

Municipal Development Fund of Georgia



Improvement of Cultural Heritage Zones in Motsameta Monastery

Sub-project Environmental and Social Screening and Environmental Review

**WORLD BANK FINANCED
REGIONAL DEVELOPMENT PROJECT 2**

January, 2018

Sub-project Description

The sub-project (SP) envisages the rehabilitation of the Motsameta monastic complex, which implies the following activities:

1. Rehabilitation of the existing parking;
2. Arrangement of a new parking area in 150 meters from the existing one;
3. Communication system (power supply, water supply) rehabilitation;
4. Rehabilitation of Visitor Center building;
5. Rehabilitation of the existing lavatory building;
6. Reinforcement of the fence walls;
7. Installation of small architectural forms in the complex area;
8. Rehabilitation of railway crossing;
9. Arrangement of additional pathways;
10. Safeguarding of the pathway towards river Tskaltsitela.

1. Rehabilitation of the existing parking

The existing parking area dimensions will not be changed after the rehabilitation, as it fits to international standards (5m x 3,5m). The parking area is intended for 12 cars. The drainage channel near parking area will be moved for several meters to prevent it from being easily damaged. The drainage grilles will be removed from the passing area. In the course of the above-mentioned works, the old existing asphalt cover on the territory of parking will be removed and a new asphalt cover will be applied. The edging and concrete drainage channel will be arranged near the parking area.

2. Arrangement of a new parking area

SP includes arrangement of the new parking area in the distance of 120 meters from the existing parking lot (see Annex 1). The land plot (Cadastral code 39.07.33.133) is registered as the Tkibuli municipality's property and the right of use is granted to the LEPL Municipal Development Fund of Georgia. New parking area will have space for 14 automobiles, 8 minibuses and 5 buses.

Apart from the above mentioned, there will also be a reinforced concrete wall and drainage system that will connect the existing drainage channel. The asphalt-concrete layer will be applied on the territory, the sidewalks will be arranged and the area landscaping will be included as well.

3. Communication system (power supply, water supply) rehabilitation

SP envisages the rehabilitation of the communications system for the Motsameta monastic complex. Power supply system of the complex and existing lighting systems will be replaced. Parking and toilet lighting will be supplied from the existing transformer station where the independent meter will be installed for the toilet. Parking light will be connected to the municipal lighting network. Decorative lights will be installed on the territory with energy saving diode lights.

The complex will be supplied with water from the 2000 m³ reservoir situated at TV mast. Near the village Motsameta, a branching is installed for village water supply in the future. Because the water is supplied according to a schedule, the SP envisages arranging a water reservoir with the capacity of 80 tones, which

will be useful in winter as well as in summer seasons. The reservoir will be cleaned in summer and used in for drinking water, while in winter the water will be used for fire safety. For additional safety of drinking water, a UV purifier will be installed in the reservoir. Furthermore, two basins with the capacity of 5 tons each, will be arranged for separate sanitary node and for winter use as well.

The wastewater from the building will be collected and directed to the wastewater treatment unit located in the yard. During summers, two treatment units will work at the same time (one with the capacity of 4 m³/d and the other with the capacity of 6 m³/d). The treated water will be transferred to mountain slope by tube and afterwards to the ravine with channel. Therefore, therefore there is no social impact expected as the tubes and the channel will not cross any privately/municipally owned land.

4. Rehabilitation of the Visitor's Centre

SP envisages rehabilitation of the visitor's center at Motsameta monastery complex and adapting it for the needs of people with disabilities. Currently, the building is existing but is not functioning and people are not employed there. Therefore, no social impact is expected as a result of the rehabilitation works. The roof, the ceiling and the walls of the interior, as well as damaged windows will be replaced; existing toilets will be rehabilitated and adapted to the people with disabilities; and communication system network will be renewed. The rooms for guides and administration will also be rehabilitated. Ramps for people with disabilities will be installed at the entrance of the building.

5. Rehabilitation of the existing lavatory building

SP envisages the rehabilitation of the existing toilet, which means replacing the roof, doors and windows, and also includes façade rehabilitation. Besides, the walls, ceiling and floor will be repaired, communication network and fittings (switchers, densers, and hand dryers) will be renewed. The faulty electrical system and the existing lighting systems of the complex will also be replaced. Water will be supplied from a new 5-ton reservoir and hot water - from 80 liters of water heater. Waste water will be collected in the building and will be pulled out of the building in a sewage pile. The sewerage network will include arrangement of revision and wastewater treatment facility. SP will also support installation of heating-ventilation system to ensure proper treatment of wastewater on the operation phase before discharge into the environment.

6. Reinforcement of the fence walls

The fragments of retaining walls along the pathways and nearby the resting zone are significantly damaged and there is a danger of falling. SP includes rehabilitation of the part of the wall neighboring the pathway towards the river. The piece of the wall that is built by natural stone cracks and is strongly disassembled, will be rebuilt with the same stones.

7. Installation of small architectural forms in the complex area

On the territory of the complex, small architectural elements will be installed with contemporary design: chairs, bins, information boards and markers, restrictive barriers, external stocks. The complex will be

accessible to people with disabilities. Electric elevating platform will be installed at the visitor's center. At the area of the complex, ramps will be arranged for the people with disabilities.

The pathway from the new parking area towards the complex, is narrow and slope, so electric platform or special ramps for people with disabilities could not be arranged. Considering this, at the main square of the complex, there will be two parking places arranged for the people with disabilities in order to easily have access to the monastic complex.

8. Rehabilitation of railway crossing

All the visitors of the monastic complex, including those arriving by car and coming from the new parking area, have to pass the railway crossing, which, at present, is damaged and causes discomfort. SP will rehabilitate the crossing applying special panels and tiles. Installation of the signposting, warning signs, barriers are also included in the SP.

9. Arrangement of additional pathways

The rehabilitated area requires to have more pathways. The new pathways will be arranged in the same way as the old ones. Natural stones and sand-cement will be used for arrangement.

10. Safeguarding of the pathway towards river Tskaltsitela

The path leading to the river Tskaltsitela is quite steep and unsafe. Therefore, the path rehabilitation and arrangement of the guard rails is planned under the SP. In order to avoid the damage of the natural terrain, the area will be terraced and wooden railings will be installed.

