიდის ნორმა შეადგენს .5 მგ/მ³; / carbon monoxide norm is 5 mg / m³
ჯამური ნახშირწყალბადების ნორმა შეადგენს 1 მგ/მ³; / total hydrocarbon norm is 1 mg /m³
ვიბროსიქარის ნორმა შეადგენს 112 დბ; / Vibro-speed norm is 112 db;
ვიბროაჩქარების ნორმა სპეციალური დაშვები სამუალებიზის გამოყენების გარეშე - 126
დბ./Vibro acceleration norm special protective outlets without using - 126 db.

შპს "გრინტექსი"-ს დირექტორი

LTD „Greentecs” – Director

ი. მცხეთაძე

I. Mtskvetadze

Measurements Data – CHI-01 (6 April 2019)

საქართველო
შპს "გრინტექსი"



GEORGIA
"GREENTECs" LTD

საქართველო, 0131, თბილისი, გ. ბრწყინვალეს ქ. 21, ბ.12, ტელ: 595-30-01-24, E-mail: waterdept_int@yahoo.com
12, #21, G. Brtskhvalele str, Tbilisi, 0131, Georgia, Tel (+995) 95-30-01-24, E-mail: waterdept_int@yahoo.com

ღია სააქციო საზოგადოების "აკორდ ინდუსტრიული საშენებლო საინვესტიციო კორპორაციის" წარმომადგენლობა საქართველოში "აკორდ ჯორჯია"

Open Joint Stock Company "Akkord Industrial Construction Investment Corporation" in Georgia "Akkord Georgia"

ჰაერის მტვერით დაბინძურების, ხმაურის და ვიბრაციის გაზომვების შედეგები
06.04.2019 წ. 11⁰⁰ – 13⁰⁰

Dust air pollution, noise and vibration measurements on 06.04.2019 წ. 11⁰⁰ – 13⁰⁰

№	გაზომვის წერტილის Measurement point		გაზომვის შედეგები Measurement results							
	ადგილი მდებარეობა Location	კოორდინატები Coordinates	ხმაური A _{max} დბ Noise A _{max} db	ვიბრო სიჩქარე Vibro Speed		ვიბრო აჩქარება Vibro acceleration		მტვერი მგ/მ ³ Dust mg / m ³		
				მ/წმ mm/s	დბ db	მ/წმ ² m/s ²	დბ db	Pm ₁₀	Pm _{2.5}	Total
1	ქიათურა, წმინდა გიორგის ქ. Chiatura, St. George's Street T-20	38T0358802 4682566	91.3	0.2	72	0.5	114	0.112	0.169	0.212
2	ქიათურა, წმინდა გიორგის ქ. Chiatura, St. George's Street T-15-19	38T0358729 4682484	70.2	0.1	66	0.1	100	0.098	0.126	0.184
3	ქიათურა, წმინდა გიორგის ქ. Chiatura, St. George's Street T-15-19	38T358573 4682226	53.3	<0.1	<66	<0.1	<100	0.53	0.081	0.116

ჰაერის აზოტის და გოგირდის დიოქსიდით, ნახშირბადის მონოოქსიდით და
 ჯამური ნახშირწყალბადებით დაბინძურების გაზომვების შედეგები
 06.04.2019 წ. 11⁰⁰ – 13⁰⁰

Nitrogen and sulfur dioxide, carbon monoxide and total hydrocarbon air pollution
 measurement results 06.04.2019 წ. 11⁰⁰ – 13⁰⁰

