

Bidding Document for Procurement of Small Works

Procurement of:

**Rehabilitation of the Secondary road Agara-Kornisi-
Tskhinvali km1-km4; km9-km16
SLRP/III/CW/NCB/06**

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Roads Department of the Ministry of Regional
Development and Infrastructure of Georgia

Standard Bidding Document

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PART 1 – Bidding Procedures

Section I - Instructions to Bidders

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Section I - Instructions to Bidders

A. General

1. **Scope of Bid**
 - 1.1 In connection with the Invitation for Bids **specified in the Bid Data Sheet (BDS)**, the Employer, as **specified in the BDS**, issues these Bidding Documents for the procurement of the Works as specified in Section VII, Works Requirements. The name, identification, and number of lots (contracts) of this bidding are **specified in the BDS**.
 - 1.2 Throughout this Bidding Document:
 - (a) the term “in writing” means communicated in written form and delivered against receipt;
 - (b) except where the context requires otherwise, words indicating the singular also include the plural and words indicating the plural also include the singular; and
 - (c) “day” means calendar day.
2. **Source of Funds**
 - 2.1 The Borrower or Recipient (hereinafter called “Borrower”) **specified in the BDS** has received or has applied for financing (hereinafter called “funds”) from the International Bank for Reconstruction and Development or the International Development Association (hereinafter called “the Bank”) in an amount **specified in the BDS**, toward the project named **in the BDS**. The Borrower intends to apply a portion of the funds to eligible payments under the contract(s) for which these Bidding Documents are issued.
 - 2.2 Payment by the Bank will be made only at the request of the Borrower and upon approval by the Bank, and will be subject, in all respects, to the terms and conditions of the Loan (or other financing) Agreement. The Loan (or other financing) Agreement prohibits a withdrawal from the Loan (or other financing) account for the purpose of any payment to persons or entities, or for any import of goods, if such payment or import, to the knowledge of the Bank, is prohibited by a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations. No party other than the Borrower shall derive any rights from the Loan (or other financing) Agreement or have any claim to the proceeds of the Loan (or other financing).
3. **Corrupt and Fraudulent Practices**
 - 3.1 The Bank requires compliance with its policy in regard to corrupt and fraudulent practices as set forth in Section VI.
 - 3.2 In further pursuance of this policy, Bidders shall permit and shall cause its agents (whether declared or not), sub-contractors, sub-consultants, service providers, or suppliers and any personnel thereof, to permit the Bank to inspect all accounts, records and other documents relating to any prequalification process, bid submission, and contract performance (in the case of award), and to have them audited by auditors appointed by the Bank.

4. Eligible Bidders

4.1 A Bidder may be a firm that is a private entity, or a government-owned entity—subject to ITB 4.5—or any combination of them in the form of a joint venture (JV), under an existing agreement, or with the intent to enter into such an agreement supported by a letter of intent. In the case of a joint venture, all members shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms. The JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the bidding process and, in the event the JV is awarded the Contract, during contract execution. **Unless specified in the BDS**, there is no limit on the number of members in a JV.

4.2 A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest for the purpose of this bidding process, if the Bidder:

- (a) directly or indirectly controls, is controlled by or is under common control with another Bidder; or
- (b) receives or has received any direct or indirect subsidy from another Bidder; or
- (c) has the same legal representative as another Bidder; or
- (d) has a relationship with another Bidder, directly or through common third parties, that puts it in a position to influence the bid of another Bidder, or influence the decisions of the Employer regarding this bidding process; or
- (e) participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all Bids in which such Bidder is involved. However, this does not limit the inclusion of the same subcontractor in more than one bid; or
- (f) any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the bid; or
- (g) any of its affiliates has been hired (or is proposed to be hired) by the Employer or Borrower as Engineer for the Contract implementation; or
- (h) would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the project specified in the BDS ITB 2.1 that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm; or
- (i) has a close business or family relationship with a professional staff of the Borrower (or of the project implementing agency, or of a recipient of a part of the loan) who: (i) are directly or indirectly involved in the preparation of the bidding documents or specifications of the contract, and/or the bid evaluation process of

such contract; or (ii) would be involved in the implementation or supervision of such contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the Bank throughout the procurement process and execution of the contract.

4.3 A Bidder may have the nationality of any country, subject to the restrictions pursuant to ITB 4.7. A Bidder shall be deemed to have the nationality of a country if the Bidder is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed sub-contractors or sub-consultants for any part of the Contract including related Services.

4.4 A Bidder that has been sanctioned by the Bank in accordance with the above ITB 3.1, including in accordance with the Bank's Guidelines on Preventing and Combating Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants ("Anti-Corruption Guidelines"), shall be ineligible to be prequalified for, bid for, or be awarded a Bank-financed contract or benefit from a Bank-financed contract, financially or otherwise, during such period of time as the Bank shall have determined. The list of debarred firms and individuals is available at the electronic address **specified in the BDS**.

4.5 Bidders that are Government-owned enterprises or institutions in the Employer's Country may participate only if they can establish that they (i) are legally and financially autonomous (ii) operate under commercial law, and (iii) are not dependent agencies of the Employer. To be eligible, a government-owned enterprise or institution shall establish to the Bank's satisfaction, through all relevant documents, including its Charter and other information the Bank may request, that it: (i) is a legal entity separate from the government (ii) does not currently receive substantial subsidies or budget support; (iii) operates like any commercial enterprise, and, inter alia, is not obliged to pass on its surplus to the government, can acquire rights and liabilities, borrow funds and be liable for repayment of its debts, and can be declared bankrupt; and (iv) is not bidding for a contract to be awarded by the department or agency of the government which under their applicable laws or regulations is the reporting or supervisory authority of the enterprise or has the ability to exercise influence or control over the enterprise or institution.

4.6 A Bidder shall not be under suspension from bidding by the Employer as the result of the operation of a Bid-Securing Declaration.

4.7 Firms and individuals may be ineligible if so indicated in Section V and (a) as a matter of law or official regulations, the Borrower's country prohibits commercial relations with that country, provided that the Bank is satisfied that such exclusion does not preclude effective competition for the supply of goods or the contracting of works or services required; or (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's country prohibits any

import of goods or contracting of works or services from that country, or any payments to any country, person, or entity in that country.

4.8 A Bidder shall provide such evidence of eligibility satisfactory to the Employer, as the Employer shall reasonably request.

5. Eligible Materials, Equipment and Services

5.1 The materials, equipment and services to be supplied under the Contract and financed by the Bank may have their origin in any country subject to the restrictions specified in Section V, Eligible Countries, and all expenditures under the Contract will not contravene such restrictions. At the Employer's request, Bidders may be required to provide evidence of the origin of materials, equipment and services.

B. Contents of Bidding Document

6. Sections of Bidding Document

6.1 The Bidding Document consist of Parts 1, 2, and3, which include all the Sections specified below, and which should be read in conjunction with any Addenda issued in accordance with ITB 8.

PART 1 Bidding Procedures

Section I - Instructions to Bidders (ITB)

Section II - Bid Data Sheet (BDS)

Section III - Evaluation and Qualification Criteria

Section IV - Bidding Forms

Section V - Eligible Countries

Section VI – Bank Policy-Corrupt and Fraudulent Practices

PART 2 Works Requirements

Section VII - Works Requirements

PART 3 Conditions of Contract and Contract Forms

Section VIII - General Conditions of Contract (GCC)

Section IX - Particular Conditions of Contract (PCC)

Section X - Contract Forms

6.2 The Invitation for Bids issued by the Employer is not part of the Bidding Document.

6.3 Unless obtained directly from the Employer, the Employer is not responsible for the completeness of the Bidding Documents, responses to requests for clarification, the minutes of the pre-Bid meeting (if any), or Addenda to the Bidding Documents in accordance with ITB 8. In case of any contradiction, documents obtained directly from the Employer shall prevail.

6.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Documents and to furnish with its bid

all information and documentation as is required by the Bidding Documents.

7. Clarification of Bidding Document, Site Visit, Pre-Bid Meeting

7.1 A Bidder requiring any clarification of the Bidding Document shall contact the Employer in writing at the Employer's address **specified in the BDS** or raise its inquiries during the pre-bid meeting if provided for in accordance with ITB 7.4. The Employer will respond in writing to any request for clarification, provided that such request is received prior to the deadline for submission of bids within a period **specified in the BDS**. The Employer shall forward copies of its response to all Bidders who have acquired the Bidding Documents in accordance with ITB 6.3, including a description of the inquiry but without identifying its source. **If so specified in the BDS**, the Employer shall also promptly publish its response at the web page identified in the BDS. Should the clarification result in changes to the essential elements of the Bidding Documents, the Employer shall amend the Bidding Documents following the procedure under ITB 8 and ITB 22.2.

7.2 The Bidder is advised to visit and examine the Site of Works and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the bid and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the Bidder's own expense.

7.3 The Bidder and any of its personnel or agents will be granted permission by the Employer to enter upon its premises and lands for the purpose of such visit, but only upon the express condition that the Bidder, its personnel, and agents will release and indemnify the Employer and its personnel and agents from and against all liability in respect thereof, and will be responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection.

7.4 **If so specified in the BDS**, the Bidder's designated representative is invited to attend a pre-bid meeting. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.

7.5 The Bidder is requested, to submit any questions in writing, to reach the Employer not later than one week before the meeting.

7.6 Minutes of the pre-bid meeting, if applicable, including the text of the questions asked by Bidders, without identifying the source, and the responses given, together with any responses prepared after the meeting, will be transmitted promptly to all Bidders who have acquired the Bidding Documents in accordance with ITB 6.3. Any modification to the Bidding Documents that may become necessary as a result of the pre-bid meeting shall be made by the Employer exclusively through the issue of an addendum pursuant to ITB 8 and not through the minutes of the pre-bid meeting. Nonattendance at the pre-bid meeting will not be a cause for disqualification of a Bidder.

8. Amendment of Bidding Document

8.1 At any time prior to the deadline for submission of bids, the Employer may amend the Bidding Documents by issuing addenda.

