

Environmental Monitoring Report

#1 Semestral Report
August 2016

GEO: Sustainable Urban Transport Investment Program – Tranche 1

Prepared by the Municipal Development Fund of Georgia for the Government of Georgia and the Asian Development Bank.

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Biannual Environmental Monitoring Report

Loan Number: 2655-GEO (SF)

Reporting period: January-June, 2016

GEORGIA: GEORGIAN SUSTAINABLE URBAN TRANSPORT INVESTMENT PROGRAM, Tranche 1

(Financed by the Asian Development Bank)

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July, 2016

Biannual Environmental Monitoring Report

ABBREVIATIONS

ADB	Asian Development Bank
EA	Executing Agency
EARF	Environmental Assessment and Review Framework
EIA	Environmental Impact Assessment
EIP	Environmental Impact Permit
EMP	Environmental Management Plan
EPSM	Engineering Procurement and Construction Management
GoG	Government of Georgia
SUTIP	Georgian Sustainable Urban Transport Investment Program
IA	Implementing Agency
IEE	Initial Environmental Examination
MDF	Municipal Development Fund
MFF	Multi-tranche Financing Facility
MoENRP	Ministry of Environmental and Natural Resources Protection
MoRDI	Ministry of Regional Development & Infrastructure
SSEMP	Site-Specific Environmental Management Plan

Biannual Environmental Monitoring Report

TABLE OF CONTENTS

1.	PART I. INTRODUCTION	4
1.1.	PRELIMINARY INFORMATION.....	4
1.2.	CONSTRUCTION ACTIVITIES AND PROJECTS' PROGRESS DURING THE REPORTING PERIOD	8
1.3.	CHANGES OF PROJECT ORGANIZATION AND ENVIRONMENTAL MANAGEMENT TEAM	11
1.4.	RELATIONSHIP WITH CONTRACTORS, OWNER, LENDER ETC.....	12
2.	PART II: ENVIRONMENTAL MONITORING	14
3.	PART III: ENVIRONMENTAL MANAGEMENT	21
3.1.	THE ENVIRONMENTAL MANAGEMENT SYSTEM, SITE-SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN (SEMP) AND WORK PLANS	21
3.2.	SITE INSPECTION AND AUDITS.....	23
3.3.	NON-COMPLIANCE NOTICES AND CORRECTIVE ACTIONS.....	25
3.4.	ACTIONS TAKEN TO REFLECT THE FINDINGS OF ADB MISSION DURING REPORTING PERIOD	28
3.5.	CONSULTATION AND COMPLAINTS	30
4.	PART IV – ACTION PLAN FOR THE NEXT PERIOD.....	32
	A N N E X E S.....	33
	ANNEX 1: MONITORING DATA	18
	ANNEX 2: IMPLEMENTATION REPORT ON THE ENVIRONMENTAL IMPACT ASSESSMENT (EIA)/INITIAL ENVIRONMENTAL EXAMINATION (IEE)/SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN (SEMP) MITIGATION REQUIREMENTS	30
	ANNEX 3: PHOTOS	46

Biannual Environmental Monitoring Report

1. PART I. INTRODUCTION

1.1. Preliminary Information

Program Background

1. Upgrading and improvement of local transport and transport-related infrastructure plays a significant role in the development of Georgia infrastructure. To this effect a number of important activities have been implemented and financed from the budget of Georgia and from other sources. Recently several significant programs, financed through state budget, loans and grants, have been implemented with this regard.
2. On 05 August, 2010 MFF - Sustainable Urban Transport Investment Program Tranche 1 Loan and Project agreements were signed between Georgia and Asian Development Bank. MFF-Sustainable Urban Transport Investment Program – Tranche 1 (SUTIP T1) includes (i) Transport Infrastructure Improvement; (ii) Institutional Capacity Development and (iii) Project Management Facility components.
3. The program will provide efficient, reliable and affordable urban transport infrastructure and services, thereby increase economic growth potential and competitiveness of urban communities, and improve livelihoods of over 1.5 million people (approx. 35% of Georgian population). The program will also: (I) improve urban, environment and communities' access to economic opportunities and to public and social services; (II) promote efficient and sustainable urban transportation; and (III) generate income and employment opportunities.
4. The environment classification for Tranche 1 is Environmental Category B, as all subprojects under SUTIP 1 were classified as category B which will not have significant irreversible or permanent negative environmental impacts during or after construction and requires preparation of Initial Environmental Examination (IEE). The environmental categorization of subprojects was conducted using ADB's Safeguard Policy Statement (2009). Required environmental assessments of sub-projects (SPs) are conducted and IEEs are prepared in accordance with Environmental Assessment and Review Framework approved for SUTIP 1 in May, 2010 and updated in April, 2015.

Program Area

5. Sustainable Urban Transport Investment program Tranche 1 includes several projects in the different municipalities of Georgia. Program aims efficient, reliable and affordable urban infrastructure development and service improvement. In effect, urban transport service will be improved, and the level of different types of public and social services will be increased.
6. Among the Sustainable Urban Transport Investment program Tranche 1 subprojects, which are ongoing now, are:
 - Tbilisi Metro Line 2 and Creation of University Station EPCM;
 - Anaklia coastal improvement EPCM (Phase 1);

Biannual Environmental Monitoring Report

Tbilisi Metro extension project - overview

7. Tbilisi suffers from traffic congestion and air and noise pollution, loss of green areas and degradation of historical buildings and monuments. Serving 250,000 passengers daily, the Tbilisi Metro is playing a significant role in the urban transport system and can serve as the backbone of the city's network. Tbilisi Municipality is now exploring options for expanding the network. A first phase is planned to extend the line to the station "University" at Saburtalo district, where there is a large population, significant number of students and high traffic flow. The construction of the "Delisi-University" section of the metro started in 1985 but ceased in 1993 for financial and technical reasons. In 1998 construction resumed and "Vaja Pshavela" station was opened in 2000 with only one way in operation. The remaining tunnel has been bored up to the university station, including the station shell, escalator shaft and the exits. This Project aims to resume and complete the construction of the metro tunnel along Vaja Pshavela Avenue and the "University" subway station, to benefit more than 150,000 people and increase ridership of the metro network. Total length of metro station line is 2.2km.
8. Contract was signed with EUROESTUDIO S.L. (Spain) on July 17, 2012 and included preparation of Detailed Engineering Design (DED), Bidding Documentation (BD) Package and Construction Supervision.
9. The EPCM consultant (Euroestudios) has been fielded in early August 2012. Geological surveys and investigations of the existing tunnel have been completed and used as a basis for the first draft of detailed design which has been submitted in December 2012.
10. The international independent metro specialist recruited by MDF provided comments which have been addressed by the EPCM consultant. MDF with the guidance of the independent metro specialist confirmed in June 2013 that the creation of the emergency exit recommended by the EPCM consultant is necessary and will be implemented. ADB confirmed the emergency exit is required according to international standards and best practices. The detailed design has been endorsed by MDF after all comments from Tbilisi Transport Company, MDF and ADB have been incorporated.
11. The civil works tender was first advertised in June 2014. Bid evaluation report was timely prepared by MDF with the support of the ADB project team. However, as none of the bids were technically substantially responsive, ADB Procurement Committee recommended rebidding. Invitation for bids was advertised on 14 November 2014, and deadline for submission of bids was on 23 January 2015.
12. Contract with Construction Company Cobra Instalaciones y Servicios, S.A.. Spain, Lead partner with Assignia Infraestructuras, S.A. Spain ("the Contractor"), was signed on March 26, 2015. The total budget of the project is: GEL 83,000,670.45 (Eighty Three Million Six Hundred Seventy and 45/100 Georgian Lari). The commencement date of works was established on June 20th 2015.
13. The project is divided into two main assignments:
 - The 2,6 km long (2600 m) Metro extension from Delisi Station to University Station
 - Creation of University Station and a 301 m long tunnel section for cross over and parking tracks.
14. The 2.6 km-long (2600 m) Metro Extension, from Delisi Station to University Station, consists of the following:

Biannual Environmental Monitoring Report

- Delisi Station (total length 131 m, P.K. 56+00);
 - Scissor crossing and parking tracks after the platform (total length 285 m);
 - 760 m-long twin tunnels between Delisi and Vazha-Pshavela stations;
 - Vazha Pshavela Station (total length 205m, P.K. 68+00);
 - 760 m-long twin tunnels between Vazha Pshavela and University stations, including ventilation Shaft n.50, the by-pass galleries from the shaft to the main tunnels and a pump sump;
 - University Station (total length 162m, P.K. 78+20), with the sub-station and other technical rooms;
 - In the University station, it will be designed a 110 meter platform with an access by a hall located at the intersection of Vazha Pshavela Avenue and Sandro Euli Street;
 - This hall is located at elevation 535 and the platforms at 487, so that descend 53 meters;
 - 315 m-long section after University Station consisting of a crossover Tg 0.11, parking tracks, a service gallery connecting the station and the crossover, the ventilation Shaft n.51 and a pump sump;
15. Delisi and Vazha-Pshavela are willow stations, built as cut-and-cover structures, while University Station is a deep-mined station (about 50 m from the surface). The tunnels between Delisi and Vazha-Pshavela were constructed in cut-and cover, while the tunnels between Vazha-Pshavela and University are mined.
16. Delisi and Vazha-Pshavela stations are finished and in operation. The line between the two stations is operated on one track, since the second tunnel has been constructed but not equipped.
17. Tunnels between Vazha-Pshavela and University stations are constructed but the civil works are not finalized (watertight injections and internal finishes). The main cavern of the University Station has been constructed, together with the inclined tunnel for the moving staircase. The atrium at the surface has a single underground level, the excavation is an open-cut and the structures are partially constructed.
18. After University Station the line ends with a crossover – which is partially excavated parking tracks, chambers for pumping stations and equipment.
19. In addition to Civil Works, the following systems must be installed:
- Permanent way,
 - Power supply substation,
 - Electromechanical equipment (tunnel ventilation, water-pump, escalators),
 - Signaling system,
 - Low voltages equipment: communication, SCADA, fare collection.

Anaklia coastal improvement project (Phase 1) - overview

20. Anaklia is a small town and seaside resort in western Georgia. It is located in the Samegrelo-Zemo Svaneti region, at the place where the Enguri River flows into the Black Sea, near the administrative border with Abkhazia. Anaklia is supposed to become a tourism center in Georgia. Anaklia infrastructure development and rehabilitation plan was announced by the Government of Georgia. Erosion processes take place on various places at Georgian Black Sea coastal line and Anaklia is one of them. Today this process is seriously destroyed coastline.

Biannual Environmental Monitoring Report

21. The project aims at Anaklia shoreline rehabilitation, restoration of the full profile of beaches to the possible limits (which is necessary for wave breaking and suppression of its power and assigns to the beach a function of bank protecting structure), selection of the most optimum types and design of hydro-technical coast protecting structures.
22. Coastal protection structure of underwater breakwaters is totally composed with 6 units (for phase 1) constructed from 5 Ton and 10 Ton tetrapods. The space between one to another breakwaters units is 90m but space between second one to third one (from Enguri river mouth to Tikori river mouth direction) is 100m. The length of first underwater breakwater (from Enguri river mouth to Tikori river mouth direction) is 200m, from No.2 to No.6 – the spacing is 300m. Therefore, total length of underwater breakwater is 1, 700m. Length of artificial nourishment is 2,300m. Amount of Sand for phase1 is 129,000 m³. The area of 300m length from river mouth to start point, where artificial nourishment has to be started, will be covered by armor stones to prevent erosion against incident wave. Total Width of artificial nourishment is 60m, from beach line to land side is 40m and forward to seaside is 20m. Slope of beach line will be composed with 1:20. Enguri river Revetment will be performed from the river mouth (where is located a marina) to starting point of artificial nourishment. The distance will be about 300m.
23. Infrastructure improvement will support infrastructure investments to rehabilitate, improve and expand the beach of Anaklia and will benefit accrue principally from the protection of land and infrastructure from erosion and damage, the avoidance of some other costs and increasing number of tourists. For the interventions, benefits arise from the protection of (i) rural land, (ii) houses (iii) roads and other infrastructure. Coast protection measures need to be taken to protect the unique place and landscape. The design of approximately 4 kilometers of coastal line will create a new and attractive tourist destination on the Black Sea Coast, able to be the engine of the development of the region of Zugdidi, Ganmukhuri and Anaklia.
24. Significant delays have been experienced in the first months of project implementation and mitigation measures had been taken and agreed between the Engineer, the Contractor and MDF. The original completion date of civil works for Anaklia phase I, was on 24 April 2014. Since that the completion date was extended three times. MDF, Engineer and Contractor agreed to extend the contract up to November 18, 2015; after till 30 April 2016 and finally up to 30 June 2016 mostly due to contractor's inability to mobilize all needed marine equipment and vessels for executing marine works.
25. The Georgian government came to a decision to initiate construction of a deep sea port in Anaklia close to the Anaklia coastal protection project site. A risk of potential overlap of the two construction sites was apparent. Therefore the scale or even expediency of the coastal protection project was open to question. In March 2016 the Ministry of Economy and Sustainable Development of Georgia provided MDF with the final coordinates of the deep sea port, which demonstrated that the port was overlapping four breakwaters out of six (breakwaters N 3, 4, 5 and 6). As a result MDF took decision to remove these four breakwaters from the scope of work of the present contract and continue the works only for the breakwaters N1 and N 2 and placing of sand on the beach part behind these breakwaters (approximately in front of Hotels and boulevard). Based on the MDF Supervisory Board Meeting held in April 2016, it was decided to cancel construction works for the proposed underwater breakwaters from the Contract through contract modification.
26. The ADB Mission conducted in May 3-11, 2016 discussed with MDF contractual implications and options. MDF prepared contract amendment and agreed with the Contractor to the final extension Time for Completion until 30 June 2016. At present, only two breakwaters - No.1

Biannual Environmental Monitoring Report

and No. 2 are under construction and works are continued only for mentioned breakwaters. The rest of the works were cancelled, through contract modification.

27. There are about 8000 units of 5 ton and 10 ton tetrapods remaining unutilized under both phases of Anaklia Coastal Protection Project. MDF decided to explore opportunities for the future use of these tetrapods, either in Anaklia or on other site where coastal protection is needed. MDF started consultations within the government and relevant organizations to find the solution.
28. Per request of the MDF, the National Environmental Agency submitted a list of critically eroded sections of the Black Sea coast with recommendations for locations, where remaining tetrapods can be used (June 2016). Poti coastline is the one listed among the possible problematic sections.
29. According to the letter of Poti Municipality sent to the Ministry of Environment and Natural Resources Protection, Ministry of Regional Development and Infrastructure, Ministry of Economy and Sustainable Development, Ministry of Finance in March 2015 erosion processes are occurring on the Black Sea coastline within the territory of Poti and due to the above-mentioned fact, the Poti City Hall has requested assistance for carrying out coastal protection measures.
30. Poti Municipality sent a letter to MDF (June 2016) regarding the existing problem at coastline and requested assistance for preparation and implementation of coastline protection design.
31. MDF took a decision to work with Poti Municipality, transfer ownership of remaining tetrapods to Poti and help Municipality to prepare and implement coastal protection project in Poti.
32. With this regard MDF prepared and submitted to ADB for review the Action Plan to handover the remaining Tetrapods from Anaklia Coastal Protection Project to Poti City Municipality.
33. MDF instructed Anaklia Coastal Protection Supervision Company “Dohwa” to prepare tetrapod’s transportation and allocation plan within the project site agreed with Poti Municipality by the end of June, 2016.
34. Dohwa has prepared draft of tetrapod’s transportation and allocation plan, which was presented to the MDF by end of June.

1.2. Construction activities and projects’ progress during the reporting period

Civil works at Tbilisi Metro extension subproject

35. As it was mentioned above, the commencement date of Works was established on June 20th 2015. Contractor was requested to mobilize all necessary equipment on-site. Estimated time for the completion of works is 630 days.
36. The civil works are well advanced and a general improvement of the construction site has been achieved. Quality of performed works is acceptable. In the finished sections of the Main Right and Left Tunnels, where the existing concrete segments have been treated the appearance of the lining intrados is good.

Biannual Environmental Monitoring Report

37. From 2016 march, from then on, the Contractor has followed the last updated revision of the Work Programme (Rev.03; at 31.03.2016). In general terms progress of the works has been according to this schedule.
38. The injection works have been restarted in left tunnel with resins to stop water filtrations and in the station.
39. Regarding reparation of segments on the tunnels the works have been started after satisfactory trials last month and after establishing several teams. The progress of mortar revetment that has been executed during this month in dead end tunnels, ventilation tunnel, crossover and left and right tunnels is satisfactory and according to schedule and the quality of works is acceptable, especially in precast concrete segments of left and right tunnels.
40. Works are being performed according to the work schedule agreed with MDF. Up to date the total accumulated delay of work has been approximately quantified by 6.76 % of the total project, according to the last updated payment schedule.
41. The summary of performed works by the Contractor during the last 6 months and its status are listed below:

42. UNDERGROUND CIVIL WORKS

1. University Station Platform:
 - Steel reinforcement for walls and slab of section zero.
 - Bottom slab and walls for water tank next to the platform have been concreted.
2. Crossover (Chamber 2):
 - Reinforced concrete wall in Crossover next to Dead End Tunnels have been concreted.
3. Tunnel between Platform and Crossover (Chamber 2):
 - In collapse area between Platform and Crossover (PK 79+00 – 79+23) the walls of 11 m length and 3 m high have been concreted (100%).
 - Steel reinforcement, formworks and concrete for arch in collapse have been completed (100%).
4. Chambers 3 and 4 (dead end tunnels):
 - Reinforced concrete walls in crosscut between dead end tunnels have been concreted (100%).
 - Steel reinforcement for arch in crosscut between dead end tunnels is ongoing.
 - On PK 81+70 soil excavation in the main drainage pumping chamber for the water pump sump is in progress (55%).
5. Technical rooms in tunnel:
 - Excavation for emergency exit is ongoing.
6. Substation:
 - In the left tunnel PK 77+10 next to substation, construction of cable crossing collector is on progress (80%).

Biannual Environmental Monitoring Report

- In the substation, block walls construction is completed in upper level and is ongoing in lower level. Painted cement mortar on block walls in upper and lower levels is ongoing.

7. Ventilation tunnel:

- On PK 80+52 near shaft #51 arch has been concreted.

43. TUNNELS

1. Injections:

- Injection works in the station are ongoing (90%). Just remaining injections with resins to complete the works.
- In the left tunnel injection works with resins are ongoing at PK 69+70.

