

Biannual Environmental Monitoring Report

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GEORGIA: GEORGIAN SUSTAINABLE URBAN TRANSPORT INVESTMENT PROGRAM, Tranche 3

(Financed by the Asian Development Bank)

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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 of Georgia
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

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1. PART I. INTRODUCTION

1.1. Preliminary information

Program background

Upgrading and improvement of local transport and transport-related infrastructure plays a significant role in the development of Georgia's urban 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.

On December 19, 2013 - Sustainable Urban Transport Investment Program Tranche 3 Loan and Project agreements were signed between Georgia and Asian Development Bank. Under Tranche 3, ADB has agreed to lend to the Borrower from ADB's ordinary capital resources an amount of seventy three million Dollars (\$73 million). Tranche 3 is scheduled for completion by 30 June 2018, with a loan closing on 31 December 2018.

The program will provide efficient, reliable and affordable urban transport infrastructure and services, thereby increasing economic growth potential and competitiveness of urban communities, improving livelihoods of over 1.5 million people (approx. 35% of Georgian population). The project 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.

The environment classification for Tranche 3 is Environmental Category B, as the subprojects under SUTIP 3 were classified as category B which will not have significant irreversible or permanent negative environmental impacts during or after construction and required preparation of Initial Environmental Examination (IEE). The environmental categorization of sub-projects was conducted by using ADB's Safeguard Policy Statement (2009).

Program Area

Sustainable Urban Transport Investment Program – Tranche 3 (SUTIP T3) includes:

- (a) Construction of an approximately 6.8 kilometers 4-lane urban road link between the cities of Rustavi and Tbilisi, including a 2 kilometers urban boulevard and recreational areas;
- (b) Construction of an approximately 1.2 kilometers coastal protection structure in the city of Anaklia (Phase II); and
- (c) Project implementation support through financial audit and independent safeguards monitoring.

Tbilisi-Rustavi urban link (Section 2) CW Project description:

The project envisages Modernization of Tbilisi-Rustavi portion of the Tbilisi-Red Bridge (Azerbaijani border) automobile road. The design road links the capital of Georgia with the major industrial and administrative center Rustavi and the district center Gardabani. Designing and constructing of other portions of the road will enable the citizens to travel and commodities to be trafficked on comfortable and modern highway to the capital of Azerbaijan Baku. It also will make more accessible Tbilisi and the Black sea ports of Georgia for population of Azerbaijan. Apart from the abovementioned, the population

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of Rustavi and Gardabani are the priority road customers. The mentioned portion of the design road is over-trafficked, the AADT being about 15,100 vehicles per day, when the road capacity is just 7,000. The latter determined priority of modernization of the Tbilisi-Rustavi road to the level of I category road with 4 traffic lanes and design speed 120 km/h. Total length of the urban link is 18.1km. Bidding is planned for the Q4/2015. Estimated contract amount: USD 65,8mln

Anaklia Coastal improvement (phase 2) Project description: 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. 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. 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.

1.2. Construction activities and project progress during the reporting period

Civil works at Anaklia coastal improvement EPCM (Phase 2):

Civil works contract was signed with Modern Business Group LLC (Azerbaijan) on September 26, 2014 with an amount of GEL 12,252,937.48 (approximately USD 7.0 million). The construction works started on February 18, 2015. Significant delays have been experienced in the implementation of the project. The delays are currently being caught up but the works are still going at a slow pace, mostly due to the incapacity of the contractor to mobilize all necessary equipment for marine works.

During reporting period following construction work activities have been carried out by the Contractor Company:

- Filling with stone in the sea –4,029 m³;
- Placing TTP-units in the sea – 809 units;
- Coasting 5 t TTP units –3,543 units;
- Sea bottom dredging– 439 m³;
- Sea bottom leveling – 2,033 m²;
- Artificial Sand Nourishment works (In front of Camp of the Future) – 12,370 m³;

Until September, 2015 Contractor for abovementioned work items provided following amounts of construction materials:

- Natural quarried stone – 1,400 m³;
- Crushed stone – 4,889 m³;
- Sand – 4,855 m³;
- Crushed stone – 2,836 m³.
- Cement – 2,619 t;

Contractor procures construction materials - sand aggregates, quarry stones and etc. from the following licensed companies: Crushed rock from LTD “Pulsari”, contract number HEC-09, LTD “Enguri+” - contract

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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 August is 35, 68%.

Poor Performance of the Contractor. MRDI and MDF envisages to terminate the contract due to the poor performance of the Contractor as it did not demonstrate the ability to conduct the tetrapod laying out activities in spite of the time extension granted by MDF.

Deep Sea Port Project. As the government had earlier informed ADB, a deep sea port is being considered to be built in Anaklia and the same would interfere with the Anaklia Coastal Protection subproject financed from SUTIP Tranches 1 and 3. At this stage, draft concepts are being developed and should be finalized by end of September 2015.