№	გაზომვის წერტილის Measurement point		გაზომვის შედეგები მგ/მ ³ Measurement results mg/m ³			
	ადგილ მდებარეობა Location	კოორდი- ნატები Coordinates	აზოტის დიოქსიდი nitrogen dioxide	გოგირდის დიოქსიდი sulfur dioxide	ნახშირბადის მონოოქსიდი carbon monoxide	ჯამური ნახშირწყალბ ადები total hydrocarbons
1	ჭიათურა, წმინდა გიორგის ქ. Chiatura, St. George's Street T-20	38T0358802 4682566	0.038	<0.01	1.16	<0.1
2	ჭიათურა, წმინდა გიორგის ქ. Chiatura, St. George's Street T-15-19	38T0358729 4682484	0.041	<0.01	1.56	0.1
3	ჭიათურა, წმინდა გიორგის ქ. Chiatura, St. George's Street T-15-19	38T358573 4682226	0.003	<0.01	0.45	<0.1

გაზომვის დროს გამოყენებულია ხელსაწყოები:/During measurement tools used:

ხმაური/Noise - Mini Sound Level Meter N05CC;

ვიბრაცია/Vibration- Smart Sensor @ AR63B Vibration Meter;

დამტყვრინი/ Dust- Portable Dust Detector model LB-HD08

და Gasella Mikro Dust Pro (თვითკალიბრაცია ნულოვანი და ოფტიკური ფილტრით./Self-
 calibration zero and optical filter.). აზოტის დიოქსიდის და ნახშირბადის მონოოქსიდის -

nitrogen dioxide and carbon monoxide - შიპი CO/NO;

ჯამური ნახშირწყალბადების - total hydrocarbon MiniRae 7600;

გოგირდის დიოქსიდის - sulfur dioxide – WASP-XM-E-SO2.

2001 წლის 16 აგვისტოს, საქართველოს შრომის, ჯანმრთელობისა და სოციალური დაცვის მინისტრის შიპი №297/ნ, გარემოს ხარისხობრივი მდგომარეობის ნორმების დამტკიცების შესახებ: / August 16, 2001, the Ministry of Labor, Health and Social Affairs of Georgia №297 / N, approval environmental quality of the norms:

დამტვერიანობის ნორმა შეადგენს 0.5 მგ/მ³; / Dust norm is 0.5 mg / m³;

აზოტის დიოქსიდის ნორმა შეადგენს 0.2 მგ/მ³; / nitrogen dioxide norm is 0.2 mg / m³;

გოგირდის დიოქსიდის ნორმა შეადგენს 0.5 მგ/მ³; / sulfur dioxide norm is 0.5 mg / m³;

ნახშირბადის მონოოქსიდის ნორმა შეადგენს .5 მგ/მ³; / carbon monoxide norm is 5 mg / m³;

ჯამური ნახშირწყალბადების ნორმა შეადგენს 1 მგ/მ³; /total hydrocarbons norm is 1 mg /m³;

ვიბროსიჩქარის ნორმა შეადგენს 112 დბ; / Vibro-speed norm is 112 db;

ვიბროაჩქარების ნორმა სპეციალური დამცავი საშუალებების გამოყენების გარეშე - 126

დბ./Vibro acceleration norm special protective outlets without using - 126 db.