2. Reparation of segments

- In the left tunnel, from PK 69+55 washing with high pressure water jet in cast -iron segments is ongoing (10%).
- Mortar revetment with SIKA Monotop 612 is ongoing in dead end tunnels (85%), ventilation tunnel (50%), Crossover walls (50%) and in the precast concrete segments in left and right tunnel between shaft #50 and Platform (100%).

3. Anchorages

- This month has been not any progress regarding the installation of anchorages due to a problem with the Subcontractor that has been finally dismissed by the Contractor due to lack of payment to workers and lack of workers documents (contracts, insurances).

44. UNIVERSITY STATION SURFACE

1. Pedestrian passage

- Excavation works for exit 1 have been completed;
- Blinding concrete and reinforced bottom foundation slab for exit 1 has been completed;
- Steel reinforcement for walls of exit 1 is ongoing (50%) and some part has been concreted;
- In the exit 4, concrete curved top slab is ongoing.

2. Concourse level

- Intermediate slab for concourse technical level and eight columns have been concreted;
- Roof slab and walls of concourse level have been completed;
- Sewage tank has been concreted;
- High resistance mortar has been poured between steel beam (HEB-700) and steel columns (HEB-300) and the existent beams in the vestibule entrance hall.

45. The major concern related to the signaling systems, which – along the existing part of the metro line – is an old system produced in Ukraine. The system to be installed should be performing, modern and compatible with the existing one in the new portion of the metro.

46. International Metro Specialist and Technical Advisor for Construction Supervision of Tbilisi Metro project visited Tbilisi and conducted site visit in June 2016. She prepared and submitted to

Biannual Environmental Monitoring Report

MDF Inception Report. Remarks and recommendations were conveyed to Engineer and Contractor for consideration. Her overall assessment of contractor's performance was positive.

Civil works at Anaklia coastal improvement project (Phase 1):

47. Civil works contract was signed with Modern Business Group LLC (Azerbaijan). The construction works started on July 24, 2013. According to last contract modifications agreed with the Contractor the final extension Time for Completion is determined as June 30, 2016.
48. While, all of the tetrapods are already casted and ready to be placed underwater, the marine works progress was insufficient compared to the works schedule. The project was considering construction of 6 sections of underwater breakwater structures, revetment of Enguri river left bankbank and sand nourishment of the beach line.
49. As was mentioned above, after establishment of the final coordinates of the deep-sea port, some changes were introduced in the scope of works and currently only the construction of the breakwaters No.1 and No. 2 are ongoing.
50. During the reporting period, construction work activities carried out by the Contractor Company were as follows:
 - Sea bottom dredging – 2122 m³;
 - Placing 10t TTP units in the sea – 96 units;
 - Filling with stone in the sea – 540 m³;
 - Sea bottom leveling – 1110 m²;
 - Sand nourishment works (In front of hotel Anaklia) – 11306 m³.
51. Contractor procures construction materials (if they require) - sand aggregates, quarry stones and etc. from the following licensed companies: Crushed rock from LTD "Pulsari", contract number HEC-09, LTD "Enguri+"-contract number -HEC-00 and "Big Energy" – contract number HEC-08/1; Sand- from company: "Lazika", Contract number HEC-12; Natural quarry stones - from company "Grupovia" – contract number HEC-07. Physical progress of construction works by the end of June is 78.28%.

1.3. Changes of project organization and environmental management team

52. The MDF is the projects' executing, implementing and disbursing agency. MDF has overall responsibility for the projects' management - including environmental, planning and supervision. New Executive Director of MDF Juansher Burchuladze was assigned in July, 2015 by the Georgian Prime Minister's Decree.
53. MDF is responsible for general implementation of all safeguards tasks and guarantee that potential adverse environmental impacts arising from the Projects are minimized by implementing mitigation measures presented in the environmental impact assessment ("EIA") or Initial Environmental Examination (IEE), as applicable.
54. Management of safeguards issues is carried out by the MDF through Environmental and Resettlement Unit, established in October 2014. From that time, number of Environmental and Resettlement team members has increased from 6 to 9 and currently consists of: Head of Unit, 3

Biannual Environmental Monitoring Report

environmental safeguards specialists, one safety specialist, one social and gender specialist, 3 resettlement specialists. There are also two ADB's individual consultants – one on environmental safeguards and one on resettlement issues, who are the members of Environmental and Resettlement Unit. Until October, Environmental and resettlement safeguards team was consisting of 3 environmental safeguards and 2 resettlement specialists, one of which was the ADB's national consultant on resettlement issues. Environmental and Social Safeguards team had a Team Leader who was an advisor to Executive Director of MDF on environmental and social safeguards issues.

55. The Environmental and Resettlement Unit is involved in addressing of environmental and social safeguard issues throughout the entire projects' cycles. The Environmental and Social Specialists of the MDF, are responsible for management of the environmental and social aspects associated with development of all donor funded projects for which MDF is the responsible Executing Agency (EA). Local Environmental Consultant –Nino Nadashvili, was recruited in September 2015 and designated to supervise ADB projects, review the IEEs/EIAs, EMPs, and SSEMPs of projects and carry out supervision of the construction performance based on approved EMPs, EIAs, and environmental standards in accordance with ADB "Safeguard Policy Statement" (2009) requirements' and acting Georgian Legislation.

1.4. Relationship with contractors, owner, lender etc.

56. The main institutions involved in IEEs/EMPs/SSEMPs implementation and monitoring, are the executing agency (EA) - MDF, the Supervision Consultants' (SC), the Construction Contractors' and to a lesser extent the Ministry of Environmental and Natural Resources Protection and Municipal Authorities. EA (MDF) and SCs are responsible for ensuring monitoring of the projects' implementation at the construction stage. Ministry of Environmental and Natural Resources Protection has the authority for periodic audits but should not be considered as a party responsible for monitoring according to this IEE and EMPs.

Tbilisi Metro extension project

57. As it was mentioned above, MDF is responsible for general implementation of all safeguards tasks. EA (MDF) and SC (Euroestudio) are responsible for ensuring monitoring of the project implementation at the construction stage, while Tbilisi Metro - for monitoring at the metro operation stage.
58. MDF ensures availability of all environmental information and facilitates environmental supervision of the projects. The MDF's local environmental specialist's responsibilities in respect of implementation of the IEE/EMP, are to: ensure that all relevant IEE/EMP requirements (including environmental designs and mitigation measures) are duly incorporated into the project bidding documents; Assist Contractors to obtain necessary permits and/or clearance, as required, from any relevant government agencies (NEA, etc); Ensure that all necessary regulatory clearances are obtained before commencing any civil work on the project; Ensure, that contractors have access to the EMP and IEE report and understand their responsibilities to mitigate environmental problems associated with their construction activities and facilitate training of their staff in implementation of the EMP; Approve the Site-Specific Environmental Management Plan (SEMP) prepared by the Contractor before he takes possession of construction site; Time-to time monitor the contractor's implementation of the SEMP in accordance with the environmental monitoring plan by conducting site monitoring visits; The MDF through its Local Environmental Consultant, reports to the ADB in every 6

Biannual Environmental Monitoring Report

months on the status of environmental compliance of construction works by preparing semi-annual Environmental Monitoring Reports. In case unpredicted environmental impacts occur during the project implementation, prepare and implement as necessary an environmental emergency program in consultation with relevant government agencies and ADB.

59. The supervisor company (SC) of works commissioned by MDF is responsible to establish strong field presence in the Project area and keep a close eye on the course of works. Along with ensuring consistency with the design and ensuring quality of works, the supervisor is mandated to track implementation of EMP by the contractor and reveal any deviations from the prescribed actions.
60. The SC had a national environmental specialist –Sandro Abzianidze and an international environmental expert – Paula Fernandez to assist the EA supervise and monitor implementation of the EMP during construction activities.
61. A Non-Compliance Notice has to be issued to the contractor if the SC requires action to be taken. The contractor is required to prepare a corrective action plan which needs to be implemented by a date agreed with the SC. Non-compliance should be ranked according to the established criteria.
62. Construction Supervision Company is preparing quarterly progress reports which cover the implementation of the SSEMP, discrepancies from the SSEMP and list all HSE relevant incidents and accidents that occur during the implementation; Submits periodic reports based on the monitoring data and laboratory analysis.
63. Construction contractor is obligated to follow EMP and good construction practice. In order to meet this obligation, a contractor has established environmental management team and procedures. The Contractor has appointed a full time Environmental Manager (EM) – Natia Karkuzaeva which is a senior member of the construction management team based on site for the duration of the contract.
64. Key responsibilities of the Contractor are to prepare the Site-Specific Environmental Management Plan (SEMP) for approval by the Employer (EA) prior to the Contractors taking possession of the construction site; Ensure that the SSEMP is implemented effectively throughout the construction period; Carry out the monitoring and mitigation measures set forth in the IEE/EMP/SSEMP; Establish an operational system for managing environmental impacts; Allocate the budget required to ensure that such measures are carried out. Construction contractor is responsible to prepare monthly progress reports on SSEMP implementation, which should contain information on the main types of activities carried out during the reporting period, status of any clearances/permits/licenses which are required for carrying out such activities, mitigation measures applied, and any environmental issues that have emerged in relations with suppliers, local authorities, affected communities, etc.
65. The contractor submits reports of the carrying out of such measures to the employer on a monthly basis; Coordinating community relations issues through acting as the Contractor's community relations focal point (proactive community consultation, complaints investigation and grievance resolution); Establishing and maintaining site records of:
 - Weekly site inspections using check-lists based on SEMP;
 - Environmental accidents/incidents including resolution activities;
 - Environmental monitoring data;

Biannual Environmental Monitoring Report

- Non-compliance notifications issued by the SC;
- Corrective action plans issued to the SC in response to non-compliance notices;
- Community relations activities including maintaining complaints register;
- Monitoring reports;
- Routine reporting of SEMP compliance and community liaison activities;
- Adhoc reporting to the Employer's Engineer of environmental incidents/spillages including actions taken to resolve issues.

Anaklia coastal improvement project

66. As it was already mentioned above, Construction Contractor of the project is – Modern Business Group Ltd (Azerbaijan). Construction activities are supervised by the DOHWA Engineering Co., Ltd (Republic of South Korea). Construction Contractor company has one National Environmental Specialist on site (Zurab Revazishvili). Environmental issues at Supervision Company are handled by National Environmental Specialist - Revaz Gujabidze, who is mandated to track implementation of EMP by contractor, reveal any deviations from the prescribed actions, as well as identify any unexpected environmental issues, emerged at any stage of works.
67. Construction Supervision Company is responsible for supervision of all environmental issues during project implementation. Construction contractor is obliged to follow EMP and SSEMP good construction practice during construction activities. All environmental issues, arising from the construction activities are immediately brought to the attention of MDF's environmental safeguards team by the environmental specialists of construction and Supervision Companies' in order to coordinate efforts and ensure immediate mitigation of impacts, protect the environment and safeguard the health and welfare of the local communities. The construction contractor's Environmental specialist responsible for implementation of EMP/SSEMP, daily environmental monitoring and reporting.
68. Construction contractor is responsible to prepare monthly progress reports on SSEMP implementation, which should contain information on the main types of activities carried out during the reporting period, status of any clearances/permits/licenses which are required for carrying out such activities, mitigation measures applied, and any environmental issues that have emerged in relations with suppliers, local authorities, affected communities, etc.
69. Construction Supervision Company is preparing quarterly progress reports which cover the implementation of the SSEMP, discrepancies from the SSEMP and list all HSE relevant incidents and accidents that occur during the implementation.
70. MDF ensures availability of all environmental information and facilitates environmental supervision of the projects. The MDF through its local environmental consultant reports to the ADB every 6 months on the status of environmental compliance of construction works by EMRs.

2. PART II: ENVIRONMENTAL MONITORING

71. With reference to MFF Sustainable Urban Transport Investment Program – Tranche 1 (SUTIP T1) Environmental Assessment and Review Framework (EARF) is stated that an IEE/EMP will be

Biannual Environmental Monitoring Report

a part of the overall project monitoring and supervision and will be implemented by the Contractor with oversight from the Supervision Consultant (the Engineer) and MDF.

72. IEE/EMP is an integral part of construction contracts. MDF requires the Construction and its Supervision Companies to implement construction activities in accordance with the environmental management plan (EMP), which is the part of the initial environmental examination document (IEE).
73. Based on the IEE/EMP requirements, monitoring measures of projects includes construction site supervision, verification of permits, monitoring of compliance of the contractors' performance and specific monitoring of environmental impacts like noise, dust, soil contamination, landscape structure, construction waste, radiation, flora and fauna, water pollution, air emissions and etc. conducted by Contractor's and Engineer's environmental management specialists. Frequency of measurements of air, noise, vibration and etc. are given in Annex 1.
74. Environmental monitoring started immediately after the commencement of civil works under the SUTIP T1. Environmental safeguard monitoring is performed as required in the EMPs. MDF submits to ADB semiannual environmental safeguards monitoring reports, describing progress of implementation of EMPs and any compliance issues and corrective actions, within 1 month after each reporting period. If any unanticipated environmental and/or social risks and impacts will arise during construction, implementation or operation of the Project that were not considered in the IEE, the EMP, MDF ensures to promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed corrective action plan.
75. During reporting period environmental aspects provided below where monitored and managed by construction and supervising companies within the projects. It should be noted that for the monitoring of air, noise, water and other parameters, during measurements, standards, provided by the Decree 297/N on "Approval of norms on environmental quality conditions" elaborated by the Minister of Labor, Health and Social Affairs of Georgia (16. 08. 2001) were used, as mentioned decree determines and approves quality norms of environmental conditions, in order to ensure the safe environment for human health.

Tbilisi Metro extension project

Air quality

76. Operation of heavy machinery, vehicles and other construction equipment result in dust generation and fugitive emissions of carbon monoxide, NO_x, SO₂, hydrocarbons, and particulate matter.
77. Impact of the construction activities on air quality is minor and is easily manageable through application of good construction and vehicle/equipment maintenance practices. It is not possible to eliminate the emission of dust from a construction sites entirely. Nevertheless, mitigation measures like water spraying inside and around the construction sites, usage of only such vehicles and equipment that are registered and have necessary permits, storage of construction materials far from residential areas reduce gaseous and dust emission during construction activities, storing material on the surface in places away from where ventilation fresh air intakes could be compromised through a surface fire or chemical spill, using a ventilation system which is monitored and upgraded to ensure air flows are always provided to

Biannual Environmental Monitoring Report

the workplace, ensuring bore holes and other penetrations are sealed, monitoring air flows for explosive gases and atmosphere contaminants regularly and etc. could reduce hazards and risks of air pollution.

78. Contractor did visual control, monitored air-flows for explosive gases and specific atmosphere contaminants, Inspected mechanical ventilation system, Inspection moving and diesel machines & vehicles. CC also conducted measurements of noise and atmospheric air chemical parameters (PM, CO, NO₂ and SO₂) through Environmental Agency on April, 4 (See attachment 1.1) and by own measure device within March-June - 7 times. (see attachments 1.2-1.8).
79. It should be remarked that there are Non Compliances regarding the lack of ventilation on site that hasn't been close yet. The contractor has answered it properly, but unfortunately it has been checked that the measures taken hasn't been applied regularly.

Noise and Vibration

80. Temporary disturbance of local populations along or in vicinity of tunnel and shafts is expected during the construction phase: the construction works will likely cause significant noise which can disturb communities around the project area. The activities inside the tunnel, at the depth of 20 to 50 meters, will be unlikely to generate any noise or vibration that can be perceived by people above the ground; however this has to be verified during construction.
81. It is not possible to eliminate the emission of noise (noise produced by various equipment and activities) entirely from a construction sites, however, mitigation measures like usage of vehicles and equipment that are registered and have necessary permits, no noisy construction activities during the nights, usage of silencers, mufflers and acoustic shields on equipment, limitation of the number of machines used one and the same time, using vibration absorbing handles or rubber-type vibration insulating devices between the tool and the hands implemented by the contractor, using hearing protection for workers inside tunnels and shafts, fixing 'out-of-balance' items reduces noise levels to a moderate magnitude.
82. According to the project design scope, the use of a large tunnel boring machine is not considered because the underground structures, the excavation, the support and lining are almost fully completed and only some minor works need to be completed.
83. No vibration impacts were occurred on buildings from the demolition areas, because closest buildings are located more than 20 m away from the construction area and activities inside the tunnel were implemented in the depth of 20-50 meters. Thus, no vibration measurements were conducted during reporting period.

Vegetation and soil

84. There is no top soil in the areas where the contractor has to work. These areas are already free of topsoil.
85. No more trees has been cut since January, 2016.

Fauna

86. Fauna values in the project area are very low. Some temporary disturbance to a range of common urban fauna species (mostly birds) will occur, but the impacts are unlikely to be significant.

Biannual Environmental Monitoring Report

87. Limitation of the dust and emissions from construction machinery/vehicles especially near street trees and the parkland/green recreation area in the middle of Vaja Pshavela are used to control and reduce risks and hazards.
88. According to the IEE, a wintering colony of the Greater Horseshoe Bat (*Rhinolophus ferrumequinum*) consisting of up to 500 individuals was found in the tunnel, from the University station side. This specie is no “Least Concern” and it is not included in the Red List of Georgia. So no specific measures are required to protect this species. Noise and human presence caused bats abandon from the tunnel and search to another habitat. During reporting period it hasn’t been detected the presence of Bat colony in the tunnel.

Water quality

89. The principal source of construction impacts on ground and water is related to the groundwater. As the project involves only very limited drilling works the main potential impact to these elements is that the underlying ground water and soils may be affected during the construction phase.
90. The contractor conducts the underground water chemical and microbiological tests periodically and monitors groundwater inflow if is necessary. No underground water quality test has been taken out during this period as there was no need for it. However, drinking water test was done on March 29 (see attachment 2). According to determined parameters, water quality corresponds to requirements of “Technical regulation for drinking water” (Governmental decree N85, 2014, January, 16) and is permissible for drinking.

Social affections

91. The disturbances produced by the transit of heavy vehicles on the works is minimal to the community facilities.

Cultural heritage

92. No cultural affections have been detected.

Hazardous and Non-hazardous Waste and Spoils

93. Constructions works generate different type wastes starting from garbage, recycle waste, house hold waste and construction and demolition debris, including, small quantities of hazardous waste generated mainly from the vehicle maintenance activities (liquid fuels, lubricants, hydraulic oils, chemicals and etc).
94. The most significant solid waste from the project is the construction and demolition debris, followed by spoil from excavations, which is removed from site by an approved waste management contractor.
95. Non-hazardous waste, household and solid waste is disposed to official dump particularly Gldani dump area by contractor “Cobra Assignia” and its sub-contractor – “Prime Concrete” Ltd., based on the contract signed by all parties (contractor, sub-contractor and solid waste company). According to the contact signed on 09.11.2015 Solid Waste Company of Georgia is serving contactor in two points (shaft 51 and shaft 50) twice a week;
96. Hazardous waste residuals such as oil, solvent, and materials used in oil spill cleanups and etc. are collected and stored on separate place with appropriate covered skips. Time to time, when

Biannual Environmental Monitoring Report

it necessary (approximately once in three month) it is passed to a licensed operator Company "Sarini", which has the permit on operation of the hazardous waste. Contract N 25022016 with Company "Sarini" was signed in February, 2016. (See attachment 2).