Environmental Screening and Classification

(A) IMPACT IDENTIFICATION

<p>Has the subproject a tangible impact on the environment?</p>	<p>The SP will have a modest short-term negative environmental impact and is expected to have tangible long-term positive impact on the natural and social environment.</p>
<p>What are the significant beneficial and adverse environmental effects of the subproject?</p>	<p>SP is expected to have positive long-term social impact.</p> <p>As the SP is to be implemented on a CH site, there is higher than average likelihood of encountering chance-finds during excavation works.</p> <p>One of the expected negative environmental impacts is tree cutting required for clearing the space of the new parking lot. However, none of the trees to be extracted are on the Red List of Georgia. Neither is any of them higher than 550 cm or have a diameter greater than 10.5 cm. Inventory documentation certified by the Mayor of Tkibuli Municipality and Letter of Agreement N47/7793 on cutting the abovementioned trees are obtained.</p> <p>Other expected negative environmental impacts are likely to be short term and typical to medium scale rehabilitation works in modified landscape: noise, dust, vibration, and emissions from the operation of construction machinery; generation of construction waste; disruption of traffic and pedestrian access.</p> <p>In the operation phase, proper management of generated solid waste and wastewater should be ensured to reduce impact on the environment.</p> <p>Increased tourist flows may have indirect negative environmental impacts: waste generation, vandalism, etc.</p>
<p>May the subproject have any significant impact on the local communities and other affected people?</p>	<p>No new land take and resettlement are expected. As mentioned above the land plot of the SP area (where the new parking will be arranged, cadastral code 39.07.33.133) is registered as the Tkibuli municipality's property and the right of use is granted to the Municipal Development Fund of Georgia.</p> <p>The long-term social impact will be beneficial (growth of tourist flow, attraction of private sector investment in</p>

	<p>tourism infrastructure (hotels, restaurants, shopping, entertainment, etc.).</p> <p>Negative impacts are short term and limited to the construction site. They are related to the possible disturbance described above.</p>
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(B) MITIGATION MEASURES

<p>Were there any alternatives to the sub-project design considered?</p>	<p>No other alternatives have been discussed as the SP area for the arrangement of new parking, is registered as the municipal property. The neighboring land plots are either considered as the state forest fund or registered as the private property. Consequently, it was the only option for the given SP.</p>
<p>What types of mitigation measures are proposed?</p>	<p>The expected negative impacts of the construction phase can be mitigated by demarcation of the construction site, traffic management, good maintenance of the construction machinery, observance of the established working hours, and well organized disposal of waste to the formally agreed sites.</p> <p>Prior to vegetation clearing, Contractor is obliged to obtain a certificate of origin of the plant originated by the municipality authority for transportation, according to the requirement of the Ordinance of Georgia N46 of 10.01.2014 on the Approval of Technical Rules of the Primary Processing of Timber and Round Logs on the territory of Georgia.</p> <p>The viable materials generated as a result of demolition will be stored at the monastery area for subsequent reuse. Construction waste will be disposed either at the territory indicated by the municipality or at the nearest municipal landfill in Village Manchiori.</p> <p>In case of chance finds, works will be taken on hold and notification be sent to the Ministry of Culture and Monument Protection of Georgia. Works will resume only upon written consent of the Ministry.</p> <p>For additional safety of drinking water, a UV purifier will be installed in the 2000 m³ reservoir, from which the complex will be supplied with water.</p>

	<p>Besides, the sewerage network of the rehabilitated lavatory will include arrangement of revision and wastewater treatment facility to ensure proper treatment of wastewater on the operation phase before discharge into the environment.</p>
<p>What lessons from the previous similar subprojects have been incorporated into the project design?</p>	<p>Based on the lessons learned from previous similar projects, design envisages not only construction of the new building but also arrangement of individual wastewater treatment unit for sewerage.</p> <p>Besides, the buildings to be rehabilitated will be adapted to the people with disabilities.</p>
<p>Have concerned communities been involved and have their interests and knowledge been adequately taken into consideration in subproject preparation?</p>	<p>MDF and local municipality will organize consultation meeting to discuss about EMP with local population and representatives of the monastery before starting of rehabilitation works.</p>

(C) CATEGORIZATION AND CONCLUSION

Based on the screening outcomes,

Subproject is classified as environmental Category

- A
- B
- C

Conclusion of the environmental screening:

- ✓ Subproject is declined
- ✓ Subproject is accepted

If accepted, and based on risk assessment, subproject preparation requires:

- ✓ Completion of the Environmental Management Checklist
for Small Construction and Rehabilitation Activities
- ✓ Environmental Review, including development of
Environmental Management Plan

Social Screening

Social safeguards screening information		Yes	No
1	Is the information related to the affiliation, ownership and land use status of the sub-project site available and verifiable? (The screening cannot be completed until this is available)	√*	
2	Will the sub-project reduce people's access to their economic resources, such as land, pasture, water, public services, sites of common public use or other resources that they depend on?		√
3	Will the sub-project result in resettlement of individuals or families or require the acquisition of land (public or private, temporarily or permanently) for its development?		√
4	Will the project result in the temporary or permanent loss of crops, fruit trees and household infrastructure (such as ancillary facilities, fence, canal, granaries, outside toilets and kitchens, etc.)?		√
If answer to any above question (except question 1) is "Yes", then OP/BP 4.12 Involuntary Resettlement is applicable and mitigation measures should follow this OP/BP 4.12 and the Resettlement Policy Framework			
Cultural resources safeguard screening information		Yes	No
5	Will the project require excavation near any historical, archaeological or cultural heritage site?	√	
If answer to question 5 is "Yes", then OP/BP 4.11 Physical Cultural Resources is applicable and possible chance finds must be handled in accordance with OP/BP and relevant procedures provided in the Environmental Management Framework .			

* The Motsameta monastery complex is in the ownership of the Georgian Apostolic Autocephaly Orthodox Church (in accordance with the Constitutional Treaty (2002) made between the State of Georgia and the Georgian Apostolic Autocephaly Orthodox Church).

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Environmental Review and Environmental Management Plan

Introduction

1. Background Information

The Government of Georgia approved in June 25, 2010 (Government resolution no. 172), the State Strategy on Regional Development of Georgia for 2010-2017, prepared by the Ministry of Regional Development and Infrastructure (MRDI). The main objective of the strategy is to create a favorable environment for regional socio-economic development and improve living standards. These objectives will be attained through a balanced socio-economic development, increased competitiveness and increased socio-economic equalization among the regions.