Options. MRDI indicated that decision would be made on the way forward for this project in September 2015 and confirmed that contracts should be terminated irrespective of the question of the new deep sea port. However, several options were discussed and envisaged, the two main options are described below:

- (i) **New bidding.** As the tetrapods are already casted, the outstanding construction activities would consist the tetrapod laying below water according to the actual design. A new bidding could be launched in case the new deep sea port does not interfere with the coastal protection project or the deep sea port is not planned to be completed in the coming years. In such case, coastal protection will be required in the meantime. This option seems unlikely at this stage.
- (ii) **Tetrapods used by the deep sea port project.** Starting from the assumption that the deep sea port would be implemented in the same project area, the government might include in the new contract the obligation to use the tetrapods for the (i) new deep sea port, and (ii) protection of the remaining shore line (as per Anaklia coastal protection phase 1 and phase 2). This would be an in-kind contribution from the government to the new contract, with obligation to include in the deep sea port project the coastal protection of the remaining shore line (in front of the hotels). Tetrapods would be handed over to the government and sound use by the new contractor would be monitored by the government and reported to ADB. However, such an option would have to be discussed in more details and agreed with ADB before taking any action.
- (iii) **New design for Anaklia coastal protection project.** This would be to protect the shoreline on sections other than in the area of the deep sea port. This is not a realistic option. To prepare a new design, the actual design of the deep sea port would have to be finalized before the design of the rest of the coastal protection project can be defined. Among other complication, this would pose a serious challenge in terms of interface management. In such a case, option (ii) should be preferred.

It was agreed that this issue will be further discussed during the next ADB SUTIP Loan Review Mission. The Mission requested the government to clarify its position as soon as possible and no later than 30 September 2015.

Tbilisi-Rustavi urban link (Section 2) - N/A - No construction activities started yet under the Tbilisi-Rustavi project.

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1.3. Changes in project organization and environmental management team

The MDF has an overall responsibility for the Projects' implementation. The MDF is the projects executing, implementing and disbursing agency. MDF undertook a structural reorganization from 2013 to 2015, in consultation with the donor community. The reorganization included rationalization of units and appointment of new staff with relevant background and experience to reinforce the pre-existing teams. MDF's new Executive Director Mr. Juansher Burchuladze was assigned in July, 2015,¹ by the Georgian Prime Minister's Decree.

Management of environmental 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 environmental safeguards specialists, one safety specialist, one social safeguards specialist, 2 resettlement specialists and one ADB's individual consultant on resettlement issues. 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. On August 10, 2015, former Head of the Environmental and Resettlement Unit David Tabidze became the Depute Director of the MDF. The new candidate for the position of Head of the Unit is under the consideration.

MDF is responsible for general management, planning and supervision of the projects. MDF ensures that potential adverse environmental impacts arising from the projects are minimized by implementing all the mitigation measures presented in the environmental impact assessment ("EIA") or Initial Environmental Examination (IEE), including EMPs/SSEMPs, as applicable.

The Environmental and Resettlement Unit of MDF is involved in addressing of environmental and social safeguard issues throughout the entire projects' cycles. Environmental Specialist designated to supervise ADB projects, reviews the EIAs, EMPs, and SSEMPs of projects and carries out supervision of the performance based on approved EMPs/SSEMPs, EIAs, and environmental standards in accordance with ADB "Safeguard Policy Statement" (2009) requirements' and acting Georgian Legislation.

In addition, the individual consultants recruited by MDF contributed to a gradual increase in MDF's responsiveness and the quality of the submissions to ADB.

1.4. Relationships with contractors, owner, lender, etc

Tbilisi Rustavi Urban Road Link (section 2)

EPCM consultant JV "Dohwa Engineering Ltd" (Korea) and "Transproject Ltd" (Georgia) prepared the detailed design which was submitted to MDF on July 30, 2013. Detailed design was amended according to the comments and recommendations given by the International Road Consultant, Georgian Expertise and MDF. The final draft detailed design of the project is under the finalization and will be submitted to

¹ MDF's Former Executive Director Mr. Ilia Darchiashvili became the First Deputy Minister of MRDI

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MDF in September, 2015².

Tbilisi-Rustavi Urban Road Link Section 2 project will be tendered out after finalization of the detailed design, which should reflect the results and recommendations of the structural integrity survey of 10 apartment buildings, noise and vibration modeling. IEE will also be finalized on the basis of the conclusions of the mentioned study³.

The consulting company - Nord East Progetti S.r.l. Engineering, which had to conduct Investigation of Structural Integrity of, and Impact of Vibration and Noise on Buildings at a Segment of Tbilisi-Rustavi Road Project (section 2) has been selected and contract was signed on December 19, 2014. MDF was working closely with the survey consultant, Tbilisi-Rustavi Urban Link project EPCM consultant 'Dohwa' and individual road consultant in order to execute planned activities without delay and secure finalization of the detailed design and bidding documents in due time.

Anaklia Coastal Improvement (Phase 2)

The civil works contract was awarded to Modern Business Group (Azerbaijan) on 26 September 2014, thus the contractor is the same as for the Anaklia Coastal Improvement (phase 1) subproject. As far as MDF was not satisfied with Contractor's performance for Anaklia coastal improvement (phase 1) subproject, decision has been taken that the notice to proceed will be sent by mid-February 2015, only after Contractor shows significant progress in the on-going marine works for phase 1 subproject. Contractor was requested to mobilize all necessary marine equipment on-site. Contractor mobilized additional vessels and other marine equipment on site.

The MDF is the project executing, implementing and disbursing agency. MDF is responsible for general implementation of all safeguards tasks and guarantee that potential adverse environmental impacts arising from the Project's implementation are minimized by applying mitigation measures presented in the environmental impact assessment ("EIA") or Initial Environmental Examination (IEE), as applicable.