97. Regarding asbestos waste, it will be disposed in Gldani dump area by authorized personnel only in accordance with safety regulations specified in Company Waste Management Plan to be prepared by Construction Contractor and submitted to the Ministry of Environment and Natural Resources Protection (MoENRP) till December 2016 for approval. Contractor is in process of signing contract with relevant company mentioned above.

General clearance

98. The general clearance of the places outside the tunnel has been improved. Inside the tunnel, the wastes have been separated.

PPE

99. In general terms, personnel wear adequate PPE during the working process as per the project HSE requirements. Nevertheless, it has been noticed in different times, as it had been noticed 6 months ago, that some workers don't wear mask when it is required. It has been notified to the contractor to take the required measures to avoid it.

Anaklia Coastal Improvement project

100. Monitoring measures for Anaklia Coastal Improvement project includes construction site supervision, verification of permits, monitoring of compliance of the contractor performance and specific monitoring of environmental impacts like noise, dust, sea water quality, soil contamination, sea biodiversity, landscape structure, construction waste, radiation, flora and fauna, water pollution and air emissions, etc conducted by Contractor's and Engineer's environmental management specialists.
101. As it was mentioned above, during reporting period speed of construction works have been decreased significantly and activities implemented in a very slow pace. Because of decreasing the construction works pace and scale, the possibility of impact level on environment has felt to minimum.
102. There are no protected areas, wetlands, mangroves, or estuaries or archeological/cultural heritage within the project area. There are no land acquisition and resettlement issues involved. The nearest residential house is located in 300-400m distance from the working yard. In order to limit soil disturbance, the access to the site was limited to construction workers and the site was fenced.
103. No adverse environmental impacts related to the construction works were noted or observed within the reporting period. Laboratory tests for the sea water and atmospheric air quality were taken on 04.02.2016 by licensed laboratory. Measurement results are provided in Attachments 3.1 and 3.2. According to data received in February 2016 the obtained results did not exceed the National Environmental Standard (Maximum Permissible Level), therefore no additional mitigations are required.

Biannual Environmental Monitoring Report

Air Quality

104. Dust was controlled through watering the access roads where driving could easily generate dust. During the transportation of contraction material, the trucks were covered with special tarpaulins or other cover means to avoid spreading of fine aggregated material in the air and although, the transportation of materials were carried out by initially selected and determined routs and the speed of the trucks are limited. Wheels and undercarriage of haul trucks were clean and washed prior to leaving construction site.
105. For ensuring compliance with established quality norms of ambient air quality air tests are taken in every 3 month. Last test was taken on 04.02.2016 (Attachments 3.1) During this period no problems has been detected.

Sea Water quality and sea water turbidity

106. Marine works for excavation and placing stones for leveling bottom of the sea preparing for placing TTP, have been carried out with extreme care from point of view spills, water turbidity, labor safety, taking into consideration EMP and SSEMP requirements and regulations. Vehicles fueling place is located approximately 300 m far from sea shore, adequate lining of the ground by concrete and confinement of possible operation and emergency spills are provided.
107. Regular check-up and inspection was implementing for monitoring of sea water quality and sea water turbidity. The last laboratory test for sea water was taken on 04.02.2016 (See attachment 3.2).
108. During marine works - dredging, stone filling and placing TTP units - works were monitored by the contractor's environmental specialist was visually controlling sea water turbidity level, making test checks in every 4 hours. In case if the turbidity measured during marine works at a distance of 250 meters from the point of works exceeds the background turbidity by more than 250mg/l the Contractor will be instructed to take suitable measures to reduce the turbidity.
109. After starting installation of concrete TTP in the sea, tests of turbidity measuring are carried out according to above mentioned standards. No deviations from the standards have been identified during measuring.

Sea Biodiversity

110. During marine works, loss of Bio ecology is expected (sea plants), but because of insignificant Influence no specific mitigation measures are required. Only permanent visual control, identifying the degree of turbidity through analysis (in every 4 hrs. during the work) during the works are needed. If the degree of the water turbidity is in excess of the admissible limit (25 gr/l), the works must be stopped and relevant corrective measures must be taken. During the works on underwater breakwater N1 and N2 contractor was taking measurements for turbidity on every day basis, no problems have been detected.

Noise

111. The plan of transportation routes and timing were agreed with local Municipality and patrol police since the project has started. Wheels and undercarriage of haul trucks were checked

Biannual Environmental Monitoring Report

and fixed to maintain good vehicle condition not to make any noise and not to disturb residential people, even though there are no residential people within 1km range.

112. Drivers were informed to limit speed to 20-25 km/h to avoid use of horn in the town. Local population was informed about project works. The Contractor was working during night time to catch up schedule but according to supervisor's instruction, materials were transported during the day time. According to the works schedule, not more than 5-6 trucks were working at the same time and the noise created from them were not exceeding the limitation.

Waste

113. At construction site, produced waste was stored at special storing areas designated for hazardous, domestic and construction waste storage. The part of construction waste (inert materials) was used by contractor for secondary meanings. Regarding the hazardous waste, such as oil contaminated towels or oil contaminated soil, Contractor was accumulating them separately in special containers. Hazardous waste was removed from construction site by authorized personal only in accordance with safety regulations.
114. Contractor Company had relevant contracts with licensed companies for proper management and final disposal of waste. Construction company had signed contracts with following companies for waste removal. For hazardous waste: Ltd "Sanitari" (contract N2911-13) and "Sandasuptaveba"; For domestic waste: an agreement with Zugdidi municipality; Construction waste: "Georgian Solid waste management company" (See attachments 4.1;4.2.4.3.4.4).

Soil Contamination

115. Fuel was kept in the covered containers at the impermeable surface area. Taking into consideration the specific characteristics of coastal protection project, there is no soil contamination in the scope of project.

Flora and Fauna

116. The flora and fauna living in Samegrelo region is located out of the project area and thus the project activities has no impact on them;
117. There are no trees, vegetation, bushes, plants, land and sea animals in the project area, as sandy coasts with the hot sun, salty water and wind are not convenient environment for living organisms. Therefore, there are few living organisms on the coast surface: crawfish and low plants in the coastline. Thus, construction activities have no impact on flora and fauna.

Landscape

118. Construction activities caused some impact on the landscape of the territory. A big amount of cast tetrapods (from Phase I and Phase II) are accumulated on surrounding areas. This issue is agreed with local municipality and Contractor got the right to use additional surrounding areas for tetrapods placing.
119. At present, MDF with supervision company "Dohwa" is working on finalization of the action plan prepared for tetrapods placing and storing. Action plan will be agreed with ADB.

Biannual Environmental Monitoring Report

Social Environment

120. There is no any adverse impact on social environment as the nearest residential house is far from 300-400 m. The intensity of traffic caused by the Contractor's transporting equipment is increased not much, around 3 trucks in every 2 hours; it means that, not air contamination or noise is caused. Only positive impact can be mentioned as the almost 90% of people employed by the Contractor Company are locals, and their living conditions have been improved.

Ground water contamination

121. The places that could be the source of ground water contamination are fenced with ground and special material. Special filter was arranged around the concrete batching plant for accumulation of contaminated water.

Construction Safety

122. Construction activities are performed in accordance to the construction safety requirements and regulations. Workers are using personal protection equipment. The project area is fenced and warning signs are placed.

Worker Camps

123. The potential impacts related to the construction and operation of the camp could be summarized as potential damage of topsoil, contamination related to fuel storage and fuelling operations, waste management, wastewater and sanitation.

124. The construction camp is equipped with a biotoilet and other necessary infrastructure. Monitoring activities are implemented by Environmental Specialists on the daily basis.

3. PART III: ENVIRONMENTAL MANAGEMENT

3.1. The environmental management system, site-specific environmental management plan (SEMP) and work plans

Tbilisi Metro extension project

125. Following the award of the contract and prior to construction commencing the Contractor has reviewed the EMP and developed this into a detailed Site-Specific Environmental Management Plan (SSEMP) that amplifies the conditions established in the EMP that are specific for the project, the tasks involved and schedule of construction activities. The draft version of SSEMP was prepared by the Contractor and sent to Supervision Consultant (SC) for endorsement on 20.06.2015. SSEMP has been further reviewed and commented for improvement by the MDF's Local environmental Consultant and ADB RETA National Environmental Consultant. It was approved by PIU/MDF in September 2015. SSEMP document was sent to ADB as well on October, 23, 2015, according to ADB requirement (Aid Memoire' (8 - 18 September 2015), Chapter IV. Follow-Up Actions, paragraph (xiv)). Table 1 below presents the information on statuses of managements' plans.

Biannual Environmental Monitoring Report

Table 1: Status of Management Plans

Management Plans	Status	Date of Submission and/or deadline	Comments
1.SSEMP	Submitted, approved	June 8, 2015	
2. Spoil disposal management plan	Has submitted as part of SSEMP of waste		
3. Emergency Response Plan	Submitted, approved	11/12/2015	
4. Evacuation structure plan	Submitted, approved	11/12/2015	
5. Company Waste Management Plan (according to GEO legislation)	Under the preparation		
6. SSEMP for wastes	Has been prepared by the Contractor and several times revised, however still not approved by the supervision company – Eurostudio.	Last submission of updated document June, 2016	Revision is ongoing by the International Environmental Specialist of Supervision Company, according to provided comments from MDF and RETA's environmental Specialists.

Anaklia Coastal improvement project

126. EEs, including EMPs, are integral parts of the contracts and their implementation is mandatory for contactors. Contractor Company, as it was mentioned above, submits monthly progress reports to supervisor Company Dohwa and MDF. Monthly report includes chapter on environmental performance. Consultant Company Dohwa prepares quarterly environmental report and submits to MDF on progress of the environmental management plan.

127. SSEMP for phase I has been prepared by Construction Company and approved by Consultant Company in June, 2014. SSEMP for phase I has been updated by the Consultant Company and updated document was presented to the MDF in June, 2015. MDF's environmental specialist reviewed updated SSEMP and has not approved it because no cumulative impacts were reflected in the document. Although, she required from Construction Company and Supervision Consultant additional explanations.

128. MDF's remarks were sent to environmental specialists of both – Consultant and Construction Companies with CC to the National Environmental Safeguards Consultant of RETA 8663 for the consideration. MDF required Consultant Company to present clarifications referring to SSEMP update. However, as the expediency of the Anaklia coastal protection project is still opened because of deep sea port project possible initiation and works are going at a very slow pace, updated SSEMP was not provided by the Contractor yet.

3.2. Site Inspection and audits

129. Site supervision and inspections, as well as monitoring of compliance of construction activities are important aspects to ensure the proper implementation of EMP/SSEMP requirements. Environmental management team of Construction and Supervisor Companies carry out permanent supervision activities and monitoring of the project performance in regular base. Time to time, MDF's environmental specialist - Local Consultant and National environmental Consultant of ADB (under RETA 8663), are performing site monitoring visits as well. Basically, in every two month ADB review missions are conducted also.

Tbilisi Metro extension project

130. MDF is monitoring construction progress by attending the regular weekly meetings between the Engineer and the Contractor. MDS's local environmental consultant is attending weekly meetings and requesting from the Engineer and Contractor strict and unconditional compliance with ADB requirements and Georgian legislation in terms of safety and safeguards.

131. MDF's local environmental consultant is ensuring that the Contractors understand what is to be done and how to rectify and address any environmental issues raised during project implementation process.

132. Environmental Specialist of Construction Company – Natia Karkuzaeva is permanently on site and implementing daily inspections of construction activities in regular base. Inspection is carried out by Environmental Specialist in accordance to check-lists. Completed check-lists are available at camp site.

133. The international environmental expert - Paula Fernandez of SC has implemented site inspection and audit quarterly. Last site inspection was made in June, 2015.

Biannual Environmental Monitoring Report

134. During site inspection, the international environmental expert visited the whole work area, and checked the following items:

- **levels of dust** -Outside the tunnel, the levels of dust weren't considered higher than without works, due to most of the activities were being done inside the tunnel. Inside the tunnels some measures have to be taken out to protect the health of the workers;
- **Compliance of the maximum high speed limit of 30 km/h** -In the work area, the vehicles were respecting the high speed limit;
- **Presence of abnormal smells** -No abnormal smells have been detected;
- **Proper waste management and cleaning of the worksite** - The level of clearance has improved compared to the levels of the previous six months;
- **Affection to flora, fauna or historical heritage**- The only flora that was seen to be affected has been the trees that were inventoried in previous reports. The cut trees had the pertinent permit. Non affected trees have been protected to avoid any damage over them.

135. Local environmental specialist Alexandre Abzianidze was recruited by the SC in January, 2016. He conducts site-monitoring visits 2-3 times per week and supervise and monitor implementation of the EMP during construction activities. During reporting period 21 site monitoring visits were implemented by local environmental specialist. He prepares quarterly monitoring reports and submits to MDF.

136. In April 2016, National Environmental Consultant of ADB under the RETA project has conducted site visit together with MDF's Local Environmental Specialist and checked whether the implementation processes and activities are corresponding the EMP/SSEMP requirements. Information on findings are provided below. MDF's Local Environmental Consultant performed 6 site monitoring visits within the reporting period.

Anaklia Coastal improvement project

137. 10 site visits were conducted by the environmental specialist of Supervisor Company during reporting period and 8 non-compliance notices have been issued by him. All non-compliances have been fixed by the contractor in required time.

138. Environmental Specialist of Construction Company is permanently on site and implements daily inspections of construction activities on regular bases. Inspection is carried out by Environmental Specialists in accordance to check-lists. Filled check-lists are available at camp site.

139. MDF's Environmental team was ensuring that the Contractors understand what is to be done to rectify and address any environmental issues raised during project implementation process.

140. In April 2016, National Environmental Consultant of ADB under the RETA project has conducted site visit together with MDF's Local Environmental Specialist and checked whether the implementation processes and activities are corresponding the EMP/SSEMP requirements. Information on findings are provided below.

Biannual Environmental Monitoring Report

3.3. Non-compliance notices and corrective actions

141. Identification of problematic issues and non-compliance notice during site inspections is the responsibility of Environmental Specialists of Construction and Supervision Companies. During reporting period the number of site visits has been implemented by environmental specialists of Construction and Supervision Companies in order to check environmental compliance of construction works.

142. In case of any deviations of EMP/SSEMP requirements corrective actions and mitigation measures are applied. All mitigation measures during pre- and construction phases of SPs are implemented by construction contractors according to EMP/ SSEMP.

143. Non-compliances observed during the reporting period, corrective actions required and their current statuses are provided below.

Tbilisi Metro extension project

Non-Compliance notices and corrective actions

Date of submission	Description of Non-Compliance	Area	Corrective action required including deadline	Performance Date of Corrective actions
29-02-2016	There is plenty of dust in the tunnel	Site working area	Additional fan should be installed in the tunnel in order to improve the ventilation there. Operation of all fans is mandatory every time construction works are being carried out; PPE equipment, specially masks, should be used by all workers.	Response received, but it doesn't comply on situ PENDING DATA EXPECTED TO CLOSE THE NON COMPLIANCE: JULY 30- 2016
29-02-2016	Asbestos waste is dumped near the shaft 51. It seems the broken roof sheets and inside the tunnel some demolished asbestos pipes as well. No covering, no plastic bags packaging, no temporary designated secure place storage no sign to identify as hazardous waste and free access for tampering by	Site working area	Appropriate PPE Appropriate storage	PENDING DATA EXPECTED TO CLOSE THE NON COMPLIANCE: AUGUST 30- 2016

Biannual Environmental Monitoring Report

	unauthorized persons			
30-03-2016	Spoil and stones were dumped on the pine tree located near the shaft 51. No tree protection there	Near the shaft 51 area	Removing the spoil and stones from the tree, and make the tree proper protection:	DONE. Response 14-4-2016. checked
30-03-2016	Mixed wastes (construction, wood, empty cement bags etc) and spoil were dumped near the shaft 50 area and inside the tunnels as well. Nowadays, they are removed, but no any transfer notes, no evidences to dispose o Gldani municipality construction landfills	Inside the tunnel	Ventilators must be operating always during construction works and PPE equipment (air mask, eye googles) must be provided to all workers and it is mandatory to use them	PENDING DATA EXPECTED TO CLOSE THE NON COMPLIANCE: AUGUST 30- 2016

Anaklia Coastal improvement project

Non-Compliance notices and corrective actions

Date of submission	Description of Non-Compliance	Area	Corrective action required including deadline	Performance Date of Corrective actions
05.01.2016	Warning signs - Warning signs have been damaged because of bad weather	Working yard	Warning signs need to be repaired ASAP	Corrected on 05.01.2016.
12.02.2016	Domestic waste – The domestic waste has not been removed on time.	Working yard	The domestic waste should be removed on time	Corrected on 12.02.2016
09.03.2016	PPE equipment - One of the staff members did not have safety equipment and uniform on site.	Working yard	Staff member should be equipped with safety equipment and uniform urgently	Corrected on 09.03.2016

Biannual Environmental Monitoring Report

16.03.2016	Safety briefing -Safety briefing has not been conducted in a daily basis.	Working yard entry	Safety briefing should be conducted	Corrected on 16.03.2016
19.04.2016	Waste management - Domestic waste container has been damaged.	Working yard	Domestic waste container has been damaged, and replaced by new one.	Corrected on 19.04.2016.
09.05.2016	Warning signs - Warning signs has been damaged.	Working yard	Warning signs has been damaged because of bad weather, and have been replaced.	Corrected on 09.05.2016.
18.05.2016	Waste management - Domestic waste container has been damaged.	Working yard	Domestic waste container has been damaged, and replaced by new one.	Corrected on 18.05.2016.
14.06.2016	PPE equipment – One of the staff members did not have safety equipment and uniform on site.	Working yard	Staff member should be equipped with safety equipment and uniform urgently.	Corrected on 15.06.2016.