In order to better utilize the tourism and agriculture potentials that exist in Imereti and reduce internal socio-economic disparities, the Government of Georgia approached the World Bank with the request to provide financial support to the regional development in Imereti. A Regional Development Project II (RDP II) was prepared jointly by the Government of Georgia and the World Bank, and World Bank provided a loan funding for the implementation of RDP II.

SP for Motsameta Monastery Infrastructural Sub-Project is a part of the RDP II and shall be prepared, reviewed, approved, and implemented in agreement with the requirements of the Georgian legislation and the World Bank policies applicable to the RDP II.

2. Institutional Framework

The Municipal Development Fund of Georgia (hereinafter: the MDF) is a legal entity of public law, the objective of which is to support strengthening institutional and financial capacity of local government units, investing financial resources in local infrastructure and services and improving on sustainable basis the primary economic and social services for the local population (communities). MDF is designated as an implementing entity for the RDP and is responsible for its day-to-day management, including application of the environmental and social safeguard policies.

MDF prepares and submits to the World Bank for approval the Subproject Appraisal Reports (SARs), with safeguards documents attached. These may include, as case may be, an Environmental Review (ER) along with an Environmental Management Plan (EMP), an EMP prepared using the Environmental Management Checklist for Small Construction and Rehabilitation Activities, and a Resettlement Action Plan (RAP).

The Tkibuli municipality will be responsible for the operation and maintenance of water supply and wastewater systems.

Key Stakeholders

<u>Grant Recipient/ Borrower:</u>	Government of Georgia represented by the Ministry of Finance
<u>Local Representation:</u>	Tkibuli Municipality
<u>Sources of Funding/Financing:</u>	World Bank (WB)
<u>Implementing Agency:</u>	Municipal Development Fund of Georgia (MDF)
<u>Contractor:</u>	(TBD)

1.3 Legislation and Regulations

According to the Environmental Assessment Code of Georgia the SP does not require preparation of EIA and obtaining of Permit on Environmental Impact.

The land plot (Cadastral code 39.07.33.133) for the new parking area is registered as the Tkibuli municipality's property and the right of use granted to the LEPL Municipal Development Fund of Georgia. The SP triggers to the OP/BP 4.01 Environmental Assessment and OP/BP 4.11 Physical Cultural Resources safeguard policies.

According to the above-mentioned safeguard policies and the Environmental Management Framework adopted for the current program, the SP has been classified as B (+) category and requires preparation of Environmental Review (ER) and environmental Management Plan (EMP), in compliance with recommendations of Environmental Management Framework (EMF).

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Baseline Environmental Information

The Motsameta Sub-Project sites is situated in the Western Georgia, in about 6 km from Kutaisi City. This territory is comprised within the boundaries of the Tkibuli Municipality. The sub-project territory is comprised within the Tskaltsitela River valley, at about 200 m above the sea level (masl). Distance from

Tbilisi is 2036 km. In geographical terms, this territory falls within the Imereti foothills, which is characterized with hilly landscapes. The Tskaltsitela valley is built by Cretaceous limestone, where numerous karsts are developed.

Environs of the monastery are covered by Cholchic deciduous forests growing in temperate humid sub-tropical climatic conditions. Landscapes there are partly modified under the anthropogenic pressure, though forests are relatively well-preserved. This area is covered by podzolic soils. Landscapes are agricultural near the Motsameta Village, which is remote from the monastery.

Engineering Geology

Engineering-geologic study of the sub-project area showed that this territory is built by hard rocks. They mostly belong to VII class and earth works will require the use of pneumatic machinery.

Hydrology

The main hydrological feature of the study area is the Tskaltsitela River, which is a tributary of the Kvirila River. The Tskaltsitela River flows through a canyon-like gorge. The total length of the river is 49 km, and its basin comprises 221 km². The river is mainly fed on rain water, and its mean annual flow at the mouth section is 7.56 m³/sec.

The Tskaltsitela River flows in about 200 m from the sub-project site. A motor road and steep mountain hill separate the sub-project site and the river.

Vegetation

As mentioned, the abandoned borrow pit is selected for the sub-project implementation. This territory is currently covered by secondary grove, where mainly grow alder trees (about 60 specimen); undergrowth is presented by deciduous shrubbery. Among vegetation growing on surround terrain should be mentioned the box tree, which is included in the Red List of Georgia. Though, this species is not present on the sub-project territory.

Fauna

The Tskaltsitela valley provides habitats to some widespread mammals such are jackal, fox, badger, etc. From rare mammals, there could be encountered otter and nutria, which found shelter on the river banks. To be mentioned, the Tskaltsitela valley is not a critical habitat for these species. The river itself provides a habitat for some fish species, mostly Barbus family. Some waterfowl could be encountered near the river. The sub-project site itself does not contain important animal habitats such are breeding, nestling, feeding areas.

Protected Areas

The SP site is situated in 2 km from the Natural Monument of the Tskaltsitela Valley. The Natural Monument spreads over 7.5 km between the villages of Godogani (Terjola Municipality) and Gelati (Tkibuli

Municipality) and in total comprises 21.7 ha area. It is included into the Imereti Caves Protected Areas System.

The Natural Monument represent a high value landscapes created by a canyon-like valley of the Tskaltsitela River, which are covered by the Colchic deciduous forests. Numerous mineral water springs are found in valley.

Waste Management

Motsameta Monastery has numerous visitors and waste management is a topical issue. However, waste management measures are not available for this site and surrounding areas are significantly littered with household waste.

Local Population

The sub-project will be implemented in 1.5 km from the Motsameta Village, which is in the administrative boundaries of Tkibuli Municipality. This village is small, its population is around 300 people. Main income source for this community is agriculture, in particular crop growing.

Cultural Heritage

There is St. David and Constantine (Motsameta) Monastery in 400-450 m from the sub-project site. The monastery belongs to VIII-IX century.

Another cultural heritage monument situated in the study area is Gelati Monastery. This monument is built in the Gelati Village, in about 2 km from the sub-project site. The monastery was built in XII-XIII century.