According to contract's safeguards issues, Construction Contractor should comply with all applicable national environmental laws and regulations, measures and requirements set forth in the IEE and EMP/SSEMPs. For managing environmental impacts, carrying out all of the monitoring and mitigation measures set for IEE and EMP/SSEMPs documents Contractor should establish an effective operational system and submit adequate reports to the Supervision Company (DOHWA) on the carrying out of such measures. Construction Supervision Company is responsible for supervision of all environmental issues during project implementation.

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.

² Final Detailed Design of the project was submitted to MDF in September 2015.

³ Draft IEE with findings of additional surveys ("Krtsanisi Forest Park" and building integrity and noise and vibration studies) is finalized and will be sent to ADB for approval in the beginning of October.

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The construction contractor's Environmental specialist responsible for implementation of EMP/SSEMP, daily environmental monitoring and reporting. Construction contractor is responsible to prepare monthly progress reports on SSEMP implementation, which contains 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.

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. Quarterly environmental monitoring report (N2) for May-July, 2015 was presented by Consultant Company in August, 2015.

MDF ensures availability of all environmental information and facilitates environmental supervision of the projects. The MDF through its environmental specialist reports to the ADB every 6 months on the status of environmental compliance of construction works by EMRs.

2. PART II. ENVIRONMENTAL MONITORING

Environmental monitoring measures include construction site supervision, verification of permits, monitoring of compliance of the contractor performance and specific monitoring of environmental impacts like noise, dust, soil and water pollution and air emissions, etc.

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) and included in the environmental assessment and review framework.

Environmental monitoring started immediately after the commencement of civil works under the SUTIP T3. Environmental safeguard monitoring is performed as required in the EMPs. MDF submits to ADB a 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.

During reporting period construction works have been implemented only at **Anaklia coastal improvement sub project (phase 2)**. Therefore, the paragraphs below include information related to the mentioned SP.

As it was mentioned above, speed of construction works have been decreased significantly and activities implemented in a very slow pace. Because of decreasing the construction works pace, the possibility of impact level on environment has felt to minimum.

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No adverse environmental impacts related to the construction works were noted or observed within the reporting period. New tests for the sea water and atmospheric air quality were taken.

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.

The following items are monitored during the implementation of the project by Contractor's and Engineer's environmental management specialists:

- Air Quality;
- Sea water quality;
- Soil contamination;
- Noise;
- Flora and Fauna;
- Sea biodiversity ;
- Landscape structure;
- Social Environment;
- Radiation background;
- Construction Waste;
- Construction Safety.

No adverse environmental impacts related to the construction works were noted or observed within the reporting period. New tests for the sea water and atmospheric air quality were carried out in 27.03.15, 31.03.2015, 15.07.2015, 16.07.2015 by the "Laboratory Research Center" Ltd. Test results are provided in Figures 1 and 2 in Annexes. According to data received in March and July 2015 the obtained results did not exceed the National Environmental Standard (Maximum Permissible Level), therefore no additional mitigations are required.

Air Quality

Materials (aggregate and sand) were bought from the licensed suppliers when it was required. Wheels and undercarriage of haul trucks were clean and washed prior to leaving construction site.

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.

Dust generation was controlled, while unloading the loose material at the site by sprinkling water inside barricaded area. The engines of the equipment were checked every morning.

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Sea Water quality

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.

During marine works - dredging, stone filling and placing TTP units - works were monitored for sea water turbidity level. During this works contractor environment specialist was visually controlling 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.

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.

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.

Soil Contamination

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.

Noise

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

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.

Flora and Fauna

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.

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Waste

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 is accumulating them separately in special containers. Hazardous waste will be removed from construction site by authorized personal only in accordance with safety regulations.

Contractor Company has relevant contracts with licensed companies for proper management and final disposal of waste. For removal of hazardous waste, contract with Ltd "Sanitari" is signed; domestic waste is handled by Zugdidi municipality and construction waste - by "Georgian Solid Waste Management Company".

Sea Biodiversity

During marine works, loss of Bio ecology is expected (sea plants), but because of insignificant Influence no specific mitigation measures are required.

Landscape

Construction activities do not make any significant impact on the landscape of the territory.

Social Environment

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 conditions have been improved.

Radiation background

Radiation background of the captured territory has not been changed by the construction activities.

Construction Safety

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

Ground water disposal

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

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3. PART III: ENVIRONMENTAL MANAGEMENT

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

IEEs, 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 reports and submits to MDF on progress of the environmental management plan.

An environmental assessment and review framework was approved by the government of Georgia on 16 April 2010. Document was updated in April 2015. The environmental classification for tranche 3 under ADB's Safeguard Policy Statement (2009) is B as its subprojects will not have significant irreversible or permanent negative environmental impacts during or after construction.

The initial environmental examinations (IEE) for Tbilisi-Rustavi Urban Road Link (section 2) and Anaklia Coastal Improvement (phase 2) were prepared. Implementation of all mitigation measures during construction activities under the SUTIP T3 are monitored. IEE including EMP are integral part of all contracts under SUTIP T3 and implementation thereof is mandatory for contactors. The environmental management plans (EMP) will be updated by construction contractor(s) and submitted to the supervision consultant for approval if necessary.

SSEMP has been prepared by Construction Company and endorsed by Supervision Consultant Company in June, 2015. Document was presented to the MDF for approval in June.

Training on environmental safeguards was conducted in March, 2015 under the RETA 8663 and training on Grievance Redress Mechanism was conducted on July 7, 2015 under the RETA 8663 and 7433.