Biannual Environmental Monitoring Report

3.4. Actions taken to reflect the findings of ADB mission during reporting period

144. During April 21-26, 2016 National Environmental Consultant of ADB under the RETA project - Ketil Dgebuadze has conducted site visits together with MDF's Local Environmental Specialist –Nino Nadashvili and checked whether the implementation processes and activities are corresponding the EMP/SSEMP requirements. Findings were as follows:

Tbilisi Metro extension project

- The commencement date of works was established on June 20th 2015. At present, there are on-going activities covering: demolition of University station platform (completed) and underground civil works (excavation on crossover, technical rooms in tunnel, cleaning of the right tunnel from P.K 77+60 to 76+80, excavation of tunnel #4, injection of tunnels, etc).
- All documents requested by the NES (IEE, EMP, SSEMP, monitoring reports, checklists, licenses, permits, complaints log book, as well as records of trainings) were kept on camp site. The draft version of SSEMP was prepared by the Contractor and sent to Supervision Consultant (SC) for endorsement on 20.06.2015. SSEMP has been further reviewed and commented for improvement by the NES and approved by PIU/MDF in September 2015.
- Management Plans: Currently the following plans are prepared and submitted to PIU/MDF: Emergency Response Plan; Health and Safety Management Plan and SSEMP. First draft of Waste Management Plan covering issues of spoil disposal and asbestos management was prepared in September, 2015 and submitted to SC and PIU-MDF for review and approval. From that time the draft document was several times amended in accordance to comments and recommendations provided by MDF's and ADB's National Environmental Consultant. Final improved version will be submitted by CC on 6 May 2016. The NES reminded CC that, according to new Waste Management Code of Georgia contractor has to prepare and submit as a separate document Company Waste Management Plan (in Georgian) to MOENRP for approval till December 2016.
Current Status: Last updated soil and waste management plan has been sent by the contractor to the Supervision Company for approval with delay, by end of June 2016. After checking that all the remark made by ADB has been considered, it will be sent to the client for its approval. It is expected to be done in July, 2016.
- Construction Contractor: CC hired National Environmental and Health and Safety Manager (from June, 2015), who is permanently on the site and undertakes permanent monitoring using daily and weekly checklists. CC has also hired an International Environmental Expert who works one week per two months.
- Supervision Consultant: According to the MDF's and NES request National Environmental Specialist (Sandro Abzianidze) was hired on a part time job by the SC on 16 January 2016. He prepared quarterly report for the period January-March 2016 and submitted to PIU.

Biannual Environmental Monitoring Report

- **Biodiversity:** 2 ordinary trees have been cut according to the official permits from MoENRP. Preparation of Request for approval (RFA) to cut 2 units of walnuts (Red list trees) and layout DRW with marked trees according to actual condition is in process.

Current Status: No more trees have been cut since January 2016

- **Areas needing improvement include:** Waste management have to be improved at camp site and at the tunnel area. Used tires and some oil drums as well as municipal waste were observed to be stored outside of designated area. Contractor was instructed to solve above mentioned problems under the supervision of ES of SC within 1 week. NES will conduct another visit to check the situation in two weeks (mid May 2016).

Current Status: Used tires were properly stored and marked. Inside the tunnel, wastes has been separated. Oils drums weren't detected in the area and municipal waste were properly stored in containers.

- **Hazardous Waste Management:** Hazardous waste (asbestos), approximately 22 m³, is stockpiled (fenced and covered with plastic mash) temporarily in proper way at camp site. Negotiation of the Contractor with licensed companies for final disposal of hazardous waste is in process.

Current Status: The cleaning service which is under Tbilisi Municipality will be in charge of them. Contract should be signed between Contractor "Cobra" and mentioned service and that cleaning service will come, transport and dispose them on the Gldani district municipality landfill.

- **GRM:** There was one grievance delivered from local municipality on 26 April 2016 regarding the rodents' dissemination from tunnel to nearby apartment buildings. CC started grievance resolution process in agreement with PIU/MDF.

Current Status: Contractor Company ensured implementation of disinfection at the mentioned area through specialized company.

- As it was discussed during the meeting with CC and SC Detailed Design of emergency exit under the project can be changed, and accordingly IEE should be updated.

Current Status: This issue is under consideration. Design is not changed yet.

- **Monitoring (air, groundwater, dust, vibration):** Based on the contract 3/60 (between Contractor and National Environmental Agency) contractor requested to take monthly measurements of air, water and noise in different points. According to the results provided in March 2016 the condition of site is acceptable. According to IEE there is no requirement to perform vibration measurements, but CC took responsibility to measure it on a quarterly bases.

Current Status: Vibration measurements were not conducted, as there was no need for it.

Biannual Environmental Monitoring Report

Anaklia Coastal improvement Project

- Construction Camp: Construction activities commenced on 24th July, 2013. All required documents including IEE, EMP, SEMP, monthly progress reports, quarterly progress reports, complaints log, contracts of subcontractors, as well as required environmental management plans are thoroughly developed and are available at Anaklia camp.
- Environmental specialists of SC and CC prepare monthly and quarterly environmental monitoring reports; they are submitted timely to MDF/PIU for approval. The quality of the reports need to be improved;
- SSEMPs: SEMP for phase I was developed by Construction Contractor after construction activities commencement and submitted to Supervision Consultant for endorsement. It was approved by PIU on 23 May 2014 and sent to ADB for records. During the ADB Review Mission in May 2015 SEMP updating has been requested. Updated SEMP was submitted in June 2015 to SC for endorsement and then to PIU/MDF for approval. SEMP has been reviewed and commented by the NES as well for improvement.
- Monitoring (air, noise, water): Construction Contractor carries out instrumental measurements for air, water and noise quality quarterly via Ltd. “Laboratory Research Center”. The relevant records about the accomplished measurements are available both, on the construction site and at the PIU-MDF. New Laboratory tests for air, water and noise were taken on 4.02.2016. According to data received in February 2016 the obtained results did not exceed the National Environmental Standard (Maximum Permissible Level), therefore no additional mitigations are required.
- GRM and Complaints log: There is a Book of Complaints and Suggestions prepared by the environmental specialists of CC and SC according to the ADB template and is kept at the camp as well as at the local municipality office. Focal Point on site – is Archil Samushia, CC’s Site Manager. Complaints log has been introduced to the local population and officials; they have been notified by using banners and information booklets in case of complaints to contact official representatives of Construction Company and express their problems and complaints. During the last 6 months (October-April 2016 period) no environmental issues or complaints were received from the local residents.

3.5. Consultation and Complaints

Grievance Redress Mechanism

145. During the projects implementation several issues, related to the environmental and social safeguards and disputes on entitlement processes’, might be occur due to the Projects activities. For example, intensive schedule of construction activities, inappropriate timing of construction vehicle flow, waste, noise and air pollution from construction activities, ecological disturbances, cultural conflicts between migrant workers, are some of the environmental and social safeguard issues that are likely to be raised from the Project activities.

Biannual Environmental Monitoring Report

146. In order to provide a direct channel to the affected persons for approaching project authorities and have their grievance recorded and redressed in an appropriate time frame, Grievance Redress Mechanism was established with efforts of MDF within the projects.

147. Complaints' registration journal is created and available at construction sites. The copy of journal with mobile numbers of relevant persons is placed at local Municipality as well. Complaints' from the people, regarding the environmental safeguard issues in case of their disturbance and inconvenience, because of improper or inadequate implementation of EMP, can be accepted in both places. Complaints' will be registered in database system, assigning compliant number with date of receipt. Complaints' will be investigated and complainant will be informed about time frame in which the corrective action will be undertaken, in case if the raised problem is realistic.

148. MDF, as EA, facilitates the grievance resolution by implementing a project-specific Grievance Redress Process (GRP). It will deliver grievances to relevant authorities, in case if such grievances are sent to MDF. The official administrative bodies are obliged to respond to the grievances that have been received from population or other interested parties in accordance with the requirements of the Administrative Code of Georgia.

149. According to the existing legal and administrative system in Georgia, there are several entities responsible for addressing environmental complaints of population and interested parties. The administrative bodies directly responsible for environmental protection within the projects area are: MoE, municipal offices (gamgeoba) and Tbilisi City Hall. The affected population and stakeholders may send their grievances, related to the project-induced environmental impacts directly to the mentioned administrative bodies responsible for environmental protection.

Tbilisi Metro extension project

150. There was one complain registered at the Tbilisi Municipality, Vake-Saburtalo district regarding rats expansion in Vaja-Psavela IV, Vi blocks nearby territory of Metro Line II University Station. Nevertheless it is not proved the relationship between the rat invasion in other parts of the city and the works inside the tunnel. In fact, none of the workers have detected the presence of rats, not inside the tunnel neither in the surrounding areas of the works. Contractor Company ensured implementation of disinfection at the mentioned area through specialized sanitary company.

151. Below is the registration of the claim received.

საგარეო ურთიერთობების განყოფილება	საგარეო ურთიერთობების განყოფილება	საგარეო ურთიერთობების განყოფილება
საგარეო ურთიერთობების განყოფილება	საგარეო ურთიერთობების განყოფილება	საგარეო ურთიერთობების განყოფილება
საგარეო ურთიერთობების განყოფილება	საგარეო ურთიერთობების განყოფილება	საგარეო ურთიერთობების განყოფილება
საგარეო ურთიერთობების განყოფილება	საგარეო ურთიერთობების განყოფილება	საგარეო ურთიერთობების განყოფილება

Biannual Environmental Monitoring Report

Anaklia Coastal improvement project

152. None of complaints have been raised and registered during reporting period within the projects.

4. PART IV – ACTION PLAN FOR THE NEXT PERIOD

153. The monitoring of Environmental performance is being carried out by Contractor's and Supervising Company's environmental specialists systematically. During the next reporting period contractors will carry out new necessary tests. Also new monthly and quarterly reports will be prepared and submitted to the MDF.

Tbilisi Metro extension project

154. Eurostudio will revise submitted Waste Management Plan and submit final approved document to the MDF in July, 2016

155. Construction Company will sign contract with cleaning service which is under Tbilisi Municipality, which will ensure transportation and proper disposal of the asbestos waste on the Gldani district municipality landfill.

Anaklia Coastal improvement Project

156. Construction contract is expired on June 30, 2016. Further actions should be considered and agreed with ADB.

157. During the ADB mission conducted within 3-11 May, 2016 MDF was advised to prepare a plan for the storage and use of the tetrapods which were left unused under both projects (Phase 1 and 2). The tetrapods will need to be stored according to the stone yard guidelines of Sogrea (design of tetrapod) as indicated by the Engineer. Various options were discussed and MDF agreed to provide a short to medium term storage plan, till the re-use option is decided. It was agreed that the existing location be converted into a proper stone yard, as the tetrapods should only be moved once, when they are to be installed at their new location, this would have minimum environmental and safety risks.

158. The draft of mentioned plan for storage of tetrapods was prepared by the Engineer in the end of June and submitted to the MDF for consideration.

Annexes

Annex 1: Monitoring Data

Tbilisi Metro Extension project

Object of monitoring	Control/Sampling Point	Technique	Frequency/time	Target	Entity responsible for Monitorin
Air pollution inside the tunnel/ underground shafts	<ul style="list-style-type: none"> - Metro extension tunnel - University station shaft - New tunnel section for cross over and parking of tracks. 	<ul style="list-style-type: none"> - Visual control - Atmospheric air test (all set general parameters) - Monitoring air-flows for explosive gases and specific atmosphere contaminants - Inspection mechanical ventilation system - Inspection moving and diesel machines & vehicles 	<ul style="list-style-type: none"> - Daily - Baseline and weekly sampling/test - Monthly sampling and testing (specific parameters); - Technical check-up of HVAC equipment - During the transportation operations - During installation and commissioning services for all plants operations 	<ul style="list-style-type: none"> - Ensuring compliance with the established quality norms of ambient air quality; - Minimizing the impact on health for workers operating inside tunnel, stations/shafts - Ensuring the personnel's safety (visitors, machine operators, etc.) 	JV "COBRA" and "ASSIGNIA"

		- Technical check-up of permanent plants installed (facilities)	- During installation and commissioning services for all plants		
Air pollution outside the tunnel/ underground shafts	<ul style="list-style-type: none"> - Delisi Station - University Station - Open sites around new tunnel section for cross over and parking tracks (nearest receptor = Residential houses). 	<ul style="list-style-type: none"> - Visual control - Atmospheric air test (baseline and quarterly basis of general parameters) - Inspection moving and diesel machines/vehicles - Checking for water spraying inside and around (access road) the construction sites (especially at dry season) 	<ul style="list-style-type: none"> - Daily - Baseline and weekly sampling/test - Daily - Daily - Daily - Daily 	<ul style="list-style-type: none"> - Ensuring compliance with the established quality norms of ambient air quality; - Minimizing the impact on health for residents, commuters and students living around project sites 	JV "COBRA" and "ASSIGNIA"

		<ul style="list-style-type: none"> - Checking for materials transported to site to be covered/ wetted down to reduce dust - Verification of register and permits for all vehicles and plant equipment - Verification on burning sites for wastes generated at the construction sites 		- Ensuring the health and safety of personnel operating outside the sites	
Fire prevention	<ul style="list-style-type: none"> - Metro extension tunnel - University station shaft - New tunnel section for cross over and parking tracks. - Open sites around above sites. - The nearest receptor (residential houses) - Metro extension tunnel - University station shaft 	<ul style="list-style-type: none"> - Visual control - Measuring atmospheric conditions - Firefighting training and procedures incl. emergencies - Technical check-up of firefighting devices - Checking for restriction signals for smoking in all working areas - Checking brake drag 	<ul style="list-style-type: none"> - Daily - Monthly - During pre-construction - Daily (weekly) - Daily (sanctions against smokers at work place to be taken immediately) - Weekly - Weekly - Weekly 	<ul style="list-style-type: none"> - Ensuring compliance with the established quality norms for fire prevention; - Ensuring the health and safety of all personnel and residents in case of fire 	JV "COBRA" and "ASSIGNIA"

<p>Surface and underground fueling</p>	<ul style="list-style-type: none"> - New tunnel section For cross over and parking tracks. - Open sites around above sites 	<p>and brake temperature indicators (all machines & moving vehicles)</p> <ul style="list-style-type: none"> - Checking engine fire walls on loaders - Checking quality of insulating of high current electrical systems (inside tunnel/shafts) - Visual control of all fuel storage areas - Developing fuel procedures incl. if necessary fuel underground storage - Designating fueling bays - Technical check-up of fire extinguishers near bays 	<ul style="list-style-type: none"> - Daily - During pre-construction - During pre-construction - Weekly 	<ul style="list-style-type: none"> - Ensuring compliance with the established quality norms for fire prevention; - Ensuring the health and safety of all personnel involved with refueling of plants and vehicles using inside or outside the station shafts and tunnel 	<p>JV "COBRA" and "ASSIGNIA"</p>
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<p>Erection of plants / installation services inside the stations and tunnels</p>	<ul style="list-style-type: none"> - Delisi Station - University Station - Open sites around new tunnel section for cross over and parking tracks (nearest receptor residential houses) 	<ul style="list-style-type: none"> - Visual control and daily inspection of the works - Inspection of plants in factory and at arrival to site(e.g. plant with automatic cut-off in flammable atmospheres) - Checking if plants at commissioning at operating in safe working environment - Checking of plant levels of emissions e.g. exhaust, noise, vibration and heat (at commissioning) - Verification that plants complies with electrical standards/regulations 	<ul style="list-style-type: none"> - Daily - Factory inspection and inspection at arrival - Commissioning test - Commissioning test - Commissioning test - Commissioning test 	<p>Ensuring compliance with standards and regulations of plant operations upon commissioning (electrical compliance, exhaust, noise, vibration, etc.)</p> <ul style="list-style-type: none"> - Ensuring safety during installation and after commissioning, ensuring all plants operate in safety mode and prevent any incident leading to environmental problems (e.g. oil spill, fire, etc.) 	<p>JV “COBRA” and “ASSIGNIA”</p>
<p>Vibration and noise</p>	<ul style="list-style-type: none"> Metro extension tunnel - University station shaft - New tunnel section for cross over and parking tracks. - Open sites around above sites - The nearest receptor (residential houses) 	<ul style="list-style-type: none"> - Noise level measurement at all designated sites - Visual control and inspection of the works (all sites) - Inspection of vibration emission data of tools in use - Inspection of moving machines and vehicles (silencing engines) - Inspection of plants in factory and at arrival to site (e.g. noise insulation of plants)Checking of plant levels of emissions for noise /vibration at commissioning 	<ul style="list-style-type: none"> Monthly - Regular control (particularly during much “noisy” operations) - Inspection at arrival of tools and machineries - Daily - Factory inspection and inspection at arrival - At commissioning of plants - Daily (sanctions against staff not using hearing 	<ul style="list-style-type: none"> - Ensuring compliance with health and safety norms - Minimizing the population disturbance; - Ensuring comfortable working conditions for the workforce operating inside underground tunnel and shafts 	<p>JV “COBRA” and “ASSIGNIA”</p>

		test) - Checking all workers operating in tunnel/shafts are using hearing protection			
Soil, Flora/fauna, soil/water pollution and construction waste management	- University station construction site - New tunnel section parking tracks site - The nearest receptor (residential houses)	Monitoring of tree cutting and site clearance/top soil - Atmospheric air test for parameters related to biodiversity protection, to verify level of dusts and emissions near parks - Soil and sediment sampling and test Check dewatering system in use (shit piling etc.) - Check hazardous waste storage locations - Checking cleaning of construction area	- During the stripping and storage of the topsoil and during tree cutting' - Baseline and quarterly basis for atmospheric air test - As required, in case of soil and sediment contamination - During dewatering operations - Weekly - Daily	Ensure biodiversity protection at all time - Ensure no surplus/waste soil is accumulated at the site - Avoid soil contamination - Ensure storage of waste including hazardous waste at chosen premises complies with law and good practice; - No storage of fuel, oil or toxic materials at construction sites especially underground	JV "COBRA" and "ASSIGNIA"

<p>Building stability Impacts caused by excavation. Damage to community facilities; Traffic congestion, Protection of cultural heritage; Historical and archeological chance finds during excavation</p>	<ul style="list-style-type: none"> - Metro extension tunnel - University station shaft - New tunnel section for cross over and parking tracks. -Open sites around above sites. -The nearest receptor (residential houses) 	<p>-Monitoring of settlements and damages (geotechnical and structural damage assessment of buildings or project facilities)</p> <ul style="list-style-type: none"> - Inspection of all buildings around construction sites - Inspection of access roads - Inspection of utilities along access roads and near construction sites - Inspection of eventual damages caused to utilities and estimate of costs and scope for repair works - Check signs are install to control traffic to avoid traffic congestion at streets or near sites affected by the works - Check adequate lightening is provided at all sites and at road diversions - Updating traffic management plan as works progresses - Verify protocol for conducting excavation work, to ensure that any chance finds are recognized and measures are taken to ensure they are protected and conserved. 	<ul style="list-style-type: none"> - Weekly - Weekly - Daily - Weekly - Visual inspection upon damages - Daily - Daily - As required -During pre-construction 	<ul style="list-style-type: none"> - Ensure biodiversity protection at all time - Avoid damages to public and private existing buildings and properties - Avoid settlement and damages to new project buildings - Avoid damages to public utilities in access roads or near project facilities - Smooth traffic operations along public roads and access roads to sites 	<p>JV "COBRA" and "ASSIGNIA"</p>
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Anaklia coastal improvement project

