

**ROADS DEPARTMENT OF GEORGIA**

**MINISTRY OF REGIONAL DEVELOPMENT AND  
INFRASTRUCTURE**



**Environmental and Social Impact Management Plan  
(ESMP)**

**Third Secondary and Local Roads Project and Secondary Road Asset  
Management Project**

**Sh02: Sajavakho-Chokhatauri-Ozurgeti-Kobuleti**

**Rehabilitation: km 17.0 – km 19.5**

**TNM Limited**

**Georgia**

**2019**

## PART I: GENERAL PROJECT AND SITE INFORMATION

INSTITUTIONAL & ADMINISTRATIVE				
Country	Georgia			
Project Title	Rehabilitation of Sajavakho-Chokhatauri-Ozurgeti-Kobuleti road (sh02) from km 17- km 19.5			
Scope of project and activity	<p>On the basis of the results of comprehensive engineering the assessment of the current condition of the project road network, surveying the geometric features, road furniture, culverts, bridges, traffic characteristics, and pavement condition etc., the adequacy of this road section for rehabilitation works was determined.</p> <p>The surface of asphalt pavement and drainage system on this section of project road are significantly damaged. Because of traffic movement, climatic and environmental conditions - pavement has developed cracks, potholes, rutting, edge breaks etc. Rehabilitation works, therefore, shall be undertaken to extend the service life of the existing road.</p> <p>This activity includes complete removal and replacement of a portion of the pavement structure necessary to return an existing roadway, including drainage system, retaining structures, shoulders, road safety measures, delineation system, signs, pavement markings, bus stops etc. to a condition of structural and functional adequacy for safe movement of traffic.</p> <p>General characteristics of this road section:</p> <ul style="list-style-type: none"> <li>• Road length: 2.5 km</li> <li>• Road Pavement type: Asphalt</li> <li>• Average width of carriageway: 7.5 m;</li> <li>• Width of shoulder: 0.5 - 1.0 m;</li> <li>• Culverts: 8 units</li> <li>• Bridges: 0 Bridges</li> <li>• Number of lanes: 2-Lanes/two directions</li> </ul>			
Institutional arrangements (Name and contacts)	<p style="text-align: center;"><b>WB</b> <b>(Project Team Leader)</b></p> <p style="text-align: center;">Aymen A. Osman Ali</p>	<p style="text-align: center;"><b>Project Management</b></p> <p style="text-align: center;">Giorgi Tsereteli</p>	<p style="text-align: center;"><b>Local Inspectorate Supervision</b></p> <p style="text-align: center;">Chokhatauri Municipality</p>	
Implementation arrangements (Name and contacts)	<p style="text-align: center;"><b>WB</b> <b>Safeguard Supervision</b></p> <p style="text-align: center;">Darejan Kapanadze Environment</p> <p style="text-align: center;">Sophia Georgieva Social</p>	<p style="text-align: center;"><b>Local Counterpart Supervision</b></p> <p style="text-align: center;">TNM</p>	<p style="text-align: center;"><b>Local Inspectorate Supervision</b></p>	<p style="text-align: center;"><b>Contractor</b> (Not Defined)</p>
SITE DESCRIPTION				
Name of site	Sajavakho-Chokhatauri-Ozurgeti Kobuleti (sh02) road section from km 17 - km 19.5			
Describe site location	Road section is located within Chokhatauri municipality. The road section starts in the vicinity of Zemo Partskhma village and goes through settled urban area of Chokhatauri town center. One secondary school is located near km 18.3.			

