

Municipal Development Fund of Georgia (MDF)
Loan No. 2655 – GEO: Sustainable Urban Transport Investment Program – Project 1

Call for Expression of Interest (EOI) – Issue Date: 06 May, 2014

**INVESTIGATION OF STRUCTURAL INTEGRITY OF, AND IMPACT OF
VIBRATION AND NOISE ON BUILDINGS AT A SEGMENT OF TBILISI-RUSTAVI ROAD
PROJECT (SECTION 2, KM 5,2-6,9)**

The Government of Georgia has received a loan from the Asian Development Bank (ADB) to finance the Sustainable Urban Transport Investment Program – Project 1. Part of the loan proceeds will finance the Project.

The Municipal Development Fund of Georgia (MDF) will be the project executing, implementing and disbursing agency. MDF will be the Employer.

Government of Georgia declared modernization of the Tbilisi-Rustavi road section as a priority project. The project envisages turning the existing 17.1 km 2-lane road into an international standard Category - I road with 4 to 6 lanes and 80 km/h of design speed. Implementation of the project will improve accessibility, connectivity and trade in South Caucasus and Georgia.

Section 2 in Phonichala is expected to generate severe resettlement impacts. The Government decided to conduct additional investigation of the impacts and consultation on the local inhabitants to optimize the alignment and identify the measures in order to minimize the impacts on the affected population. 10 residential buildings in the urban area along the designed alignment (km 5,2-6,9 of Section 2) are located in close distance to the construction site (highlighted in blue in figures 1 and 2) and thus, will be subject to vibration impact during the road construction and to noise impact during construction and further exploitation of the road.

International consulting firm (hereinafter – Consultant) will be hired to: (i) inventorize current state of the building premises and develop 3D map of the buildings and area in focus (including inventory of damages in all premises in the buildings); (ii) investigate required major parameters of the structural integrity of the buildings (including the study of structural parameters of concrete in major spots of interest, and investigation of the current state of the fundament); (iii) investigate soil parameters required for determining the impact through propagation of vibration through sub-soil strata and change in ground water conditions resulting through earth removal to be performed during construction works; (iv) perform dynamic modeling using relevant software to determine the vibration impact during construction; (v) perform acoustic modeling to determine noise levels at the residential building premises during the operation of the adjacent road and provide the data required for selecting a technical solution to reduce the noise level to an acceptable standard levels; and (vi) provide general recommendation on the relevant measures to mitigate the vibration impact during construction (e.g. strengthening or demolition of buildings – whichever relevant to the case). Given the sensitivity of the case and ADB policies, the methodology used during the study and the outputs derived should meet in full best international standards for the similar studies.

Scope of Consulting Services includes following tasks: (a) Review of Existing Relevant Data and Materials; (b) Inventory of Premises in Each Building; (c) Investigation of Soil Conditions for Parameters of Vibration Propagation; (d) Data Analysis and Vibration Modeling; (e) Data Analysis and Noise/Acoustic Modeling; (f) Reporting/Presenting findings.

The Consultant should have proven extensive experience in diagnostics of, and investigation and analysis of impacts of vibration and noise on civil structures based on internationally practiced quality standards. The Consultant is expected to assemble the project team of relevant qualifications to carry out the required job and derive the outputs.

The team mobilized by the Consultant should be composed of, but not limited to, the following key international staff (i) Structural Engineer/ Expert in Static Structural Integrity of Buildings (Team Leader); (ii) Hydraulic Structural Engineer/Expert in Dynamic Structural Integrity of Buildings; (iii) Senior Geophysicist; (iv) Structural Engineering Data Analyst/Data Modeling Expert (v) Senior Building Inventory Specialist. The national staff

should be composed of, but not limited to: (i) Six Building Inventory Assistants; (ii) Two Assistants to Geophysicist; (iii) Two Data Processors and Encoders; (iv) One Data Modeling Specialist. As for Administrative Staff, it will include Office Administrator and Translator.

The tentative duration of the assignment is 12 weeks (plus 2 weeks period for final payment) and it is anticipated that the consulting services are expected to commence by 14, July 2014.

The consulting firms shall be selected in accordance with the Consultants' Qualifications Selection (CQS) method procedures set out in the [Guidelines on the use of Consultants by Asian Development Bank and its Borrowers](#) (April 2010 edition).

Interested firms are invited to submit their Expression of Interest (EOI) using the ADB standard format for firms (downloadable from ADB's website - <http://www.adb.org/>) by **May 13, 2014**. EOI should be submitted at the following address:

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