

SEMI-ANNUAL ENVIRONMENTAL MONITORING REPORT

Project Number: 43405-028

Reporting Period: January-June 2018

GEORGIA: URBAN SERVICES IMPROVEMENT INVESTMENT PROGRAM (TRANCHE 6)

(FINANCED BY 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
IPMO	Investment Program Management Office
USIIP	Urban Sector Improvement Investment Program
IA	Implementing Agency
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
SC	Supervision Consultant
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 2nd Environmental Monitoring Review (EMR) of USIIP/Tranche 6.

1.2 Headline Information

- 3.** Not yet applicable.

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 Waste Water Systems in Marneuli and Bolnisi and Construction of Wastewater Treatment Plant in Marneuli (MAR-01)
 - Construction of Water Supply System 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:

1. **Construction of Waste Water Systems in Marneuli and Bolnisi and Construction of Wastewater Treatment Plant in Marneuli (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 laying 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).
2. **Construction of Waste Water System in Bolnisi:** 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.
3. **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 10,536 m³/day.
4. **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 5 pumping stations and replacement of 67 km network pipelines, more detailed information is provided in chapter 17 below.

5. **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.
6. Location of project towns (Chiatura and Marneuli) under USIIP/T6 is presented in fig.-3 below.

2.2 Project Contracts and Management

7. 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.
8. 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
9. 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. In June 2018, the Director and Deputy Director of UWSCG were changed. Ms. Ekaterina Galdava was appointed as the new director, Ms. Maia Gikoshvili became the new Deputy Director. Investment Program Management Office (IPMO) under UWSCG is an International Procurement and Donors Relations Department. Department of Environmental Protection, Resettlement and Construction Permit (DEPRP) under USIIP replaced the existing Unit of Resettlement and Environmental Protection and consist of six staff members, including Head of Department and Head of Construction Permit Unit.
10. UWSCG as responsible IA for the project recruited a Supervision Consultant (SC) - Eptisa. 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. 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.
11. All mitigation measures during construction have to be implemented by the contractor and these are monitored by the supervision consultant (SC). To ensure the smooth implementation of ¹SEMPs, Site Specific EMPs and Topic Specific EMPs of subprojects, an Environmental Management Specialist (EMS) is employed by the SC/Eptisa. SC/EMS conducts routine observations and surveys of project sites, issues non-compliance notes, prepares quarterly environmental reports and submits these to UWSCG.
12. The Contractor has the following obligations:
 - to prepare Site Environment Management Plans SEMPs with further Site Specific EMPs Topic Specific EMPs;

¹According to new Monitoring Manual of ADB for Environmental Safeguards Implementation, since June 2018 instead of Site Specific Environmental Management Plans (SSEMPs) a "Site Environment Management Plan" (SEMP) with further Site Specific EMPs and Topic Specific EMPs must be developed by the Contractor.

- to employ Environmental Consultant responsible for developing and implementing the construction phase SEMP and for providing the corresponding information to UWSCG and SC;
- to develop Solid Waste Disposal Plan and agreed the MEPA and Local Government

13. DC is responsible for developing and incorporation of mitigation measures in design and construction.

14. The environmental specialist (ES) is hired by UWSCG under the USIIP to assist and advise the DEPRP in USIIP program implementation 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 DEPRP in EARF implementation, in particular, reviewing IEE/EIA Reports and overseeing implementation of SEMP and in training and capacity-building activities. The ES prepares bi-annual and annual environmental monitoring reports and submits to ADB.

15. DEPRP is responsible for the implementation of mitigation and monitoring measures during construction and operation of subprojects under USIIP. Currently DEPRP is staffed with a Head of Department, Head of Construction Permission Unit and 4 specialists, those are responsible for resettlement, environmental protection and construction permission issues.