Object of Monitoring	Control/Sampling Point	Technique	Frequency/Time	Target	Entity responsible for Monitoring
1	2	3	4	5	6
Atmospheric air	Business yard, Construction sites	<ul style="list-style-type: none"> • Visual control • Technical check-up of machinery • Laboratory Checks every tree month. 	<p>The monitoring of the Atmospheric Air quality is been carried out by contractor environmental specialist on every day basis and by supervising environmental specialist. During the transportation operations, in dry weather on a periodic basis, technical check-up of machinery before works, during the installation of underwater breakwater. Laboratory test are taken in every three month. Tests were taken on 4.02.2016. During this period no problems has been detected.</p>	<ul style="list-style-type: none"> • Ensuring compliance with the established quality norms of ambient air quality; • Minimizing the impact on the population health; • Ensuring the personnel’s safety. 	Construction Contractor
Noise	Business yard Construction sites The nearest receptor (residential houses)	<ul style="list-style-type: none"> • Control; • Measuring; 	<p>Monitoring of the construction process noise level has been carried out by contractor environmental specialist on daily bases and by supervising environmental specialist. Regular control(particularly during with noisy operations);</p> <p>Measuring (In case of grievance); Technical check-up of machinery before works. The nearest receptor</p>	<ul style="list-style-type: none"> • Ensuring compliance with health and safety norms; • Minimizing the population disturbance; • Ensuring comfortable working conditions for the workforce. 	Construction Contractor

		<ul style="list-style-type: none"> • Technical check-up of machinery. 	<p>(residential houses) is approximately 400-500m away from construction site, drivers are maintaining the safe speed limits 30 km/h on main roads and 10 km/h on construction site, there for no noise complains has been detected. During this period no grievance or problems have been detected.</p>		
Soil	Construction camp - Material and waste storage areas;Construction sites	<ul style="list-style-type: none"> • Visual control • Supervision over the waste management; • laboratory control over the soil quality; • Technical check-up of machinery. 	<p>Monitoring of the construction process soil mitigation level has been carried out by contractor environmental specialist on daily basis and by supervising environmental specialist. Laboratory control – as necessary (in case of oil spills). Material and waste storage areas are indicated and isolated. During this period no problems has been detected. Regular check-up; Inspection after completion of works;</p>	<ul style="list-style-type: none"> • Preserving the soil stability and quality; • Minimizing the impact on other receptors depending on the soil quality (vegetation cover, holiday-makers, etc.). 	Construction Contractor
Increased seawater turbidity	Sites in the sea where the sand removed during the seabed treatment and from the seabed is to be placed.	<ul style="list-style-type: none"> • Visual control; • Turbidity analysis 	<p>Monitoring of the Increased seawater turbidity level is been carried out by contractor environmental specialist on daily basis and by supervising environmental specialist. Permanent visual control;</p> <p>Identifying the degree of turbidity through analysis (in every 4 hrs. During the work). Upon intensive commencement of works in the sea,</p>	<ul style="list-style-type: none"> • Maintaining ichthyofauna and microphytes. 	Construction Contractor

			water testing has been conducted together with turbidity control, which should be constantly ongoing.		
Underground water	Construction camp - Material and waste storage areas; Construction sites Gas station	<ul style="list-style-type: none"> • Visual control of soil quality; • Laboratory control of soil quality (in case of spills); • Technical check-up of machinery. 	<p>Monitoring of the underground water mitigation level has been carried out by contractor environmental specialist on daily bases basis and by supervising environmental specialist. Regular check-up;</p> <p>Laboratory control as necessary (in case of oil spills). Material and waste storage, Gas station areas are indicated and isolated. During this period no problems or oil spills has been detected</p>	<ul style="list-style-type: none"> • Guaranteed protection of the underground water quality 	Construction Contractor
Surface water: the Black Sea, the rivers Kitori and Enguri	Construction ground Business yard	<ul style="list-style-type: none"> • Visual control; • Supervision over the waste management and sanitary conditions. • Surface water laboratory control. 	<p>Monitoring of the Surface water mitigation level is been carried out by contractor environmental specialist on every day basis and by supervising environmental specialist Regular check-up and inspection;</p> <p>Laboratory control – as necessary (in case of oil spills). Sea water Laboratory test are taken in every three month. Tests were taken on 15.07.2015. During this period no problems has been detected</p>	<ul style="list-style-type: none"> • Protecting the water quality in the river; • Reducing the impact on the receptors (water biodiversity, etc.) depending on the river water quality. 	Construction Contractor

Negative visual impact	Construction camp - Material and wastestorage areas;Construction sites	<ul style="list-style-type: none"> • Visual control; Supervision over the waste management and sanitary conditions. 	<p>Monitoring of the negative visual impact has been carried out by contractor environmental specialist on every day basis and by supervising environmental specialist</p> <p>Regular check-up and inspection;</p> <p>After completion of works. During this period no problems has been detected</p>	<ul style="list-style-type: none"> • No dissatisfied population; • No dissatisfied pedestrians. 	Construction Contractor
Waste	Business yard and/or adjacent area;	<ul style="list-style-type: none"> • Visual control of the area; • Control over the waste management. 	<p>Monitoring of waste management issues is been carried out by contractor environmental specialist on daily bases and by supervising environmental specialist.</p> <p>Regular check-up and inspection;</p> <p>After completion of works. Construction waste is accumulated on construction site in special isolated areas divided by hazardous, domestic and construction waste. Construction company has signed contract with the companies for waste removal. Waste has been removed from construction site buy authorized personal only in accordance of safety regulations. The waste is removed from construction site by authorized personal only in accordance of safety regulations.</p>	<ul style="list-style-type: none"> • Protection of soil and water quality; • Reduce the risk of negative visual impact; • No dissatisfied population. 	Construction Contractor
Labor safety	Working ground	<ul style="list-style-type: none"> • Inspection; 	Monitoring of the labor safety issues has been carried out by contractor	<ul style="list-style-type: none"> • Ensuring compliance with health and safety norms; 	Construction Contractor

		<ul style="list-style-type: none">• Availability of personal protection equipment and periodic control over their good maintenance;• Control over the meeting the requirements for labor safety.	environmental specialist on daily based and by supervising environmental specialist. Before the works;Periodic control during the works.Some of the labors don't have PPE equipment problem detected by supervising environment specialist and corrected	<ul style="list-style-type: none">• Avoiding/minimizing traumatism.	
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Annex 2: Implementation report on the environmental impact assessment (EIA)/initial environmental examination (IEE)/Site Specific Environmental Management Plan (SEMP) mitigation requirements

Anaklia Coastal improvement Project

Reference	Requirement	Action to date	Action required/comment
Sea water pollution	<p>The construction activities must be accomplished only in dry weather to avoid the pollution of the water currents;</p> <p>The construction activities must be accomplished by observing relevant safety measures; the materials and waste must not be in uncontrolled way over the site, etc.</p> <p>Locating the construction machinery and other equipment at a distance of at least 50 m from surface water bodies (where possible. If this seems impossible, taking permanent control and safety measures to avoid water pollution);</p> <p>Prohibition of washing of vehicles and other machinery near surface water bodies - The vehicles and equipment are recommended to wash by using commercial washing services;</p> <p>Limiting fueling and/or maintaining the vehicles/equipment to the</p>	<p>All works has been accomplished only in dry weather working conditions.</p> <p>All construction materials and machinery has been located 50 M away from surface of the water. All equipment and machinery has been maintained in good working conditions.</p> <p>The construction waste has been accumulated in special designated areas away from the water bodies and removed buy authorized personal only.</p> <p>On site environment specialists are maintaining visual monitoring for oils spills and equipment conditions, no accidents has been detected.</p> <p>Working Personal is being</p>	<p>Monitoring of the Surface water mitigation level is been carried out by contractor environmental specialist on every day basis and by supervising environmental specialist</p> <p>Regular check-up and inspection; Laboratory control – as necessary (in case of oil spills). During reporting period no problems has been detected</p>

	<p>specially designated places only; The equipment and vehicles should be maintained in good working order to avoid the risk of spills of fuel/lubricants;</p> <p>Expedient materials and waste management;</p> <p>The waste generated during the works will be collected and temporarily stored at the specially designated places, distanced from the water bodies;</p> <p>In case of fuel/oil spills, locating and spilt material and cleaning the polluted area immediately to avoid long soil pollution;</p> <p>Installing drainage systems around the areas with the potential pollutants of surface flows (e.g. along the perimeter of ground or construction materials storage areas);</p> <p>Instructing the personnel on the environmental and safety issues.</p>	<p>instructed on environment and safety issues rules and regulations.</p>	
<p>Pollution of underground waters</p>	<p>Control for the Pollution of underground waters must be maintained in the areas like: Construction camp - Material and waste storage areas;Construction sites, Gas station.</p>	<p>All works has been accomplished only in dry weather working conditions.</p> <p>All construction materials and machinery has been located 50 M</p>	<p>Monitoring of the Surface water mitigation level is been carried out by contractor environmental specialist on every day basis and by supervising environmental specialist</p> <p>Regular check-up and inspection;</p>

	<p>Taking all measures to avoid the deterioration of the seawater quality.</p>	<p>away from surface of the water. All equipment and machinery has been maintained in good working conditions. The construction waste has been accumulated in special areas away from the water bodies and removed by authorized personnel only. On site environmental specialists are maintaining visual monitoring for oil spills and equipment conditions, no accidents has been detected. Personnel is being instructed on environment and safety issues rules and regulations.</p>	<p>Laboratory control – as necessary (in case of oil spills). During this period no problems has been detected</p>
<p>Noise</p>	<p>The equipment and vehicles should be maintained in good working order;</p> <p>Driving the vehicles at optimal speeds;</p> <p>Instructing the personnel (particularly, the drivers of vehicles and techniques);</p> <p>Registering and responding to grievances (if any);</p> <p>Driving the vehicles along optimal routes and at optimal speeds;</p> <p>Switching off the vehicle drives or running at minimal speed when the</p>	<p>On site Environmental specialists are conducting visual control (on regular basis) of soil quality, laboratory control of soil quality (in case of spills) no oil spills has been detected, technical check-up of machinery.</p>	<p>Regular monitoring has been carried out to provide guaranteed protection of the underground water quality.</p>

	<p>vehicles are not used;</p> <p>Carry out noisy operations during day time;</p> <p>Reaching preliminary agreement with the population living near the road about particularly noisy works.</p>		
Dust	<p>Watering of the non-asphalted ground or bare ground surfaces once in four hours on working days and in dry or windy weather;</p> <p>Observing the rules for storing the fill construction material to avoid their dusting in windy weather;</p> <p>Covering the lorries with tarpaulin when transporting loose materials, when there is probability of dusting;</p> <p>Taking necessary precautions (e.g. avoiding throwing the materials from heights when unloading them) to avoid excess dust emission during the earthworks and loading and unloading the materials;</p> <p>Driving the vehicles at optimal speeds;</p> <p>Washing the vehicle tires (recommended to use commercial services for this purpose);</p> <p>Instructing the personnel</p>	<p>All vehicles are maintained in good working conditions. Drivers are instructed to follow the limitations of driving speed (On construction site 10 km/h, 30 km/h on main roads). All noisy operations have been carried out during day time. No grievance has been detected concerning noisy works.</p>	<p>Monitoring of the construction process noise level has been carried out by contractor environmental specialist on every day basis and by supervising environmental specialist. Regular control(particularly during much “noisy” operations);</p> <p>Measuring (In case of grievance); During this period no grievance or problems has been detected.</p> <p>Technical check-up of machinery before works. The nearest receptor (residential houses) is approximately 400-500 m away from construction site, drivers are maintaining the safe speed limits 30 km/h on main roads and 10 km/h on construction site, there for no noise complains has been detected.</p>

	<p>(particularly, the drivers of vehicles and techniques); Registering and responding to grievances (if any);</p> <p>Driving the vehicles along optimal routes and at optimal speeds;</p> <p>Switching off the vehicle drives or running at minimal speed when the vehicles are not used.</p>		
Waste	<p>Visual control of the area;</p> <p>Control over the waste management.</p> <p>Protecting soil and water quality; Reducing the risk of negative visual impact;</p> <p>No dissatisfied population.</p>	<p>Monitoring of waste management issues is being carried out by contractor environmental specialist on every day basis and by supervising environmental specialist.</p> <p>Regular check-up and inspection;</p> <p>Construction waste is accumulated on construction site in special isolated areas divided by hazardous, domestic and construction waste. Construction company has signed contract with the companies for waste removal. The waste is being removed from construction site buy authorized personal only in accordance of safety regulations.</p>	
Vibration	<p>The equipment and vehicles should be maintained in good working order;</p>	<p>Watering of the roads has been carried out by the contractor on every day basis. All lorries have</p>	<p>Monitoring of the construction process soil mitigation level (including dusting problems) is been carried out by</p>

	<p>Driving the vehicles at optimal speeds, particularly in the settled areas;</p> <p>Instructing the personnel (particularly, the drivers of vehicles and techniques);</p> <p>Registering and responding to grievances (if any);</p> <p>Driving the vehicles along optimal routes and at optimal speeds;</p> <p>Switching off the vehicle drives or running at minimal speed when the vehicles are not used;</p> <p>Carry out noisy operations during day time;</p>	<p>been covered buy tarpaulin to avoid dusting. Drivers are instructed to follow the limitations of driving speed (On construction site 10 km/h, 30 km/h on main roads). No grievance has been detected.</p>	<p>contractor environmental specialist on every day basis and by supervising environmental specialist. Regular check-up;</p> <p>Inspection after completion of works; Laboratory control – as necessary (in case of oil spills). Material and waste storage areas are indicated and isolated. During this period no problems has been detected.</p>
<p>Air Pollution of emissions</p>	<p>The equipment and vehicles should be maintained in good working order;</p> <p>Driving the vehicles along optimal routes and at optimal speeds; Switching off the vehicle drives or running at minimal speed when the vehicles are not used.</p> <p>Instructing the personnel before the start-up of the works.</p>	<p>All vehicles are maintained in good working conditions. Drivers are instructed to follow the limitations of driving speed (On construction site 10 km/h, 30 km/h on main roads). All noisy operations have been carried out during day time. No grievance has been detected concerning vibration.</p>	<p>Monitoring of the construction process noise level is been carried out by contractor environmental specialist on every day basis and by supervising environmental specialist. Regular control(particularly during much “noisy” operations);</p> <p>Measuring (In case of grievance); During this period no grievance or problems has been detected.</p> <p>Technical check-up of machinery before works. The nearest receptor (residential</p>

			houses) is approximately 400-500 m away from construction site, drivers are maintaining the safe speed limits 30 kph on main roads and 10 km/h on construction site, there for no noise complains has been detected.
Disturbance of the seawater during installation of tetrapods	<p>During the works to level the seabed, permanent seawater analyses are needed to identify the degree of the water turbidity;</p> <p>If the degree of the water turbidity is in excess of the admissible limit (25 gr/l), the works must be stopped and relevant corrective measures must be taken.</p>	<p>Monitoring of the Increased seawater turbidity level is been carried out by contractor environmental specialist on every day basis and by supervising environmental specialist. Permanent visual control;</p> <p>Identifying the degree of turbidity through analysis (in every 4 hrs. During the work). Upon intensive commencement of works in the sea, water testing has been conducted together with turbidity control, no problems has been detected.</p>	During installation of TTP units environmental specialists are conducting visual control, taking turbidity analysis. No increased seawater turbidity has been detected.

<p>Labor safety</p>	<p>Site -Inspections;</p> <p>Availability of personal protection equipment and periodic control over their good maintenance;</p> <p>Control over the meeting the requirements for labor safety.</p> <p>Ensuring compliance with health and safety norms;</p> <p>Avoiding/minimizing traumatism.</p>	<p>Monitoring of the labor safety issues being carried out by contractor's environmental specialist on every day basis and by supervising environmental specialist. Before the works; Periodic control during the works. Some of the labors don't have PPE equipment.</p>	
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Tbilisi metro extension project

Reference	Requirement	Action to date	Frequency	Action required/comment
Air quality impacts due to gaseous and dust emissions	<p>a) Use only vehicles and equipment that are registered and have necessary permits.</p> <p>b) Burning of wastes generated at the construction sites, work camps and other project-related activities shall be strictly prohibited.</p> <p>c) Construction equipment and vehicles shall be well-maintained so that their noise and emissions do not cause nuisance to workers or local people.</p> <p>d) All vehicles will be checked and repaired in case of need to eliminate increased emission due to damaged parts.</p> <p>e) Protective equipment will be provided to workers as necessary.</p> <p>f) Keep stockpiles moist and cover vehicles with tarpaulin sheets or other suitable materials to minimize dust emission and prevent spillage of materials (e.g., soil, cement, stone, sand, aggregates, etc.).</p> <p>g) Provide temporary covers (e.g., tarpaulins, grass, etc.) on long term materials stockpiles.</p>	<p>Visual controlling is being performed</p> <p>used a ventilation system which is:</p> <p>monitored and upgraded to ensure air flows are always provided to the workplace,</p> <p>monitoring air flows for explosive gases and atmosphere contaminants regularly,</p> <p>Materials transported to site covered/ wetted down to reduce dust.</p>	<p>Daily</p> <p>Daily</p> <p>Daily</p> <p>Daily</p>	<p>Monthly progress report</p>

	<p>h) Provide truck-washing facilities to prevent truck-out of mud and dust onto city streets.</p> <p>i) All construction equipment and machinery shall be fitted with emission control equipment in full compliance with the national regulations.</p> <p>j) Ensure water spreading to suppress dust particularly during dry and windy weather.</p> <p>k) Impose speed limits on construction vehicles to minimize road dust.</p>	<p>Monitoring by Georgia National Environmental Agency include on a quarterly basis air testing at each underground site or confined space</p>		
<p>Noise and vibration impacts due to operation of construction equipment/ vehicles and various construction activities</p>	<p>To control noise impacts the following mitigation actions are recommended:</p> <p>a) Truck drivers and equipment operators shall minimize the use of horns.</p> <p>b) Position any stationary equipment that produce high noise levels as far as is practical from sensitive receptors;</p> <p>c) All construction equipment and vehicles shall be well maintained, regularly inspected for noise emissions, and shall be fitted with appropriate noise suppression equipment consistent with applicable national and local regulations.</p> <p>d) Use only vehicles and equipment that are registered and have necessary permits.</p> <p>e) No noisy construction-related activities will be carried out during the</p>	<p>Noise level measurement at all sites, Visual control and inspection (all sites), used hearing protection (inside tunnels and shafts), silenced engines to achieve a noise level not exceeding LAeq 85 dbA, Monitoring by Georgia National Environmental Agency include on a quarterly basis Noise testing.</p>	<p>Monthly</p> <p>Daily</p> <p>Daily</p>	<p>Contractor will take 7 points until the end of the project as per BoQ</p>