8.2 Any addendum issued shall be part of the Bidding Documents and shall be communicated in writing to all who have obtained the Bidding Document from the Employer in accordance with ITB 6.3. The Employer shall also promptly publish the addendum on the Employer's web page in accordance with ITB 7.1.

8.3 To give prospective Bidders reasonable time in which to take an addendum into account in preparing their bids, the Employer may, at its discretion, extend the deadline for the submission of bids, pursuant to ITB 22.2.

C. Preparation of Bids

9. Cost of Bidding

9.1 The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Employer shall in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

10. Language of Bid

10.1 The Bid, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Employer, shall be written in the language **specified in the BDS**. Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages in the language **specified in the BDS**, in which case, for purposes of interpretation of the Bid, such translation shall govern

11. Documents Comprising the Bid

11.1 The Bid shall comprise the following:

- (a) Letter of Bid, in accordance with ITB 12;
- (b) completed Schedules, in accordance with ITB 12 and 14, **as specified in the BDS**;
- (c) Bid Security or Bid Securing Declaration, in accordance with ITB 19.1;
- (d) alternative bids, if permissible, in accordance with ITB 13;
- (e) written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 20.2;
- (f) documentary evidence in accordance with ITB 17 establishing the Bidder's qualifications to perform the contract if its Bid is accepted;
- (g) Technical Proposal in accordance with ITB 16; and
- (h) any other document **required in the BDS**.

11.2 In addition to the requirements under ITB 11.1, bids submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful bid shall be signed by all members and submitted with the bid, together with a copy of the proposed Agreement.

11.3 The Bidder shall furnish in the Letter of Bid information on

commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Bid.

12. Letter of Bid and Schedules

12.1 The Letter of Bid and Schedules shall be prepared using the relevant forms furnished in Section IV, Bidding Forms. The forms must be completed without any alterations to the text, and no substitutes shall be accepted except as provided under ITB 20.2. All blank spaces shall be filled in with the information requested.

13. Alternative Bids

13.1 Unless otherwise **specified in the BDS**, alternative bids shall not be considered.

13.2 When alternative times for completion are explicitly invited, a statement to that effect will be **included in the BDS**, as will the method of evaluating different times for completion.

13.3 Except as provided under ITB 13.4 below, Bidders wishing to offer technical alternatives to the requirements of the Bidding Document must first price the Employer's design as described in the Bidding Document and shall further provide all information necessary for a complete evaluation of the alternative by the Employer, including drawings, design calculations, technical specifications, breakdown of prices, and proposed construction methodology and other relevant details. Only the technical alternatives, if any, of the lowest evaluated Bidder conforming to the basic technical requirements shall be considered by the Employer.

13.4 When **specified in the BDS**, Bidders are permitted to submit alternative technical solutions for specified parts of the Works. Such parts will be **identified in the BDS** and described in Section VII, Works Requirements. The method for their evaluation will be stipulated in Section III, Evaluation and Qualification Criteria.

14. Bid Prices and Discounts

14.1 The prices and discounts (including any price reduction) quoted by the Bidder in the Letter of Bid and in the Schedules shall conform to the requirements specified below.

14.2 The Bidder shall submit a bid for the whole of the works described in ITB 1.1 by filling in prices for all items of the Works, as identified in Section IV, Bidding Forms. In case of admeasurement contracts, the Bidder shall fill in rates and prices for all items of the Works described in the Bill of Quantities. Items against which no rate or price is entered by the Bidder will not be paid for by the Employer when executed and shall be deemed covered by the rates for other items and prices in the Bill of Quantities.

14.3 The price to be quoted in the Letter of Bid, in accordance with ITB 12.1, shall be the total price of the Bid, excluding any discounts offered.

14.4 The Bidder shall quote any discounts and the methodology for their application in the Letter of Bid, in accordance with ITB 12.1.

14.5 **Unless otherwise provided in the BDS** and the Conditions of Contract, the prices quoted by the Bidder shall be fixed. If the prices quoted by the Bidder are subject to adjustment during the performance of the Contract in accordance with the provisions of the

Conditions of Contract, the Bidder shall furnish the weightings for the price adjustment formulae in the Schedule of Adjustment Data in Section IV, Bidding Forms in accordance with the instructions provided therein.

14.6 If so specified in ITB 1.1, bids are invited for individual lots (contracts) or for any combination of lots (packages). Bidders wishing to offer discounts for the award of more than one Contract shall specify in their bid the price reductions applicable to each package, or alternatively, to individual Contracts within the package. Discounts shall be submitted in accordance with ITB 14.4, provided the bids for all lots (contracts) are opened at the same time.

14.7 All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause, as of the date 28 days prior to the deadline for submission of bids, shall be included in the rates and prices and the total bid price submitted by the Bidder.

15. Currencies of Bid and Payment

15.1 The currency of the bid and the currency of payments shall be as **specified in the BDS**.

15.2 NOT APPLICABLE

16. Documents Comprising the Technical Proposal

16.1 The Bidder shall furnish a Technical Proposal including a statement of work methods, equipment, personnel, schedule and any other information as stipulated in Section IV, Bidding Forms, in sufficient detail to demonstrate the adequacy of the Bidders' proposal to meet the work requirements and the completion time.

17. Documents Establishing the Qualifications of the Bidder

17.1 In accordance with Section III, Evaluation and Qualification Criteria, to establish its qualifications to perform the Contract, the Bidder shall provide the information requested in the corresponding information sheets included in Section IV, Bidding Forms.

17.2 NOT APPLICABLE

18. Period of Validity of Bids

18.1 Bids shall remain valid for the period **specified in the BDS** after the bid submission deadline date prescribed by the Employer in accordance with ITB 22.1. A bid valid for a shorter period shall be rejected by the Employer as nonresponsive.

18.2 In exceptional circumstances, prior to the expiration of the bid validity period, the Employer may request Bidders to extend the period of validity of their bids. The request and the responses shall be made in writing. If a bid security is requested in accordance with ITB 19, it shall also be extended forty-eight (48) days beyond the deadline of the extended validity period. A Bidder may refuse the request without forfeiting its bid security. A Bidder granting the request shall not be required or permitted to modify its bid, except as provided in ITB 18.3.

18.3 If the award is delayed by a period exceeding fifty-six (56) days beyond the expiry of the initial bid validity, the Contract price shall be determined as follows:

(a) In the case of fixed price contracts, the Contract price shall be the bid price adjusted by the factor **specified in the BDS**.

(b) In the case of adjustable price contracts, no adjustment shall be made.

(c) In any case, bid evaluation shall be based on the bid price without taking into consideration the applicable correction from those indicated above.

19. Bid Security

19.1 The Bidder shall furnish as part of its bid, either a Bid-Securing Declaration or a bid security **as specified in the BDS**, in original form and, in the case of a bid security, in the amount and currency **specified in the BDS**.

19.2 A Bid Securing Declaration shall use the form included in Section IV, Bidding Forms.

19.3 If a bid security is specified pursuant to ITB 19.1, the bid security shall be a demand guarantee in any of the following forms at the Bidder's option:

(a) an unconditional guarantee issued by a bank or financial institution (such as an insurance, bonding or surety company);

(b) an irrevocable letter of credit;

(c) a cashier's or certified check; or

(d) another security **specified in the BDS**.

from a reputable source from an eligible country. If the unconditional guarantee is issued by a financial institution located outside the Employer's Country, the issuing financial institution shall have a correspondent financial institution located in the Employer's Country to make it enforceable. In the case of a bank guarantee, the bid security shall be submitted either using the Bid Security Form included in Section IV, Bidding Forms, or in another substantially similar format approved by the Employer prior to bid submission. The bid security shall be valid for twenty-eight (28) days beyond the original validity period of the bid, or beyond any period of extension if requested under ITB 18.2.

19.4 If a bid security or Bid Securing Declaration is specified pursuant to ITB 19.1, any bid not accompanied by a substantially responsive bid security or Bid-Securing Declaration shall be rejected by the Employer as non responsive.

19.5 If a bid security is specified pursuant to ITB 19.1, the bid security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's signing the Contract and furnishing the performance security pursuant to ITB 42.

19.6 The bid security of the successful Bidder shall be returned as promptly as possible once the successful Bidder has signed the Contract and furnished the required performance security.

19.7 The bid security may be forfeited or the Bid Securing Declaration executed:

- (a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Letter of Bid, , or any extension thereto provided by the Bidder; or
- (b) if the successful Bidder fails to:
 - (i) sign the Contract in accordance with ITB 41; or
 - (ii) furnish a performance security in accordance with ITB 42.

19.8 The bid security or the Bid Securing Declaration of a JV shall be in the name of the JV that submits the bid. If the JV has not been constituted into a legally-enforceable JV, at the time of bidding, the Bid Security or the Bid Securing Declaration shall be in the names of all future members as named in the letter of intent mentioned in ITB 4.1 and ITB 11.2.

19.9 If a bid security is **not required in the BDS**, and

- (a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Letter of Bid, or
- (b) if the successful Bidder fails to: sign the Contract in accordance with ITB 41; or furnish a performance security in accordance with ITB 42;

the Borrower may, **if provided for in the BDS**, declare the Bidder ineligible to be awarded a contract by the Employer for a period of time **as stated in the BDS**.

20. Format and Signing of Bid

20.1 The Bidder shall prepare one original of the documents comprising the bid as described in ITB 11 and clearly mark it "ORIGINAL". Alternative bids, if permitted in accordance with ITB 13, shall be clearly marked "ALTERNATIVE". In addition, the Bidder shall submit copies of the bid in the number **specified in the BDS**, and clearly mark each of them "COPY." In the event of any discrepancy between the original and the copies, the original shall prevail.

20.2 The original and all copies of the bid shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Bidder. This authorization shall consist of a written

confirmation as **specified in the BDS** and shall be attached to the bid. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the bid where entries or amendments have been made shall be signed or initialed by the person signing the bid.

20.3 In case the Bidder is a JV, the Bid shall be signed by an authorized representative of the JV on behalf of the JV, and so as to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized representatives.