16. 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

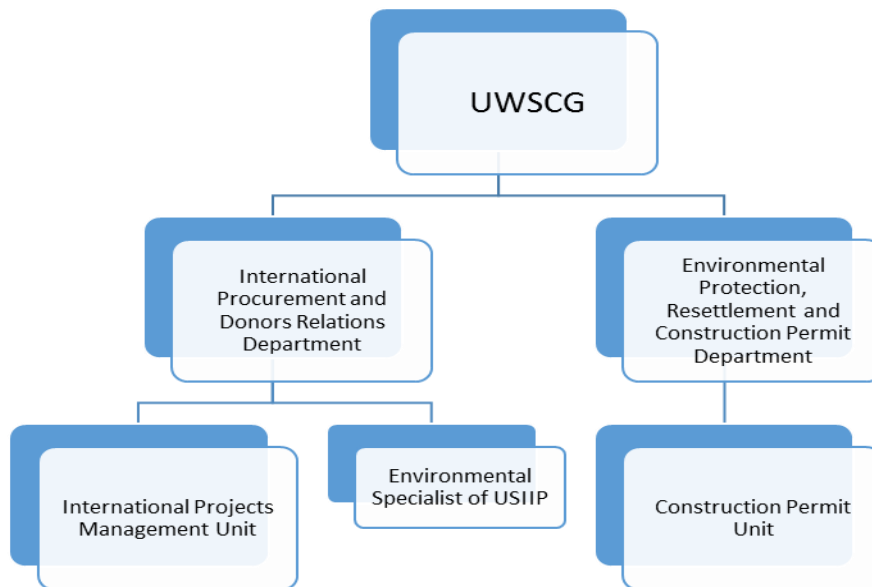
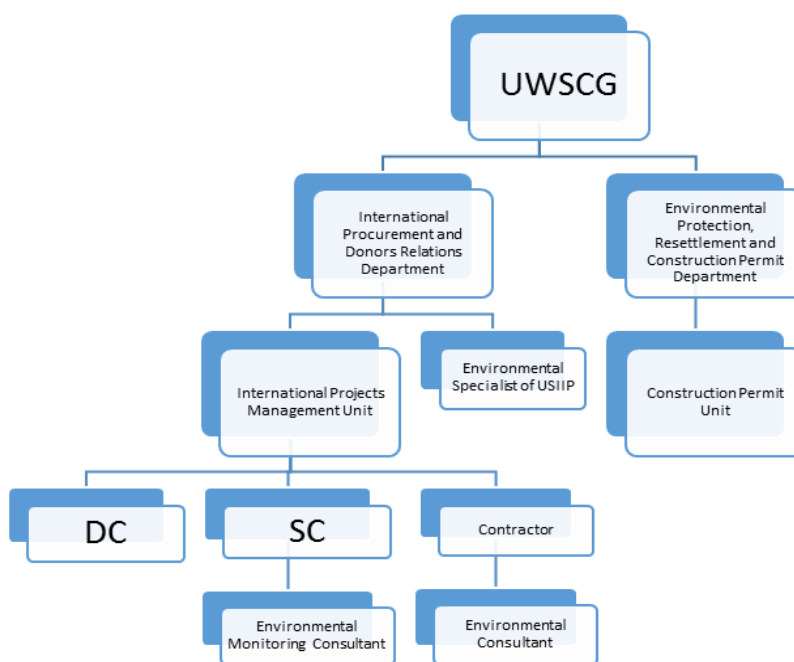


Figure 2: Structure Diagram of the Agencies Involved in Investment Program Implementation



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

Table 1: List of contracts under Tranche 6

Contract #	Sub-project Title	Employer	Contractor	Contract Signature date	Contract Final Date	Environmental Staff under T6 of USIIP
Contract No: P43405-ICB-CHI-01	Contractor: CHI-01	UWSCG	“Akkord Industry Construction Investment Corporation” OJSC	21-Aug-17	21-Feb-2019	Environmental Specialist of CC: Name: Mr. Tamaz Ulimbelashvili Tel: +995 591 061 820 E-mail: tamazi.ulumbelashvili@akkord.az
Contract #	SC for T6	Employer	Consultant	Contract Sign. date	Contract Final Date	
Contract No: UWSCG/USIIP/Q CBS/04-2016	Supervision Consultant: Hill International N.V. (Netherlands)	UWSCG	JV of Hill International N.V. (Netherlands) as Leading Partner, Temelsu International Engineering Service Inc. (Turkey) as Partner and Management Consulting Group	1-Sep-17	1-Jan-2021	Environmental Specialist of SC: Name: Mr. Rezav Enukidze Tel: +995 599 164 469 E-mail: r.enukidze@gmail.com

Contract #	Sub-project Title	Employer	Contractor	Contract Signature date	Contract Final Date	Environmental Staff under T6 of USIIP
			(PMCG) (Georgia) as sub-consultant			

2.3 Project Activities During Current Reporting Period

18. Progress on the contract: Construction of Water Supply System in Chiatura is briefly summarized below. The contract consists of the following works:

- The rehabilitation of the existing water supply system by replacing old pipework;
- Connection of the new pipes to the existing pipes;
- Rehabilitation of the reservoirs Bisi (1,500 m³), Memorial (1,000 m³), Lezhubani (3,000 m³), Rustaveli (350 m³), Perevisi (50 m³) and Tehisa (1,000 m³)
- Construction of two new reservoirs – one in Sachkhere and another one alongside the existing Bisi reservoir
- Rehabilitation of PSs – one in Lezhubani (170 m³/h) and two in Perevisi (105 m³/h)
- Construction of new transmission lines to the reservoirs Sachkhere – Bisi and Perevisi – Tehisa (with the exception of the one going from Central Pumping Station (CPS) to Perevisi reservoir)
- New water supply wells in the neighbouring town of Sachkhere
- Rehabilitation and rearrangement of CPS

19. A revised draft programme was submitted by the Contractor on 30 March 2018. The Engineer responded with preliminary comments on 4 April 2018, with a final response conveyed by letter on 17 April 2018, noting the requirement to revise and resubmit, as the Programme omitted entirely the mechanical and electrical installation and commissioning.

20. Another revised draft programme (draft version 4) was finally submitted on 30 May 2018. However, the Engineer was compelled to respond (on 6 June 2018) once more noting that the Programme still did not include the mechanical and electrical installation and commissioning.

21. As at the end of this reporting period, no resubmission of the draft Programme has been received.

Contractor's Preconstruction Submittals

22. The Contractor's submissions of the various Plans for carrying out the works have included the following:

- Quality Assurance Plan (Approved)
- Health & Safety and Environment Plan (Approved)

- Environmental Management Plan and Site Specific Environmental Management Plans (SSEMP Approved for the Camp and Yard only)
- Overall Waste Management Plan - Incomplete

Contractor's Submittals for Materials, Plant and Equipment

23. The Contractor's Submittals for Materials, Plant and Equipment have been limited to date of this report, with submittals for HDPE (Polyethylene pipes) pipes, fittings, detectable warning tape, concrete, sand bedding, valves, reservoir repair materials and such like.
24. Various valves and fittings, including air valves, gate valves, butterfly valves, flanged adaptors and house connection fittings, were submitted for approval on 19 March 2018, to which the Engineer responded with 'Approved Subject to Comment' to the butterfly valves and water meters only. The surface boxes were reject outright and all other materials required submission of further information and clarification. While additional information for the gate valves was submitted on 18 April 2018, this was again deemed by the Engineer to be insufficient as it did not demonstrate that the valves conformed to the Contract requirements. At date of this report, the Contractor has not yet submitted all the requested additional information and the remaining valves are still not approved.
25. The Contractor's submission of the concrete remains incomplete, as while the 7-days and 28-days test results have been deemed satisfactory, the Contractor has not yet arranged for the required permeability testing or provided a commentary on the alkali-aggregate reactivity characteristics of the proposed mix constituents.
26. On 4 June 2018 the Contractor submitted a new proposal for HDPE pipes from *Polimer Plast* of Georgia, citing the inability of the *PolyMart* factory in Azerbaijan to provide sufficient quantities of pipes in a timely manner to meet Akkord's Programme. The *Polimer Plast* pipes were quickly approved, subject to independent testing, which was arranged for in Baku, commencing in the first week of June 2018. As at date of this report, the Contractor has not yet submitted the results of the testing carried out on the *Polimer Plast* pipes in Baku.
27. Steel reinforcement was submitted for approval on 4 June 2018 and Approved subject to Comment (independent testing) by the Engineer on 8 June 2018. The testing has not yet been carried out.

Contractor's Submittals of Working Drawings

28. The Contractor's Submittals to date of Working Drawings have included the first 8.2 km (approx. 55%) of the main transmission pipeline from Sachkhere to Bisi reservoir and the transmission pipeline from Memorial to Navardzeti reservoir, along with much of the network distribution piping in Navardzeti.
29. Working drawings for both the Sachkhere Reservoir and the new Bisi Reservoir have been returned to the Contractor with requirement to revise and resubmit, as were the reinforcement details for Single-Chamber and Double-Chamber Washouts.
30. Surveys for house connections commenced but were stopped again for reasons not explained by the Contractor. No apartment blocks have been surveyed to date of this report.

Contractor's Method Statements

31. The Contractor's submissions of Method Statements for carrying out the works have included the following:

- Pipe laying (Approved);
- Pipe testing (Approved);
- Traffic management for crossing the main roads and for pipe laying parallel to the main road, within the road corridor (approved, subject to notification being given to the appropriate authorities regarding timing);
- Micro-tunnelling for Railway Crossings (thrust bores), submitted 28 May 2018 – Not Approved, as no drawings provided, including approval from the Railway Authority;
- Well drilling for Sachkhere Wellfield, submitted 30 May 2018 – Revise and resubmit, along with submission of working drawings.