შპს "გრინტექსი"-ს დირექტორი

ი. მცხეთაძე

LTD „Greentecs” – Director

I. Mtskvetadze

Measurement Data – MAR-01

 Employer United Water Supply Company of Georgia LLC	 Engineer Hill International  temelsu International 	Contractor  Akellik Group OJSC			
Contract number: UWSCG-ICB-MAR-01 Contract name: Construction of Water Supply and Sewerage Systems in Marneuli and Sewerage System and Collector in Bolnisi TRANSMITTAL of DRAWINGS/DOCUMENTS/REPORTS (TDDR)					
TDDR No.:	TDDR No.: 041	Date of Receipt:	16/04/2019		
Subject:	Noise, Vibration and Ambient Air Quality Measurement Results				
Submitted by:	Fuad Shikhaliyev	To:	The Engineer		
Signature:		Received:	Irma Jolboradi Office Manager 17.04.2019 2:30		
Submitted for:	<input checked="" type="checkbox"/> Review and Comment <input checked="" type="checkbox"/> Approval <input type="checkbox"/> Your Information				
No.	Description	Rev	Document Type	Quantity/Pages	
1	Noise, Vibration and Ambient Air Quality Measurement Results (Prepared by P. Chikoladze)	0	(PDF)	1x2	
2		0			
3					
4					
5					
Engineer's Comments:					
WE HAVE NO OBJECTION FOR NOISE, VIBRATION AND AMBIENT AIR QUALITY MEASUREMENT RESULTS. WHICH STANDARDS AND WHICH EQUIPMENTS WERE USED FOR NOISE, VIBRATION AND AMBIENT AIR QUALITY MEASUREMENTS? PLEASE PROVIDE.					
Status of Transmittal					
<input type="checkbox"/> Approved <input checked="" type="checkbox"/> Approved as Noted <input type="checkbox"/> Rejected <input type="checkbox"/> Revise and Re-Submit <input type="checkbox"/> For info &					
Resident Engineer:	R. AFSAR 	Date:	17-04-2019	Time:	11:45
Approval shall not relieve Contractor of his liabilities under the Contract or constitute authorization of any change to Contract Documents					
Received by Contractor, Signature:		Date:	19.04.2019	Time:	15:18

Noise, vibration and ambient air quality measurement results

N ^o	Location	GPS coordinates WGS 84	Measurement results											
			Dust (PM) ₁₀ , mg/m ³		(CO), mg/m ³		(NO ₂), mg/m ³		(SO ₂), mg/m ³		Noise, Db		Vibration, mm/s ²	
			Result	Permissible average; 0.5-max	Result	Permissible 3-average; 5-max	Result	Permissible average; 0.2-max	Result	Permissible average; 0.35-max	Result	Permissible		
1	Marneuli, Jandari reservoir	N4594928 E482960	0.062	0.15-average; 0.5-max	0.41	3-average; 5-max	0.02	0.04-average; 0.2-max	<0.1	<0.1	55	55	0	
2	Marneuli, Construction camp	N4594089 E485290	0.063		0.22		0.01		<0.1		46	85	0	
3	Qolagiri headwork, existing pump station building	N4588150 E476297	0.052		0.18		0.01		<0.1		97	85	0.03	
4	Qolagiri headwork, 5 meters from existing pump station building	N4588144 E476300	0.054		0.18		0.01		<0.1		85	85	0.01	
5	Qolagiri headwork, 20 meters from existing pump station building (constructing pump station area)	N4588135 E476313	0.078		0.18		0.01		<0.1		66	85	0	
6	Marneuli, constructing water reservoir, locating near the church	N4593240 E482561	0.049		0.24		0.02				45	55	0	

Recommendation: personnel, working on Qolagiri network should use hearing protective equipment within 5 meters from existing pump station building.

Measurement performed by *P. Chankotadze*
08.04.1998.



ANNEX B: PHOTOS OF SITES

CHI-01 Project - CAMP site





Chiatura Water Supply Network



Photos of MAR-01 project

Jandari Reservoir



Construction CAMP





ANNEX C: NON-COMPLIANCE NOTICES

CHI-01



JV of Hill International N.V. & Temelsu International Engineering Services,
Inc. & Sub-Consultant Policy and Management Consulting Group (PMCG)

Urban Services Improvement Investment Program, Tranche 6

Ref.: CWSSC-Out-1174-02-0250-2019-05-02

Date: 2nd May, 2019

Representative (Branch) of "Akkord Industry Construction
Investment Corporation" OJSC in Georgia "Akkord Georgia"
Office 212
4 Besiki Str.,
0108 Tbilisi, GEORGIA

Attention: Mr. Gagatay Karabuga, Contractor's Representative

United Water Supply Company of Georgia (UWSCG)
Urban Services Improvement Investment Program, Tranche 6
Contract No. P43405-ICB-CHI-01: Construction of Water Supply System in Chiatura

Re: Environmental Notice No. 02 – Improvement – Fuel Spillages/Transfer/Filling

Ref. 1): Hill Temelsu Letter Ref. CWSSC-Out-1174-01-0084-2018-03-29 of 29th March, 2019