5 Potential Environmental and Social Impacts

5.1. Construction Phase

5.1.1. Social Impacts

- General set of social issues. No significant social issues are associated with implementation and operation of this SP.
- Resettlement Issues. SP does not imply private land acquisition and no permanent impacts are envisaged on private or leased agricultural lands and private assets or businesses.
- Positive impact related to Job opportunities for construction workers. Limited and temporary during construction and limited during operation.
- Health issues related to noise, emissions, and vibration. Limited and temporary.
- Traffic Disruption. Local traffic can be impacted limited and temporary by transport activities related to the SP.
- Safety and Access. There will be reduced access to areas adjacent to rehabilitation and potential hazards to vehicles and pedestrians during rehabilitation downtime.

5.1.2. Impacts on the physical Cultural Property

The SP will be implemented around the territory of Motsameta Monastery cultural heritage site. No interventions are planned on the structural elements of the Monastery historical buildings.

The risk of negative impacts on the structural integrity and historical value of the Monastery complex is minimal.

In course of rehabilitation and construction activities, especially during soil excavation works, chance finds may be encountered. In such cases, works will be immediately taken on hold and the Ministry of Culture and Monument Protection will be informed. Works may resume only upon formal permission from the National Agency for Cultural Heritage Preservation.

Operational phase risks are related to management of visitation, preventing vandalism on site, maintenance of water supply and sanitation systems, and household waste management.

5.1.3. Environmental Impacts

Potential pollutants from a SP of this nature include the following (this list is not exhaustive):

- Diesel fuel, lubrication oils and hydraulic fluids, antifreeze, etc. from construction vehicles and machinery;
- Miscellaneous pollutants (e.g. cement and concrete);
- Construction wastes (packaging, stones and gravel, cement and concrete residue, wood, etc.).

Water Pollution

Water pollution may result from a variety of sources, including the following:

- Spillages of fuel, oil or other hazardous substance, especially during refueling;
- Releasing silt water from excavations;
- Silt suspended in runoff waters (“construction water”);
- Washing of vehicles or equipment;
- Exposure of contaminated land and groundwater;
- Impact on surface and/or underground water with chlorine-containing waste water that are expected to be formed in washing and disinfection process before launching operation of newly installed water pipes.

Spillages may travel quickly downhill to a watercourse or water body. Once in a watercourse, it can be difficult to contain the pollution, which can then affect over a wide area downstream. It is therefore vital that prompt action is taken in the event of any potential water pollution incident.

Once the working width has been stripped of topsoil, the subsoil becomes exposed. During earthworks in a wet weather this may result in uncontrolled release of suspended solids from the work area.

Air Pollution and Noise

Potential impact of air pollution is minimal and related to operation of vehicles and heavy machinery at the construction site and during transportation of materials.

- Noise and vibration arising from heavy machinery and vehicles;

- Air emissions (from vehicles, bulldozers, excavators etc.);
- Dust (from vehicles);
- Fumes may be a concern linked to supply and transportation of materials.

Construction Related Wastes

Construction Wastes

The following types of inert waste are anticipated to be produced from these activities:

- Natural materials (soil and rock);
- Contaminated soil with non-hazardous substance or objects;
- Inert materials generated due to the demolition works within the Monastery are (tiles, stones, white brick, wood);
- Packaging materials;
- Metals (including scrap metal and wire) – negligible amount of metal waste is expected;

Transport related impacts

- Noise & Vibration Impacts;
- Traffic congestion (nuisance);
- Air pollution;
- Mud on roads;
- Refueling, maintenance and vehicle cleaning and related risks of soil and water contamination.

Topsoil losses due to topsoil stripping

- Topsoil washout due to improper storage and reinstatement;
- Silt runoff to watercourses and water bodies;
- Exposure of contaminated land.

Landscape and vegetation

The works required for clearing the space of the new parking lot include tree cutting, namely: 1 unit Oriental Beech (*Fagus orientalis*), 2 units Black Hawthorn (*Crataegus pentagyna*) and 25 units Oriental Hornbeam (*Carpinus orientalis*). However, none of the mentioned species are on the Red List of Georgia. They are neither endemic, nor rare species. Neither is any of them higher than 550 cm nor have a diameter greater than 10.5 cm. The detailed information is given in the attachment 2 - Inventory documentation certified by the Mayor of Tkibuli Municipality and Letter of Agreement N47/7793 on cutting the abovementioned trees.

Impacted plant species are widely spread in the SP region and their removal from the environment will be negligible for their population.

Tree cutting will be undertaken in compliance with the national requirements. Other mitigation measures to control the impact on vegetation to a minimum level are provided in the ESMP.

5.2. Operation Phase

Potential impact related to the operation of the provided light infrastructure would be the following:

- Increase of the number of tourists will result in the increased volume of waste and noise;
- The traffic will increase in adjacent area of CH sites, which will result in the increased level of local emissions and noise as well as traffic safety issues;
- Tours of sites of worshipping may conflict with local traditions and/or religious beliefs.

The potential risks of chlorination of the supplied water are related to disruption of chlorination process when:

- Inappropriate transportation, storage and application of chlorination lime, it may cause damage to personnel health and chlorine content overdose in potable water;
- Interruption of chlorination process.

The potential risk of pollution is related to disruption of wastewater treatment process due to not of proper operation and maintenance of the wastewater treatment units.

Tkibuli municipality will be responsible for the operation and maintenance of the water supply and wastewater systems.

To ensure safe functioning of the water supply disinfection system via chlorination, as well as to maintain in good technical condition sewage system and biological wastewater treatment facility, following mitigation measures shall be implemented:

- Health & Safety Plan for protection of operations staff & environment will be prepared, regarding transport, storage, use, application, disposal, emergency first-aid facilities/ procedures for chlorine disinfection system;
- Operations & Maintenance Training (upon facility start-up and 4x seasonally during guarantee period) will be executed by works contractor, including supply of Operations Manual and preparation of Training Program (Summary Report).

Positive social impact will be related to increased tourists and employment possibilities of the local population.

6 Environmental Management Plan

This Environmental Management Plan (EMP) has been prepared to ensure that negative environmental impacts associated with this SP are minimized.