Contractor's Requests for Information

- 32.** On 4 April 2018 the Contractor submitted a letter requesting information/confirmation on a number of aspects of the SCADA system, proposing among other things the use of remote telemetry units (RTUs) in lieu of programmable logic controllers (PLCs). The Engineer responded on 17th April, 2018. The Engineer has repeatedly requested a meeting with the Contractor in order to resolve any outstanding issues related to the SCADA system but thus far the Contractor has unable to confirm a suitable date.

Submission and Approval of Subcontractors

- 33.** The following subcontractors have been approved to date:
- 34.** Design Sub-consultant – Akman-Group Compass, was approved by the Engineer on 7 May 2018;
- 35.** Subcontractor for well drilling – Hydrogeo, was approved by the Engineer on 11 June 2018.

Progress of Physical Works

- 36.** Preparation of the Contractor's compound and refurbishment of the building to house the Engineer's and Contractor's offices is largely completed, but construction of the vehicle workshops remains incomplete, while the yard is clearly being used as a storage facility for idle or broken down equipment.
- 37.** Setting out and transfer of bench marks has continued with validation by the Consultant's topographer of the bench marks and setting out of the main transmission pipeline from Sachkhere to Bisi – now 50% completed.
- 38.** Construction of the main transmission pipeline to date includes 5.7 km of pipe laid (Approx. 36.6%), but thus far only 4.6 km has been tested.
- 39.** Distribution network pipelaying includes some 17.5 km in Navardzeti and Chiatura, with none of the pipework yet tested. Approximately 200 house connection tappings (saddle connections) have been made in Navardzeti, but these include only the saddle and a 'tail' pipe which for the most part remains unburied.
- 40.** House connection survey have commenced on single family unit dwellings but have not yet started on apartment blocks.
- 41.** No other works have been commenced.

Progress Meetings

42. Progress Meetings were held with the Contractor (and Contracting Authority) in the reporting period, as follows:
- 5 April 2018 (Progress Meeting No. 12)
 - 18 April 2018 (Progress Meeting No. 13)
 - 3 May 2018 (Progress Meeting No. 14)
 - 16 May 2018 (Progress Meeting No. 15)
 - 30 May 2018 (Progress Meeting No. 16)
 - 14 June 2018 (Progress Meeting No. 17)
43. Ad-hoc meetings and discussions were held with the Contractor on a frequent basis in the reporting period, to discuss and progress various issues, including the following:
- 12 January 2018 – IPC No. 02
 - 8 February 2018 – Meeting with Akkord management to discuss the rate of progress
 - 5 March 2018 – IPC No. 03 and outstanding submittals
 - 15 March 2018 – Meeting with UWSCG and Akkord management to discuss the rate of progress
44. Call for tenders for the Works Contract for Marneuli and Bolnisi (Marneuli water supply and sewerage network, and Bolnisi sewerage network) was issued on 25 June, and tenders are due in by 6 August 2018. Construction is expected to start in November 2018.
45. Overall project organization is presented in **Fig.4** below.

Fig.3: Locations of Project Towns (Chiatura, Marneuli)



Fig.4: Overall project organization

Urban Services Investment Improvement Program (USIIP), Tranche 6 – Quarterly Report No. 02 – January to March 2018 (Final)