20.4 Any interlineations, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the bid.

D. Submission and Opening of Bids

21. Sealing and Marking of Bids

21.1 The Bidder shall enclose the original and all copies of the bid, including alternative bids, if permitted in accordance with ITB 13, in separate sealed envelopes, duly marking the envelopes as "ORIGINAL", "ALTERNATIVE" and "COPY." These envelopes containing the original and the copies shall then be enclosed in one single envelope.

21.2 The inner and outer envelopes shall:

- (a) bear the name and address of the Bidder;
- (b) be addressed to the Employer as **provided in the BDS** pursuant to ITB 22.1;
- (c) bear the specific identification of this bidding process specified in accordance with BDS 1.1; and
- (d) bear a warning not to open before the time and date for bid opening.

21.3 If all envelopes are not sealed and marked as required, the Employer will assume no responsibility for the misplacement or premature opening of the bid.

22. Deadline for Submission of Bids

22.1 Bids must be received by the Employer at the address and no later than the date and time **specified in the BDS**. When so **specified in the BDS**, bidders shall have the option of submitting their bids electronically. Bidders submitting bids electronically shall follow the electronic bid submission procedures **specified in the BDS**.

22.2 The Employer may, at its discretion, extend the deadline for the submission of bids by amending the Bidding Document in accordance with ITB 8, in which case all rights and obligations of the Employer and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.

23. Late Bids

23.1 The Employer shall not consider any bid that arrives after the deadline for submission of bids, in accordance with ITB 22. Any bid received by the Employer after the deadline for submission of bids

shall be declared late, rejected, and returned unopened to the Bidder.

24. Withdrawal, Substitution, and Modification of Bids

24.1 A Bidder may withdraw, substitute, or modify its bid after it has been submitted by sending a written notice, duly signed by an authorized representative, and shall include a copy of the authorization in accordance with ITB 20.2, (except that withdrawal notices do not require copies). The corresponding substitution or modification of the bid must accompany the respective written notice. All notices must be:

(a) prepared and submitted in accordance with ITB 20 and ITB 21 (except that withdrawal notices do not require copies), and in addition, the respective envelopes shall be clearly marked "WITHDRAWAL," "SUBSTITUTION," "MODIFICATION;" and

(b) received by the Employer prior to the deadline prescribed for submission of bids, in accordance with ITB 22.

24.2 Bids requested to be withdrawn in accordance with ITB 24.1 shall be returned unopened to the Bidders.

24.3 No bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Letter of Bid or any extension thereof.

25. Bid Opening

25.1 Except in the cases specified in ITB 23 and 24, the Employer shall publicly open and read out in accordance with ITB 25.3 all bids received by the deadline, at the date, time and place **specified in the BDS**, in the presence of Bidders' designated representatives and anyone who choose to attend. Any specific electronic bid opening procedures required if electronic bidding is permitted in accordance with ITB 22.1, shall be **as specified in the BDS**.

25.2 First, envelopes marked "WITHDRAWAL" shall be opened and read out and the envelope with the corresponding bid shall not be opened, but returned to the Bidder. No bid withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at bid opening. Next, envelopes marked "SUBSTITUTION" shall be opened and read out and exchanged with the corresponding bid being substituted, and the substituted bid shall not be opened, but returned to the Bidder. No bid substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at bid opening. Envelopes marked "MODIFICATION" shall be opened and read out with the corresponding bid. No bid modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at bid opening. Only envelopes that are opened and read out at bid opening shall be considered further.

25.3 All other envelopes shall be opened one at a time, reading out: the name of the Bidder and whether there is a modification; the total Bid Price, per lot (contract) if applicable, including any discounts and alternative bids; the presence or absence of a bid security, or Bid Securing Declaration, if required; and any other details as the Employer may consider appropriate. Only discounts and alternative

bids read out at bid opening shall be considered for evaluation. The Letter of Bid and the Bill of Quantities are to be initialed by representatives of the Employer attending bid opening in the manner **specified in the BDS**. The Employer shall neither discuss the merits of any bid nor reject any bid (except for late bids, in accordance with ITB 23.1).

25.4 The Employer shall prepare a record of the bid opening that shall include, as a minimum: the name of the Bidder and whether there is a withdrawal, substitution, or modification; the Bid Price, per lot (contract) if applicable, including any discounts and alternative bids; and the presence or absence of a bid security, if one was required. The Bidders' representatives who are present shall be requested to sign the record. The omission of a Bidder's signature on the record shall not invalidate the contents and effect of the record. A copy of the record shall be distributed to all Bidders.

E. Evaluation and Comparison of Bids

26. Confidentiality

26.1 Information relating to the evaluation of bids and recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with the bidding process until information on Contract award is communicated to all Bidders in accordance with ITB 40.

26.2 Any attempt by a Bidder to influence the Employer in the evaluation of the bids or Contract award decisions may result in the rejection of its bid.

26.3 Notwithstanding ITB 26.2, from the time of bid opening to the time of Contract award, if a Bidder wishes to contact the Employer on any matter related to the bidding process, it shall do so in writing.

27. Clarification of Bids

27.1 To assist in the examination, evaluation, and comparison of the bids, and qualification of the Bidders, the Employer may, at its discretion, ask any Bidder for a clarification of its bid given a reasonable time for a response. Any clarification submitted by a Bidder that is not in response to a request by the Employer shall not be considered. The Employer's request for clarification and the response shall be in writing. No change, including any voluntary increase or decrease in the prices or substance of the bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the bids, in accordance with ITB 31.

27.2 If a Bidder does not provide clarifications of its bid by the date and time set in the Employer's request for clarification, its bid may be rejected.

28. Deviations, Reservations, and Omissions

28.1 During the evaluation of bids, the following definitions apply:

- (a) "Deviation" is a departure from the requirements specified in the Bidding Document;
- (b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Bidding Document; and
- (c) "Omission" is the failure to submit part or all of the information or documentation required in the Bidding Document.

29. Determination of Responsiveness

29.1 The Employer's determination of a bid's responsiveness is to be based on the contents of the bid itself, as defined in ITB11.

29.2 A substantially responsive bid is one that meets the requirements of the Bidding Document without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that,

- (a) if accepted, would:
 - (i) affect in any substantial way the scope, quality, or performance of the Works specified in the Contract; or
 - (ii) limit in any substantial way, inconsistent with the Bidding Document, the Employer's rights or the Bidder's obligations under the proposed Contract; or
- (b) if rectified, would unfairly affect the competitive position of other Bidders presenting substantially responsive bids.

29.3 The Employer shall examine the technical aspects of the bid submitted in accordance with ITB 16, Technical Proposal, in particular, to confirm that all requirements of Section VII, Works Requirements have been met without any material deviation, reservation or omission.

29.4 If a bid is not substantially responsive to the requirements of the Bidding Document, it shall be rejected by the Employer and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.

30. Non-conformities, Errors, and Omissions

30.1 Provided that a bid is substantially responsive, the Employer may waive any nonconformities in the bid.

30.2 Provided that a bid is substantially responsive, the Employer may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities in the bid related to documentation requirements. Requesting information or documentation on such nonconformities shall not be related to any aspect of the price of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.

30.3 Provided that a bid is substantially responsive, the Employer shall rectify quantifiable nonmaterial nonconformities related to the

Bid Price. To this effect, the Bid Price may be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component. The adjustment shall be made using the methods specified in Section III, Evaluation and Qualification Criteria.

31. Correction of Arithmetical Errors

31.1 Provided that the bid is substantially responsive, the Employer shall correct arithmetical errors on the following basis:

(a) only for admeasurement contracts, if there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected, unless in the opinion of the Employer there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price shall be corrected;

(b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and

(c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.

31.2 Bidders shall be requested to accept correction of arithmetical errors. Failure to accept the correction in accordance with ITB 31.1, shall result in the rejection of the Bid.

32. Conversion to Single Currency

NOT APPLICABLE

33. Margin of Preference

NOT APPLICABLE

34. Subcontractors

34.1 Unless otherwise stated in the BDS, the Employer does not intend to execute any specific elements of the Works by sub-contractors selected in advance by the Employer.

34.2 The Employer may permit subcontracting for certain specialized works as indicated in Section III. When subcontracting is permitted by the Employer, the specialized sub-contractor's experience shall be considered for evaluation. Section III describes the qualification criteria for sub-contractors.

34.3 Bidders may propose subcontracting up to the percentage of total value of contracts or the volume of works as **specified in the BDS**.

35. Evaluation of Bids

35.1 The Employer shall use the criteria and methodologies listed in this Clause. No other evaluation criteria or methodologies shall be permitted.

35.2 To evaluate a bid, the Employer shall consider the following:

- (a) the bid price, excluding Provisional Sums and the provision, if any, for contingencies in the Summary Bill of Quantities for admeasurement contracts, but including Daywork¹ items, where priced competitively;
- (b) price adjustment for correction of arithmetic errors in accordance with ITB 31.1;
- (c) price adjustment due to discounts offered in accordance with ITB 14.4;
- (d) not applicable
- (e) price adjustment for nonconformities in accordance with ITB 30.3;
- (f) the additional evaluation factors are specified in Section III, Evaluation and Qualification Criteria;

35.3 The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in bid evaluation.

35.4 If this Bidding Document allows Bidders to quote separate prices for different lots (contracts), the methodology to determine the lowest evaluated price of the contract combinations, including any discounts offered in the Letter of Bid, is specified in Section III, Evaluation and Qualification Criteria.

35.5 If the bid for an admeasurement contract, which results in the lowest Evaluated Bid Price, is seriously unbalanced or front loaded in the opinion of the Employer, the Employer may require the Bidder to produce detailed price analyses for any or all items of the Bill of Quantities, to demonstrate the internal consistency of those prices with the construction methods and schedule proposed. After evaluation of the price analyses, taking into consideration the schedule of estimated Contract payments, the Employer may require that the amount of the performance security be increased at the expense of the Bidder to a level sufficient to protect the Employer against financial loss in the event of default of the successful Bidder under the Contract.