Tbilisi-Rustavi urban link (Section 2)

EPCM consultant (Dohwa) is finalizing the detailed design of section 2. Bidding documents are also under the preparation. However, the same could be finalized only after additional studies relating to apartment buildings along the alignment are performed.

In February – March, Nord Est Progetti S.r.l. has conducted survey and prepared a Report: Investigation of Structural Integrity of, and Impact of Vibration and Noise on Buildings at a Segment of Tbilisi-Rustavi Road Project (Section 2, km 5,2-6,9) which was presented in June, 2015⁴.

⁴ Final reports of survey findings and results were presented in September, 2015. After completion of the additional studies dedicated to assessment of noise and vibration impacts on the apartment building and residents of these buildings, a public consultation meeting has been conducted with the representatives of the affected apartments. The meeting has been conducted on September 15, 2015 at MDF.

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In August 2015 the additional studies of the background noise and vibration have been conducted by the Nord East Progetti S.r.l. Engineering Consulting. Measurements were conducted on a territory of the pharmaceutical company GMP at different locations.

The outcome of the studies demonstrates that the apartment buildings (except the building 1, which will be demolished due to the direct impact), the structural integrity of the rest 8 studied apartment houses will not be affected by the construction activities or highway operation. The buildings are estimated to be stable. The level of vibration impacts is acceptable in terms of health and safety norms. The only needed action is reinforcement of the voluntary additions to the buildings, which have been constructed by the owners illegally and are not in compliance with the engineering standards. The risks for these voluntary additions is not related directly to the construction activities, but represent the separate, independent problem. However, to avoid any future claims from the residents, MDF is ready to provide temporary reinforcement for the period of road construction.

Mitigation of the noise impacts requires construction of specially designed acoustic barrier. The residents of the apartment buildings accepted the plan of constructing high noise barriers, in case if the aesthetic aspects will be considered and the design of the barrier will be in compliance with the overall landscaping plan for the area.

The consultant (DOHWA) presented the draft final detailed design to the Mission and presented in details how the concept of urban boulevard and creation of recreational area along Ponichala apartment buildings was developed (in accordance with the recommendations summarized in the Aide Memoire of the June 2013 Loan Review Mission). Most of the components of the concept were adopted in the design (recreational areas with tree alignments, furniture and playground, including on river side, bike lanes and bike parks, well located bus stops, protected pedestrian space, laminated glass noise barriers which are crossable)⁵.

The design of this stretch was reviewed by the individual consultant (IC) who has no further comments. MDF and EPCM consultant explained that at-grade pedestrian crossings are not envisaged for safety reason (the design include pedestrian bridges), as it was decided by City Hall to reduce the speed limit from 110 to 80 kmph (and not 50-60kmph which was recommended under the concept) which is the standards adopted for such roads within Tbilisi City Area.

The ADB Mission requested MDF to ensure that: (i) bus stop should be created on both sides; (ii) the transition from the 110 kmph speed limit section to the 80 kmph should be handled according to latest safety standards (signs, small bumpers (speed breakers), and flashing lights).

The final detailed design and bidding document should be submitted to ADB for review by end of September 2015. The final IEE is being prepared to include further mitigation measures (temporary reinforcement of additions on some of the apartment buildings) and will be submitted to ADB by end of September 2015 for review⁶.

⁵ Final DD was presented to MDF in September, 2015.

⁶ Final IEE is prepared and was presented to MDF at the end of September and will be submitted to ADB in the beginning of October, 2015.

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3.2 Site inspections and audits

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 on regular bases.

12 site visits were conducted by the environmental specialist of Supervisor Company during reporting period and 17 non-compliance notices have been issued by him. All non-compliances have been fixed by the contractor in required time.

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

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.

ADB's Environmental Review Mission visited Georgia during – 30 April - 7 May, 2015 to follow up on implementation of the project. On 6th of May, 2015 ADB environmental specialist Mrs. Phuong together with RETA 8663 National Environmental Safeguards Consultant (Keti Dgebuadze) conducted Environmental monitoring visit in Anaklia. The Mission met with MDF, the EPCM consultant (engineer) and contractor representatives and reviewed the progress of project implementation.

According to Mission notes, at Anaklia coastal improvement project all recommendations made on the last review mission have been implemented satisfactorily:

- Significant improvement in track record system has been made: all required documents including IEE, EMP, SEMP, monthly progress reports, quarterly progress reports, complaints log, contracts with subcontractors, and monitoring data are available at Anaklia camp site;
- In May 2014 Construction Contractor recruited a National Environmental Specialist, who is permanently on the site and undertakes daily monitoring using site inspection checklists. DOHWA mobilized an international consultant. All non-compliance notices and corrective actions are described in the quarterly reports, submitted to MDF;
- **Complaints log:** There is a Book of Complaints and Suggestions prepared by new environmental specialists of CC and SC according to the ADB template. Complaints log has been introduced to the local population and officials. During the last 7 month no environmental issues or complaints were received from the local residents;
- Regular training on safeguard issues for on-shore and marine works has been provided by the contractor;
- **SSEMP** was developed by Construction Contractor after construction activities commencement and submitted to Supervision Consultant for approval.