	<p>Most of the road section is laid through non-residential area. However, there are Rompetrol fuel station, car repair and car wash workshops on the left-hand side of the road closer to urban area. One secondary school is also located at around km 18 point.</p> <p>The study road is a two-lane carriageway with a deteriorated asphalt surface.</p>				
Who owns the land?	The existing ROW is owned by Chokhatauri Municipality.				
Description of geographic, physical, biological, geological, hydrographic and socio-economic context	<p><b>Location:</b> Road section selected for rehabilitation is located within the Chokhatauri municipality of Imereti and Guria regions. The road section starts in the vicinity of Zemo Partskhma (720) village and goes through settled urban area of Chokhatauri town (1,815).</p> <p><b>Air:</b> Air quality in the project area is good due to low traffic levels and absence of industrial facilities.</p> <p><b>Water and Soil:</b> No pollution is reported.</p> <p><b>Flora:</b> Vegetation of the area through which the road passes is mainly comprised of hornbeam, chestnut, alder, acacia and pine. No tangible impact on vegetative cover is expected.</p> <p><b>Fauna:</b> Animal species occurring in the project implementation area include bear, roe, jackal and marten. Due to the nature of road works required for periodic maintenance the impact on the fauna would be minimal.</p> <p><b>Noise:</b> The current noise level is low due to low intensity of traffic and lack of industrial facilities. Construction activities will have modest impact on those people who reside in existing village along this road and this impact will be limited to the periodic maintenance phase.</p> <p><b>Social/Involuntary Resettlement:</b> No land take is required for undertaking rehabilitation of the road section. Temporary impact on the fences of privately-owned land plots is likely. Affected people will be notified on this expected impact and restoration of fences will be guaranteed. Written consent of the affected private owners, or their representatives will be obtained prior to intervention. Affected fruit-bearing perennials will be cash compensated. Affected fences will be cash compensated or promptly restored by Contractor in accordance to the ARAP compensation entitlements.</p>				
Locations and distance for material sourcing, especially inert aggregates, water, stones	<p>Information for material resources near the project area:</p> <table border="1"> <thead> <tr> <th>Description</th> <th>Location</th> </tr> </thead> <tbody> <tr> <td>River Quarry</td> <td>Village Nagomari on the River Supsa (Ozurgeti Municipality)</td> </tr> </tbody> </table>	Description	Location	River Quarry	Village Nagomari on the River Supsa (Ozurgeti Municipality)
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River Quarry	Village Nagomari on the River Supsa (Ozurgeti Municipality)				
<b>LEGISLATION</b>					
Identify national & local legislation & permits that apply to project activities	<p>SRAMP is implemented in accordance with the World Bank's safeguard policy OP/BP 4.01 - Environmental Assessment. Based on this policy, present subproject is classified as environmental category "B". This Plan for Environmental and Social Impact Management is prepared according to the principles defined by OP/BP 4.01. Under the Georgian legislation, a road rehabilitation project does not require assessment of an environmental impact, approval or issuance of a permit. However, with the national regulation system:</p> <ol style="list-style-type: none"> <li>i) Contractor company must be licensed;</li> <li>ii) Construction materials must be obtained from licensed providers,</li> <li>iii) If the Contractor wants to open a quarry, an appropriate license must be obtained from the National Agency of Mines under the Ministry of Economy and Sustainable Development;</li> <li>iv) If the Contractor wants to open its own plant of asphalt or concrete (or both), an environmental decision, which will cover the upper limit of pollution</li> </ol>				