36. Comparison of Bids

36.1 The Employer shall compare the evaluated prices of all substantially responsive bids established in accordance with ITB 35.2 to determine the lowest evaluated bid.

37. Qualification of the Bidder

37.1 The Employer shall determine to its satisfaction whether the Bidder that is selected as having submitted the lowest evaluated and substantially responsive bid meets the qualifying criteria specified in Section III, Evaluation and Qualification Criteria.

¹ Daywork is work carried out following instructions of the Project Manager and paid for on the basis of time spent by workers, and the use of materials and the Contractor's equipment, at the rates quoted in the Bid. For Daywork to be priced competitively for Bid evaluation purposes, the Employer must list tentative quantities for individual items to be costed against Daywork (e.g., a specific number of tractor driver staff-days, or a specific tonnage of Portland cement), to be multiplied by the bidders' quoted rates and included in the total Bid price.

37.2 The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB 17.1.

37.3 An affirmative determination of qualification shall be a prerequisite for award of the Contract to the Bidder. A negative determination shall result in disqualification of the bid, in which event the Employer shall proceed to the next lowest evaluated bid to make a similar determination of that Bidder's qualifications to perform satisfactorily.

38. Employer's Right to Accept Any Bid, and to Reject Any or All Bids

38.1 The Employer reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to Bidders. In case of annulment, all bids submitted and specifically, bid securities, shall be promptly returned to the Bidders.

F. Award of Contract

39. Award Criteria

39.1 Subject to ITB 37.1, the Employer shall award the Contract to the Bidder whose bid has been determined to be the lowest evaluated bid and is substantially responsive to the Bidding Document, provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily.

40. Notification of Award

40.1 Prior to the expiration of the period of bid validity, the Employer shall notify the successful Bidder, in writing, via the Letter of Acceptance included in the Contract Forms, that its bid has been accepted. At the same time, the Employer shall also notify all other Bidders of the results of the bidding, and shall publish in UNDB online the results identifying the bid and lot (contract) numbers and the following information:

- (i) name of each Bidder who submitted a Bid;
- (ii) bid prices as read out at Bid Opening;
- (iii) name and evaluated prices of each Bid that was evaluated;
- (iv) name of bidders whose bids were rejected and the reasons for their rejection; and
- (v) name of the winning Bidder, and the Price it offered, as well as the duration and summary scope of the contract awarded.

40.2 Until a formal contract is prepared and executed, the notification of award shall constitute a binding Contract.

40.3 The Employer shall promptly respond in writing to any unsuccessful Bidder who, after notification of award in accordance with ITB 40.1, requests in writing the grounds on which its bid was not selected.

41. Signing of Contract

41.1 Promptly upon notification, the Employer shall send the successful Bidder the Contract Agreement.

41.2 Within twenty-eight (28) days of receipt of the Contract Agreement, the successful Bidder shall sign, date, and return it to the Employer.

42. Performance Security

42.1 Within twenty-eight (28) days of the receipt of notification of award from the Employer, the successful Bidder shall furnish the performance security in accordance with the conditions of contract, subject to ITB 35.5, using for that purpose the Performance Security Form included in Section X, Contract Forms, or another form acceptable to the Employer

42.2 Failure of the successful Bidder to submit the above-mentioned Performance Security or to sign the Contract Agreement shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security. In that event the Employer may award the Contract to the next lowest evaluated Bidder whose offer is substantially responsive and is determined by the Employer to be qualified to perform the Contract satisfactorily.

43. Adjudicator

43.1 The Employer proposes the person **named in the BDS** to be appointed as Adjudicator under the Contract, at the hourly fee **specified in the BDS**, plus reimbursable expenses. If the Bidder disagrees with this proposal, the Bidder should so state in his Bid. If, in the Letter of Acceptance, the Employer does not agree on the appointment of the Adjudicator, the Employer will request the Appointing Authority designated in the Particular Conditions of Contract (PCC) pursuant to Clause 23.1 of the General Conditions of Contract (GCC), to appoint the Adjudicator.

Section II - Bid Data Sheet (BDS)

A. Introduction

ITB 1.1	The number of the Invitation for Bids is : SLRP/III/CW/NCB-06 The Employer is: Roads Department of the Ministry of Regional Development and Infrastructure of Georgia
ITB 1.1	The name of the bidding process is: Rehabilitation of Secondary road Agara-Kornisi-Tskhinvali km1-km4; km9-km16 The identification number of the bidding process is: SLRP/III/CW/NCB-06 The number and identification of lots comprising this bidding process are: 1 Rehabilitation of Secondary road Agara-Kornisi-Tskhinvali km1-km4; km9-km16, SLRP III/CW/NCB/06
ITB 2.1	The Borrower is: Georgia
ITB 2.1	The name of the Project is: Third Secondary and Local Roads Project (SLRP/III) (P148048) The estimated cost of proposed works is GEL 5,697,631.53 , including all taxes, duties and other governmental levies as elaborated under clause ITB - 14.7. However, it is the responsibility of the bidder to submit a bid price, which could be below or above the estimated cost, based on the current market prices and any other factors which may influence the pricing of the proposed works.
ITB 2.1	Loan amount: USD 75 mln
ITB 4.1	The individuals or firms in a JV shall be jointly and severally liable.
ITB 4.4	A list of debarred firms and individuals is available at the Bank's external website: www.worldbank.org/debarr

B. Bidding Documents

ITB 7.1	For clarification purposes only, the Employer's address is: Attention: Irakli Litanishvili, Vice-Chairman of Roads Department of Georgia Street Address: 12a Kazbegi ave. Floor/Room number: Roads Department of the Ministry of Regional Development and Infrastructure of Georgia. Tender Directorate, III floor, City: Tbilisi, 0160 Country: Georgia Telephone: : (995 32) 2 37 05 08 Facsimile number: (995 32) 231 30 34 Electronic mail address: info@georoad.ge Request for clarifications by applicants and respective clarifications provided by the Roads Department will be posted on the portal. Requests for clarification should be received by the Employer no later than: 14 days.
ITB 7.1	Web page: www.georoad.ge

C. Preparation of Bids

ITB 10.1	The language of the bid is: English All correspondence exchange shall be in English language.
ITB 11.1 (b)	The following schedules shall be submitted with the bid: Priced Bill of Quantities
ITB 11.1 (h)	The Bidder shall submit with its bid the following additional documents: Time schedule Work program
ITB 13.1	Alternative bids shall not be permitted.

ITB 13.2	Alternative times for completion <i>shall not be permitted.</i>
ITB 13.4	Alternative technical solutions <i>shall not be permitted.</i>
ITB 14.5	The prices quoted by the Bidder <i>shall not be</i> subject to adjustment during the performance of the Contract.
ITB 15.1	The prices shall be quoted by the bidder in: <i>Georgian Lari (GEL)</i>
ITB 18.1	The bid validity period shall be: <i>90 days</i>
ITB 18.3 (a)	The Contract price shall be adjusted by a factor: <i>The inflation rate used for local currency shall be 28 days prior the date of Bids submission deadline. The source of inflation rate shall be: National Statistics Office of Georgia – www.geostat.ge</i>
ITB 19.1	<i>The Bidder shall furnish a bid-securing declaration.</i> <i>The Bid-Securing Declaration shall be for the following period of time: 2 years starting on the date of the bid opening stated in ITB 25.1.</i> <i>Bidders are reminded that the format of the Bid-Securing Declaration should be in accordance with the form of Bid-Securing Declaration included in Section 4. Bid-Securing Declaration shall be valid for 28 days beyond the validity of the Bid (i.e., 90 days + 28 days = 118 days).</i> <i>For bids submitted by a JV bidder shall carefully read ITB 19.8 as failure to comply with this ITB may be grounds for bid rejection.</i>
ITB 19.3 (d)	<i>Not Applicable</i>
ITB 19.9	A period of time the Bidder may be declared by the Employer ineligible to be awarded a contract: <i>2 years</i>
ITB 20.2	The written confirmation of authorization to sign on behalf of the Bidder shall consist of: <i>(a) Power of Attorney; and</i> <i>(b) In the case of Bids submitted by an existing or intended JV an undertaking signed by all parties (i) stating that all parties shall be jointly and severally liable, and (ii) nominating a Representative who shall have the authority to conduct all business for and on behalf of any and all the parties of the JV during the bidding process and, in the event the JV is awarded the Contract, during contract execution</i>
D. Submission and Opening of Bids	
ITB 22.1	Bidders shall submit their bids electronically.

<p>ITB 25.1</p>	<p>If electronic bid submission is permitted in accordance with ITB 22.1, the specific bid opening procedures shall be:</p> <p>Government procurement procedures SHALL NOT apply for this procurement. Bid submission and bid opening will take place electronically using Georgian E-Government Procurement System with certain modifications. Major modifications to the Georgian E-Procurement System are</p> <ul style="list-style-type: none"> - Functionality of the three rounds of e-Reverse auction is removed. Rounds will not be applicable. - The estimated cost of the contract is disclosed in the E-Procurement system and bidders can submit a bid price, which could be below or above the estimated cost, however pricing the bid is the responsibility of the bidder which shall be based on the current market prices and any other factors which may influence the pricing of the proposed works. <p>Please note that bidding is conducted under National Competitive Bidding procedures as specified in the World Bank’s Guidelines: Procurement of Goods, Works and Non consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers January 2011 (“Procurement Guidelines”). For clarification purposes please feel free to contact :</p> <p>Attention: Vakhtang Razmadze, Head of Foreign Projects Unit of Roads Department of the Ministry of Regional Development and Infrastructure of Georgia</p> <p>Street Address: 12 A. Kazbegi ave.</p> <p>City: Tbilisi, 0160</p> <p>Country: Georgia</p> <p>Telephone: +995 322 370508 (ext. 299)</p> <p>Facsimile number: (995 32) 231 30 34</p> <p>Electronic mail address: info@georoad.ge</p>
<p>E. Evaluation and Comparison of Bids</p>	
<p>ITB 34.3</p>	<p>Contractor’s proposed subcontracting: Maximum percentage of subcontracting permitted is: 40% of the total contract amount</p> <p>b) Bidders planning to subcontract more than 10% of total volume of work shall specify, in the Bid Submission Form, the activity (ies) or parts of the works to be subcontracted along with complete details of the sub-contractors and their qualification and experience. The qualification and experience of the sub-contractors must meet the minimum criteria for the relevant work to be sub-contracted failing which such sub-contractors will not be permitted to participate.</p> <p>c) Sub-contractors’ qualification and experience will not be considered for evaluation of the Bidder. The Bidder on its own (without taking into account the qualification and experience of the sub-contractor) should meet the qualification criteria.</p>