The contractor is required:

- To obtain construction materials only from licensed providers;
- If contractor wishes to open quarries or extract material from river bed (rather than purchasing these materials from other providers), then the contractor must obtain licenses for inert material extraction;

- If contractor wishes to operate own asphalt (rather than purchasing these materials from other providers), then the contractor must obtain an environmental permit with an established ceiling of pollutant concentrations in emissions;
- If contractor wishes to operate own concrete plant (rather than purchasing these materials from other providers), then the contractor must prepare technical report on inventory of atmospheric air pollution stationary source and agree with the Ministry of Environment Protection and Agriculture of Georgia;
- Construction waste must be disposed on the nearest municipal landfill (landfill in Village Manchiori) in accordance with written agreement between works contractor and landfill operator. The records of waste disposal will be maintained as proof for proper management as designed.
- If over 200 tons of non-hazardous waste or over 1000 tons of inert materials or any volume of hazardous waste is generated annually as a result of contractor's activities, they shall prepare and cause the Ministry of Environment Protection and Agriculture of Georgia to approve the inventory of Waste and Waste Management Plan for the Company, appoint an environmental manager, and submit an information on his/her identity to the Ministry of Environment Protection and Agriculture of Georgia in accordance with requirements of the Waste Code of Georgia.
- Waste water treatment unit, which will be arranged within the SP, shall ensure treatment of wastewater in compliance with the requirements of the ``Technical regulation for discharging effluent from industrial and non-industrial facilities into surface water bodies`` adopted by the Resolution #17 of the Government of Georgia of January, 2014.
- Before conducting any works, the Contractor is obliged to obtain a certificate of origin of the plant originated by the municipality authority for transportation, according to the requirement of the Ordinance of Georgia N46 of 10.01.2014 on "On Approval of Technical Rules of the Timber and Round Trees Primary Processing Object (Sewing) on the territory of Georgia".

Copies of extraction licenses (if applicable), agreed technical report on inventory of atmospheric air pollution for operating concrete plants (if applicable), and waste disposal agreement must be submitted to the MDF prior to the commencement of works.

GOST and SNIP norms must be adhered.

GRIEVANCE REDRESS MECHANISM

Appropriate grievance redress mechanism was established to solve grievances of Project-Affected People, as required. Tkibuli Municipality has assigned a responsible person – Zaza Zosiashvili, Head of Infrastructure and Municipal Improvements Unit of Tkibuli Municipality, to receive, review and react to the APs grievances (Tel: 599273250; email: tyibuli.infrastr@gmail.com, №3 Karlo Lomadze Square, Tkibuli Municipality). The contact person from the MDF is Nutsa Gumberidze (Tel: +995 598 88 20 19, feedback@mdf.org.ge, 150 Davit Aghmashenebeli ave., 3rd floor, 0112 Tbilisi, Georgia.)

If the grievance will not be unsolved at the local level, it will be lodged to the MDF. As for grievance monitoring MDF registers all received compliances, comments and how the compliance was addressed. During public consultations, the local population will be informed about the grievance redress process and receive information about contact persons.

ENVIRONMENTAL MANAGEMENT PLAN

Activity	Expected Negative Impact	Mitigation Measure	Responsible for implementation
Pre-Construction Phase			
Obtaining of the required permits and agreements	Incompliance to Georgian Law and World Bank requirements	<ul style="list-style-type: none"> - The following permits/licenses and agreements should be obtained by the works contractor and submitted to the MDF: - Agreement for disposal (stockpiling) of excessive soil - licenses for inert material extraction; - Permits for production of such construction materials that belongs to the activity subject to ecological examination; <ul style="list-style-type: none"> - Technical report on inventory of atmospheric air pollution stationary source and agree with the Ministry of Environment Protection and Agriculture of Georgia; - Agreement on household and construction waste disposal on the nearest landfills. 	Construction contractor
Notification of the local community on upcoming activities	Incompliance to Georgian Law and World Bank requirements	The contractor shall place informational banner on the construction site. Information about the contact persons in the MDF, works supervisor company and local municipality administration to whom people can apply with the complaints on environmental and social issues shall be placed on the banner. The banner must be made by weather resistant material. Inscriptions on the Informational banner should be in Georgian and English languages.	Construction contractor
Arrangements for implementation of environmental mitigation measures	Incompliance to Georgian Law and World Bank requirements Significant environmental and social impacts	<p>Appointing a person responsible for protection of social and natural environment and EMP implementation</p> <p>Training of workers regarding social and environmental protection measures to be implemented</p> <p>Delivery of supplies required for implementation of planned mitigation measures</p>	Construction contractor

Activity	Expected Negative Impact	Mitigation Measure	Responsible for implementation
CONSTRUCTION PHASE			
<p>Construction works, including:</p> <p>Preparation of construction sites</p> <p>Earth works</p> <p>Installation of facilities</p> <p>Machinery operations</p> <p>Transportation operations</p>	<p>Deterioration of ambient air</p>	<ul style="list-style-type: none"> - All vehicles shall be maintained so that their emissions do not cause nuisance to workers or local people. All vehicles shall be checked and repaired in case of need to eliminate increased level of noise due to damaged parts; - Regular maintenance of diesel engines shall be undertaken to ensure that emissions are minimized, for example by cleaning fuel injectors. All plant used on site shall be regularly maintained so as to be in good working order at all times to minimize potentially polluting exhaust emissions; - Vehicle refueling shall be undertaken so as to avoid fugitive emissions of volatile organic compounds through the use of fuel nozzles and pumps and enclosed tanks (no open containers will be used to stored fuel); - Materials transported to site shall be covered/ wetted down to reduce dust. The construction site shall be watered as appropriate. Protective equipment shall be provided to workers as necessary; - During demolition works destruction dust shall be suppressed by ongoing water spraying and/or installing dust screen enclosures at site; - The surrounding environment (sidewalks, roads) shall be kept free of debris to minimize dust; - earth works shall be suspended during strong winds; - Construction materials and storage piles shall be covered; - Stripped soil/ excavated ground shall be stockpiled properly; 	<p>Construction contractor</p>