Dear Sir,

With reference to our inspection of your compound yesterday, 1st May, 2019, we record hereby the unacceptable spillages of fuel occurring from items of equipment, including during fuel transfer/filling from the on-Site stationary fuel tanker. It is not sufficient merely to scatter sand over any fuel spillages, and the absorbent must be gathered and disposed as hazardous waste; but the key issue is to prevent spillages occurring in the first place and little attention seems to be given to this point



Spilt Diesel in the Compound (1st May, 2019)

A handwritten signature in blue ink, appearing to be 'A. Karabuga'.



Diesel Fuel Leaking from the Bobcat (1st May, 2019)

You are reminded that in the Progress Meeting No. 10 on 7th March, 2018, (Item 3-2 (b) refers), you committed to providing a suitable, self-contained drainage area in order to prevent such fuel spillages contaminating the ground, groundwater or watercourses. While a fuel transfer/filling area has been constructed it seems ineffectual and is not being used. You should additionally instruct your staff in the appropriate procedures for fuel transfer/filling, in order to help prevent spillages and waste of fuel (and money).

While writing, we note that your Environment Health and Safety Officer was again absent from the Progress Meeting, which is not acceptable, and he must be present at all future meetings in order to respond first hand on environmental issues.

Yours faithfully,

Grant S. Murdie
Engineer's Representative/Chief Resident Engineer
Hill International-Temelsu J.V.

enc:

ecc: Mr. Giorgi Archaia, Head of Projects Management Department, UWSCG

Non-Compliance Note MAR-01

Non-Compliance Notice

Project: USIIP/T6	Non-compliance Notice Marneuli
Contract: MAR-01	
Contractor: Akelik	
Supervisor: HILL	
Reference: Mamuli – Jandari Reservoir	

This notice is to advise you, the prime Contractor, on the referenced Contract, of the following notice on environmental measures to be implemented **urgently**.

NON-COMPLIANCE IN MARNEULI

Jandari Reservoir

- **Baseline Environmental Quality Measurement of Noise, Air and Vibration to be conducted before starting any construction activities**
- **The amount of Top Soil indicated in the relevant SEMP must be properly stored**
- **Construction site should be properly fenced from all sides and equipped with lockable gate**
- **Proper warning and information signs should be arranged at the entrance and perimeter of the site**
- **High visible safety signs/tapes and trench side barriers around of deep open excavation should be installed from all sides to avoid accidents of local population**
- **Soil (surplus/accumulated soil) for backfilling purposes should be managed/stored properly on the territory primarily agreed with the Municipality**
- **Workers always should use complete PPE and Safety norms during working at height should be provided**
- **Construction waste should be timely removed from the construction site and disposed properly**
- **Containers with fuel/lubricant should be managed properly (stored at the proper organised place with concrete floor and roofing) to avoid leakage and ground contamination**
- **All construction materials should be properly segregated and stored adequately**
- **Proper waste containers should be installed and labeled (Household waste and Hazardous waste)**
- **Waste should be placed only at the proper waste container and discharged timely**
- **Site internally should be arranged properly and cleaned regularly**

Photos of Jandari Reservoir



Monitoring was conducted by Maka Goderdzishvili, Head of Environmental Protection and Permits Department of UWSCG and Kate Chomakhidze, Environmental Consultant of USIIP/ADB

Deadline for improvement of situation, which include preparation of Corrective Action Plan (CAP) with improved photos of sites: Monday, 8 April, 2019

ANNEX D: CORRECTIVE ACTION PLAN

AKELIK GROUP INC
Avtchayan, Boko "B. N." district offices,
Office: (994) (12) 464 34 72
Tel: +994 (12) 464 34 72
Fax: +994 (12) 464 36 91
office@akelik.com



AKELIK GROUP INC
1/26 Ahmed Raghib Street,
Narimanov district, Baku, Azerbaijan
Tel: +994 (12) 464 34 72
Fax: +994 (12) 464 36 91
office@akelik.com