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- **Quarry sites:** Construction materials (gravel, crashed stone and sand) are obtaining from 3 licensed companies/subcontractors: two borrow pits (for gravel and crashed stones) are located in Jvari and one (for sand) in – Ganmukhuri. All updated licenses are available at camp site. The proposed site in a sensitive wetland area was not used;
- **Waste management:** The Construction Contractor has an agreement with Zugdidi Municipality and a licensed company - “Sanitary” Ltd to regularly collect municipal waste and hazardous wastes, respectively, from the containers placed at the construction sites. Construction waste has been collected by “Georgian Solid Waste Management Company” for final disposal at an allocated site. Septic tank is set up at the campsite, which are periodically emptied by a subcontractor. The concrete production stopped in May 2014 thus the school camp was not affected. During the music festival time in Anaklia, alternative route was used for material transportation; **Monitoring (air, noise, water):** Monitoring measurements for air and water quality and noise are conducted quarterly by “Laboratory Research Center”. The Mission requested to adequately reflect all information related to the monitoring data in the next Bi-annual EMR (in July, 2015) by PIU (MDF).

Refereeing to Tbilisi-Rustavi Urban link section 2 project, following note was stated:

“There is a complaint case from a Pharmacy company (GMP Ltd.) on the land acquisition which may lead to a risk of being affected by environmental impacts. Three letters were sent out and the case has been registered by ADB. The contract with the Italian company has been extended to conduct a study on modeling noise, vibration and air emission for this case. The study results will be submitted by 15 June 2015. The Mission requested to engage the ADB environmental staff and consultant on environmental issues. “ - A complaint was recorded in the GRM (08.12.2014) about possibility of environmental impacts on the GMP during the road construction and operation. A detailed impact assessment study was carried out. The case is being handled through the GRM and in accordance with ADB Accountability Mechanism Policy procedures.

3.3 Noncompliance notice and corrective actions

Identification of problematic issues and noncompliance notice during site inspections is the responsibility of Environmental Specialist of Superviion Consultant. 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.

In case of any deviations of EMP and 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 and SSEMP.

Non-compliances and Problematic issues observed during reporting period and their current statuses are provided in the table below.

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Non-Compliance notices and corrective actions

Date of submission	Description of Non-Compliance	Area	Corrective action required including deadline	Performance Date of Corrective actions
17.03.2015	Watering of working yard - Watering of working yard hasn't implemented.	Anaklia, working yard	Watering should be implemented on every day basis	Corrected on 18.03.2015.
26.03.2015	Safety briefing -Safety briefing has not been conducted in a daily basis.	Anaklia, working yard	Safety briefing should be conducted in a daily basis	Corrected on 26.03.2015.
07.04.2015	Covering of Lorries – One of the Lorry cover has been damaged.	Anaklia, working yard	All lorries must be covered.	Corrected on 07.04.2015.
14.04.2015	Safety briefing -Safety briefing has not been conducted in a daily basis.	Anaklia, working yard entry	Safety briefing should be conducted in a daily basis	Corrected on 15.04.2015.
22.04.2015	Domestic waste – One of the workers did not remove used PPE equipment to the domestic waste isolated area.	Anaklia, working yard	The used PPE equipment should be placed in the proper area – isolated place for waste storage	Corrected on 22.04.2015.

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08.05.2015	Watering of working yard - Watering of working yard hasn't implemented.	Anaklia, working yard	Watering should be implemented on every day basis	Corrected on 08.05.2015.
14.05.2015	Safety briefing -Safety briefing has not been conducted in a daily basis.	Anaklia, camp area	Safety briefing should be conducted not later than next day	Corrected on 14.05.2015.
18.05.2015	Covering of the sand – Sand was not covered.	Anaklia, working yard	Sand has to be covered.	Corrected on 18.05.2015.
09.06.2015	Watering of working yard - Watering of working yard hasn't implemented.	Anaklia, working yard	Watering should be implemented on every day basis	Corrected on 09.06.2015.
22.06.2015	TTP storage- The TTP units have not been moved to storage area on time.	Anaklia, working yard	All TTP units has to be stored in the indicated areas.	Corrected on 22.06.2015.
29.06.2015	Safety briefing -Safety briefing has not been conducted in a daily basis.	Anaklia, working yard	Every day safety briefing has to be fulfilled on time.	Corrected on 29.06.2015.
06.07.2015	Domestic Waste- Domestic waste has not been removed on time.	Anaklia, working yard	Domestic waste has to be removed on time.	Corrected on 06.07.2015.
14.07.2015	PPE Equipment- one of the staff members did not have PPE equipment on site.	Anaklia, working yard	All workers must have PPE equipment.	Corrected on 14.07.2015.

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22.07.2015	Watering of working yard - Watering of working yard hasn't implemented.	Anaklia, working yard	Watering should be implemented on every day basis	Corrected on 22.07.2015.
11.08.2015	Warning signs - Damaged warning signs	Anaklia, working yard	Working area must be indicated with warning signs.	Corrected on 11.08.2015.
16.08.2015	Covering of Lorries – One of the Lorry cover has been damaged.	Anaklia, working yard	All lorries must be covered	Corrected on 16.08.2015.
26.08.2015	Municipal waste - Because of bad weather domestic waste container was damaged.	Anaklia, working yard	Waste containers must be in good conditions and placed properly	Corrected on 27.08.2015.

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3.4 Consultation and Complaints

Grievance Redress Mechanism

Anaklia coastal improvement project

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.