Activity	Expected Negative Impact	Mitigation Measure	Responsible for implementation
		<ul style="list-style-type: none"> - There shall be no open burning of construction / waste material at the site; - There shall be no excessive idling of construction vehicles at sites; - The SP territory shall be reinstatement immediately after finalizing of construction works. 	
	Propagation of noise and vibration	<ul style="list-style-type: none"> - The maximum speed shall be restricted in residential areas to the safety level during the pass of the trucks; - Proper technical control and maintenance practices of the machinery shall be applied; - Activities shall be limited to daylight working hours; - No-load operations of the vehicles and heavy machinery are not allowed. Proper mufflers will be used on machinery; - Ensure that machinery is in good technical condition. 	Construction contractor
	Damage of soil	<ul style="list-style-type: none"> - Demarcation of construction sites' boundaries and access roads before construction works are launched; - Adherence to demarcated work site boundaries during operations; - Stripping of topsoil from work sites (whenever possible) before starting of earthworks and stockpiling for subsequent reinstatement, in compliance with the Technical Regulations on Stripping, Stockpiling, Use and Reinstatement of Topsoil (2014); - Topsoil shall be stored in stockpiles, no more than 2m high with side slopes at a maximum angle of 45°. The following shall also be taken into consideration: 	Construction contractor

Activity	Expected Negative Impact	Mitigation Measure	Responsible for implementation
		<ul style="list-style-type: none"> a) Dedicated storage locations shall be used that prevents the stockpiles being compacted by vehicle movements or contaminated by other materials; b) Topsoil shall be segregated from subsoil stockpiles; c) No material shall be stored where there is a potential for flooding; d) No storage at less than 25m from river/streams, subject to the site-specific topography; - Topsoil stripping during heavy rains will not be allowed; - Stored topsoil shall be used for reinstatement and landscaping of the SP area immediately after completion of construction works. As appropriate, this may include leveling of ground surface, reinstatement of topsoil and measures to facilitate natural recovery of vegetation; Topsoil from the sites, which will not be reinstated to the initial conditions shall be distributed carefully on the surrounding area; - If stockpiles experience significant erosion, install erosion matting over the stockpiles if further surface compaction and/or topsoil seeding fails. Protect the stockpiles from flooding and run-off by placing berms or equivalent around the outside where necessary; - Store subsoil in stockpiles, no more than 3m high with side slopes at a maximum angle of 60°. Use dedicated storage locations to prevent the stockpiles being compacted by vehicle movements or contaminated by other materials; subsoil shall be segregated from topsoil stockpiles. 	

Activity	Expected Negative Impact	Mitigation Measure	Responsible for implementation
	Water and soil pollution	<ul style="list-style-type: none"> - Provision of staff with toilets and bathrooms, and centralized discharge of generated wastewater in the sewer systems if possible or install temporary structures; - Ensuring that machinery is well maintained; - Refueling of machinery using respectively equipped refueling trucks, and using of drip trays during refueling operations; - Refueling and maintenance of machinery only at a specially devoted site, where topsoil is tripped and gravel layer is arranged; lubricants, fuel and solvents shall be stored exclusively in the designated sites; No fuel, lubricants and solvents storage or re-fueling of vehicles or equipment will be allowed near the cultural heritage site; - Ensuring that construction materials are appropriately stockpiled and stored in the specially designated and temporarily constructed storage facilities; - Temporarily storage on site of all hazardous or toxic substances shall be in safe containers labeled with details of composition, properties and handling information; Spill containment materials (sorbents, sand, sawing, chips etc.) should be available on construction site; - Ensure that all spills are cleaned up immediately, and contaminated soil is respectively disposed off; - Wet cement and/or concrete will not be allowed to enter any watercourse, pond or ditch. - Cleaning up of the entire SP territory from construction waste as soon as the construction works are finalized. 	Construction contractor

Activity	Expected Negative Impact	Mitigation Measure	Responsible for implementation
	Pollution of environment by solid and liquid wastes	<ul style="list-style-type: none"> - Burning of waste is prohibited; - Paints with toxic ingredients or solvents or lead-based paints shall not be used. - Different types of waste (construction, hazardous, household) shall be collected separately; special sites shall be designated for waste accumulation and pollution prevention measures shall be applied there; - Construction inert waste and excess soil should be disposed on territory allocated by the Tkibuli Municipality; - Temporarily storage of all hazardous or toxic substances shall be in safe containers labelled with details of composition, properties and handling information; Uncontrolled storage of hazardous wastes on the construction area is prohibited; the containers of hazardous substances shall be placed in a leak-proof container to prevent spillage and leaching; shall be handed over to a permitted waste management company, on a contractual basis; - Any construction or municipal wastes produced during construction stage should remove from the site area frequently; - Agreements on the disposal of waste shall be obtained prior disposal is undertaken; - Upon completion of washing and disinfection of pipes and reservoirs the disinfection solution will be neutralized by the contractor prior to release to the environment – to avoid damage to terrestrial or aquatic organisms. In the case of disinfection via chlorination this is achieved by application of a 	Construction contractor

Activity	Expected Negative Impact	Mitigation Measure	Responsible for implementation
		<p>reducing agent, such as sodium bisulfate to achieve de-chlorination. The reducing agent, in turn, must be applied by the contractor at the precise dosage to neutralize the disinfectant – but no more, since reducing agent residuals are also detrimental to aquatic ecosystems.</p>	
	<p>Impact on adjacent landscapes and vegetation</p>	<p>All large trees shall be marked and cordoned off with fencing, their root system protected, and any damage to the trees avoided.</p> <p>Prior to vegetation clearing, a certificate of origin of the plant originated by the municipality authority for transportation, according to the requirement of the Ordinance of Georgia N46 of 10.01.2014 on the Approval of Technical Rules of the Primary Processing of Timber and Round Logs on the territory of Georgia shall be obtained.</p>	
	<p>Impact on traffic flow</p>	<ul style="list-style-type: none"> - Impose speed limitation to the SP machinery; - Ensure that SP machinery move using only pre-determined routes; - The frequency of machinery movement shall be restricted. 	<p>Construction contractor</p>
	<p>Health and safety risks for local community</p>	<ul style="list-style-type: none"> - Construction site shall be properly secured and construction related traffic regulated. This includes but is not limited to: - Installation of the signposting, warning signs, barriers and traffic diversions: signs shall be clearly visible and the public warned of all potential hazards; - Construction site and all trenches shall be fenced and properly secured to prevent unauthorized access (especially of children); - Appropriate lighting should be provided; 	<p>Construction contractor</p>