	F. Award of Contract
ITB 43.1	<p>The Adjudicator proposed by the Employer is: GEORGE BEGIASHVILI (GEORGIAN) Partner Begiashvili & Co. Limited 39 GAMSAKHURDIA AVE., SUITE 42, TBILISI, 0160, GEORGIA TELEPHONE: (995 32) 251 454; 251 455 FACSIMILE: (995 32) 934 906 www.gbcolaw.com</p> <p>The hourly fee for this proposed Adjudicator shall be 120 (ONE HUNDRED AND TWENTY UNITED STATES DOLLARS).</p> <p>The biographical data of the proposed Adjudicator is as follows: <u>EDUCATION:</u> September 1982 - June 1987 Tbilisi State University (Tbilisi, Georgia) Faculty of Law B.Sc. in Law September 1987 – June 1988 Moscow Lomonosov University (Moscow, Russian Federation). Law Department Ph.D. in Law</p> <p><u>WORK EXPERIENCE:</u> Since October 1995 Employer: Law Firm Begiashvili & Co. Limited (Tbilisi, Georgia) Position: Director / Partner May 1994 - July 1995 Employer: Law Firm Nabarro Nathanson (London, UK) Position: Associate (Georgian consultant)</p>
	<p>November 1993 - April 1994 Employer: International Trade Firm "AGIO" (Moscow, Russian Federation) Position: Legal Consultant</p>

February 1992 - November 1993

Employer: State Chancellery of the Republic of Georgia (Tbilisi, Georgia)

Position: Personal Legal Adviser to the Head of State

October 1990 - February 1992

Employer: Ministry of Justice of the Republic of Georgia (Tbilisi, Georgia)

Position: Special Assistant to the Minister of Justice

November 1987 - October 1990

Employer: Supreme Court of the Republic of Georgia (Tbilisi, Georgia)

Position: Consultant of Civil Board

Section III - Evaluation and Qualification Criteria

This section contains all the criteria that the Employer shall use to evaluate bids and qualify Bidders if the bidding was not preceded by a prequalification exercise and postqualification is applied. In accordance with ITB 35 and ITB 37, no other methods, criteria and factors shall be used. The Bidder shall provide all the information requested in the forms included in Bidding Forms.

Wherever a Bidder is required to state a monetary amount, Bidders should indicate the national currency. If any amounts are in foreign currency equivalent national currency using the rate of exchange specified by the bidder will be determined as follows:

- -For construction turnover or financial data required for each year - Exchange rate prevailing on the last day of the respective calendar year (in which the amounts for that year is to be converted) was originally established.
- -Value of single contract - Exchange rate prevailing on the date of the contract.

1. Evaluation

In addition to the criteria listed in ITB 35.2 (a) – (e) the following criteria shall apply:

2.1 Adequacy of Technical Proposal

Evaluation of the Bidder's Technical Proposal will include an assessment of the Bidder's technical proposal and its substantial responsiveness, capacity to mobilize key equipment and personnel for the contract consistent with its proposal regarding work methods, scheduling, and material sourcing in sufficient detail and fully in accordance with the requirements stipulated in Section VII (Works Requirements).

2.2 Multiple Contracts

Pursuant to Sub-Clause 35.4 of the Instructions to Bidders, if Works are grouped in multiple contracts, evaluation will be as follows: **N/A**

2.3 Alternative Completion Times

An alternative Completion Time, if permitted under ITB 13.2, will be evaluated as follows: **N/A**

2.4 Technical Alternatives

Technical alternatives, if permitted under ITB 13.4, will be evaluated as follows: **N/A**

2.5 Specialized Subcontractors

Only the specific experience of sub-contractors for specialized works permitted by the Employer will be considered. The general experience and financial resources of the specialized sub-contractors shall not be added to those of the Bidder for purposes of qualification of the Bidder. The specialized sub-contractors proposed shall be fully qualified for their work proposed, and meet the following criteria: **N/A**

2.6 Non-conformities, Errors, and Omissions: Pursuant to ITB 30.3, the adjustment shall be made using the following methodology: Subject to provisions under ITB 14.2 if: i) an item is not listed in the priced Bill of Quantities i.e. the item is missing or the item is listed and priced but it is non-conforming to the requirements of the bidding document; or ii) a component under the scope of work or a condition in the bid is non-conforming to the requirements in the bidding document; and provided that the Bid is determined

substantially responsive notwithstanding non-conformance under i) and ii) above, the average price of the item or component quoted by substantially responsive bidders will be added to the bid price and the equivalent total cost of the bid so determined will be used for price comparison. If the cost of the non-conforming component or condition in the bid cannot be determined from other substantially responsive bids, the Employer will decide the price to be added for this purpose and for comparison of bids based on his own knowledge or as obtained from other sources.”

2.7 Additional Qualification Criterion

Bidder shall demonstrate that it has the capacity to handle one or more contract of the proposed works, while executing any outstanding works the bidder has already committed with the Employer or any other agencies. The Bidder shall submit the outstanding works In the form CCC (Current Contract Commitments/Works in Progress) with the bid.

"The Bidder's capacity is calculated as follows:

AT1 = AT2 – OW

Where:

AT1 – The bidder's available annual cumulative amount of contract(s) that can be awarded to the bidder under the proposed contract(s)

AT2 - Average Annual Construction Turnover of the Bidder as as submitted in FORM FIN 3.2

OW – Annual Value of Outstanding Work including contracts awarded but work not yet started.

Any bid found to indicate false or misleading representations in the forms, statements and attachments or any other related document submitted in proof of the qualification requirements will be rejected and will be treated as fraudulent practice in accordance with ITB 3.1

(This table will be used to calcualte the bidder's capacity and SHALL NOT be filled in by the Bidder)

Outstanding Work as submitted by the Bidder				
Contract Price				
Balance Work (estimate)				
Remaining Contract period (months)				
Annual value of remaining Works				
Cumulative value of Balance Work (OW)				
Bidder's Turnover				
Average Annual Turnover (AT2)				

Bidders Annual Capacity (AT1)= AT 2 - OW				
Current Procurement (under Evaluation)				
Contract Name	A	B	C	D
Bid Price				
Duration in Months				
Annual Value				
Any combination of Contracts where the Cumulative is less than AT1 can be awarded				
Single Contract				
Multiple Contracts				

3. Qualification

Eligibility and Qualification Criteria		Compliance Requirements				Documentation	
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
1. Eligibility							
1.1	Nationality	Nationality in accordance with ITB 4.3	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Forms ELI – 1.1 and 1.2, with attachments
1.2	Conflict of Interest	No conflicts of interest in accordance with ITB 4.2	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Letter of Bid
1.3	Bank Eligibility	Not having been declared ineligible by the Bank, as described in ITB 4.4, 4.5, 4.6 and 4.7	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Letter of Bid
1.4	Government Owned Entity of the Borrower country	Meets conditions of ITB 4.5	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Forms ELI – 1.1 and 1.2, with attachments
1.5	United Nations resolution or Borrower's country law	Not having been excluded as a result of prohibition in the Borrower's country laws or official regulations against commercial relations with the Bidder's country, or by an act of compliance with UN Security Council resolution, both in accordance with ITB 4.7 and Section V.	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Forms ELI – 1.1 and 1.2, with attachments

2. Historical Contract Non-Performance							
2.1	History of Non-Performing Contracts	Non-performance of a contract did not occur within the last 3 years prior to the deadline for application submission, based on all information on fully settled disputes or litigation. A fully settled dispute or litigation is one that has been resolved in accordance with the Dispute Resolution Mechanism under the respective contract, and where all appeal instances available to the bidder have been exhausted.	Must meet requirement by itself or as partner to past or existing JV	N / A	Must meet requirement by itself or as partner to past or existing JV	N / A	Form CON - 2
2.2	Suspension Based on Execution of Bid Securing Declaration by the Employer or withdrawal of the Bid within Bid validity	Not under suspension based on execution of a Bid Securing Declaration pursuant to ITB 4.6 or withdrawal of the Bid pursuant ITB 19.9.	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Bid Submission Form
2.3	Pending Litigation	All pending litigation shall in total not represent more than 30 % percent of the Bidder's net worth and shall be treated as resolved against the Bidder.	Must meet requirement by itself or as partner to past or existing JV	N / A	Must meet requirement by itself or as partner to past or existing JV	N / A	Form CON – 2
2.4	Litigation History	No consistent history of court/arbitral award decisions against the Bidder ² since 1st January, 2009	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Form CON – 2

² The Bidder shall provide accurate information on the letter of Bid about any litigation or arbitration resulting from contracts completed or ongoing under its execution over the last five years. A consistent history of court/arbitral awards against the Bidder or any member of a joint venture may result in disqualifying the Bidder.