Complaints' registration journal is created and available at Anaklia construction site. The copy of journal with mobile numbers of relevant persons to be addressed is placed at local Municipality as well. Complaints' from the local 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. None of complaints have been raised and registered during reporting period

Tbilisi-Rustavi urban Link m-section II

No civil works has been started yet within the projects. After starting the implementation of the Projects, there might be several issues related to environmental hazards and disputes on entitlement processes may 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 are some of the environmental issues that are likely to arise from the Project activities.

As the work is being done in inhabited areas, most of the impacts are construction related, and therefore it is anticipated that improper or inadequate implementation of EMP may lead to disturbance and inconvenience to local people during construction. 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, MDF will establish a Grievance Redress Mechanism. A Complaint Cell and a Grievance Redress Committee will be established in Anaklia municipality to function throughout the construction period.

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Grievance redress procedure for the projects aims to provide an effective and systematic mechanism in responding to queries, feedbacks and complaints from affected persons (AP), other key stakeholders and the general public. APs will be fully informed of their rights and of the procedures for addressing the complaints whether verbally or in writing during consultation, survey, and time of compensation.

In order to ensure that grievances and complaints are addressed in a timely and satisfactory manner and that all possible avenues are available to APs to air their grievances, Complaints Log books will be established at construction sites and MDF office, where complaints can be registered in special journal or electronic register (MS Excel or similar). The copy of complaints log journal with mobile numbers of relevant persons can be placed at local Municipalities as well. A grievance register will be maintained at each of the locations above to record grievances and keep track of their status.

APs or other concerned individuals may visit, call or send a letter, fax or e-mail to any of the relevant persons to register their comments or complaints related to any problem raised because of environmental aspects of the project. Grievances will be logged into either at Complaints Log Book or an electronic register (MS Excel or similar) assigning compliant number with date of receipt. Complaints' will be investigated and each grievance will be assigned to the designated staff for resolution. Abovementioned grievance mechanism does not limit the citizen's right to submit the case to the court of law just in the first stage of grievance process.

Efforts will be made to prevent and amicably resolve grievances rather than going through a legal redress process. This can be achieved through, ensuring full participation and consultation with the project affected persons, and establishing extensive communication and coordination between affected communities, EA, and relevant local governments, as necessary.

3.4. Action plan for the next period

Next EMR for September - 2015-February, 2016 period will be submitted in March, 2016.

4. Annexes

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4.1. Monitoring Data

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.</p> <p>Laboratory test are taken in every three month. Tests were taken on 27.03.2015 and on 15.07.2015(See Annex 4.3 and 4.5). 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);</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

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		<ul style="list-style-type: none"> • Technical check-up of machinery. 	<p>Technical check-up of machinery before works. The nearest receptor (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</p>	<ul style="list-style-type: none"> • Maintaining ichthyofauna and microphytes. 	Construction Contractor

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			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, 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</p> <p>Regular check-up and inspection; Laboratory control – as necessary (in case of oil spills). Sea water Laboratory test are taken in every three month. Tests were taken on 27.03.2015 and on 15.07.2015 (See</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

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			Annex 4.3 and 4.5). During this period no problems has been detected		
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.</p> <p>The waste is removed from construction site by authorized</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

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			personal only in accordance of safety regulations.		
Labor safety	Working ground	<ul style="list-style-type: none"> • Inspection; • Availability of personal protection equipment and periodic control over their good maintenance; • Control over the meeting the requirements for labor safety. 	Monitoring of the labor safety issues has been carried out by contractor 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"> • Ensuring compliance with health and safety norms; • Avoiding/minimizing traumatism. 	Construction Contractor

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4.2 Implementation report on the environmental impact assessment (EIA)/initial environmental examination (IEE)/Site Specific Environmental Management Plan (SEMP) mitigation requirements

e	Requirement	Action to date	Action required/comment
	<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 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</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 instructed on environment and safety issues rules and regulations.</p> <p>Sea water Laboratory test was taken twice in accordance SSEMP requirements.</p>	<p>Monitoring of the Surface mitigation level is been carried contractor environmental spe every day basis and by s environmental specialist</p> <p>Regular check-up and inspection Laboratory control – as necessary of oil spills). Sea water Labor are taken in every three mo were taken on 27.03.2015 15.07.2015(See Annex 4.3 During reporting period no pro been detected.</p>

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	<p>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>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>Taking all measures to avoid the deterioration of the seawater quality.</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. The construction waste has been accumulated in special areas away from the water bodies and removed buy authorized personal only. On site environment specialists are maintaining visual monitoring for oils spills and equipment conditions, no accidents has been detected. Personal is being instructed on environment and safety issues rules and regulations.</p>	<p>Monitoring of the underground mitigation level is been carried out by contractor environmental specialist every day basis and by specialist environmental specialist</p> <p>Regular check-up and inspection Laboratory control – as necessary (in case of oil spills). Regular monitoring carried out to provide protection of the underground quality. During this period no pollution has been detected</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>Monitoring of the construction noise level is been carried out by contractor environmental specialist every day basis and by supervising environmental specialist. Regular control (particularly during much operations);</p> <p>Measuring (In case of grievance) Technical check-up of machinery works. The nearest receptor (residential houses) is approximately 400-500 m from construction site, drivers are maintaining the safe speed limits on main roads and 10 kph on construction site, there for no noise complaints been detected. During this period no grievance or problems has been</p>