	<p>concentration;</p> <p>v) Construction waste should be disposed at the official landfill based on the agreement with the Solid Waste Management Company or placed at the pre-selected site officially agreed with local self-government;</p> <p>vi) Land area within RoW currently included into the State Forest Fund will be de-listed from the Fund and transferred to the Roads Department. The above-mentioned procedure is underway at this stage.</p>
<p>Grievance Redress Mechanism</p>	<p>A grievance redress mechanism will be available to allow an Affected Person (AP) appealing any decision on which they disagree.</p> <p>The APs will be informed about the available GRM during public consultations and through distributing of brochures prior to commencement of works. In addition, an announcement with relevant information will be displayed on the information boards in the lobbies of buildings of each and every project-affected municipality. APs will be fully informed of their rights and of the procedures for addressing complaints either verbally or in writing during pre-contracting, construction and operation periods. Care will always be taken to prevent grievances rather than going through a redress process.</p> <p>Grievance Redress Commission (GRC) Contact Person:  <b>Mr. Gogi Bolkvadze, Head of Infrastructure Department in Chokhatauri</b>  <b>Mobile Phone: 577 74 99 22</b></p> <p>The Contact Person shall collect and record the grievances in a special log. If the grievance remains unsolved at the local level, it will be lodged to the RDMRDI. For any information and advice, RD nominated following persons:</p> <ol style="list-style-type: none"> <li>1. <b>Mariam Begiashvili</b> - Social Safeguards Consultant  <b>Mobile Phone 577 74 40 88; 555 400 205; e-mail: <a href="mailto:mbegiashvili2@gmail.com">mbegiashvili2@gmail.com</a></b></li> <li>2. <b>Maya Vashakidze</b> – Environmental Safeguards Consultant;  <b>Mobile Phone: 593 32 30 77 e-mail: <a href="mailto:maya_vashakidze@yahoo.co.uk">maya_vashakidze@yahoo.co.uk</a></b>  <b>Roads Department of RDMRDI: 12 Kazbegi str., Tbilisi, Georgia</b></li> </ol> <p>Grievance Redress Commission (GRC) is formed by the order of the Head of RDMRDI as a permanently functional informal structure, engaging personnel of RDMRDI from all departments. This includes top management, Safeguards, Legal Departments, PR department and other relevant departments (depending on specific structure of the IA). If the RDMRDI decision fails to satisfy the aggrieved APs, they can pursue further action by submitting their case to the appropriate court of law (Rayon Court) without any reprisal.</p>
<b>PUBLIC CONSULTATION</b>	
<p>Identify when/where the public consultation process shall take place</p>	<p>Environmental and Social Management Framework for the Secondary Road Asset Management Project was disclosed through the RDMRDI web page and the stakeholder consultation meeting was held on 14/07/2015.</p> <p>The present Draft ESMP will be uploaded on the RDMRDI website and the hard copies provided to Chokhatauri Municipality. Public consultation on the draft ESMP will be held in Chokhatauri Municipality. The notification of ESMP Public Disclosure date, time and location will be made early enough to ensure high attendance of project stakeholders. The minutes of the meeting will be attached to the final version of the ESMP.</p>

	<p>Besides, the draft Abbreviated RAP (ARAP) prepared within the framework of this project provides the details on APs and compensation entitlements for temporarily affected fences and any private assets, including perennials. The draft ARAP will be publicly disclosed in Chokhatauri Municipality and uploaded on RDMRDI website. ARAP Public Disclosure meeting will be held in Chokhatauri Municipality (if possible, on the same date together with ESMP public disclosure). The minutes of the draft ARAP public consultation meeting will be attached to the final ARAP.</p>
<p><b>ATTACHMENTS</b></p>	
<p>Attachment 1: Project location map;  Attachment 2: Minutes of public consultation on the draft ESMP (will be attached to this document)  Attachment 3: Waste disposal agreement (<u>to be provided by contractor</u>);  Attachment 4: Borrowing license (<u>as applicable, to be provided by contractor</u>);  Attachment 5: Asphalt plant operation agreement (<u>as applicable, to be provided by contractor</u>)</p>	