3. Financial Situation and Performance

3.1	Financial Capabilities	<p>(i) The Bidder shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow requirements estimated as 670 000 GEL for the subject contract(s) net of the Bidders other commitments</p> <p>(ii) The Bidders shall also demonstrate, to the satisfaction of the Employer, that it has adequate sources of finance to meet the cash flow requirements on works currently in progress and for future contract commitments.</p> <p>(iii) The audited balance sheets or, if not required by the laws of the Bidder's country, other financial statements acceptable to the Employer, for the last 5 (five) years shall be submitted and must demonstrate the current soundness of the Bidder's financial position and indicate its prospective long-term profitability.</p>	Must meet requirement	Must meet Requirement	N/A	N/A	Form FIN – 3.1, with attachments
			Must meet requirement	Must meet requirement	N/A	N/A	
			Must meet requirement	N/A	Must meet requirement	N/A	
3.2	Average Annual Construction Turnover	Minimum average annual turnover of 6 000 000 GEL calculated as total certified payments received for contracts in progress or completed, within the last five (5) years	Must meet requirement	Must meet requirement	Must meet twenty five percent (25%) of the requirement	Must meet forty percent (40%) of the requirement	Form FIN –3.2

4. Experience							
4.1 (a)	General Construction Experience	Experience under construction contracts in the role of prime contractor, JV member, sub-contractor, or management contractor for at least the last 5 years, starting 1 st January, 2009.	Must meet requirement	N/A	Must meet requirement	N/A	Form EXP – 4.1
4.2 (a)	Specific Construction & Contract Management Experience	(i) A minimum number of similar ³ contracts specified below that have been satisfactorily and substantially ⁴ completed as a prime contractor, joint venture member ⁵ , management contractor or sub-contractor between 1st January, 2011 and application submission deadline: 1 contract each of minimum value of GEL 4 560 000.	Must meet requirement	Must meet requirement ⁶	N/A	N/A	Form EXP 4.2(a)
4.2 (b)		For the above and any other contracts completed and under implementation as prime contractor, joint venture member, management contractor or sub-contractor ⁷ on or after the first day of the calendar year during the period stipulated in 4.2 (a) above, a minimum construction experience in the following key activities successfully completed ⁸ : 80 000 m² of asphalt pavement rehabilitation performed at least in 1 year in the last 3 years.	Must meet requirements	Must meet requirements	N/A	N/A	Form EXP – 4.2 (b)

³ The similarity shall be based on the physical size, complexity, methods/technology and/or other characteristics described in Section VII, Work's Requirements. Summation of number of small value contracts (less than the value specified under requirement) to meet the overall requirement will not be accepted.

⁴ Substantial completion shall be based on 80% or more works completed under the contract.

⁵ For contracts under which the Bidder participated as a joint venture member or sub-contractor, only the Bidder's share, by value, shall be considered to meet this requirement.

⁶ In the case of JV, the value of contracts completed by its members shall not be aggregated to determine whether the requirement of the minimum value of a single contract has been met. Instead, each contract performed by each member shall satisfy the minimum value of a single contract as required for single entity. In determining whether the JV meets the requirement of total number of contracts, only the number of contracts completed by all members each of value equal or more than the minimum value required shall be aggregated.

⁷ For contracts under which the Bidder participated as a joint venture member or sub-contractor, only the Bidder's share shall be counted to meet this requirement.

⁸ Volume, number or rate of production of any key activity can be demonstrated in one or more contracts combined if executed during same time period. The rate of production shall be the annual production rate for the key construction activity (or activities).

5. Personnel

The Bidder must demonstrate that it will have the personnel for the key positions that meet the following requirements:

No.	Position	Total Work Similar Experience (years)	In Similar Works Experience (years)
1	Team Leader	10	5
2	Road Engineer	8	4

The Bidder shall provide details of the proposed personnel and their experience records in the relevant Forms included in Section IV, Bidding Forms.

6. Equipment

The Bidder must demonstrate that it will have access to the key Contractor's equipment listed hereafter:

No.	Equipment Type and Characteristics	Minimum Number required
1	Grader	2
2	Crane loading capacity minimum 16 t	1
3	Asphalt paver	1
4	Excavator with bucket capacity minimum 1.0 m ³	2
5	Bulldozer capacity minimum 130 horsepower	2
6	Pneumatic roller 16-20 t	1
7	Vibration roller min 6 t	2
8	Smooth wheeled roller 18 t	1
9	Concrete mixer 7-9 m ³	2
10	Set of stabilizing machinery	1

The Bidder shall provide further details of proposed items of equipment using the relevant Form in Section IV.

Section IV - Bidding Forms

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Letter of Bid

The Bidder must prepare the Letter of Bid on stationery with its letterhead clearly showing the Bidder's complete name and address.

Note: All italicized text is for use in preparing these form and shall be deleted from the final products.

Date: **[insert date (as day, month and year) of Bid Submission]**

NCB No.: **[insert number of bidding process]**

Invitation for Bid No.: **[insert identification]**

To: ***[insert complete name of Employer]***

(a) We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders (ITB 8)___;

(b) We meet the eligibility requirements and have no conflict of interest in accordance with ITB 4;

(c) We havenot been suspended nor declared ineligible by the Employer based on execution of a Bid Securing Declaration in the Employer's country in accordance with ITB 4.6

(d) We offer to execute in conformity with the Bidding Documents the following Works: **[insert a brief description of the Works]**;

(e) The total price of our Bid, excluding any discounts offered in item (f) below is:

In case of only one lot, total price of the Bid **[insert the total price of the bid in words and figures, indicating the various amounts and the respective currencies]**;

In case of multiple lots, total price of each lot [insert the total price of each lot in words and figures, indicating the various amounts and the respective currencies];

In case of multiple lots, total price of all lots (sum of all lots) [insert the total price of all lots in words and figures, indicating the various amounts and the respective currencies];

(f) The discounts offered and the methodology for their application are:

(i) The discounts offered are: [Specify in detail each discount offered.]

(ii) The exact method of calculations to determine the net price after application of discounts is shown below:[Specify in detail the method that shall be used to apply the discounts];

(g) Our bid shall be valid for a period of **90** days after the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

(h) If our bid is accepted, we commit to obtain a performance security in accordance with the Bidding Documents;

(i) We are not participating, as a Bidder or as a subcontractor, in more than one bid in this bidding process in accordance with ITB 4.2(e), other than alternative bids submitted in accordance with ITB 13;

(j) We, including any of our subcontractors or suppliers for any part of the contract, have not been declared ineligible by the Bank, under the Employer's country laws or official regulations or by an act of compliance with a decision of the United Nations Security Council;

(k) We are not a government owned entity/ We are a government owned entity but meet the requirements of ITB 4.5;⁹

(l) We have paid, or will pay the following commissions, gratuities, or fees with respect to the bidding process or execution of the Contract: **[insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity]**

Name of Recipient	Address	Reason	Amount
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

(If none has been paid or is to be paid, indicate "none.")

(m) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed; and

(n) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.

(o) We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in any type of fraud and corruption

Name of the Bidder* **[insert complete name of person signing the Bid]**

Name of the person duly authorized to sign the Bid on behalf of the Bidder** **[insert complete name of person duly authorized to sign the Bid]**

Title of the person signing the Bid **[insert complete title of the person signing the Bid]**

Signature of the person named above **[insert signature of person whose name and capacity are shown above]**

Date signed **[insert date of signing]** day of **[insert month]**, **[insert year]**

⁹*Bidder to use as appropriate*¹⁰ If the most recent set of financial statements is for a period earlier than 12 months from the date of bid, the reason for this should be justified.

*: In the case of the Bid submitted by joint venture specify the name of the Joint Venture as Bidder

**.: Person signing the Bid shall have the power of attorney given by the Bidder to be attached with the BidSchedules.

BILL OF QUANTITIES

A. Preamble

1. The Bill of Quantities shall be read in conjunction with the Instructions to Bidders, General and Particular Conditions of Contract, Technical Specifications, and Drawings.
2. The quantities given in the Bill of Quantities are estimated and provisional, and are given to provide a common basis for bidding. The basis of payment will be the actual quantities of work ordered and carried out, as measured by the Contractor and verified by the Engineer and valued at the rates and prices bid in the priced Bill of Quantities, where applicable, and otherwise at such rates and prices as the Engineer may fix within the terms of the Contract.
3. The rates and prices bid in the priced Bill of Quantities shall, except as otherwise provided under the Contract, include all construction equipment, labor, supervision, materials, erection, maintenance, insurance, profit, taxes, and duties, together with all general risks, liabilities, and obligations set out or implied in the Contract.
4. A rate or price shall be entered against each item in the priced Bill of Quantities, whether quantities are stated or not. The cost of Items against which the Contractor has failed to enter a rate or price shall be deemed to be covered by other rates and prices entered in the Bill of Quantities.
5. The whole cost of complying with the provisions of the Contract shall be included in the Items provided in the priced Bill of Quantities, and where no Items are provided, the cost shall be deemed to be distributed among the rates and prices entered for the related Items of Work.
6. General directions and descriptions of work and materials are not necessarily repeated nor summarized in the Bill of Quantities. References to the relevant sections of the Contract documentation shall be made before entering prices against each item in the priced Bill of Quantities.
7. Provisional Sums included and so designated in the Bill of Quantities shall be expended in whole or in part at the direction and discretion of the Engineer in accordance with the Conditions of Contract.

B. Work Items

1. The Bill of Quantities usually contains the following part Bills, which have been grouped according to the nature or timing of the work:

Bill No. 1 –

Bill No. 2 –

Bill No. 3 –

Bill No. 4 - etc., as required;

Daywork Schedule; and

Summary Bill of Quantities.

2. Bidders shall price the Bill of Quantities in local currency only.

Daywork Schedule

General

1. Reference should be made to the Conditions of Contract. Work shall not be executed on a daywork basis except by written order of the Engineer. Bidders shall enter basic rates for daywork items in the Schedules, which rates shall apply to any quantity of daywork ordered by the Engineer. Nominal quantities have been indicated against each item of daywork.

Daywork Labor

2. In calculating payment due to the Contractor for the execution of dayworks, the hours for labor will be reckoned from the time of arrival of the labor at the job site to execute the particular item of daywork to the time of return to the original place of departure, but excluding meal breaks and rest periods. Only the time of classes of labor directly doing work ordered by the Engineer and for which they are competent to perform will be measured. The time of gangers (charge hands) actually doing work with the gangs will also be measured but not the time of foremen or other supervisory personnel.

3. The Contractor shall be entitled to payment in respect of the total time that labor is employed on daywork, calculated at the basic rates entered by him in the "SCHEDULE OF DAYWORK RATES: 1. LABOUR," together with an additional percentage payment on basic rates representing the Contractor's profit, overheads, etc., as described below:

(a) the basic rates for labor shall cover all direct costs to the Contractor, including (but not limited to) the amount of wages paid to such labor, transportation time, overtime, subsistence allowances, and any sums paid to or on behalf of such labor for social benefits in accordance with the Georgian law.