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	<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>		
	<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 (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>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>Measuring (In case of grievance this period no grievance or problem has been detected.</p> <p>Technical check-up of machinery works. The nearest receptor (houses) is approximately 40m away from construction site, maintaining the safe speed 10 km/h on main roads and 10 km/h on construction site, there for no complains has been detected.</p> <p>Watering working yard on every 4 hours basis. On 17.03.2015, 08.05.2015, 09.06.2015 and on 22.07.2015 watering of working yard hasn't implemented during working time (See Non-Compliance notification and corrective actions).</p> <p>Corrected on 18.03.2015. Corrected on 08.05.2015. Corrected on 09.06.2015. Corrected on 22.07.2015.</p>
	<p>Visual control of the area;</p> <p>Control over the waste management.</p> <p>Protecting soil and water quality;</p> <p>Reducing the risk of negative visual impact;</p>	<p>Monitoring of waste management issues being carried out by contractor environmental specialist on every day basis and by supervising environmental specialist.</p>	<p>On 22.04.2015, 06.07.2015 and on 26.08.2015 has been detected violation related issue, which has been corrected immediately in accordance of all regulations (See Non-Compliance notification and corrective actions).</p>

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	<p>No dissatisfied population.</p>	<p>Regular check-up and inspection; 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 by authorized personnel only in accordance of safety regulations.</p>	<p>Corrected on 22.04.2015. Corrected on 06.07.2015. Corrected on 27.08.2015.</p>
	<p>The equipment and vehicles should be maintained in good working order; Driving the vehicles at optimal speeds, particularly in the settled areas; Instructing the personnel (particularly, the drivers of vehicles and techniques); Registering and responding to grievances (if any); 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; Carry out noisy operations during day time;</p>	<p>Watering of the roads has been carried out by the contractor on every day basis. All lorries have been covered by 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>Monitoring of the construction soil mitigation level (including problems) is being carried out by contractor environmental specialist every day basis and by environmental specialist. Regular check-up; Inspection after completion of works. Laboratory control – as necessary (oil spills). Material and waste areas are indicated and isolated. During this period no problems detected.</p>
of	<p>The equipment and vehicles should be maintained in good working order; 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. 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. Air Pollution laboratory test was taken twice in accordance SSEPM requirements.</p>	<p>Monitoring of the construction for air pollution is being carried out by contractor environmental specialist every day basis and by environmental specialist. Technical check-up of machinery works. The nearest receptor (houses) is approximately 40m away from construction site, maintaining the safe speed limit on main roads and 10 km/h on construction site, there for complaints has been detected. Laboratory test are taken in every month. Tests were taken on 22.04.2015 and on 15.07.2015(See Annex 4.5). During this period no pro</p>

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			been detected.
of f	<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 being 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>	<p>During installation of T environmental specialists are doing visual control, taking turbidity. No increased seawater turbidity been detected.</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 is 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>	<p>On 14.07.2015 one of the staff did not have safety equipment and uniform on site(See Non-Compliance notices and corrective actions).</p> <p>Corrected on 14.07.2015.</p>

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4.3. Atmospheric air and Sea water test results.

საქართველო
შ.პ.ს „ლაბორატორიული
კვლევის ცენტრი“



Georgia
L.T.D „Laboratory
Research Center“

ქ. ფოთი მიქაბერიძის ქ. №2 ტელ: (0493 22-17-35)

POTI Miqaberidze st. №2 Tel: (0493 22-17-35)

Air Test Result

Registration 229/5 laboratory test research

Sample Description: Air

Sample Location Construction of coastal Protection Facility in Anaklia

Research Objective: Bacterial and Chemical Indication

Date of sample collection 27.03.2015

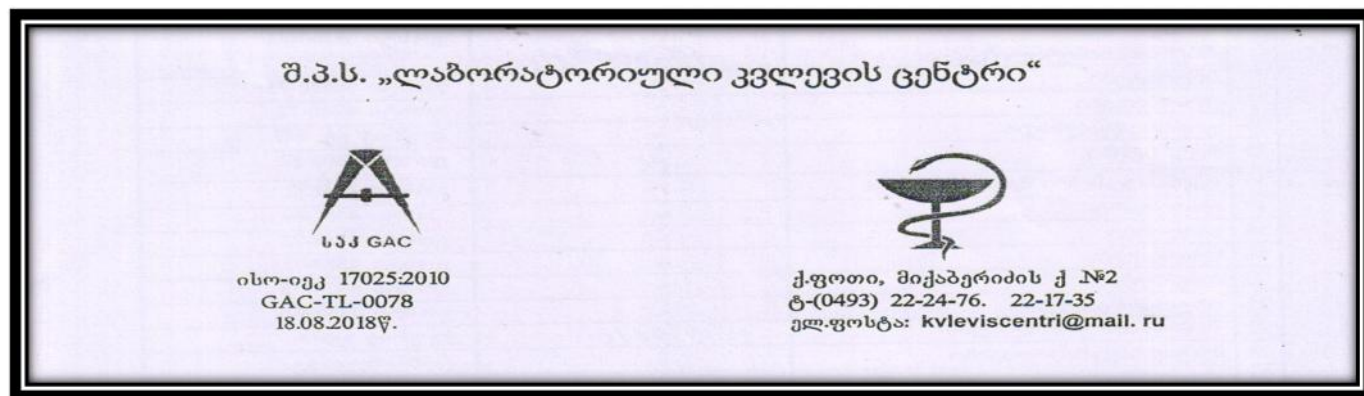
Bacterial and Chemical Indicators	Discovered Composition	Maximum Permissible Concentration
Mesophiles and Micro Particles	40 p.u.	100 p.u.
Dust	0,15 gr/l	0.3 gr/l
Background radiation	0,011 micro/h	0.02 micro/h

Performer:PhysiciaLaboratorian: R. Komakhidze

The Laboratory Supervisor: L.mamaladze

Result date: 30.03.15

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The Act of Test Result № 229

„31„ March„ 2015

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

Sample Description: Sea Water

Sample Location: Time. The number of Act No.229; The Construction Site, Anaklia; 27.03.15, 11⁰⁰ 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 Water test sample.