**PART II: SAFEGUARD SCREENING AND TRIGGERS**

<b>ENVIRONMENTAL /SOCIAL SCREENING FOR SAFEGUARDS TRIGGERS</b>			
	<b>Activity/Issue</b>	<b>Status</b>	<b>Triggered Actions</b>
Will the site activity include/involve any of the following?	1. Roads rehabilitation	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If “Yes”, see Section A
	2. New construction of small traffic infrastructure	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If “Yes”, see Section A
	3. Impacts on surface drainage system	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If “Yes”, see Section B
	4. Historic building(s) and districts	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If “Yes”, see Section C
	5. Acquisition of land <sup>1</sup>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If “Yes”, see Section D
	6. Hazardous or toxic materials <sup>2</sup>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If “Yes”, see Section E
	7. Impacts on forests and/or protected areas	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If “Yes”, see Section F
	8. Risk of unexploded ordinance (UXO)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If “Yes”, see Section G
	9. Traffic and Pedestrian Safety	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If “Yes”, see Section H
	10. Impacts on land property and use	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If “Yes”, see Section I
	11. Social risk	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If “Yes”, see Section J

<sup>1</sup> Land acquisition includes displacement of residents, change the way of life, this is concerning with land which was purchased/handed over and impact on persons living and/or unlawfully exist and or/performing business activities (Booths) on the land already purchased.

<sup>2</sup> Hazardous or toxic materials contain, but is not limited to: asbestos, toxic paints, hazardous dissolvent materials, removal of lead containing materials and etc.

### PART III: MITIGATION MEASURES

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
0. General Conditions	Notification and Worker Safety	<ul style="list-style-type: none"> <li>a) Notify local construction and environment inspectorates and communities on the upcoming activities;</li> <li>b) Notify public on the works through appropriate notification in the media and/or at publicly accessible sites (including the site of the works);</li> <li>c) Obtain all legal permits for road construction works;</li> <li>d) Provide personnel with workers' personal safety equipment in compliance with international standards (should always wear helmets, masks and safety sunglasses, protective shoes);</li> <li>e) Post relevant warning and reminding signs with information on environmental, health and safety code of conduct in the visible locations of the work site;</li> <li>f) Post contact information around work site in the locations visible to local communities enabling project-affected people to raise questions and voice grievances.</li> </ul>
A. General Rehabilitation and /or Construction Activities	Air Quality	<ul style="list-style-type: none"> <li>a) Apply precautionary measures to avoid excessive dust emission during earth works and materials loading-unloading (e.g., restriction material dropping from a big height during loading-unloading);</li> <li>b) Keep demolition debris, excavated soil and aggregates in controlled area and sprayed with water mist to reduce debris dust;</li> <li>c) During pneumatic drilling or breaking of pavement and foundations, suppress dust by ongoing water spraying and/or installing dust screen enclosures at site;</li> <li>d) Keep free the surrounding environment (sidewalks, roads) free of soil and debris to minimize dust;</li> <li>e) Disallow open burning of construction/waste material at the site;</li> <li>f) Keep machinery in compliance with the regulations of the emission origin, proper technical repairs should be ensured, and the pitch shall be free from unnecessary construction machinery.</li> </ul>
	Noise	<ul style="list-style-type: none"> <li>a) Limit construction noise to daytime;</li> <li>b) Apply additional noise management arrangements in the vicinity of schools and hospitals;</li> <li>c) During operations, keep engine covers of generators, air compressors and other powered mechanical equipment closed, and place equipment as far away from residential areas as possible</li> </ul>
	Water Quality	<ul style="list-style-type: none"> <li>a) Establish appropriate erosion and sediment control measures such as e.g. hay bales and / or silt fences to prevent sediment from moving off site and nearby streams and rivers.</li> </ul>