	<p>night.</p> <p>f) Impose speed limits on construction vehicles to minimize noise emission</p>			
<p>Spoils generation from excavation works (5.247,99 m3) at underground station sites</p>	<p>Contractor will submit a spoil disposal plan (as a part of the SEMP) to the MDF and MoEP for approval. The spoil plan should show the location of proposed sites (landfill or borrow pits) to be used and the measures to be taken to rehabilitate these pits upon finalization of the Project.</p> <p>The capacity of disposal sites shall be adequate to accept the quantity of spoils without alienating areas outside the site boundaries.</p> <p>Trucks transporting spoils shall be tightly covered with tarpaulin or other suitable materials to minimize dust emission and spills.</p>	<p>Contractor submitted the transfer notes that spoil amount 630m3 was transported and disposed by "prime Concrete" to Tbilisi Gldani district landfill</p>		<p>Updated Spoil disposal plan was submitted</p>
<p>Generation of solid wastes (construction waste and domestic waste), including 4,250.00 m3 of different types of materials will be generated as a</p>	<p>Regarding the generation of solid waste, the waste procedures included in SEMP prepared by the contractor should contain, at least, the following mitigation actions:</p> <p>a) Provide garbage bins and facilities within the project site for temporary storage of construction waste and domestic solid waste.</p> <p>b) Separate solid waste into hazardous, non-hazardous and reusable waste streams and store temporarily on site in secure facilities with weatherproof flooring, security fencing and access control and drainage/wastewater collection systems.</p>	<p>Contractor provided several waste bins and containers on the office and shafts 51,50 territories as well non-hazardous, hazardous and solid wastes are separated.</p>	<p>Daily checking of segregation</p>	<p>Contractor submitted Waste Management Plan. Submittal N S 044</p>

<p>result of the demolition activities</p>	<p>c) Ensure that wastes are not haphazardly dumped within the project site and adjacent areas</p> <p>d) Undertake regular collection and disposal of wastes to sites approved by local authorities or contract municipal waste operators for disposing household waste, garbage and small amounts of nonhazardous construction waste etc..</p>			
<p>Generation of hazardous waste</p>	<p>Constructing Contractor shall collect all hazardous waste residuals, such as oil, solvent, material used in oil spill cleanups... and store them within appropriate covered skips, and pass it to a licensed operator, having environmental permit on operation of the hazardous wastes.</p> <p>Regarding the generation of hazardous waste, the waste management procedures included in SEMP prepared by the Contractor should contain, at least, the following mitigation actions:</p> <p>a) Store fuel and hazardous substances in paved areas. If spills or leaks do occur, undertake immediate clean up.</p> <p>b) Ensure availability of spill clean-up materials (e.g., absorbent pads, etc.) specifically designed for petroleum products and other hazardous substances where such materials are being stored.</p> <p>c) Train relevant construction personnel in handling of fuels and spill control procedures.</p>	<p>All personnel was trained and instructed in waste management practices and procedures as a component of the environmental induction process, maintained all construction sites in a cleaner, tidy and safe condition, Separated hazardous wastes and stored temporarily on site in secure facilities with weather proof flooring, security fencing.</p>	<p>Before starting the construction works</p> <p>Daily</p>	

	<p>d) Ensure all storage containers are in good condition with proper labeling.</p> <p>e) Regularly check containers for leakage and undertake necessary repair or replacement</p> <p>f) Store waste oil, used lubricant and other hazardous wastes in tightly sealed containers to avoid contamination of soil and water resources.</p> <p>g) Transport and off-site disposal of such wastes shall be consistent with national and local regulations</p>	Proper labeling is provided.	Daily	
Topsoil losses due to improper storage and handling	<p>Top soil protection:</p> <p>The storage of topsoil in stockpiles, no more than 2 m high with side slopes at a maximum angle of 45°. Dedicate storage locations that prevent the stockpiles being compacted by vehicle movements or contaminated by other materials.</p> <p>Top soil collection: $100 \text{ m}^3 \times 3.98 \text{ €/m}^3 = 398 \text{ €}$</p> <p>Reinstatement of Topsoil</p> <p>Topsoil removed from University station will be used for reinstatement of the topsoil in adjacent zones affected by the project activities or other zones designed by the municipality.</p> <p>Top soil replacement: $100 \text{ m}^3 \times 1.40 \text{ €/m}^3 = 140 \text{ €}$</p>	N/A	N/A	There is no need to take these measures, because the top soil had been taken in previous work stages.

	<p>equipment as well as transport of spoils during non-peak hours.</p> <p>e) Avoid movements of noisy vehicles during night time in vicinity of sensitive receivers.</p> <p>f) Implement suitable safety measures to minimize risk of adverse interactions between construction works and traffic flows through provision of temporary signals or flag controls, adequate lighting, fencing, signage and road diversions.</p>			
<p>Hazards to health and safety of workers and the public due to construction works</p>	<p>Training in special skills, environment, emergency and safety regulation will be provided for workers before hiring, especially for those that will work underground. The underground section construction process needs to be supervised and monitored much more carefully in order to be able to detect the early sign of subsidence.</p> <p>To avoid this impact the following mitigation actions are recommended:</p> <p>a) Provide first aid facilities that are readily accessible by workers.</p> <p>b) Provide firefighting equipment at the work areas, as appropriate, and at construction camps.</p> <p>c) Provide separate hygienic sanitation facilities/toilets for male and female workers</p> <p>d) Ensure proper collection and disposal of solid wastes within the</p>	<p>Contractor provided the first aid facilities and fire fighting equipment at the work areas, Contractor provided separate hygienic sanitation facilities/toilets for male and female workers on the camp.</p>	<p>Daily</p> <p>Daily</p>	<p>Manpower are trained on daily bases, tool box talks are filled accordingly</p>

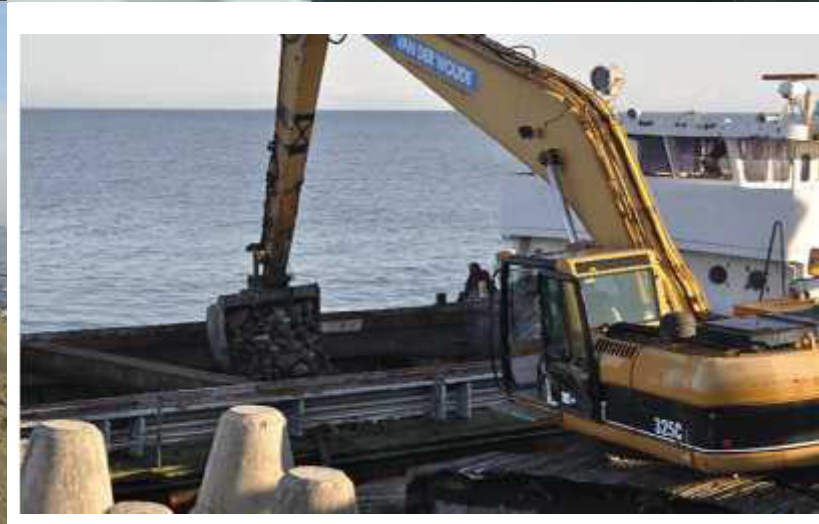
	<p>construction camps consistent with local regulations.</p> <p>e) Provide appropriate personnel safety equipment such as safety boots, helmets, gloves, protective clothes, breathing mask, goggles, and ear protection</p> <p>f) Ensure reversing signals are installed on all construction vehicles.</p> <p>g) Implement precautions to ensure that objects (e.g., equipment, tool, debris, etc.) do not fall onto or hit construction workers.</p> <p>h) Implement fall prevention and protection measures whenever a worker is exposed to the hazard of falling more than two meters, falling into operating machinery or through an opening in a work surface, etc.</p> <p>i) People from outside will be restricted from entering the construction sites in order to avoid accidents.</p> <p>j) Construction sites shall be cleaned regularly and provided with adequate sanitary equipment in order to reduce risk of spreading diseases.</p>	<p>Contractor provided appropriate personnel safety equipment safety boots, helmets, gloves, protective clothes, breathing mask, goggles, and ear protection.</p> <p>The reversing signals are installed on all construction vehicles.</p> <p>Construction sites is being cleaned regularly.</p> <p>People from outside are restricted from entering the construction sites in order to avoid accidents.</p>	<p>Daily</p> <p>Daily</p> <p>Daily</p> <p>Daily</p>	
<p>Cultural and archaeological sites protection;</p>	<p>Construction Contractor should engage an archaeologist (archaeological supervisor) for conducting daily supervision activities during excavation activities.</p> <p>Permanent monitoring by the archaeologist during excavation activities.</p> <p>Chance Finds Procedure included in section 5.2.11 of the IEE should be</p>	<p>Verified protocol for conducted excavation work, to ensure that any chance finds were recognized and measures were taken to ensure they are protected and conserved.</p>	<p>During pre-construction</p>	<p>N/A</p>

Biannual Environmental Monitoring Report

	implemented, including: stoppage and suspension of construction activities in case of archaeological findings; Completion of required archaeological works before restarting construction activities; Conservation of remnants.			
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Annex 3: Photos

Anaklia Coastal improvement project



Tbilisi Metro Extension Project



Photograph 1: Working area in good state



Photo 2: trees are protected



Photograph 3. Waste disposal inside the tunnel



Photograph 4. Wheels disposal waiting to be removed



Photograph 5. Fans off when the tunnel is dusty



Photograph 6. Waste disposal inside the tunne

Biannual Environmental Monitoring Report

Attachment 1: Measurements of noise and atmospheric air chemical parameters

1.1. Measurements of Environmental Agency



DATE: 12/04/2016
REF: 5 0085

Project: The extension of Tbilisi Metro Line 2 and creation of university station project
Contract no: P42414-SUTIP1-ICB-1.05-1
Subject: ENV results
Your Ref No:
Our Prev. Ref No:
Attention: Mr. Ahmed Elkhadri - Team Leader - EUROESTUDIOS
Copy:

Dear Mr. Ahmed,

Please find attached an ENV measurement result (atmospheric Air and noise) that was taken in two points;
The results are acceptable

Thanks in advance

Documents Attached:

1. Results and cover page -3 page

Yours sincerely,



Carlos Munoz

Project Director,

IV of Cobra and Assignia



№ 12/L-301

04 04 2016წ.

უხვ "თბილისის მეტროს ხაზი 2"-ს უფლებამოსილი
წარმომადგენელს ნ-ნ აღუხანდროს ხუსტ როდრიგოს

ნატონო აღუხანდროს,

საქართველოს გარემოსა და ბუნებრივი რესურსების დაცვის სამინისტროს სსიპ "გარემოს
ეროვნულ სააგენტო"-სა და უხვ "თბილისის მეტროს ხაზი 2"-ს შორის 2016 წლის 15 იანვარს
გაფორმებული იმ 3/60 ხელშეკრულების თანახმად, გარდა იმ ქ. თბილისში, ვაჟა-ფშაველას
გამზირზე თქვენს მიერ მიითითებულ ატმოსფერული ჰაერის 2 (ორი) წერტილში, აღებული
სინჯების ქიმიური ანალიზისა და ხმაურის დონის გაზომვის შედეგებს.

დანართი: 2 (ორი) გვ.

პარტისიკციით,

სააგენტოს უფროსი

თამარ ზაგრატია



Agreement N 3660

Results of Dust, Carbon Monoxide (CO), Sodium Dioxide (NO₂), Sulfur Dioxide (SO₂), Total Particulate Matter (TPM), Hydrogen Sulfide (H₂S) maximum concentration and Maximum Noise Level measurements in 2 points set by the customer. MPE - magnitudes of maximum permissible concentrations.

Thilisi, Vaja Pchavela Ave, Coordinates: 19(75525; 4619028), 23.03.2016, 12⁰⁰-14⁰⁰

Site	Dust, mg/m ³	CO, mg/m ³	NO ₂ , mg/m ³	SO ₂ , ppm	TPM, mg/m ³	H ₂ S, ppm	Noise, dB
Ground	0.039	0.14	0.103	<0.1	-	-	73
MPC	0.3	5.0	0.2	0.5	-	-	73
Underground	0.148	0.09	0.075	<0.1	<1	<0.1	57
MPC for working area	0.3	20.0	2.0	3.8	1.0	7.1	70

Measurements were carried out with following devices - 3-in-1 CO 50 / NO₂ (CO, NO₂), Gas Alert Multi 5 (SO₂, H₂S), CBE 712 (Dust), RQSHOH 1R (TPM), SLM-700 (Noise).

Executors:

G. Narvis *G. Narvis*

I. Kondala *I. Kondala*

Agreed:

Head of Environmental
Pollution Monitoring Department



M. Arabadze

Biannual Environmental Monitoring Report

1.2. Measurements implemented by the Contractor March, 24



Report on: Atmospheric air samples for chemical analysis and noise measurement

Date of Inspection:	24.03.2016	Project: Tbilisi Metro line-2	Location :Shaft 50/Platform
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Introduction

Under the project Tbilisi Metro line – 2 Contractor cobra assignia health, safety and Environmental department conduct Atmospheric air samples for chemical analysis and noise measurement in order to identify and quantify airborne contaminants in order to determine the level of workplace for manpower welfare.

General description

Contractor HSE representatives Giorgi Kvashilava, Giorgi Uchumbegashvili, and Natia Karkuzaevi visited site in order to take measure Co, Co2 and Noise ; The sampling took place at 12:30 in all sections there the activities were in progress, particularly Cross over, Platform, left and right tunnel, technical rooms, Ventilation tunnel and dead ends. The results are show below - figure 1.

Result

Location	Co	Co2
	mg/m3	PPM
MPC FOR WORKING AREA	5.0	1000- 2000
Ventilation tunnel	0.5 – 1.5	760 -750
Platform	0.5	670 - 780
Crossover	5.5	1130
Sub station	0.0	580- 600
Left tunnel	0.0	620

Dead ends	5.5	1130 - 1200
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Site Photos



1.3. Measurements implemented by Contractor

May,6



Report on: Atmospheric air samples for chemical analysis and noise measurement

Date of Inspection:	06.05.2016	Project: Tbilisi Metro line-2	Location :Shaft 50/Platform
Introduction Under the project Tbilisi Metro line – 2 Contractor cobra assignia health, safety and Environmental department conduct Atmospheric air samples for chemical analysis and noise measurement in order to to identify and quantify airborne contaminants in order to determine the level of workplace for manpower welfare.			
General description Contractor HSE representatives Giorgi Kvashilava, Giorgi Uchumbegashvili, Armando Sanz and Natia Karkuzaevi visited site in order to take measure Co, Co2 and Noise ; The sampling took place at 11:30 to 01:03 in all sections there the activities were in progress, particularly Cross over, Platform, left and right tunnel, technical rooms, Ventilation tunnel and dead ends. The results are show below - figure 1.			
Result			
Location	Co	Co2	Noise
	mg/m3	PPM	Db
MPC FOR WORKING AREA	5.0	1000- 2000	80
Ventilation tunnel	0.0	500	63.1
Platform	0.0	630	80.4
Crossover	0.5	640	65.1
Right tunnel	0.5	850	76.1

Left tunnel	0.0	650	64.2
Pedestrian passage	0.5	570	87.5

Site Photos



May, 13




Report on: Atmospheric air samples for chemical analysis and noise measurement

Date of Inspection:	13.05.2016	Project: Tbilisi Metro line-2	Location :Shaft 50/Platform
Introduction <p>Under the project Tbilisi Metro line – 2 Contractor cobra assignia health, safety and Environmental department conduct Atmospheric air samples for chemical analysis and noise measurement in order to to identify and quantify airborne contaminants in order to determine the level of workplace for manpower welfare.</p>			
General description <p>Contractor HSE representatives Giorgi Kvashilava, Giorgi Uchumbegashvili, Armando Sanz and Natia Karkuzaevi visited site in order to take measure Co, Co2 and Noise ; The sampling took place at 11:30 to 01:03 in all sections there the activities were in progress, particularly Cross over, Platform, left and right tunnel, technical rooms, Ventilation tunnel and dead ends. The results are show below - figure 1.</p>			
Result			
Location	Co	Co2	
	mg/m3	PPM	
MPC FOR WORKING AREA	5.0	1000- 2000	
Ventilation tunnel	0.0	520	
Platform	0.0	790	
Crossover	0.5	760	
Right tunnel	0.5	850	
Left tunnel	0.0	650	

Pedestrian passage	0.5	570
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Site Photos



The site photos show a person in a dark tunnel using a handheld device to measure water flow from a pipe. The device displays '00' and '720' in the first photo, '00' and '520' in the second, and '00' and '720' in the third.

1.5. Measurements implemented by Contractor

May, 20



Report on: Atmospheric air samples for chemical analysis and noise measurement

Date of Inspection:	20.05.2016	Project: Tbilisi Metro line-2	Location :Shaft 50/Platform
Introduction Under the project Tbilisi Metro line – 2 Contractor cobra assignia health, safety and Environmental department conduct Atmospheric air samples for chemical analysis and noise measurement in order to to identify and quantify airborne contaminants in order to determine the level of workplace for manpower welfare.			
General description Contractor HSE representatives Giorgi Kvashilava, Giorgi Uchumbegashvili, Armando Sanz and Natia Karkuzaevi visited site in order to take measure Co, Co2 and Noise ; The sampling took place at 11:30 to 01:03 in all sections there the activities were in progress, particularly Cross over, Platform, left and right tunnel, technical rooms, Ventilation tunnel and dead ends. The results are show below - figure 1.			
Result			
Location	Co	Co2	
	mg/m3	PPM	
MPC FOR WORKING AREA	5.0	1000- 2000	
Ventilation tunnel	0.0	520	
Platform	0.0	790	
Crossover	0.5	760	
Right tunnel	0.5	850	
Left tunnel	0.0	650	

1

1.6. Measurements implemented by Contractor
June, 7

Report on: Atmospheric air samples for chemical analysis and noise measurement

Date of inspection:	07.06.2016	Project: Tbilisi Metro line-2	Location :Shaft 50/Platform
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Introduction





Under the project Tbilisi Metro line – 2 Contractor cobra assignia health, safety and Environmental department conduct Atmospheric air samples for chemical analysis and noise measurement in order to identify and quantify airborne contaminants in order to determine the level of workplace for manpower welfare.