Activity	Expected Negative Impact	Mitigation Measure	Responsible for implementation
		<ul style="list-style-type: none"> - Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during rush hours or times of livestock movement; - Imposing of speed limitation to SP machinery - Ensuring that SP machinery move using only pre-determined routes 	
	Damage to private property	<ul style="list-style-type: none"> - Ensuring that machinery moves using only pre-determined routes; - Imposing of speed limitation to the sub-project machinery; - Incurred losses shall be fully compensated by the contractor. 	Construction contractor
	Conflicts with local population or other affects people	<ul style="list-style-type: none"> - Meeting with local population (if required) - Reception and addressing of complaints/grievances 	Construction contractor
	Occupational health and safety risks	<ul style="list-style-type: none"> - Informing of the SP labor about potential health and safety risks, and instructing them regarding safety measures to be adhered (before launching construction works and during civil works) - Ensuring that required personal protection equipment (e.g. helmets, gloves, etc.) is supplied and used by workers as appropriate - Ensure safety of machinery operations - Provision of safety signs for high risk zones - Implementation of measures recommended for air protection and noise abatement 	Construction contractor
	Impact on cultural heritage	-Suspension of construction operations if archeological objects or artefacts are discovered during earth works, informing the	MDF,

Activity	Expected Negative Impact	Mitigation Measure	Responsible for implementation
		<p>MDF and Ministry of Culture and Monument Protection about the chance finding and resume works only after respective permission is issued;</p> <p>- Cleaning up and reinstatement of the SP area immediately after the construction works are completed.</p>	Construction contractor
OPERATION PHASE			
Operation of water supply and sewage systems	Pollution of environment with solid waste and waste water	<p>- Regularly deliver solid waste from the site to the municipal landfill;</p> <p>- Burning of waste should not be practiced.</p> <p>- To ensure safe functioning of the water supply disinfection system via chlorination, following mitigation measures shall be implemented:</p> <ul style="list-style-type: none"> • Health & Safety Plan for protection of operations staff & environment will be prepared, regarding transport, storage, use, application, disposal, emergency first-aid facilities/ procedures for chlorine disinfection system; • Operations & Maintenance Training (upon facility start-up and 4x seasonally during guarantee period) will be executed by works contractor, including supply of Operations Manual and preparation of Training Program (Summary Report). • Sewage collector systems and biological wastewater treatment facility should be maintained in good technical condition; • Operations & Maintenance Training (upon facility start-up and 4x seasonally during guarantee period) will be conducted by works contractor, including supply of 	Tkibuli municipality

Activity	Expected Negative Impact	Mitigation Measure	Responsible for implementation
		Operations Manual and preparation of Training Program (Summary Report).	

7 Monitoring

MDF carries overall responsibility for monitoring of the implementation of the environmental mitigation measures. A consulting company hired for supervision of works will supplement MDF's in-house capacity for tracking environmental and social compliance of works undertaken under this SP. Field monitoring checklist will be filled out and photo material attached on a monthly basis. Environmental monitoring of the SP shall be implemented according to the plan given below.

Narrative reporting on the implementation of EMP will be provided on a monthly and quarterly basis as part of the general progress reporting of MDF. MDF will also be expected to obtain from contractors and keep on file all permits, licenses, and agreement letters which contractors are required to have according to the Georgian law for extracting material, operating asphalt/concrete plants, disposing various types of waste, etc.

8 Remedies for EMP Violation

MDF, as a client of construction works, will be responsible for enforcing compliance of contractor with the terms of the contract, including adherence to the EMP.

The contractor is obliged to carry out any of its activities pursuant to the Georgian Environmental Legislation in force, and in case if any noncompliance is revealed, the contractor shall be liable to cover at its own expense all damage liquidation costs.

9 Costs of Implementation

Costs of implementing the proposed mitigation measures are small and difficult to single out from the costs of construction operations. Nonetheless, it is recommended that Bill of Materials presented in the tender documentation carries a line item for the disposal of waste and excess materials. Other costs of adherence to good environmental practice and compliance with this EMP are expected to be integrated into the pricing of various construction activities.

MONITORING MANAGEMENT PLAN

Activity	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Who (Is responsible for monitoring?)
CONSTRUCTION PHASE						
Supply with construction materials	Purchase of construction materials from the officially registered suppliers	In the supplier's office or warehouse	Verification of documents	During conclusion of the supply contracts	To ensure technical reliability and safety of infrastructure	MDF, Construction supervisor
Transportation of construction materials and waste Movement of construction machinery	Technical condition of vehicles and machinery Confinement and protection of truck loads with lining Respect of the established hours and routes of transportation	Construction site	Inspection	Unannounced inspections during work hours and beyond	Limit pollution of soil and air from emissions; Limit nuisance to local communities from noise and vibration; Minimize traffic disruption.	MDF, Construction supervisor, Traffic Police
Earthworks	Temporary storage of excavated material in the pre-defined and agreed upon locations; Backfilling of the excavated material and/or its disposal to the formally designated locations;	Construction site	Inspection Permanent oversight by archaeologists	In the course of earth works	Prevent pollution of the construction site and its surroundings with construction waste; Prevent damage and loss of physical cultural resources	MDF, Construction supervisor NACHP
Sourcing of inert material	Purchase of material from the existing suppliers if feasible; Obtaining of extraction license by the works contract and strict	Borrowing areas	Inspection of documents Inspection of works	In the course of material extraction	Limiting erosion of slopes and degradation of ecosystems and landscapes; Limiting erosion of river banks, water pollution with suspended	MDF, Construction supervisor

Activity	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Who (Is responsible for monitoring?)
	<p>compliance with the license conditions;</p> <p>Terracing of the borrow area, backfilling to the exploited areas of the borrow site, and landscape harmonization;</p> <p>Excavation of river gravel and sand from outside of the water stream, arrangement of protective barriers of gravel between excavation area and the water stream, and no entry of machinery into the water stream.</p>				particles and disruption of aquatic life.	
Generation of construction waste	<p>Temporary storage of construction waste in especially allocated areas;</p> <p>Timely disposal of waste to the formally designated locations</p>	<p>Construction site;</p> <p>Waste disposal site</p>	Inspection	Periodically during construction and upon complaints	Prevent pollution of the construction site and nearby area with solid waste	MDF, Construction supervisor
Traffic disruption and limitation of pedestrian access	<p>Installation of traffic limitation/diversion signage;</p> <p>Storage of construction materials and temporary placement of construction waste in a way preventing congestion of access roads</p>	At and around the construction site	Inspection	In the course of construction works	<p>Prevent traffic accidents;</p> <p>Limit nuisance to local residents</p>	MDF, Construction supervisor