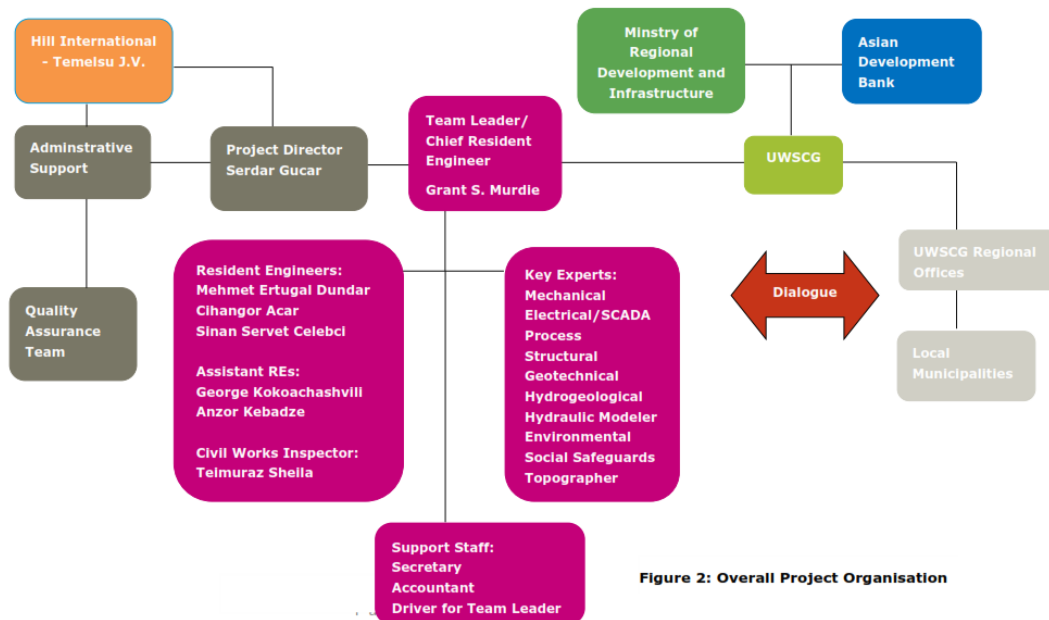


Figure 2: Overall Project Organisation

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

46. 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 2018. 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.

47. The monitoring activities included:
- The monitoring of compliance of construction activities under Chia-01 project sites to the IEE/EMP requirements;
48. Environmental Monitoring Specialist hired by Contractor under the Chia-01 project conducted the day-to-day monitoring of the construction sites, developed the monthly monitoring reports and submitted to SC/Hill.
49. Environmental Monitoring Specialist, Ms. Rezo Enukidze was hired by SC under Chia-01 project, USIIP/T6.
50. SC/Hill developed quarterly monitoring reports for UWSCG/USIIP based on the monthly reports submitted by Contractor, and based on environmental site inspection.
51. 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 and submitted to ADB based on the quarterly reports prepared by SC and monitoring results.
52. 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
53. 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. Locations for the measurements were initially identified in the IEE. Accordingly, the monitoring guidelines were set as shown in the Table 2 below.

Table 2: Parametric Measurement Guidelines

Parameters	Frequency & Location	Remarks
Chia-01		
Air Quality	Air Quality Monthly 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, monthly 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

Parameters	Frequency & Location	Remarks
		<p>recognized and measures are taken to ensure they are protected and conserved.</p> <p>Calling in the state archaeological authority if a find is suspected, and taking any action they require to ensure its removal or protection.</p>

54. 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

55. Regular inspection and monitoring of Chia-01 construction sites have been conducted by the Environmental Specialist of UWSCG. Joint inspection and audit has been carried out by the newly appointed environmental specialist of SC and UWSCG on the regular basis as well.

56. Site inspection monitoring and audit during the reporting period have been carried out on: 29 March, 2018; 24 April, 25 May 2018 and 29-30 June 2018. The schedule of conducted monitoring and audit during the reporting period is presented in the Table 3 below.

Table 3: The Schedule of Conducted Audits and Monitoring during the Reporting Period

#	Chia-01	Organization	Date
1	Day-to-Day Site Inspection	Environmental Specialists of Contractor under Chia-01 Project, Mr.Tamaz Ulimbelashvili	1 January – 30 June 2018
2	Site Monitoring and Inspection	Environmental specialists of Hill, Mr.Rezo Enukidze and ES of USIIP, Ms. Ketevan Chomakhidze	29 March 2018
3	Site Monitoring and Inspection	Environmental specialist of USIIP, environmental specialists of Hill	24 April 2018
4	Site Monitoring	Environmental specialist of Hill	25 May 2018
5	Site Monitoring	Environmental specialist of USIIP, Env. Specialist of Hill	29-30 June 2018

3.3 Issues Tracking (Based on Non-Conformance Notices)

57. The contractors were always informed on the detected Non-compliances and were demanded to improve on the deadline set and send photos of improvements. Environmental team of Hill and UWSCG monitored the improvements during the next monitoring visits. Unimproved environmental issues under Chia-01 project was qualified as non-compliances and notices were issued by SC and UWSCG. Non-compliance Notices issued by UWSCG in 29 March 2018 is presented in **ANNEX C** of this EMR. Contractor was instructed to immediately improve the situation. Improvements done by contractor was monitored during the next site visit.

58. The Contractor, during excavation of the trench at the Main Transmission Line, discovered a clay pot (kvevri). Excavation work was suspended temporarily, and the

relevant State authority, the Department of Culture and Antiquities, was informed. The authorities performed examination and their report is awaited.

59. Non-Conformance Notices will be issued by SC and ES of USIIP in the next reporting period, July-December 2018 after the introduction of the new Monitoring Manual for Safeguard Implementation to SC and CC.
60. Since construction was not started in 27-30 January 2018 yet, an Annual Environmental Compliance Safeguard Review Mission was not held in Chiatura.
61. Number of verbal and written instructions were given to contractor by SC and UWSCG to conduct baseline measurements of construction sites. Non-compliance notes was also issued to improve the situation. Constructor promised to conduct measurements of environmental quality on the monthly basis. These measurement data will be provided in the next EMRs July-December 2018.