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
	Waste management	<ul style="list-style-type: none"> <li>a) Pre-identify and obtain formal permissions/agreement on the waste collection and disposal pathways and sites for all major waste types expected from excavation, demolition and construction activities;</li> <li>b) Separate mineral garbage / wastes remaining for construction and dismantling from general, organic, liquid and chemical waste and to be sorted in containers;</li> <li>c) Dispose all types of waste strictly according the existing formal agreements and exclusively to the designated locations;</li> <li>d) Reuse and recycle non-toxic wastes to the extent possible.</li> </ul>
B. Impacts on surface drainage system	Water Quality	<ul style="list-style-type: none"> <li>a) Do not undertake uncontrolled extraction of groundwater, nor uncontrolled discharge of wastewater, cement slurry, or other polluted waters into surface water bodies or natural environment in general; obtain necessary licenses and permits for water extraction and regulated discharge prior to commencement of activity;</li> <li>b) Install and operate proper storm water drainage systems; ensure that they do not fill up with silt, do not pollute, block or otherwise negatively impact natural streams, rivers, ponds and lakes;</li> <li>c) Introduce and follow procedures for prevention of and response to accidental spills of fuels, lubricants and other toxic or noxious substances;</li> <li>d) Wash construction vehicles and machinery only in designated areas where runoff will not pollute natural surface water bodies.</li> </ul>
C. Historic building(s)	Cultural Heritage	<ul style="list-style-type: none"> <li>a) In case the construction is carried out near historical buildings or in the historical area, the notification and acceptance / consent from local government organs shall be taken. All types of construction work should be planned and implemented in accordance with local and national legislation.</li> <li>b) In case of land excavation or findings of ancient times or other possible archaeological items, it is necessary to record and register the facts of responsible official agencies and to suspend or reverse the works by taking into consideration circumstances.</li> </ul>
D. Acquisition of land	Land Acquisition Plan/Framework	<ul style="list-style-type: none"> <li>a) If land take is required for undertaking works in a given site, do not enter this site until receipt of a formal notice from the Employer on the completion of resettlement and payment of compensations. Works are authorized after approval of the resettlement completion report by the Employer and the World Bank;</li> <li>b) In case of public complaints on incomplete or improper resettlement/compensation, take all activity on hold, enter complaints into log book and immediately inform the Employer. Do not resume works until formal notice from the Employer.</li> </ul>

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
E. Toxic materials	Asbestos management	a) If asbestos is located on the project site, it shall be marked clearly as hazardous material b) When possible of asbestos will be appropriately contained and sealed to minimize exposure c) Asbestos prior to removal (If necessary) will be treated with a wetting agent to minimize asbestos dust d) Asbestos will be handed and disposed by skilled & experienced professionals e) If asbestos material is stored temporarily, the waste should be securely enclosed inside closed container and marked appropriately. Security measures will be taken against unauthorized removal from the site. f) Removal of asbestos will not be reused
	Toxic / hazardous waste management	a) Temporarily storage on site of all hazardous or toxic substances will be in safe containers labeled with details of composition, properties and handling information b) Containers of hazardous substances shall be placed in a leak-proof container to prevent spillage c) Waste shall be transported by specially licensed carriers and disposed in licensed facility d) Paints with toxic ingredients or solvents or lead-based paints will not be used
F. Affected forests, wetlands and/or protected areas	Ecosystem protection	a) (A) It is inadmissible to carry out works on the territories belonging to the State Forest Fund until the completion of the removal procedure b) Cutting of trees should be minimized, through the regulation of access roads, as well as by using of small capacity equipment and manual works. c) All trees that have to be extracted must be marked and their removal must be entered into tree-cutting ledger on daily basis
G. Risk of unexploded ordinance (UXO)	Hazard to human health and safety	a) Before to start any excavation activities, Contractor shall verify that the construction area has been checked and cleared regarding UXO by appropriate authorities
H. Traffic and pedestrian safety	Direct or indirect hazards to public traffic and pedestrians by construction activities	In compliance with national regulations, ensure that the construction site is properly secured, and construction related traffic regulated. This includes but is not limited to: a) Use signposting, warning signs, barriers and traffic diversions so that the work site is clearly visible, and the public warned of all potential hazards; b) Apply traffic management system and train staff, especially for site access and near-site heavy traffic; provide safe passages and crossings for pedestrians where construction traffic interferes; c) Adjust working hours to local traffic patterns, avoid major transport activities during rush hours or times of livestock movement; d) If required, undertake active traffic management by trained and visible staff at the site for safe passage for the