No: 340/042

April 05, 2019

Contract Name and Number: Construction of Water Supply and Sewerage Systems in Marneuli and Sewerage System and Collector in Bolnisi, UWSCG-ICB-MAR-01
To: Hill International, 24G AI Kazbegi Avenue, entrance IV, apartment 73, Tbilisi 0177, Republic of Georgia
Attention: Mr. Grant S. Murdie, Engineer's Representative
Subject: Corrective Action Plan

Dear Sir,

The Contractor sends for your consideration Corrective Action Plan for measures which will be implemented to correct a situation at Jandari Site.

The corrective works are already started and will be mostly completed on 8th April, 2019.

Please take in account that the warning and information signs and material for fence are already ordered and will be delivered only on next week. The contractor promises to complete the works for installation of signs and fence to 12th April, 2019.

Attachment: Corrective Action Plan – 2 pgs.

Sincerely,
Fuad SHIKHALIYEV
Georgian Branch Director



Received J. Yalbandi

05.04.19

17:39



CORRECTIVE ACTION PLAN

Project: USIIP/T6	CAP Marneuli
Contract: MAR-01	
Contractor: Akelik	
Supervisor: HILL	
Reference: Marneuli – Jandari Reservoir	
Jandari Reservoir	
- Baseline Environmental Quality Measurement of Noise, Air and Vibration	Will be conducted before starting of any construction activities
- Storage of Top Soil (in accordance with the relevant SEMP)	08.04.2019
- Fencing of Construction site with lockable gate	12.04.2019 (material is requested)
- Arranging of Proper warning and information signs	12.04.2019 (signs are requested)
- Installation of High visible safety signs/tapes and trench side barriers around of deep open excavation	Will be installed at all sites
- Approval of the territory for Soil (surplus/accumulated soil) for backfilling purposes with the Municipality	Responded letter was submitted by the Contractor to Marneuli Municipality on 07.03.2019, #0002/19. The Contractor was verbally informed Municipality has to coordinate this issue with the Ministry of Economy
- Provision of complete PPE and Safety norms for Workers during working at height	Will be provided during the execution of corresponding works



- Removing at landfill of Construction waste from the construction site	Regularly. Contract with "SOLID WASTE MANAGEMENT COMPANY OF GEORGIA" LLC was submitted to Consultant
- Storage of Containers with fuel/lubricant at the place with concrete floor and roofing	Immediately
- Segregation and storage of all construction materials	Regularly
- Installation and labeling of waste containers for Household waste and Hazardous waste	06.04.2019
- Placement of Waste at container and discharging of Waste	Regularly
- Arrangement and cleaning of Site	Regularly



ANNEX E: HEALTH AND SAFETY REPORTS



Monthly Safety Report

(March 2019)

No	EMPLOYEE TRAINING DATA	Data	INFORMATION & WAY ISSUE SOLVED
1	Total local persons employed in project		115 Employee
2	Have all local employees achieved General Requirements.		80% achieved General Requirements
3	Number of crew without on job training plan		20%
4	Number of crew with appropriate unit standard for task performed		75%
5	Number of crew with current First Aid certificate		9 Crew with current First Aid certificate

No	HEALTH & SAFETY	Data	INFORMATION & WAY ISSUE SOLVED
1	Persons day worked per month (man days)		$3220 MD = ((DW \times M) / W) \times EM$ / 8 MD man days: DW time work: MWD month working days EM employee's
2	Lost Time Injuries		N/A
3	Medical Treatment Injuries		1 One of the workers fell into the unsecured hatch of the cable trench. He was given first aid at the Chiatura Medical Center, later he was transported to Sachkhere Medical Center.
4	Minor accidents (First Aid only)		1
5	Incident with property Damage (Non - injury)		N/A
6	Near Hits with potential to cause serious harm		2