3.4 Trends

Not yet applicable

3.5 Unanticipated Environmental Impacts or Risks

Not yet applicable

4. RESULTS OF ENVIRONMENTAL MONITORING

4.1 Overview of Monitoring Conducted during Current Period

62. No Monitoring measurements were conducted under Chiatura-01 project, despite of UWSCG and SC's numerous instructions to contractor. Finally this is considered as non-compliances and contractor is strongly requested to carry out baseline measurements of construction sites. Pre-construction Baseline measurements provided below (See Table 4 and Annex A), were done during the preparation of IEE. Environmental measurements under Chia-01 project will be done on monthly basis during the next reporting period and provided in the next EMR July-December 2018. All measurements were carried out during the daytime from 12:30 PM to 15:00 PM. Location and data are included in the table below.

Table 4: Pre-construction baseline Measurement of Noise and Radiation in Chiatura (13.07.2017)

#	Place of Measurement Chiatura	Coordinates	Radiation Microrend g en/hr	Noise dBa Daytime Nighttime E07:00 – 22:00 Industrial	Noise dBa Daytime E07:00 – 22:00 Residential	Noise dBa Nighttime E07:00 – 22:00 Residential
1	National Environmental Standard (Maximum Permissible Level)		60	70	55	45
	Measurement Time			10:00AM	15:00PM	18:00PM
2.	Near the Chiatura City Hall	N 4217455 E 4317306	9	65,8	79,5	72,4
3.	Secondary School #1 Abashidze Str.	N 4217392 E 4316988	8	63.1	68.4	63.7
4.	Lezhubani Pumping Station	N 4217766 E 4316573	9	63.0	69.2	68.9
5.	Lezhubani Reservoir	N 4217912 E 4316566	8	54.1	57.3	59.9
6.	Church "Khareba" Stadium Children's entertainment center	N 4217315 E 4316257	11	54.4	62.2	64,5
7.	Medical Center "Geo Hospital"	N 4217132 E 4316231	9	59,6	60,7	64,8
8.	Chiatura Central Pumping Station	N 4217471 E 4317753	9	64,4	65,5	63.9

63. Noise standards defined by IFC/WHO 1999, are presented in the Table 5 below.

Table 5a: Noise Level Guidelines

Noise	dB		dB	
	National Regulations		WHO	
Receptor	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

64. Air pollution standards by IFC/WHO 1999, are presented in the Table 9b below

Table 9a: 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

4.2 Trends

Not yet applicable.

4.3 Summary of Monitoring outcomes

Note yet applicable

4.4 Material resources Utilization

4.4.1 Current Period

Not yet applicable

4.4.2 Cumulative Resources Utilization

Not yet applicable

4.5 Waste Management

4.5.1 Current Period

65. This information currently is not yet available. Contractor is requested to provide the following information under Zug-02 project which will be presented in the next EMR July-December 2018:

- Description and classification of waste produced during the construction (e.g. hazardous – non-hazardous);
- Waste Source – what activity generated the waste and where;
- Quantity of waste generated;
- Treatment/disposal route – information on quantities of waste reused, recycled and sent to landfill or incineration; and
- Final disposal sites for waste.

4.5.2 Cumulative Waste Generation

Not yet applicable.

4.6 Health and Safety

4.6.1 Community Health and Safety

Not yet applicable.

4.6.2 Worker Safety and Health

66. Contractor has identified a person Mr. Rezo Enukidze who will be responsible for Health and Safety issues under Chia-01 project together.

67. The Contractor's Health and Safety Plan was approved by the Consultant on 14 February, 2018.

68. There have no accidents or incidents recorded to date of this report.

4.7 Training

69. On site environmental safeguard training were organized for environmental teams of Chia-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.

70. 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.

71. The issues of discussion were as follows:

- Site-specific Environmental Management Plans and their implementation
- Site management

72. Grievance Redress Mechanism (GRM) Focal Points will appointed by contractor at the sites under Chia-01 projects and will be reported in the next EMR July-December 2018. Implementation of GRM System under USIIP is presented in **ANNEX D** of this EMR.

5. FUNCTIONING OF THE SEMP

5.1 SEMP Review

- 73.** SSEMP for CAMP site under Chia-01 project was prepared by Contractor, endorsed by SC and send to UWSCG for approval. SSEMP will be reviewed/commented by the RETA Regional Environmental Consultant of ADB under RETA 8663 - Ms. Ketii Dgebuadze as well.
- 74.** No other SSEMPs were prepared by Contractor as yet.