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
		public; e) If school children are in the vicinity, include traffic safety personnel to direct traffic during school hours; f) Ensure safe and continuous access to all adjacent office facilities, shops and residences during construction.
I. Impacts on land property and use	Limited/lost access to the land	a) Ensure provision of undisturbed and safe access to homes, lands and other assets of the local population; b) Plan road works to maintain undisturbed access to land and assets of the local population by planning and implementing works and activities in coordination with residents and representatives of the local community.
	Temporary impact on privately-owned assets	a) Avoid trespassing or incidentally damaging of private property (using small-size machinery or manual labor near walls and fences, stockpiling of construction material and waste away from private property; etc.); b) In case of unintended damage to private property, quickly restore it to the original or better status; c) In case of expected temporary impact on privately-owned property, inform owners upfront and guarantee restoration, acquire written consent of owners for intervention, and promptly restore the damage to the original or better status; d) If an unexpected need for land take emerges in the course of works, do not enter the affected site prior to development and full implementation of the Resettlement Action Plan by RD
	Loss of income or assets caused by unauthorized intervention, occupation of territory outside of ROW	a) Avoid unauthorized intervention of territory outside of ROW; b) If such impact occurs by negligence of the construction company workers, record the case/claim; assess the loss and negotiate with an affected owner based on the adopted principles and valuation methodology described in the RAP and provide fair cash compensation at the Company's own cost; c) Apply GRM procedures if the case is unresolved through negotiation.
J. Social Impact	Public relationship management	a) Assign local liaison person who is in charge of communication with and receiving requests/ complaints from local population; b) Consulted local communities to identify and pro-proactively manage potential conflicts between an external workforce and local people; c) Raise local community awareness about sexually disease risks associated with the presence of an external workforce and include local communities in awareness activities; d) Inform population about construction and work schedules, interruption of the services, traffic detour routes and provisional bus routes, blasting and demolition, as appropriate; e) Limit construction activities at night. When necessary, carefully schedule night-time works and inform affected community so they can take necessary measures;

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
		<p>f) At least five days in advance of any service interruption (including water, electricity, telephone, bus routes), advice affected community through postings at the project site, at bus stops, and in affected homes/businesses.</p>
	Labor management	<p>a) To the extent possible, locate work camps away from local communities;</p> <p>b) Undertake siting and operation of worker camps in consultation with neighboring communities;</p> <p>c) Recruit unskilled or semi-skilled workers from local communities to the extent possible. Where and when feasible, provide worker skills training to enhance participation of local people;</p> <p>d) Provide adequate lavatory facilities (toilets and washing areas) in the work site with adequate supplies of hot and cold running water, soap, and hand drying devices. Provide separate WC facilities where male and female workers are employed. Establish temporary septic tanks for any residential labor camp and without causing pollution of nearby watercourses;</p> <p>e) Raise awareness of workers on overall relationship management with local population. Establish the code of conduct in line with international practice, ensure that all workers are aware of it, have read and signed off the code of conduct, and strictly enforce it, including the dismissal of workers and financial penalties of adequate scale;</p> <p>f) Ensure availability of grievance mechanism for workers on labor-related issues.</p>