No	SAFETY MANAGEMENT SYSTEM COMPLIANCE	Data	INFORMATION & WAY ISSUE SOLVED
1	Number of new employees (since Last report)		2
2	New employees and any new subcontractors safety induction		2
3	Hazard ID & Control Plans completed for new area		All six area was investigated
4	Increase effective ongoing system of identifying & controlling hazard's		All six area was investigated
5	Number of safety inspection been completed		18 Site Visit
6	Safety meetings been held this month (Tool box talk)		Daily
7	Accident reported by foremen's or supervisors		1

8	Serious harm accident reported to APM		1
9	Serious harm accident Investigated and reported		1
10	Company heavy duty machinery and trucks inspected		10 cars
11	Company electrical equipment and tools inspected		3 generator
12	Medical treatment or assistance in local hospital or by ambulance		N/A
13	Monitoring and disinfection of housekeeping & hygiene		Monitoring canteen in daily base , disinfection 2 times in camp area
14	Environment on site's and in camp		Prevention 2 times clear all area against dust and mud
15	Waste storage and segregation		Domestic waste collection 5 times this month. Store existed hazard waste
16	Atmospheric pollution		N/A plan to measure in March
17	Water drain and discharge control		In Daily base and control the septic tank
18	Fire safety equipment monitoring		New fire extinguishers are ready awaiting for delivery from laboratory(Tbilisi)
19	Temporally storage and dangerous waste		Collecting in special drums to storage place on yard for final segregation by Sanitary Ltd
20	Inventory of safety equipment		Shortage of safety plastic barriers and nets traffic signs. Colored waste containers on site for different type of waste collecting.
21	Inventory of first Aid kits		Need to be filled next month according the applied list. Need to be filled .

No	CONTRACTOR ALCOHOL DRUG TESTING	Data	INFORMATION & WAY ISSUE SOLVED
1	Pre-employment testing undertaken		Medicine form department 115 person achieved.
2	Random testing		Not done do to luck of alcohol tester
3	Follow-up testing		Not done do to luck of alcohol tester
DRUG TESTING			
1	Pre-employment testing undertaken		Official form Drug control department 92 person achieved.
2	Random testing		Not done do to luck of contract whit drug control department
3	Follow-up testing		Medicine form and Drug control department 92 person achieved.

Company	Akkord Georgia Chiatura water supply	M-t	
Prepared by	Tamaz Ulumbelashvili HSE APM	SI-et	

ANNEX F: letter from the MeEPA



სახელმწიფო საქვეუწყებო დაწესებულება
გარემოსდაცვითი ზემოქმედების დეპარტამენტის
დასავლეთის რეგიონული სამმართველო



DES 7 19 00028421



16/05/2019

შპს „გაერთიანებული წყალმომარაგების კომპანიის“
ჭიათურის სერვის ცენტრის დირექტორს
ბატონ კობა ნეფარიძეს
ქ. ჭიათურა, მღვიმევის ქ. №2

ჭიათურის მუნიციპალიტეტის მერის
მოვალეობის შემსრულებელს
ბატონ დავით ზიწაძეს

გაცნობებით, რომ სამმართველოს მიერ გადმოგეგზავნათ 25.04.2019 წლის № DES 4 19 00024314 წერილი, რომლითაც გეცნობათ შპს ჭიათურის რაიონული სამმართველოდან შემოსული შეტყობინების საფუძველზე განხორციელებული, ქ. ჭიათურაში, დავით აღმაშენებლის ქუჩაზე, ე.წ. „საკურდღლიას“ წყაროს მიმდებარე ტერიტორიის დათვალიერების შესახებ.

აღნიშნულ წერილზე დღემდე პასუხი არ მიგვიღია.