(b) the addition percentage payment to be quoted by the bidder and applied to costs incurred under (a) above shall be deemed to cover the Contractor's profit, overheads, superintendence, liabilities and insurances and allowances to labor, timekeeping and clerical and office work, the use of consumable stores, water, lighting and power; the use and repair of stagings, scaffolding, workshops and stores, portable power tools, manual plant and tools; supervision by the Contractor's staff, foremen and other supervisory personnel; and charges incidental to the foregoing.

Daywork Materials

4. The Contractor shall be entitled to payment in respect of materials used for daywork (except for materials for which the cost is included in the percentage addition to labor costs as detailed heretofore), at the basic rates entered by him in the "SCHEDULE OF DAYWORK RATES: 2. MATERIALS," together with an additional percentage payment on the basic rates to cover overhead charges and profit, as follows:

(a) the basic rates for materials shall be calculated on the basis of the invoiced price, freight, insurance, handling expenses, damage, losses, etc., and shall provide for delivery to store for stockpiling at the Site.

(b) the additional percentage payment shall be quoted by the bidder and applied to the equivalent payments made under (a) above.

(c) the cost of hauling materials for use on work ordered to be carried out as daywork from the store or stockpile on the Site to the place where it is to be used will be paid in accordance with the terms for Labor and Construction Plant in this Schedule.

Daywork Constructional Plant

6. The Contractor shall be entitled to payments in respect of Construction Plant already on Site and employed on daywork at the basic rental rates entered by him in the "SCHEDULE OF DAYWORK RATES: 3. CONSTRUCTIONAL PLANT." The said rates shall be deemed to include due and complete allowance for depreciation, interest, indemnity and insurance, repairs, maintenance, supplies, fuel, lubricants, and other consumables, and all overhead, profit and administrative costs related to the use of such equipment. The cost of drivers, operators and assistants will be paid for separately as described under the section on Daywork Labor.

7. In calculating the payment due to the Contractor for Constructional Plant employed on daywork, only the actual number of working hours will be eligible for payment, except that where applicable and agreed with the Engineer, the traveling time from the part of the Site where the Constructional Plant was located when ordered by the Engineer to be employed on daywork and the time for return journey thereto shall be included for payment.

Daywork

Summary

N	General Summary	Amount (GEL)
1	2	3
1	Labor	
2	Materials	
3	Equipment	
Total for Daywork (Provisional Sum) (carried forward to Bid Summary)		

Schedule of Daywork Rates: 1. Labor

Item No	Description	Unit	Quantity	Rate (GEL)	Amount (GEL)
1	2	3	4	5	6
1	Foreman	hour	50		
2	Skilled labor	hour	75		
3	Unskilled labor	hour	75		
TOTAL FOR DAYWORK: LABOR (CARRIED FORWARD TO DAYWORK SUMMARY)					

Schedule of Daywork Rates: 2. Materials

Item No	Description	Unit	Quantity	Rate (GEL)	Amount (GEL)
1	2	3	4	5	6
1	Sand	m3	100		
2	Sulphate resisting Portland cement	t	1		

3	Granular base material	m3	100		
4	Materials for hot rolled asphalt surface course	m3	50		
TOTAL FOR DAYWORK: MATERIALS (CARRIED FORWARD TO DAYWORK SUMMARY)					

Schedule of Daywork Rates: Equipment

Item No	Description	Unit	Quantity	Rate (GEL)	Amount (GEL)
1	2	3	4	5	6
1	Grader, 140hp	hour	30		
2	Bulldozer (96 kW)	hour	30		
3	Dumper truck 8 m ³	hour	30		
4	Concrete mixer (0.3 m3)	hour	30		
5	Paver, laydown rate over 80t/hour	hour	10		
6	Steel roller (operating weight 29 t)	hour	10		
7	Rubber tyre roller (operating weight 11 t)	hour	10		
8	Asphalt mixing plant (capacity over 80 t/hour)	hour	10		
9	Jack Hammer	hour	30		
TOTAL FOR DAYWORK: EQUIPMENT (CARRIED FORWARD TO DAYWORK SUMMARY)					

BILL OF QUANTITIES

Form of Bid-Securing Declaration

Date: *[insert date (as day, month and year)]*

Bid No.: *[insert number of bidding process]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

To: *[insert complete name of Employer]*

We, the undersigned, declare that:

We understand that, according to your conditions, bids must be supported by a Bid-Securing Declaration.

We accept that we will automatically be suspended from being eligible for bidding in any contract with the entity that invited Bids for the period of time of **2 years** starting on the date of Bid Opening stated in ITB25.1, if we are in breach of our obligation(s) under the bid conditions, because we:

- (a) have withdrawn our Bid during the period of bid validity specified in the Letter of Bid; or
- (b) having been notified of the acceptance of our Bid by the Employer during the period of bid validity, (i) fail or refuse to execute the Contract, if required, or (ii) fail or refuse to furnish the Performance Security, in accordance with the ITB.

We understand this Bid-Securing Declaration shall expire if we are not the successful Bidder, upon the earlier of (i) our receipt of your notification to us of the name of the successful Bidder; or (ii) twenty-eight days after the expiration of our Bid.

Name of the Bidder* _____ ***[insert complete name of person signing the Bid]***

Name of the person duly authorized to sign the Bid on behalf of the Bidder** ***[insert complete name of person duly authorized to sign the Bid]***

Title of the person signing the Bid ***[insert complete title of the person signing the Bid]***

Signature of the person named above _____ ***[insert signature of person whose name and capacity are shown above]***

Date signed ***[insert date of signing]*** day of ***[insert month]***, ***[insert year]***

*: In the case of the Bid submitted by joint venture specify the name of the Joint Venture as Bidder

** : Person signing the Bid shall have the power of attorney given by the Bidder to be attached with the Bid *[Note: In case of a Joint Venture, the Bid-Securing Declaration must be in the name of all members to the Joint Venture that submits the bid.]*

Technical Proposal

Technical Proposal Forms

Personnel

Equipment

Site Organization

Method Statement

Mobilization Schedule

Construction Schedule

Others

Forms for Personnel

Form PER – 1: Proposed Personnel

Bidders should provide the names of suitably qualified personnel to meet the specified requirements for each of the positions listed in Section III (Evaluation and Qualification Criteria). The data on their experience should be supplied using the Form below for each candidate.

1.	Title of position
	Name
2.	Title of position
	Name
3.	Title of position
	Name
4.	Title of position
	Name
5.	Title of position
	Name
6.	Title of position
	Name
etc.	Title of position
	Name

Forms for Equipment

The Bidder shall provide adequate information to demonstrate clearly that it has the capability to meet the requirements for the key equipment listed in Section III (Evaluation and Qualification Criteria). A separate Form shall be prepared for each item of equipment listed, or for alternative equipment proposed by the Bidder. The Bidder shall provide all the information requested below, to the extent possible. Fields with asterisk (*) shall be used for evaluation.

Type of Equipment*	
Equipment Information	Name of manufacturer, Model and power rating
	Capacity* Year of manufacture*
Current Status	Current location
	Details of current commitments
Source	Indicate source of the equipment <div style="text-align: center;"> <input type="checkbox"/> Owned <input type="checkbox"/> Rented <input type="checkbox"/> Leased <input type="checkbox"/> Specially manufactured </div>

The following information shall be provided only for equipment not owned by the Bidder.

Owner	Name of owner	
	Address of owner	
	Telephone	Contact name and title
	Fax	Telex
Agreements	Details of rental / lease / manufacture agreements specific to the project	

Bidder's Qualification

To establish its qualifications to perform the contract in accordance with Section III, Evaluation and Qualification Criteria, the Bidder shall provide the information requested in the corresponding Information Sheets included hereunder

Form ELI -1.1: Bidder Information Form

Date: _____

NCB No. and title: _____

Page _____ of _____ pages

Bidder's name
In case of Joint Venture (JV), name of each member:
Bidder's actual or intended country of registration: <i>[indicate country of Constitution]</i>
Bidder's actual or intended year of incorporation:
Bidder's legal address [in country of registration]:
Bidder's authorized representative information Name: _____ Address: _____ Telephone/Fax numbers: _____ E-mail address: _____
1. Attached are copies of original documents of <input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITB 4.3. <input type="checkbox"/> In case of JV, letter of intent to form JV or JV agreement, in accordance with ITB 4.1. <input type="checkbox"/> In case of Government-owned enterprise or institution, in accordance with ITB 4.5 documents establishing: <ul style="list-style-type: none">• Legal and financial autonomy• Operation under commercial law• Establishing that the Bidder is not dependent agency of the Employer
2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

Form ELI -1.2: Information Form for JV Bidders

(to be completed for each member of Joint Venture)

Date: _____

NCB No. and title: _____

Page _____ of _____ pages

Bidder's Joint Venture name:

JV member's name:

JV member's country of registration:

JV member's year of constitution:

JV member's legal address in country of constitution:

JV member's authorized representative information

Name: _____

Address: _____

Telephone/Fax numbers: _____

E-mail address: _____

1. Attached are copies of original documents of

Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITB 4.3.

In case of a Government-owned enterprise or institution, documents establishing legal and financial autonomy, operation in accordance with commercial law, and absence of dependent status, in accordance with ITB 4.5.