General description

Contractor HSE representatives Giorgi Kvashilava, Giorgi Uchumbegashvili, and Natia Karkuzaevi visited site in order to take measure Co, Co2 and Noise ; The sampling took place at 12:30 in all sections there the activities were in progress, particularly Cross over, Platform, left and right tunnel, technical rooms, Ventilation tunnel and dead ends. The results are show below - figure 1.

Result

Location	Co	Co2
	mg/m3	PPM
MPC FOR WORKING AREA	5.0	1000- 2000
Ventilation tunnel	0.5 – 1.5	760 -750
Platform	0.5	670 - 780
Crossover	5.5	1130
Sub station	0.0	580- 600
Left tunnel	0.0	620

Dead ends	5.5	1130 - 1200
Site Photos		
		
		

1.7. Measurements implemented by Contractor

June, 18

Date of inspection:	18.06.2016	Project: Tbilisi Metro line-2	Location: Shell 50y Platform
Introduction			
Under the project Tbilisi Metro Line – 2 Contractor's job is safety, health, safety and Environmental department conduct Atmospheric air samples for chemical analysis and noise measurement in order to identify and quantify airborne contaminants in order to determine the level of workplace for manpower workers.			
General description			
Contractor HSE Representative Giorgi Kvachilava, Giorgi Uchumbegashvili, and Natia Kobakhidze visited site in order to take measure CO, CO2 and Noise. The sampling took place at 12:30 in all sections there the activities were in progress, particularly Cross over Platform, left and right tunnel, technical rooms, Ventilation tunnel and dead ends. The results are show below - figure 1.			
Result			
Location	CO mg/m3	CO2 PPM	
MPC (maximum Permissible concentration) FOR WORKING AREA	5.0	1000- 2000	
Ventilation tunnel	0.5 - 1.5	620	
Platform	0.5	550 - 630	
Crossover	0.3	82.0	
Substation	0.0	500 - 600	

**1.8. Measurements implemented by Contractor
June, 28**

Report on: Atmospheric air samples for chemical analysis and noise measurement

Date of Inspection:	28.06.2016	Project: Tbilisi Metro line-2	Location :Shaft 50/Platform
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Introduction

Under the project Tbilisi Metro line – 2 Contractor cobra assignia health, safety and Environmental department conduct Atmospheric air samples for chemical analysis and noise measurement in order to to identify and quantify airborne contaminants in order to determine the level of workplace for manpower welfare.

General description

Contractor HSE representatives Giorgi Kvashilava, Giorgi Uchumbegashvili, and Natia Karkuzaevi visited site in order to take measure Co, Co2 and Noise ; The sampling took place at 12:30 in all sections there the activities were in progress, particularly Cross over, Platform, left and right tunnel, technical rooms, Ventilation tunnel and dead ends. The results are show below - figure 1.

Result

Location	Co	Co2
	mg/m3	PPM
MPC (maximum Permissible concentration) FOR WORKING AREA	5.0	1000- 2000
Platform	0.5	550 - 630
Crossover	0.5	810
Sub station	0.0	580- 600

Ventilation tunnel	0.5 – 1.5	620
Left tunnel	0.0	620
Dead ends	5.5	1130 - 1200

Site Photos





DATE: 31/03/2016

REF : S 0082

Project: The extension of Tbilisi Metro Line 2 and creation of university station project
Contract no: P42414-SUTIP1-ICB-1.05-1
Subject : Water Test - Pedestrian passage exit N 1
Your Ref No:
Our Prev. Ref No:
Attention: Mr. Ahmed Elkhadri - Team Leader - EUROESTUDIOS
Copy:

Dear Mr. Ahmed,

Please find attached laboratory test result of drinking water for diversion of water supply at Pedestrian passage exit N 1: Technical Regulations of the drinking water meets the requirements of the Government Decree 16.01.2014.

Documents Attached:

1. Lab. Results – 3 pages

Yours sincerely,



Carlos Munoz

Project Director,

JV of Cobra and Assignia

შპს ჯ. ნათაძის სახელობის
სანიტარიის, ჰიგიენის და
სამედიცინო ეკოლოგიის
სამეცნიერო-კვლევითი ინსტიტუტი
თბილისი, 0102 დ. უზნაძის ქ. N78
ტელ: 2955-366; 2961683
ელ-ფოსტა: info@hygiene.ge;
sanitari@yahoo.com
<http://www.hygiene.ge>



LLC G. NATADZE SCIENTIFIC-RESEARCH
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78 D. Uznadze St.; 0102 Tbilisi
Tel:2955366; 2961683
E-mail: info@hygiene.ge;
sanitari@yahoo.com
<http://www.hygiene.ge>

№ 06-23/6

29 მარტი 2016 წ.

„თბილისი, მეტროს ხაზი 2“-ის,
დირექტორს კარლოს მუნიოსს

ბატონო კარლოს,

თანასწად თქვენი მომართვისა, შესრულდა ქ. თბილისი, ვაგა-ფშაველას
გამზირისა და სანდრო ელის ქუჩის კვეთაზე, მეტრო სადგური „უნივერსიტეტის“
მშენებლობის ადგილზე აღებული სასმელი წყლის ორგანოლექტიკური, ქიმიური და
მიკრობიოლოგიური ანალიზი (გამოცდის ოქმი N372).

განსაზღვრული მაჩვენებლების მიხედვით, სასმელი წყლის ხარისხი შეესაბამება
„სასმელი წყლის ტექნიკური რეგლამენტი“-ს (საქ. მთავრობის 2014 წლის 16 იანვრის
N85 დადგენილება) მოთხოვნებს, დასაშვებია ამ წყლის გამოყენება სასმელ-
სამუშაო მოხმებისათვის (დანართი I გვერდი).

პატივისცემით,

ინსტიტუტის დირექტორი



გ. ნათაძე

რეზო კობახიძე



**შ.პ.ს. გ. ნათაქის სახელობის საინჟინრო, ეპიდემიის და
საპედიტიო ეპოლოგიის სამეცნიერო კვლევითი
ინსტიტუტის საგამოსდომო ლაბორატორია**

კერძო სახელმწიფო დაწესებულება N: GAC-TL-0041
(ბელაშია : 2018-02-04)

მისამართი: თბილისი უნივერსიტეტის ქუჩა N 78

ელ-ფოსტა: info@hygiene.ge; ტელ: +995 (32) 2 96 16 83;

29-03-2016

გამოცდის ოქმი №: 372



სიბუხის დასახელება (რეიდენი) : სასმელი წყალი (3 ლიტრი)

დასახელება : თბილისის მეტროს ხაზი 2

სიბუხის აღმზამ აქტის N (თარიღი) : N 75 25.03.16

სიბუხის აღმზამ ადგილი : ქ. თბილისი, ვაკე-ფშაველას გამზირისა და სახდრო უღლის ქუჩის კვეთა,
მეტრო სადგური „უნივერსიტეტის“ მშენებლობის ადგილი

მალაჩის დამატების და დამოყრების დრო : 25.03.2016/ 29.03.2016

გამოცდის მართა : მიკრობიოლოგიური და ფიზიკო-ქიმიური ანალიზი

გამოსცდომი მატერიალი	სიბუხის ერთეული	მიღებული შედეგი	გამოცდის მეთოდი
ორგანოლექტიური მატერიალები			
ხაზი	ხაზი	0	სტატ 3351-74
ვალი	ხაზი	0	სტატ 3351-74
ფერიწონა	ფრადული	0	სტატ 52769-2007
სიბუხივე	მ/ლ	0,37	სტატ 3351-74
ფიზიკო-ქიმიური მატერიალები			
pH	-	7,2	ინს 10923-2006
აგრესიურობა (კონკრეტული)	მგ/ლ	1	მ.ბ. 268-1.3-0754
ქლორიდები (Cl ⁻)	მგ/ლ	11,50	სტატ 9215-72
მარილი წარმოქმნილი იოდბრუნავი	მგ/ლ	0,26	სტატ 18190-72
ამონიუმის იონი (NH ⁺)	მგ/ლ	< 0,05	სტატ 4192-82
ნიტრატები (NO ³⁻)	მგ/ლ	2,50	სტატ 18826-73
ნიტრიტები (NO ²⁻)	მგ/ლ	< 0,001	სტატ 4192-82
მიკრობიოლოგიური მატერიალები			
სეზონური კონტაქტი და ფაქტობრივი მიკრობული საქრობუნებრივები - 370C	მ/მლ	0	ინს 6222-2008
სეზონური კონტაქტი და ფაქტობრივი მიკრობული საქრობუნებრივები - 220C	მ/მლ	3	ინს 6222-2008
საერთო კოლონიური ბატერიები	მე/300ლ	მ. აღმოჩენა	ინს 9308-1-2014
E. coli	მე/300ლ	მ. აღმოჩენა	ინს 9308-1-2014

ლაბორატორიის ხელმძღვანელი

მიმსრულებლები :



35 / დარეჯან დელაშვილი

/ქ. კიკნაძე/
/ნ. შუბითიძე/
/მ.არჩვაძე/
/ნ. ხვეციანიძე/



ხარისხის მენეჯმენტის სისტემა
სასმელი წყლის ხინჯის აღების აქტი
HI-RE-S04-01

HI-SOP-S02-01
თარიღი: 15/12/15
ველიონი: 0
გვ. 1 / 1

სასმელი წყლის ხინჯის აღების აქტი N75

ხინჯის აღების მიზანი: განათავსება - ჩამოყვანა და დეზინფიცირება
ხინჯის

ნიმუშის აღების ადგილი: 3152-5329-1 კვარტალი - ს.ბახია ვაჟაძის ქუჩაზე
საქართველოს საგანმანათლებლო მეცნიერებათა აკადემიის სასმელი წყლის
თარიღი: 25.03.2016

აღების დრო: დასაწყისი 13⁴⁵ დასასრული 14²⁰

წყლის დამუშავების მეთოდი: ქლორინაცია

ხინჯის აღების მეთოდი: გოსტ რ 51592-2000

ხინჯის აღების და მუშაობის და კონსერვაციის მეთოდები

ხინჯის აღები ორგანიზაციის (ლაბორატორიის) დასახელება — შპს ჯ. ნათაძის სახელობის სანიტარიის, ჰიგიენის და სამედიცინო ეკოლოგიის ს/კ ინსტიტუტის საგანმანათლებლო ლაბორატორია

ხინჯის აღები ოპერატორის ვინაობა (სახელი, გვარი):
საგანმანათლებლო ლაბორატორიის სპეციალისტი
ქავთაძე ნინო

ხინჯის აღებაში მონაწილე ორგანიზაციების დასახელება და წარმომადგენლები:
საპატენტო
თბილისი
დეკლარაცია

ხელმოწერები: 1. ს.ბახია
2. ქავთაძე

Attachment. 3 Contract N 25022016 with Company "Sarini"

სს „სარინი“

უნფ „თბილისის მეტროს ხაზი 2“

მომსახურების

ხელშეკრულება №25022016

წინამდებარე „მომსახურების ხელშეკრულება“ (შემდგომში „ხელშეკრულება“) შეკრულდა 2016 წლის 25 თებერვალს („ხელმოწერის თარიღი“) „შემსრულებელს“ და „დამკვეთს“ შორის და მკერ წინამდებარე „ხელშეკრულებით“ განსაზღვრული პირობების შესაბამისად. „ხელშეკრულების“ მოწმებისთვის „შემსრულებელი“ და „დამკვეთი“ შემდგომში მოიხსენიებიან ინდივიდუალურად როგორც „მხარე“ და ერთობლივად როგორც „მხარეები“.

მხარეები

წინამდებარე „ხელშეკრულების“ მოწმებისთვის მიღწეული შეთანხმების მხარეებს წარმოადგენენ:

„შემსრულებელი“ - სს „სარინი“, საიდენტიფიკაციო კოდი 216288906, განლაგებული მისამართზე: ქ. რუსთავი, ჯავახიშვილის ქ. N 9, წარმოდგენილი მისი დირექტორის ბ-ნი იუსა ჩუბინიძის სახით;

„დამკვეთი“ - უცხოური საწარმოს ფილიალი „თბილისის მეტროს ხაზი 2“, საიდენტიფიკაციო კოდი 404497987, განლაგებული მისამართზე: ქ. თბილისი, 0108, დ. ყოფიანის ქ. N 3/29, წარმოდგენილი მისი დირექტორის ბ-ნი ალენა როდ როდრიგოს სახით.

1. ხელშეკრულების საგანი

- 1.1 „შემსრულებელი“ „დამკვეთის“ შესაბამისი მოთხოვნის საფუძველზე ახორციელებს ნავთობისა და ნავთობ-პროდუქტების შემცველი ნარჩენების განადგურება-გაუვნებელყოფისა და შესაბამისი ტრანსპორტირების მომსახურებას (შემდგომში „მომსახურება“) „შემსრულებლის“ კუთვნილ დასასაწყობებელ ტერიტორიაზე (შემდგომში „დასასაწყობო ტერიტორია“);
- 1.2 ნაორჩენების „დასასაწყობო ტერიტორიაზე“ ტრანსპორტირებას ახორციელების „შემსრულებელი“ საკუთარი სპეციალური დანიშნულების სატრანსპორტო საშუალებებით.

2. მომსახურების საფასური და გადახდის პირობები

მომსახურების ხელშეკრულება



Attachment 3.1: Air test results



Air Test Results

Name of employer JSC “Hydro Engineering Company”

Sample Description: Air

Sample Location Construction of coastal Protection Facility in Anaklia

Research Objective: Bacterial and Chemical Indication

Date of sample collection 04.02.2016

Bacterial and Chemical Indicators	Discovered Composition	Maximum Permissible Concentration
Mesophiles and Micro Particles	40 p.u.	100 p.u.
Dust	0,14 gr/l	0.2 gr/l
Background radiation	0,01 micro/h	

Performer: Physician Laboratorian: R. Komakhidze

The Laboratory Supervisor: L.mamaladze

Result date: 08.02.16

Attachment 3.2.: Act of test result



The Act of Test Result № 111

„08„ February„ 2016

Client: L.T.D „Hydro Engineering Company”

Sample Description: Sea Water

Sample Location: Time. The number of Act №114; The Construction Site, Anaklia; 04.02.16, 12⁰⁰ o'clock.

Description of Normative Document: Government Resolution of Georgia 425 31.12.13. Technical Resolution for the Protection of Surface Water from the Pollution: Resolution of the Government of Georgia 26 03.01.2014:

Technical Resolution for the Approval Regulations of Taking Sea Water test sample.

Starting and completion Date, Time: 04.02.16, 08.02.16.

The Act of Test Result have been given for the submitted sample:

Chemical Indicators

	Description of Specific Characteristics	Detected Concentration	Documentation of Technical Normative
	Smell	-	GOSTI 3351-74
	Turbidity	-	GOSTI3351-74
	Colour	10 cm is not in column	GOSTI3351-74
	Hardness	-	GOSTI 4151-72
	Calcium	-	LURIA PG.118
	Mg	-	LURIA PG.122
	Hydrogen Indicators	-	ISO 10523-08
	Dissolved Oxygen	-	LURIA GV.176
	Oxygen's Chemical Requirement	-	LUIA PG.74
0	Biochemical Usage of Oxygen. Usage of Oxygen 5 and Total Usage of Oxygen.	-	LURIA PG.82
1	Dry Residue	16800 mg/l	GOSTI 18164-72
2	Nitrates	-	GOSTI 18826-73
3	Chloride	-	GOSTI 4245-72

4	Hydrogen Sulphide	-	LURIA PG.412
5	Nitrite	-	GOSTI 4192-82
6	Iron	-	GOSTI 6332
7	Arsenic	-	GOSTI 4152-89
8	Copper	-	GOSTI 4388-72
9	Sulphates	-	GOSTI 4389-78
0	Manganese	-	GOSTI 4974-72
1	Polyphosphates	-	GOSTI 18309-72
2	Suspended Particulates	2.3 mg/l	LURIE pg.43
3	Floating particles	-	GONCHATUKI pg-66
4	Ammonia	-	GOSTI 4192-82
5	The acidity/ alkalinity	-	LURIE pg-57.51
6	Permanganate Oxygen	-	ISO 8467-93
7	Petroleum products	0,12 mg/l	LURIE pg.306
8	Background radiation	-	

Nº	Description of Determining Characteristics	Detected Concentration	Documentation of Technical Normative
1	Mesophiles Aerobic and Facultative Anaerobes Micro Organisms	-	ISO 6222:1999
2	Total Coliforms	-	ISO 9308-1-2007
3	E. Coli	-	ISO 9308-1-2007
4	Salmonella	-	ISO 19250:2010
5	Str. faecalis	-	ISO 7899-2:2000
6	Thermo tolerant coliforms	-	ISO 9308.2:2012
7	Sulphide Reducing Clostridium	-	ISO 6461-2-1986

Attachment 4. Contracts with waste management companies

4.1. Contract with 'Sanitari' –Hazaedous Waste

ხელშეკრულება №2911-13

თბილისი

29 ნოემბერი, 2013 წ.

სს. "საქროსანივინირო კომპანია" შემოღობში "დამკვეთი", თურთიული მისამართი თბილისი, სინდრო ვულის ქ. №1 მისი დირექტორის ივანე თაბაგარის ხახით, ურთის მხრით დი. შ.პ.ს. "სინიტარი", შემოღობში "შემსრულებელი", თურთიული მისამართი ქ. რუსთავე, გამარჯუების გზატკეცილი 4, მისი დირექტორის ბესიკ ჭვლიდის ხახით, მფორეს მხრით, ვუვით წინამდებარე ხელშეკრულებას შემდეგი პირობებით:

შუბლი 1. ხელშეკრულების საგანი

- 1.1 დამკვეთი უკუთოებს, ხოლო შემსრულებელი იღებს ვალდებულებას წინამდებარე ხელშეკრულებით განსაზღვრული პირობებით გაუწიოს დამკვეთის სახითი ნარჩენების გამოტანისა დი განთავსების მომსახურება ხოველ ანაკლიაში ნაპირსამდგრი ხამუშოს ობიექტოვად.
 - ა. დამკვეთის შეტოობნების სოვეუტეულზე ადვოლზე დიხარისხებული სახითიო ნარჩენების (გამოყენებული სამსქინე მორტორის დი პიდრადიკის ზოიები, ტორტინი კისრები, ფილტრები, ზეთით დიბინტურებული სერები, ზეთით დიბინტურებული შიღები დი სხვაუველი ხახის სახითიო ნარჩენები) გიტანა სამშენებლო უბნიდან სივრთილური ავტომანქანით დი მათი განთავსება სიკართიუელის კანონმდებლობის სოთსოვნების დი სივრთამორის პრაქტიკის გათვალისწინებით.
 - ბ. სახითიო ნარჩენების გამოტანისა დი უტოილსების ვეგმეორი მომსახურება, განხორციელდება ავტოვრთალში 10-20 რიციხეების შუალედში, მისში 10-20 რიციხეების შუალედში, ივლისში 10-20 რიციხეების შუალედში დიმატებითი გამოსიების შემოსეველი დამკვეთი აუნაზღაურებს შემსრულებელს შესრულებულ სამუშაოს ამივე კონტრაქტში მუკ შუბლში მოცემული ფასების შესაბამისად.