განმეორებით გაცნობებით, რომ აღნიშნული ტერიტორიის დათვალიერების დროს საავტომობილო გზის გასწვრივ, ორ ადგილზე განთავსებული აღმოჩნდა სამშენებლო ნარჩენები და ფუჭი ქანები. აღნიშნული ნარჩენები, ასფალტისა და ბეტონის ნარჩებთან ერთად ჩაყრილია მკვეთრად დახრილ ფერდობზე, რითაც დაბინძურებულია არსებული მცენარეები და მთლიანად დაფარულია ბუჩქნარი. ნაყარი ებჯინება საკურდღლის წყლის V-სებურ ხეცს, სადაც გამდინარე წყლის ნაკადით გადარეცხილია ნაყარის მასა.

ჩვენს ხელთ არსებული ინფორმაციით, აღნიშნული ნარჩენი წარმოქმნილია ქალაქში წყლის საკომუნიკაციო მილსადენების მშენებლობის მიმდინარეობის შედეგად.

აღნიშნულ ფაქტზე დაწყებულია ადმინისტრაციული საქმის წარმოება, რისთვისაც გთხოვთ, წერილის ჩაბარებიდან 3 დღის ვადაში, წარმოგიდგინოთ ქ. ჭიათურაში, წყლის საკომუნიკაციო მილსადენების მშენებლობის ტექნიკური პროექტი და ამასთანავე მოგვეცეთ მშენებელი ორგანიზაციის მონაცემები.

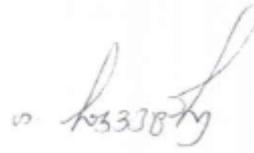
სს. საქართველოს საგარეო ურთიერთობების სამსახური
თბილისი, საქართველო
ს. 38/03/11538
..21.. 05 2019

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წინააღმდეგ შემთხვევაში, გამოანგარიშდება სამშენებლო ნარჩენების და ფუჭი ქანების უკანონო განთავსებით გარემოს დანაგვიანების შედეგად გამოწვეული გარემოსათვის მიყენებული ზიანი და მასალები მოკვლევისათვის გადაეცემა საგამომიებო ორგანოებს.

პატივისცემით,

გარემოს დაცვის და სოფლის მეურნეობის სამინისტრო /
გარემოსდაცვითი ზედამხედველობის დეპარტამენტი /
დასავლეთის რეგიონული სამმართველო / გარემოსდაცვითი
ინსპექტირების განყოფილება
მეორადი სტრუქტურული ერთეულის ხელმძღვანელი
ჩაკვეტაძე თინათინ



ANNEX G: Incident Report in Sachkhere, Under CHI-01 sub-project, 25 June 2019



JV of Hill International N.V. & Temelsu International Engineering Services, Inc. & Sub-Consultant Policy and Management Consulting Group (PMCG)

Urban Services Improvement Investment Program, Tranche 6

Ref.: USIIF-Out-0010-0094-2019-06-28

Date: 28th June, 2019

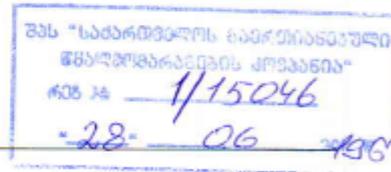
United Water Supply Company of Georgia (UWSCG)
76B, Vazha Pshavela Ave.
0186, Tbilisi,
GEORGIA

Attention: Ms. Ekaterine Galdava, Director

Project Name: Urban Services Improvement Investment Program, Tranche 6
Loan #: 3441-GEO
Contract #: UWSCG/USIIP/QCBS/04-2016
Construction Supervision (under USIIP, Tranche 6 projects)

Re: Incidents in Sachkhere on 25th June, 2019

Ref. 1):



Dear Madam,

With reference to UWSCG's request for report on the two unfortunate incidents in Sachkhere on Tuesday 25th June, 2019, we now note as follows:

Injury to the Security Guard, Mr. Khvicha Macharashvili

What follows below is the statement given by our Resident Engineer, Mr. Sinan Celebci, concerning the injury to the security guard at the entrance to the Contractor's yard. The statement reflects the information given by Mr. Celebci to the police on the same afternoon/evening of 25th June, 2019:

"On 13:15hrs, I returned to office from lunch with Mr. Barbaros Erduran (hydrological expert). Due to the car parking area was occupied by other cars, I decided to enter Yard as usual.