Activity	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Who (Is responsible for monitoring?)
Workers' health and safety	Provision of uniforms and safety gear to workers; Informing of workers and personnel on the personal safety rules and instructions for operating machinery/equipment, and strict compliance with these rules/instructions	Construction site	Inspection	Unannounced inspections in the course of work	Limit occurrence of on-the-job accidents and emergencies	MDF, Construction supervisor
OPERATION PHASE						
Management of the solid waste	Trash bins provided on site and arrangement in place for timely regular out-transporting of waste	Rehabilitated facilities	Inspection	During operation of facilities	Prevent littering of the site and area around it	Tkibuli Municipality Authorities
Maintenance and protection of the Site after the rehabilitation	No unauthorized construction and no informal land use in the vicinity of the Motsameta site	Rehabilitated facilities	Inspection	During operation of facilities	Prevent loss of the historical and aesthetic values of the site and surrounding area	Tkibuli Municipality Authorities
Servicing of water supply scheme and sewage treatment unit	Water supply scheme does not leak and water supply uninterrupted Sewage treatment block operate smoothly	Rehabilitated facilities	Inspection	During operation of facilities	Prevent water loss and water logging of the site Prevent pollution of surface and ground water with untreated sewage	Tkibuli Municipality Authorities



Attachment 2. Tree inventory documentation certified by Mayor of Tkibuli Municipality and Letter of Agreement N47/7793 upon cutting the abovementioned trees



ტკიბულის მუნიციპალიტეტის მერია
TKIBULI MUNICIPALITY CITY HALL



კარლო ლომაძის N3 Karlo Lomadze N3 ☎ 0(497) 22-20-20, 0(497) 22-25-25 E-mail: municipa@tkibuli.g

N 47/7793
12/12/2017

7793-47-2-201712121624



ა.ა.(ი).პ. „საქართველოს მემკვიდრეობა“-ის გამგეობის
თავმჯდომარეს ბატონ კახა ტრაპაძეს

ბატონო კახა,

ტკიბულის მუნიციპალიტეტის მერიაში შემოსული თქვენი წერილის მასუხად, რომელიც შეეხება მოწამეთის კომპლექსის მიმდებარედ ახალი საპარკინგე ზონის მოწყობის მიზნით მცირე მოცულობის ხეების მოჭრის აუცილებლობას გაგნობებთ, რომ მუნიციპალიტეტის ადმინისტრაცია არ არის წინააღმდეგი მოიჭრას ხე-მცენარეები, რომლებიც ხელს უშლიან პროექტის განხორციელებას თანდართული კრის უწყისის შესაბამისად.

რაც შეეხება მიწის ნაკვეთით სარგებლობის უფლების ვადის ამოწურვის საკითხს, მუნიციპალური განვითარების ფონდმა უნდა მომართოს ტკიბულის მუნიციპალიტეტის მერიას ვადის გაგრძელების თაობაზე საკითხის დამატებითი განხილვის მიზნით.

აქვე გაგნობებთ, რომ საჭიროების შემთხვევაში იკონტაქტეთ მერიის წარმომადგენელთან კურსების ადმინისტრაციულ-ტერიტორიულ ერთეულში. (ე. ბერეგაშვილი. ტელ. 599090208)

თქმურ ჩუბინიძე

თ. ჩუბინიძე

მუნიციპალიტეტის მერია

ტკიბულის მუნიციპალიტეტის მერია

„უკიდარტაგე“
დაკონტაქტებულია
მერიაში

ახალი პარკინგის ტერიტორიაზე არსებული ხეების აღწერის უწყისი

N	სახეობა	სიმაღლე სმ	დიამეტრი სმ	მოცულობა მ3	შენიშვნა
1	წიფელი / Fagus orientalis	550	9.5	0.09	
2	შავი კუნელი / Crataegus pentagyna	400	5.2	0.03	
3	შავი კუნელი / Crataegus pentagyna	350	4.6	0.03	
4	ჯაგრებლა / Carpinus orientalis	500	10.5	0.09	
5	ჯაგრებლა / Carpinus orientalis	370	5.9	0.04	
6	ჯაგრებლა / Carpinus orientalis	380	5.9	0.04	
7	ჯაგრებლა / Carpinus orientalis	340	5	0.03	
8	ჯაგრებლა / Carpinus orientalis	310	4.5	0.02	
9	ჯაგრებლა / Carpinus orientalis	300	4.3	0.02	
10	ჯაგრებლა / Carpinus orientalis	340	5.1	0.03	
11	ჯაგრებლა / Carpinus orientalis	390	5.8	0.04	
12	ჯაგრებლა / Carpinus orientalis	310	4.4	0.02	
13	ჯაგრებლა / Carpinus orientalis	330	4.8	0.03	
14	ჯაგრებლა / Carpinus orientalis	320	4.6	0.02	
15	ჯაგრებლა / Carpinus orientalis	350	5.3	0.03	
16	ჯაგრებლა / Carpinus orientalis	300	4.2	0.02	
17	ჯაგრებლა / Carpinus orientalis	300	4.3	0.02	
18	ჯაგრებლა / Carpinus orientalis	310	4.5	0.02	
19	ჯაგრებლა / Carpinus orientalis	300	4.1	0.02	
20	ჯაგრებლა / Carpinus orientalis	320	4.7	0.03	
21	ჯაგრებლა / Carpinus orientalis	370	5.8	0.04	
22	ჯაგრებლა / Carpinus orientalis	350	5.3	0.03	
23	ჯაგრებლა / Carpinus orientalis	360	3.7	0.02	
24	ჯაგრებლა / Carpinus orientalis	320	4.6	0.02	
25	ჯაგრებლა / Carpinus orientalis	300	4.1	0.02	
26	ჯაგრებლა / Carpinus orientalis	320	4.4	0.02	
27	ჯაგრებლა / Carpinus orientalis	390	6	0.04	
28	ჯაგრებლა / Carpinus orientalis	400	6.8	0.05	
ჯამი:					0.91

Attachment 3. Minutes of Public Consultation on the Draft ER