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

8. As presented in this report, Tranche-6 of this Investment Program is being implemented in compliance with the ADB Safeguards Policy Statement, 2009, National Legislation and overall EARF.
9. Necessary instructions have been given to the Contractor by UWSCG and SC to follow the IEE/EMP's requirements for Chia-01 project.

7.2 Recommendations

55. The following activities are recommended for the next reporting period:

- Conduct measurement of environmental quality under Chia-01 project on the monthly basis (Please see Table 6 below).
- Develop Site Specific EMP for Reservoirs under Chia-01 project. Number and location of reservoirs will be identified during the next reporting period, July-December 2018.

56. The specific plan for measurement is as follows:

Table 6: Conduct Monitoring of Environmental Quality under Chia-01 project

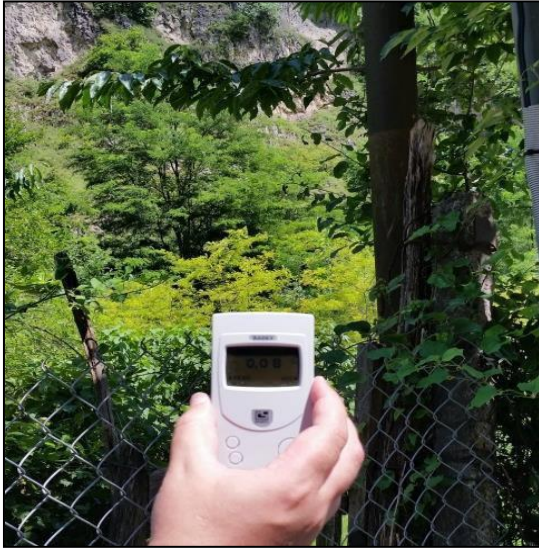
Parameters	Quarterly measurement
Dust	August, September, October, November December 2018
Vibration	August, September, October, November December 2018
Carbon monoxide	August, September, October, November December 2018
Nitrogen dioxide	August, September, October, November December 2018
Noise	August, September, October, November December 2018

ANNEXES:

ANNEX A: MEASUREMENT DATA

- 1 The existing radiation background was measured at the project area: Near the Chiatura City Hall, Secondary School (#1 Abashidze Str), Lezhubani Pumping Station, Church "Khareba", Stadium, Children's entertainment center, Medical Center "Geo Hospital", Chiatura Central Pumping Station, by using Russian appliance RADEX (Fig.1). The measurement data are provided in Table below.

FIG.1 MEASURING THE RADIATION BACKGROUND AT THE PROJECT SITE



- 2 The radiation background at different points of the WWTP project area varied between 8 and 11 microrentgen/hr.

Noise

- 3 The noise level was measured at the same points where the measurements of radiation were conducted. The noise level was measured with South Korean equipment „Digital Sound Level Meter“.
- 4 Noise levels were measured at the construction site reservoirs and network.
- 5 As already mentioned there is no source of noise on the territory. The measurements at all points were done in 4 hours interval. The results of the measurements are given in Table below.

Table: Measurement of Noise and Radiation in Chiatura (13.07.2017)

#	Place of measurement Chiatura	Coordinates	Radiation Microrentgen/hr	Noise Dba Daytime, Nighttime 07:00 - 22:00 Industrial	Noise Dba Daytime 07:00 - 22:00 Residential	Noise Dba Nighttime 22:00 - 07:00
	National Environmental Standard (Maximum Permissible Level)		60	70	55	45

	Measurement Time			10:00AM	15:00PM	18:00PM
2.	Near the Chiatura City Hall	N 4217455 E 4317306	9	65,8	79,5	72,4
3.	Secondary School #1 Abashidze Str.	N 4217392 E 4316988	8	63.1	68.4	63.7
4.	Lezhubani Pumping Station	N 4217766 E 4316573	9	63.0	69.2	68.9
5.	Lezhubani Reservoir	N 4217912 E 4316566	8	54.1	57.3	59.9
6.	Church "Khareba" Stadium Children's entertainment center	N 4217315 E 4316257	11	54.4	62.2	64,5
7.	Medical Center "Geo Hospital"	N 4217132 E 4316231	9	59,6	60,7	64,8
8.	Chiatura Central Pumping Station	N 4217471 E 4317753	9	64,4	65,5	63.9