შუბლი 2. მხარეთი უფლებები დი ვალდებულებები

- 2.1 შემსრულებელი ვალდებულია მომსახურების გაწევა დიიწიოს ხელშეკრულების ხელმოწერისთანადე.
- 2.2 შემსრულებელი ვალდებულია:
 - დამკვეთის მოთხოვნიდან არაუვეთანეს 3 (სისი) დღისა შიახდინის შესაბამისი მომსახურების შესრულება.
- 2.3 დამკვეთი უფლებამოსილია შემსრულებელს მოსოთიოს ხელშეკრულებით ნიკისრი ვალდებულებების ვეროვანი შესრულება.
- 2.4 დამკვეთი ვალდებულია ვადიუხილის შემსრულებელს ხელშეკრულების 3.1 პუნქტით განსაზღვრული თიისი.
- 2.5 დამკვეთი ვალდებულია:
 - შემსრულებელს დიახევეროს დიხარისხებული ნარჩენები ხამუშო უბანზე

- სახიფათო ნარჩენები მოათავსოს UN სერთიფიცირებულ მეტალის კასრებში, სათანადო წარწერით და თან ერთვის ნარჩენი მასალის უსაფრთხოების მონაცემთა დოკუმენტი (Material Safety Data Sheet, MSDS).
- ნარჩენების გადაზიდვის ხატრანსპორტო ზედღებულები (Waste Transfer Note).

მუხლი 3. ხელშეკრულების თანხა და ანგარიშწორების წესი

- 3.1 დამკვეთი აუნაზღაურებს შემსრულებელს შესრულებულ სამუშაოს მიღება-ჩაბარების აქტის გაფორმებიდან ერთი კვირის განმავლობაში შემსრულებლის მიერ წარმოდგენილი ინვოისისა და ქვემოთ მოყვანილი განცხადების საფუძველზე:
- ა. სახიფათო ნარჩენების გატანა სოფელ ანაკლიაში არსებული სამშენებლო უბნიდან სპეციალური აშანტანით და მათი განთავსება - ერთ სელაგეზზე 93720 (ცხრაას ოცდაჩვიდმეტი ლარი და ოცი თეთრი) დამატებითი ღირებულების გადასახადის ჩათვლით.
 - ბ. ერთი კვ/ლიტრი სახიფათო ნარჩენის უტილიზების ფასი შეადგენს 5.60 (ხუთ ლარსა და ხამოც თეთრს).
- 3.2 ანაზღაურება განხორციელდება შემდეგი წესით:
გაწეული მომსახურების ღირებულებას დამკვეთი გადაუხდის შემსრულებელს მიღება-ჩაბარების აქტის გაფორმებიდან 7 (შვიდი) დღის ვადაში.

მუხლი 4. პასუხისმგებლობა

- 4.1 ხელშეკრულებით განსაზღვრული ვალდებულებების შესრულებლობის ან არაჯეროვნად შესრულების შემთხვევაში, მხარეები პასუხს ატევენ საქართველოს კანონმდებლობით და ამ ხელშეკრულებით გათვალისწინებული პირობებით და წესით, თითოეული მხარე ვალდებულია მყორე მხარეს აუნაზღაუროს ვალდებულებების შესრულებლობით ან არაჯეროვნად შესრულებით გამოწვეული ნებისმიერი პირდაპირი თუ არაპირდაპირი ზიანი.

მუხლი 5. ხელშეკრულების მოქმედების ვადა

- 5.1 ხელშეკრულება ძალაში შედის მისი ხელმოწერის მომენტიდან და მოქმედებს 2014 წლის 31 დეკემბრამდე.
- 5.2 ხელშეკრულების შეწყვეტა მხარეებს არ ათავისუფლებს მის შეწყვეტამდე წარმოშობილი ვალდებულებებისგან.

მუხლი 6. მხარეთა ვანცხადებები და გარანტიები

- 6.1 მხარეები იცხადებენ და იძლევიან გარანტიას, რომ:
- 6.1.1 ჩამოყალიბებულნი არიან საქართველოში მოქმედ კანონმდებლობასთან სრულ შესაბამისობაში

- 10.2 ხელშეკრულების რომელიმე მუხლის და/ან პუნქტის საქართველოს კანონმდებლობის საფუძველზე ბათილობის შემთხვევაში დანარჩენი მუხლები და/ან პუნქტები ინარჩუნებენ იურიდიულ ძალას, ხოლო ბათილი მუხლის და/ან პუნქტის ნაცვლად კი მოქმედებს ისეთი მუხლი და/ან პუნქტი, რომლითაც ადვილად მიიღწევა ხელშეკრულების მიზანი;
- 10.3 ხელშეკრულებაში ცვლილებების და დამატებების შეტანა შესაძლებელია მხოლოდ წერილობითი ფორმით, რომელიც ძალაში შევა თითოეული მხარის მიერ მასზე ხელმოწერის მომენტიდან;
- 10.4 ხელშეკრულების დანართ(ებ)ი წარმოადგენს მის განუყოფელ ნაწილს, დანართ(ებ)ში ცვლილებების და დამატებების შეტანა შესაძლებელია მხოლოდ წერილობითი ფორმით, რომელიც ძალაში შევა თითოეული მხარის მიერ მასზე ხელმოწერის მომენტიდან.

მუხლი 11. მხარეთა რეკვიზიტები:

შემსრულებელი
შ.პ.ს. „სანიტარი“
ს/კ 204927240
საქართველო, რუსთავი, გამარჯვების
გზატკეცილი N4
საბანკო რეკვიზიტები:
სს "ბანკი რესპუბლიკა"
ბანკის კოდი: REPLGE22
ანგ. № GE768R0000003602023435
შ.პ.ს „სანიტარის“ სახელით

დამკვეთი
შპს „ქიდროსაინჟინრო კომპანია“
ს/კ 205240960
თბილისი, სანდრო ევლის ქ. №1
სს „თიბისი ბანკის ც/ფ“
ბანკის კოდი: TBCBGE22
ანგ. № GE30TB7600936050100001



Attachment 4.2. Contract with 'Sandasuptaveba' –Hazardous waste



Attachment 4.3. Agreement with Zugdidi Municipality-for Domestic waste

Հիմնում

«Հարավային Իրավաբանական Ֆիրմա» կազմակերպությունը պատրաստ արել է միջազգային և՛ Հայաստանի Հանրապետության Հանրային կազմակերպության ակտիվների գրանցման հետ կապված ծախսերի հաշիվներով կազմակերպության կողմից հատկապես 2007 թվականի 10-ին և 2008 թվականի 05-ին արված վճարումներին հարապաբար 2007 թվականի 12-ին և 2008 թվականի 10-ին կատարված աշխատանքների համար, որոնցում արված աշխատանքները կապված են ընտանեկան անդամների գրանցման հետ, այդպիսով հարմարեցված է միջազգային կազմակերպության և Հայաստանի Հանրապետության Կառավարության կողմից կատարվող աշխատանքների համար, որոնցում արված աշխատանքները կապված են ընտանեկան անդամների գրանցման հետ, այդպիսով հարմարեցված է միջազգային կազմակերպության և Հայաստանի Հանրապետության կողմից կատարվող աշխատանքների համար:

- ծախսերի գումարը է՛ և՛ ընտանեկան անդամների համար, որոնցում արված աշխատանքները կապված են ընտանեկան անդամների գրանցման հետ:
- Հարավային Իրավաբանական Ֆիրմա
- Կապակցված է՛ միջազգային կազմակերպության և Հայաստանի Հանրապետության կողմից կատարվող աշխատանքների համար:
- Կապակցված է՛ միջազգային կազմակերպության և Հայաստանի Հանրապետության կողմից կատարվող աշխատանքների համար:
- Կապակցված է՛ միջազգային կազմակերպության և Հայաստանի Հանրապետության կողմից կատարվող աշխատանքների համար:
- Կապակցված է՛ միջազգային կազմակերպության և Հայաստանի Հանրապետության կողմից կատարվող աշխատանքների համար:
- Կապակցված է՛ միջազգային կազմակերպության և Հայաստանի Հանրապետության կողմից կատարվող աշխատանքների համար:

Ստորագրողների պաշտոնը կրող պատասխանատու կազմակերպության ղեկավարը՝ 2007 թվականից հետո՝ 05.06.2008 թվականից, հեռախոսը՝ 00345389, և հեռագրային հասցեն՝ 00101222:

Վերջինս պարտավորված է պատասխանատու կազմակերպության ղեկավարին, որպեսզի կատարվեն այդպիսի աշխատանքները, որոնցում արված աշխատանքները կապված են ընտանեկան անդամների գրանցման հետ, այդպիսով հարմարեցված է միջազգային կազմակերպության և Հայաստանի Հանրապետության կողմից կատարվող աշխատանքների համար:

Կազմակերպություն

և՛ Կազմակերպության ղեկավար

Պայմանագրի դրժ 36 159

00345389
00101222



Attachment 4.4. Contract with Solid waste company- for construction waste

04. 2014წ

ქ. თბილისი

შ.პ.ს. „საქართველოს შიდა ნარჩენების მართვის კომპანია“, მისი დირექტორის ვიორჯი შუხოშვილის სახით, (შემდგომში წოდებული როგორც „შემსრულებელი“) ერთს მხრივ და ს.ს. „სადროსაინჟინრო კომპანია“, მისი დირექტორის ივანე თაბაგარიძის სახით (შემდგომში წოდებული როგორც „დამკვეთი“) მეორის მხრივ, საქართველოს მოქმედი კანონმდებლობისა და საწარმოს წესდების მე-8 მუხლის მე-7 პუნქტის შესაბამისად, ურთიერთშეთანხმების საფუძველზე დებენ ხელშეკრულებას შემდეგზე:

მუხლი 1. ხელშეკრულების ხაზანი

1.1 შემსრულებელი დამკვეთის მოთხოვნისა და შემსრულებლის 2014 წლის 10 აპრილის 01-5/24 ბრძანების საფუძველზე ახორციელებს 30 (ოცდაათი) ტონამდე სამშენებლო-ინჟინტული და მასთან გათანაბრებული ნარჩენის (რომლის მოგროვებაც არ მოკუთვნება მუნიციპალიტეტების კომპეტენციას) განთავსების მომსახურებას, შემსრულებლის ბაღანსზე რიცხული ქსუვედიის შიდა მუნიციპალური ნარჩენების პოლიგონზე (შემდგომში „მომსახურება“).

მუხლი 2. ხელშეკრულების პირობები

2.1 შემსრულებელი ვალდებულია დროულად და ხარისხიანად მოემსახუროს დამკვეთს და უზრუნველყოს სამშენებლო-ინჟინტული და მასთან გათანაბრებული ნარჩენის (რომლის მოგროვებაც არ მოკუთვნება მუნიციპალიტეტების კომპეტენციას) მომსახურების გაწევა უზრუნველყოს ხელშეკრულების გაფორმებიდან 2014 წლის 01 აგვისტომდე.

2.2 დამკვეთი ვალდებულია ხელშეკრულებით განსაზღვრულ ვადაში და განსაზღვრული პირობებით გადაუხადოს შემსრულებელს მომსახურების ღირებულება.

მუხლი 3. მხარეთა უფლება-მოვალეობები

3.1 შემსრულებელი ვალდებულია:

3.1.1 დროულად და ხარისხიანად განახორციელოს 1.1 მუხლში აღნიშნული მომსახურება.

3.1.2 მომსახურების გაწევისას დაიცვას საერთაშორისო სტანდარტებითა და ტექნიკური რეგლამენტებით განსაზღვრული პირობები, ნარჩენის ნაგავსაურვლზე განთავსების მისწივით.

3.2 შემსრულებელს უფლება აქვს:

3.2.1 ხელშეკრულებით განსაზღვრულ ვადაში დამკვეთისაგან მოითხოვოს მომსახურების ღირებულების დროულად გადახდა.

3.2.2 დამკვეთისაგან მოითხოვოს წინამდებარე ხელშეკრულების პირობების დაცვა.

3.3 დამკვეთი ვალდებულია:

3.3.1 ხელშეკრულებით განსაზღვრულ ვადაში და პირობებით გადაუხადოს შემსრულებელს მომსახურების ღირებულება.

3.3.2 შემსრულებლის კუთვნილ შიდა მუნიციპალური ნარჩენების ნაგავსაურვლზე ნარჩენის შემოტანა უზრუნველყოს საბანსო და უსაფრთხოების სარმების დაცვით.

3.4 დამკვეთის უფლება აქვს:

3.4.1 მოითხოვოს შემსრულებლისაგან უსაბანსოდ გაწეული მომსახურების გამოწერება.

3.4.2 მოითხოვოს შემსრულებლისაგან წინამდებარე ხელშეკრულების პირობების დაცვა.

3.4.3 შემსრულებლის მიერ წინამდებარე ხელშეკრულების შესრულებლობის ან არასათანადოდ შესრულების შემთხვევაში წერილობითი ფორმით, აცნობის შემსრულებელს.

3.4.4 მხარეები ვალდებული არიან დროულად და ჯეროვნად შეასრულონ წინამდებარე ხელშეკრულებით ნაკისრი ვალდებულებები.

მუხლი 4. ინგარიშსწორება და ხელშეკრულების ღირებულება

4.1 გასაწევი მომსახურების ღირებულება განისაზღვრება ეროვნულ ვალუტაში.

4.2 1 (ერთი) ტონა სამშენებლო-ინჟერული და მასთან გათანაბრებული ნარჩენის (რამდენიმე მოგროვებად ან მიკუთვნება მუნიციპალიტეტების კომპეტენციას) შემსრულებლის კუთვნილ მყარი საფოფაცხოვრებო ნარჩენების პოლიგონზე განთავსების მომსახურების ღირებულება შეადგენს 12 (თორმეტი) ლარს დღე-ს გარეშე დამკვეთი, შემსრულებლის მიერ გასაწევი მომსახურების შესაბამის ანაზღაურებას უზრუნველყოფს მყარი მუნიციპალური ნარჩენების ნაგავსაფრულზე, ფაქტურად შეტანილი ნარჩენის საერთო მოცულობის შესაბამისად.

4.3 დამკვეთი ვალდებულია ჩარიცხოს თანხა შემსრულებლის საბანკო ანგარიშზე კონკრეტულად გაწეული მომსახურების გაწევის მიღება-ჩაბარების აქტის გაფორმებიდან 10 (ათი) კალენდარულ დღეში.

4.4 შემსრულებლის მიერ წინამდებარე ხელშეკრულებით ნაკისრი ვალდებულებების შესრულების შემდეგ მხარეები იღებენ მომსახურების გაწევის მიღება-ჩაბარების აქტს, რაც ადასტურებს შემსრულებლის მიერ ნაკისრი ვალდებულებების ჯეროვნად შესრულებას.

4.5 შემსრულებლის მხრიდან მომსახურების გაწევის მიღება-ჩაბარების აქტს ხელს აწერს შემსრულებლის სტრუქტურული ერთეულის - რეგიონული მართვის დეპარტამენტის უფროსი კოორდინატორი (რეგიონული მართვის საკითხებში სამშენებლო შემო-სვინჯვის რეგიონში) - აბესალომ ჯღარკავა.

მუხლი 5. ხელშეკრულების მოქმედების ვადა და მისი შეწყვეტის წესი

5.1 წინამდებარე ხელშეკრულება ძალაში შედის მხარეთა მიერ მისი ხელმოწერის მომენტიდან და მოქმედებს მხარეთა მიერ ნაკისრი ვალდებულებების სრულად და ჯეროვნად შესრულებამდე.

5.2 ხელშეკრულების ვადამდე შეწყვეტა მხარეებს არ ათავისუფლებს ხელშეკრულების შეწყვეტამდე შესასრულებელი ვალდებულების შესრულების მოვალეობისაგან.

მუხლი 6. სადავო საკითხების მოგვარება

დამკვეთისა და შემსრულებელს შორის წინამდებარე ხელშეკრულების რეალიზაციისას წარმოშობილი სადავო საკითხები წესრიგდება მხარეთა შეთანხმებით, ხოლო შეთანხმების მიუღწევლობის შემთხვევაში სადავო საკითხს განსივლავს სასამართლო.

მუხლი 7. დასკვნითი დებულებები

7.1 წინამდებარე ხელშეკრულების ყველა მუხლი და დიანართი წარმოადგენს მის განუყოფელ ნაწილს.

7.2 წინამდებარე ხელშეკრულებაში ცვლილების შეტანა შეიძლება მოხდეს მხოლოდ მხარეთა შეთანხმებით, რომელიც უნდა იყოს წერილობითი. ზემოთ გარიგებებს ძალა არა აქვს.

შემსრულებელი _____

დამკვეთი _____

73. წინამდებარე ხელშეკრულება შედგენილია 2 (ორი) თანხაბარი იურიდიული ძალის მქონე ელექტრონულად ქართულ ენაზე ერთი ელექტრონული გადაცემა დაშვების, ხოლო ერთი ელექტრონული ინახება შემსრულებელთან.

მუხლი 8. მხარეთა რეკვიზიტები და ხელმოწერები:

შემსრულებელი:

შპს „ხაქართველის შყარი ნარჩენების მართვის კომპანია“, იურიდიული მის: ქობულისი, აღ. ვაზის ქ. №12, ფაქტური მის: ქ. თბილისი, ანა პოლიტკოვსკაიას ქ. №10 მე-4 სართული, სიდენტფიკაციო კოდი: 404942470, საბანკო რეკვიზიტები: ბანკი: სს „თბილისი ბანკი“, ბანკის კოდი: TBCBGE22, ანგარიშის ნომერი: GE51TB7161936080100005.

ხელმოწერა



გიორგი შუხოშვილი

დამკვეთი:

სს „სადროსაინჟინრო კომპანია“, იურიდიული მის: ქ. თბილისი, ხანდრო ეულის ქ. №1, ფაქტური მის: ქობულისი, ი. ჭავჭავაძის გამზირი №39, სიდენტფიკაციო კოდი: 205240960, საბანკო რეკვიზიტები: სს „აო ბი სი“ ბანკი, ბანკის კოდი: TBCBGE22, ანგარიშის ნომერი: GE30TB7600936050100001.

ხელმოწერა

ივანე თაბატარი