Starting and completion Date, Time: 27.03.15, 30.03.15.

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
	Biochemical Usage of Oxygen. Usage of Oxygen 5 and Total Usage of Oxygen.	-	LURIA PG.82
0	Dry Residue	17800 mg/l	GOSTI 18164-72
1	Nitrates	-	GOSTI 18826-73
2	Chloride	-	GOSTI 4245-72
3	Hydrogen Sulphide	-	LURIA PG.412
4	Nitrite	-	GOSTI 4192-82

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5			
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	2.4 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	0,11 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

The Chief of Research Laboratory Canter: ----- /Ts. Daushvili/

Biannual Environmental Monitoring Report

Atmospheric air and Sea water test results.

საქართველო
შ.პ.ს „ლაბორატორიული
კვლევების ცენტრი“



Georgia
L.T.D „Laboratory
Research Center“

ქ. ფოთი მიქაბერიძის ქ. №2 ტელ: (0493 22-17-35)

POTI Miqaberidze st. №2 Tel: (0493 22-17-35)

Air Test Result

Registration 516/16 laboratory test research

Sample Description: Air

Sample Location Construction of coastal Protection Facility in Anaklia

Research Objective: Bacterial and Chemical Indication

Date of sample collection 15.07.2015

Bacterial and Chemical Indicators	Discovered Composition	Maximum Permissible Concentration
Mesophiles and Micro Particles	25- p.u.	100 p.u.
Dust	0,17 gr/l	0.2 gr/l
Background radiation	0,01 micro/h	0.02 micro/h

Performer: Physician Laboratorian: L. Mamaladze

The Laboratory Supervisor: Ts. Daushvili

Result date: 16.07.15

Biannual Environmental Monitoring Report

Bacterial and Chemical Indicators	Discovered Composition	Maximum Permissible Concentration
Mesophiles and Micro Particles	25- p.u.	100 p.u.
Dust	0,17 gr/l	0.2 gr/l
Background radiation	0,01 micro/h	0.02 micro/h

Performer: Physician Laboratorian: L. Mamaladze

The Laboratory Supervisor: Ts. Daushvili

Result date: 16.07.15

Biannual Environmental Monitoring Report

შ.პ.ს. „ლაბორატორიული კვლევის ცენტრი“



სპს GAC

ისო-იეკ 17025:2010
GAC-TL-0078
18.08.2018წ.



ქ.ფოთი, შიქაბერძის ქ №2
ტ-(0493) 22-24-76. 22-17-35
ელ.ფოსტა: kvleviscentri@mail. ru

The Act of Test Result № 512

„16„July„ 2015

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

Sample Description: Sea Water

Sample Location: Time. The number of Act No.516; The Construction Site, Anaklia; 15.07.15, 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 Water test sample.

Starting and completion Date, Time: 15.07.15, 16.07.15.

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

Chemical Indicators

№	Description of Specific Characteristics	Detected Concentration	Documentation of Technical Normative
1	Smell	-	GOSTI 3351-74
2	Turbidity	-	GOSTI3351-74
3	Colour	10 cm is not in column	GOSTI3351-74
4	Hardness	-	GOSTI 4151-72
5	Calcium	-	LURIA PG.118
6	Mg	-	LURIA PG.122
7	Hydrogen Indicators	-	ISO 10523-08
8	Dissolved Oxygen	-	LURIA GV.176
9	Oxygen's Chemical Requirement	-	LUIA PG.74
10	Biochemical Usage of Oxygen. Usage of Oxygen 5 and Total Usage of Oxygen.	-	LURIA PG.82
11	Dry Residue	17650 mg/l	GOSTI 18164-72
12	Nitrates	-	GOSTI 18826-73
13	Chloride	-	GOSTI 4245-72
14	Hydrogen Sulphide	-	LURIA PG.412
15	Nitrite	-	GOSTI 4192-82
16	Iron	-	GOSTI 6332
17	Arsenic	-	GOSTI 4152-89

Biannual Environmental Monitoring Report

18	Copper	-	GOSTI 4388-72
19	Sulphates	-	GOSTI 4389-78
20	Manganese	-	GOSTI 4974-72
21	Polyphosphates	-	GOSTI 18309-72
22	Suspended Particulates	2.5 mg/l	LURIE pg.43
23	Floating particles	-	GONCHATUKI pg-66
24	Ammonia	-	GOSTI 4192-82
25	The acidity/ alkalinity	-	LURIE pg-57.51
26	Permanganate Oxygen	-	ISO 8467-93
27	Petroleum products	0,07 mg/l	LURIE pg.306
28	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
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The Chief of Research Laboratory Canter: ----- /Ts. Daushvili/

Biannual Environmental Monitoring Report

4.4.Photos

Isolated areas for waste storage



Biannual Environmental Monitoring Report

Work activities