**PART IV: MONITORING PLAN**  
**CONSTRUCTION PHASE**

<b>Activity</b>	<b>What</b> (Is the parameter to be monitored?)	<b>Where</b> (Is the parameter to be monitored?)	<b>How</b> (Is the parameter to be monitored?)	<b>When</b> (Define the frequency / or continuous?)	<b>Why</b> (Is the parameter being monitored?)	<b>Who</b> (Is responsible for monitoring?)
Supply of construction materials	Purchase of the construction materials from licensed providers	Offices and warehouses of material suppliers, and borrowing sites	Checking documents; Inspection of material quality	In the process of signing the agreements for material provision	Ensure technical quality of construction; Protect human health and environment	RD
Transportation of construction materials and waste movement of construction equipment	Technical condition of construction vehicles and machinery; Adequacy of the loading trucks for transported types of cargo, and canopy coverage of cargo transported in open trucks; Movement of construction vehicles and machinery along pre-defined routes.	Routes for transportation of construction materials and construction wastes	Inspection of roads adjacent to the construction site and included in the agreed-upon routes of transportation	Unannounced checks during the working hours	Avoid air and road pollution eith dust and solid matter;  Reduce traffic disruption	RD Traffic Police
Operation of Construction machinery on site	Proper technical condition of construction machinery: <ul style="list-style-type: none"> <li>• no excessive exhaust,</li> <li>• no fuel leakage,</li> <li>• respect of working hours</li> <li>• no damage to trees and other vegetation what does not need to be created for the purposes for road construction</li> </ul>	Construction site	Inspection	Within and off working hours	Reduce air and soil pollution caused by equipment operation; Reduce noise and dust nuisance to local population	RD

<b>Activity</b>	<b>What</b> (Is the parameter to be monitored?)	<b>Where</b> (Is the parameter to be monitored?)	<b>How</b> (Is the parameter to be monitored?)	<b>When</b> (Define the frequency / or continuous?)	<b>Why</b> (Is the parameter being monitored?)	<b>Who</b> (Is responsible for monitoring?)
Servicing of construction machinery	<p>Washing vehicles and machinery off-site of in the location sufficiently distant from water bodies;</p> <p>Servicing vehicles and machinery with oils and lubricants off-site or in an especially arranged location on-site;</p> <p>technical adequacy of the servicing location:</p> <ul style="list-style-type: none"> <li>• solid, insulating floor or adsorbent layer (sand, gravel, membrane),</li> <li>• containment barriers allowing enough sapce for holding fuel over the maximum amount expected on the location at a time,</li> <li>• emergency fire-fighting kit, sedimentation pool at car wash area.</li> </ul>	Construction site and construction base (if applicable)	Inspection	Entire period of machinery operation	<p>Avoid land and water pollution with oil products due to servicing of vehicles and machinery;</p> <p>Be ready for fire emergency action to promptly localize fire source and minimize material damage</p>	RD
Extraction of natural construction material	<p>Purchase of natural construction material from the existing providers if possible;</p> <p>Obtaining license for extraction of material by the Contractor and strict adherence to the terms of such license;</p> <p>Terrace processing of the borrow pits, backfilling of excess material, and harmonization with landscape;</p> <p>River bed gravel extraction away from water flow, arrangement of gravel barriers</p>	Borrow areas	<p>Checking documents</p> <p>Inspection of activities</p>	The period of material extraction	<p>Reduce slope erosion and damage to the ecosystem and landscape;</p> <p>Reduce river bank erosion, water pollution with suspended particles, and impact on the aquatic life;</p> <p>Protection of animals and people from accidents</p>	<p>RD</p> <p>LEPL National Agency of Mines of the Ministry of Economy and Sustainable Development of Georgia</p>

<b>Activity</b>	<b>What</b> (Is the parameter to be monitored?)	<b>Where</b> (Is the parameter to be monitored?)	<b>How</b> (Is the parameter to be monitored?)	<b>When</b> (Define the frequency / or continuous?)	<b>Why</b> (Is the parameter being monitored?)	<b>Who</b> (Is responsible for monitoring?)
	for isolating extraction area from water flow, prevention of water flow entry by vehicles and machinery;  Demarcation of borrow areas with warning signs					
Generation of construction waste	Temporary storage of inert and hazardous wastes separately at the designated locations;  Timely disposal of waste to the formally designated landfills;  Hand-over of hazardous wastes to licensed deactivating and processing companies.	Construction site and base (if applicable);  Locations designated for waste disposal	Checking documents;  Visual observation	Entire period of construction	Avoid pollution of the environment	RD
Accumulation of household waste	Provision of waste containers on-site;  Agreement with local Municipality for regular out-transporting of waste	Construction site and base (if applicable)	Visual inspection	Entire period of construction	Avoid pollution of soil and water with household waste	RD
Generation of liquid waste	Arrangement and operation of toilets compliant with sanitary norms on-site;  Arrangement of drainage system for storm water collection and periodic cleaning of the system from silt;  Arrangement of sedimentation pool for waste water collection on-site	Construction site and base (if applicable)	Visual inspection	Entire period of construction  Increased frequency of inspection in periods of high precipitation	Avoid flooding of construction site and base;  Reduce pollution of surface and ground water	RD