One minibus (for servicing the employees) was parking in front of Yard Gate by blocking the entrance, I waited around 15 minutes to opening the gate. I assumed that Security Responsible was at lunch.

Then I decided to open the gate temporary to enter the Yard. Gate was blocked with U shaped steel rebar for construction behind the gate. I inserted my hand behind the gate to remove rebar. At this time nobody was around the gate, I was alone.

Then after remove the rebar, there was no opportunity to take this rebar to the front due to I hold with my hand. I tried to throw this rebar to the right side of the gate to avoid any damage to tires of

Address: 24G Al. Kazbegi Ave., Entrance IV, Apt. 73, Tbilisi, Georgia, Zip Code: 0177; Tel: +995 322 477409

cars. Accidentally, rebar hit to a man's head who is approaching to the gate from right side that out of my viewing angle. When I open the gate, I saw that his forehead wounded with small bleeding. I said sorry in Georgian and explain in English that I didn't see him to approach to the gate. He couldn't understand me. At this time, he was nervous and reject my help to bring him to hospital. To avoid any conflict, I returned my office and wait for Office Manager to help for translation to solve the case. Approximately 10 minutes after, police visited me understand the problem. We went to Police Centre to give statement. Wounded man came to Police Centre also to give his statement. We met with him without any conflict or problem. He got treatment to stop bleeding. I signed my statement with help of Office Manager and give samples for drug test which resulted negative (not detected any drug). Police mentioned that my statement will be available to take a copy after 10 days due to collect all statement by witness. I have no clear information about further stage of events at the Yard, after I left the office. "

Death of Akkord Worker, Mr. Ambrosi Modebadze

Apparently, the worker concerned, Mr. Ambrosi Modebadze, who had witnessed the earlier incident at the gate, was boarding a minibus to return to Site after eating lunch at the canteen in the Contractor's yard, when it seems he suffered a heart attack. An ambulance was called, but it took twenty minutes to arrive, after which the responders pronounced Mr. Modebadze dead at the scene, seemingly without any efforts to resuscitate him. The police later arrived and apparently declared that there was no criminal case to answer, and the body was returned to the family. The Contractor's Representative, Mr. Cagatay Karabuga, later visited the family.

Follow Up

Regarding the injury to the security guard, Mr. Khvicha Macharashvili, we note that the incident was an accident and that there was no malintent on Mr. Celebeci's part – he merely did not see the guard approaching as he threw the piece of reinforcing steel bar aside. We now await the outcome of the police enquiry, and they are apparently interviewing witnesses.

Regarding the death of the Akkord worker, Mr. Ambrosi Modebadze, we have requested our Social Safeguards Expert, Sophie Berishvili, to establish what compensation the Contractor is legally bound to pay the victim's family, and we shall follow up on this. Meanwhile, we understand that Akkord has contributed 5,000 GEL to the family, who apparently have no complaint about the incident; and the victim's co-workers are also making a collection to provide assistance to the family.

It is unfortunate that the two incidents described are being conflated by Akkord's workers, and it seems that something of a mob mentality had developed by the morning of Wednesday 28th June, 2019, with the workers refusing to go to Site. Apparently, the Contractor's Representative, Mr. Cagatay Karabuga, sent many of them home in order to 'cool off.'

On hearing of the heart attack suffered by Mr. Ambrosi Modebadze, we have requested Akkord to consider lengthening the workers' lunchbreak period in order to avoid being outside during this usually hot June weather.

In the meantime, Mr. Celebei will work out of our Tbilisi office until further notice.

Should you require any further information, please do not hesitate to contact the undersigned.

Yours faithfully,



Grant S. Murdie
Team Leader/Chief Resident Engineer
Hill International-Temelsu J.V.

enc:

ecc: Mr. Giorgi Archaia, Head of Projects Management Department, UWSCG