ANNEX B: PROJECT PHOTOS

Photos: Chia-01 Project



Construction of transmission main



Traffic Routing on DN400 Pipeline behind Sachkhere Medical Center



DN Pipe Laying – bedding layer preparation

ANNEX C: NON-COMPLIANCE NOTICES

Chia-01

Non-Compliance Notice

Project: USIIP	Non-compliance Notice Chiatura
Contract No: Chia-01	
Reference: Chiatura – Camp site and networks	

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

- All workers should be equipped with PPE during the construction and safety rules has to be followed
- 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



- Fuel tanks (diesel or oil) should be placed in a concrete pool which its perimeter walls will be at least 1.0 m high with the concrete or plastered masonry wall,
- A proper floor drain should be installed on the slab of the concrete pool for safely discharging the leakages.



- Comply with all national, regional and local legislation with regard to the storage, transport, use and disposal of petroleum, chemical, harmful and hazardous substances and materials.
- Establish an emergency procedure for dealing with spills or releases of petroleum.
- Storage of all hazardous material to be safe, tamper proof and under strict control.
- Petroleum, chemical, harmful and hazardous waste throughout the site must be stored in appropriate, well maintained containers.
- Any accidental chemical / fuel spills to be corrected immediately.

29 March 2018. Kate Chomakhidze, ES of USIIP

Grievance redresses mechanism (GRM)

- 3 Any affected person can apply at a UWSCG local service centre in Chiatura through different ways, either by going to the service centre, sending a letter to the service centre, or calling a hotline. The operators of the service centre can respond by going directly to the affected person if they are disabled to get the written grievance from them. GRM in Chiatura is operational since commencement of Chia-01 project. GRM system operates in three stages.
- 4 During the first stage, complaints are discussed within two weeks of being received by the local service centre of UWSCG (e.g. Chiatura office), based on the verbal or written complaint. In the first stage of grievance review and resolution, an authorized representative of the local service centre is responsible for ensuring the registration of the claim and its further processing. He/she engages in the grievance review and resolution process representatives (managers and environmental specialists) of Construction and Supervision Companies, and the representatives of UWSCG central office as required. At the local service centre, the affected person is provided with a queue number and then registers the grievance at the service desk.
- 5 The service centre operators, who are trained under USIIP/Chia-01, register all relevant grievances with support of an online task management system, which tracks information on the grievance review process and the responsible person. Moreover, the operators fill the ADB complaints log with the registered grievance that coincides with local internal forms. This electronic intranet system ² allows the UWSCG to immediately see claims. Therefore, claims submitted to any regional service centre can be monitored by the Head of the Investment Projects Management Office (IPMO), as well as the Head of the Department of Environmental Protection, Resettlement and Construction Permits, Ms.Maka Goderdzishvili.
- 6 When a grievance is solved positively in the first stage, the grievance is closed through an Agreement Protocol, which is reflected in the eDocument – Task Management System.
- 7 The grievance enters a second stage if it is not solved. In that case, the authorized representative of the local service centre will help the claimant prepare a package of grievance application documents for official submission to the Grievance Redress Committee (GRC). The package contains the following information:
 - Name, ID, address and contact details of the claimant
 - Description of the essence of the complaint
 - Supporting documents and evidences (photos, maps, drawings/sketches, conclusion of experts or any other documents confirming the claim)
 - Brief description of the actions proposed for the grievance resolution at the first stage and the reasons why these actions were denied
 - Minutes of meetings conducted at the first stage
- 8 The GRC should make a decision within two weeks after the registration of the grievance. The GRC is staffed as follows: (i) Representative of self-government – the head of committee; (ii) Director/ Manager of UWSCG service centre; (iii) Investments Project Management Division representative of the company; (iv) Representative of local authoritative NGO (according to the claim reference); (v) Stakeholders’ female representative;(vi) Stakeholders’ informal representative; and (vii) Heads of local municipalities.
- 9 The GRC will review the package of grievance documents, set a date for a meeting with the claimant, discuss the claim at the meeting, and set up a plan for further actions (actions, responsible persons, schedule etc.). Upon the resolution of the case, the GRC will prepare a brief resume and protocol and the protocol signed by complainant and all parties will be registered in a grievance log.

²The **eDocument - Task Management System** was developed by LEPL Financial-Analytical Service of the Ministry of Finance of Georgia. It is an innovative electronic document and task management mechanism for electronically processing of documents. Used by almost all the major budgetary organizations in Georgia, the eDocumentservice offers an opportunity to manage, find, and track documents for information-intensive organizations.

10 There is a third stage in case there is a failure to resolve the grievance. In this case, GRC will help the claimant to prepare the documents for submission to the Rayon (municipal) court.