<b>Activity</b>	<b>What</b> (Is the parameter to be monitored?)	<b>Where</b> (Is the parameter to be monitored?)	<b>How</b> (Is the parameter to be monitored?)	<b>When</b> (Define the frequency / or continuous?)	<b>Why</b> (Is the parameter being monitored?)	<b>Who</b> (Is responsible for monitoring?)
Operation of asphalt-concrete plant	Obtaining permit for impacting environment by Contractor and strict adherence to its terms; Placement of plant in the location permissive for minimal disturbance of local population; Arranging sedimentation pool for capturing of liquid discharges from plant	Construction site and base (if applicable)	Checking documents  Inspection	Before establishment of plant and during entire period of its operation	Reduce inconvenience for local population due to plant operation; Reduce air and surface water pollution from emissions and discharges from plant	RD LEPL National Environment Agency of the Ministry of Environment Protection and Agriculture
Safety of labor	Provision of uniforms and personal protective gear to workers and enforcement of their use; Consistency with the rules of exploitation of the construction equipment and machinery	Construction site	Inspection of the activities	Entire period of construction	Reduce the probability of accidents	RD
Works near privately-owned land, buildings and other assets	Avoid trespassing or incidentally damaging of private property (using small-size machinery or manual labor near walls and fences, stockpiling of construction material and waste away from private property; etc.); In case of unintended damage to private property, quickly restore it to the original or better status; In case of expected temporary impact on privately-owned property, inform owners upfront and guarantee restoration, acquire written consent of owners for	Works near privately-owned land, buildings and other assets	Monitoring and inspection	Entire period of construction	Reduce the probability of damages on private property Exclude temporary or permanent violation of ownership and/or user rights on the private property	RD

<b>Activity</b>	<b>What</b> (Is the parameter to be monitored?)	<b>Where</b> (Is the parameter to be monitored?)	<b>How</b> (Is the parameter to be monitored?)	<b>When</b> (Define the frequency / or continuous?)	<b>Why</b> (Is the parameter being monitored?)	<b>Who</b> (Is responsible for monitoring?)
	intervention, and promptly restore the damage to the original or better status; If an unexpected need for land take emerges in the course of works, do not enter the affected site prior to development and full implementation of the Resettlement Action Plan by RD					

## OPERATION PHASE

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?)
Maintenance of the road carriageway and shoulders	Regular collection and disposal of domestic waste left by passengers and driver;  The timely removal of animal wastes	Adjacent territories of the road and side ditches	Inspection	Quarterly	For the protection of the nature.  In order to ensure safe movement of the traffic	RD
Maintenance of drainage ditches	Regular cleaning of culverts from sewage and household waste	Side ditches along the roads	Visual Observation	Quarterly	To maintain drainage system To prevent flooding of the road and avoid water damage	RD
Addressing accidental spillage on the road	Timely localization, collection, decontamination and disposal of waste or emitted liquid or loose cargo waste during a road accident	On the road and on the adjacent territories	Checking	During the road accidents, according to the necessity	To prevent the contamination of the nature	RD  Patrol Police

## ATTACHMENT 1: PROJECT LOCATION MAP

Sh-02: Rehabilitation Section: km 17.0 – km 19.5