2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

Form CON – 2: Historical Contract Non-Performance, Pending Litigation and Litigation History

Bidder's Name: _____

Date: _____

Joint Venture Member's Name _____

NCB No. and title: _____

Page _____ of _____ pages

Non-Performed Contracts in accordance with Section III, Evaluation Criteria and Qualifications			
<input type="checkbox"/> Contract non-performance did not occur since 1 st January [<i>insert year</i>] specified in Section III, Evaluation Criteria and Qualifications, Sub-Factor 2.1.			
<input type="checkbox"/> Contract(s) not performed since 1 st January [<i>insert year</i>] specified in Section III, Evaluation Criteria and Qualifications, requirement 2.1			
Year	Non-performed portion of contract	Contract Identification	Total Contract Amount (current value, currency, indicate exchange rate if non-performed contract is in foreign currency)
		Contract Identification: Name of Employer: Address of Employer: Reason(s) for non performance:	
Pending Litigation, in accordance with Section III, Evaluation Criteria and Qualifications			
<input type="checkbox"/> No pending litigation in accordance with Section III, Evaluation Criteria and Qualifications, Sub-Factor 2.3.			
<input type="checkbox"/> Pending litigation in accordance with Section III, Evaluation Criteria and Qualifications, Sub-Factor 2.3 as indicated below.			

Form CCC: Current Contract Commitments / Works in Progress

Bidders and each partner to a JV should provide information on their current commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which an unqualified, full completion certificate has yet to be issued.

Name of contract	Employer, contact address/tel/fax	Value of outstanding work in equivalent National currency of Employer)	Estimated completion date	Average monthly invoicing over last six months (in National currency of Employer/month)
1.				
2.				
3.				
4.				
5.				
etc.				

Form FIN – 3.1: Financial Situation and Performance

Bidder's Name: _____

Date: _____

Joint Venture Member's Name _____

NCB No. and title: _____

Page _____ of _____ pages

1. Financial data

Type of Financial information in (National currency of Employer)	Historic information for previous _____ years, (amount in national currency of Employer(indicate exchange rate if information in foreign currency))				
	Year 1	Year 2	Year 3	Year4	Year 5
Statement of Financial Position (Information from Balance Sheet)					
Total Assets (TA)					
Total Liabilities (TL)					
Total Equity/Net Worth (NW)					
CurrentAssets (CA)					
Current Liabilities (CL)					
Working Capital (WC)					
Information from Income Statement					
Total Revenue (TR)					
Profits Before Taxes (PBT)					
Cash Flow Information					
Cash Flow from Operating Activities					

2. Sources of Finance

Specify sources of finance to meet the cash flow requirements on works currently in progress and for future contract commitments.

No.	Source of finance	Amount and currency
1		
2		
3		

2. Financial documents

The Bidder and its parties shall provide copies of financial statements for _____ years pursuant Section III, Evaluation and Qualifications Criteria, Sub-factor 3.2. The financial statements shall:

- (a) reflect the financial situation of the Bidder or in case of JV member , and not an affiliated entity (such as parent company or group member).
- (b) be independently audited or certified in accordance with local legislation.
- (c) be complete, including all notes to the financial statements.
- (d) correspond to accounting periods already completed and audited.

Attached are copies of financial statements¹⁰ for the _____ years required above; and complying with the requirements

¹⁰ If the most recent set of financial statements is for a period earlier than 12 months from the date of bid, the reason for this should be justified.

Form FIN - 3.2: Average Annual Construction Turnover

Bidder's Name: _____

Date: _____

Joint Venture Member's Name _____

NCB No. and title: _____

Page _____ of _____ pages

		Annual turnover data (construction only)	
Year	Amount Currency	Exchange rate if in foreign currency	Employer's National currencyequivalent
<i>[indicate year]</i>	<i>[insert amount and indicate currency]</i>		
Average Annual Construction Turnover *			

* See Section III, Evaluation and Qualification Criteria, Sub-Factor 3.2.

Form FIN3.3: Financial Resources

Specify proposed sources of financing, such as liquid assets, unencumbered real assets, lines of credit, and other financial means, net of current commitments, available to meet the total construction cash flow demands of the subject contract or contracts as specified in Section III (Evaluation and Qualification Criteria)

Source of financing	Amount (Employer's National currency equivalent)
1.	
2.	
3.	
4.	

Form EXP - 4.1: General Construction Experience

Bidder's Name: _____

Date: _____

Joint Venture Member's Name _____

NCB No. and title: _____

Page _____ of _____ pages

Starting	Ending Year	Contract Identification	Role of Bidder
		Contract name: _____ Brief Description of the Works performed by the Bidder: _____ Amount of contract: _____ Name of Employer: _____ Address: _____	
		Contract name: _____ Brief Description of the Works performed by the Bidder: _____ Amount of contract: _____ Name of Employer: _____ Address: _____	
		Contract name: _____ Brief Description of the Works performed by the Bidder: _____ Amount of contract: _____ Name of Employer: _____ Address: _____	

Form EXP - 4.2(a): Specific Construction and Contract Management Experience

Bidder's Name: _____

Date: _____

Joint Venture Member's Name _____

NCB No. and title: _____

Page _____ of _____ pages

Similar Contract No.	Information			
Contract Identification				
Award date				
Completion date				
Role in Contract	Prime Contractor <input type="checkbox"/>	Member in JV <input type="checkbox"/>	Management Contractor <input type="checkbox"/>	Sub-contractor <input type="checkbox"/>
Total Contract Amount			National currency of Employer*	
If member in a JV or sub-contractor, specify participation in total Contract amount			*	
Employer's Name:				
Address:				
Telephone/fax number				
E-mail:				

Form EXP - 4.2(a) (cont.)

Specific Construction and Contract Management Experience (cont.)

Similar Contract No.	Information
Description of the similarity in accordance with Sub-Factor 4.2(a) of Section III:	
1. Amount	
2. Physical size of required works items	
3. Complexity	
4. Methods/Technology	
5. Construction rate for key activities	
6. Other Characteristics	

Form EXP - 4.2(b): Construction Experience in Key Activities

Bidder's Name: _____

Date: _____

Joint Venture Member's Name _____

Sub-contractor's Name¹¹ (as per ITB 34.2 and 34.3): _____

NCB No. and title: _____

Page _____ of _____ pages

Sub-contractor's Name (as per ITB 34.2 and 34.3): _____

All Sub-contractors for key activities must complete the information in this form as per ITB 34.2 and 34.3 and Section III, Qualification Criteria and Requirements, Sub-Factor 4.2.

1. Key Activity No One: _____

	Information			
Contract Identification				
Award date				
Completion date				
Role in Contract	Prime Contractor <input type="checkbox"/>	Member in JV <input type="checkbox"/>	Management Contractor <input type="checkbox"/>	Sub-contractor <input type="checkbox"/>
Total Contract Amount			National currency of Employer	
Quantity (Volume, number or rate of production, as applicable) performed under the contract per year or part of the year	Total quantity in the contract (i)	Percentage participation (ii)	Actual Quantity Performed (i) x (ii)	
Year 1				
Year 2				
Year 3				
Year 4				
Employer's Name:				

¹¹ If applicable.

Address:	
Telephone/fax number	
E-mail:	

	Information
Employer's Name:	
Address:	
Telephone/fax number	
E-mail:	

2. Activity No. Two

3.

	Information
Description of the key activities in accordance with Sub-Factor 4.2(b) of Section III:	

Section V - Eligible Countries

Eligibility for the Provision of Goods, Works and Services in Bank-Financed Procurement

1. In reference to ITB 4.7, and 5.1, for the information of the Bidders, at the present time firms, goods and services from the following countries are excluded from this bidding process:

Under ITB 4.7 (a) and 5.1 **None**

Under ITB 4.7 (b) and 5.1 **None***

*For updated list verify http://www.un.org/Docs/sc/unsc_news.html and
<http://www.un.org/Docs/sc/index.html> and click on Resolutions tab.

Section VI. Bank Policy - Corrupt and Fraudulent Practices

Guidelines for Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, dated January 2011:

“Fraud and Corruption:

1.16 It is the Bank’s policy to require that Borrowers (including beneficiaries of Bank loans), bidders, suppliers, contractors and their agents (whether declared or not), sub-contractors, sub-consultants, service providers or suppliers, and any personnel thereof, observe the highest standard of ethics during the procurement and execution of Bank-financed contracts.¹² In pursuance of this policy, the Bank:

(a) defines, for the purposes of this provision, the terms set forth below as follows:

(i) “corrupt practice” is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;¹³

(ii) “fraudulent practice” is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;¹⁴

(iii) “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;¹⁵

(iv) “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;¹⁶

(v) “obstructive practice” is

(aa) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or

(bb) acts intended to materially impede the exercise of the Bank’s inspection and audit rights provided for under paragraph 1.16(e) below.

¹² In this context, any action to influence the procurement process or contract execution for undue advantage is improper.

¹³ For the purpose of this sub-paragraph, “*another party*” refers to a public official acting in relation to the procurement process or contract execution. In this context, “*public official*” includes World Bank staff and employees of other organizations taking or reviewing procurement decisions.

¹⁴ For the purpose of this sub-paragraph, “*party*” refers to a public official; the terms “*benefit*” and “*obligation*” relate to the procurement process or contract execution; and the “*act or omission*” is intended to influence the procurement process or contract execution.

¹⁵ For the purpose of this sub-paragraph, “*parties*” refers to participants in the procurement process (including public officials) attempting either themselves, or through another person or entity not participating in the procurement or selection process, to simulate competition or to establish bid prices at artificial, non-competitive levels, or are privy to each other’s bid prices or other conditions.

¹⁶ For the purpose of this sub-paragraph, “*party*” refers to a participant in the procurement process or contract execution.

- (b) will reject a proposal for award if it determines that the bidder recommended for award, or any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
- (c) will declare misprocurement and cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement or the implementation of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
- (d) will sanction a firm or individual, at any time, in accordance with the prevailing Bank's sanctions procedures,¹⁷ including by publicly declaring such firm or individual ineligible, either indefinitely or for a stated period of time: (i) to be awarded a Bank-financed contract; and (ii) to be a nominated¹⁸;
- (e) will require that a clause be included in bidding documents and in contracts financed by a Bank loan, requiring bidders, suppliers and contractors, and their sub-contractors, agents, personnel, consultants, service providers, or suppliers, to permit the Bank to inspect all accounts, records, and other documents relating to the submission of bids and contract performance, and to have them audited by auditors appointed by the Bank.”

¹⁷ A firm or individual may be declared ineligible to be awarded a Bank financed contract upon: (i) completion of the Bank's sanctions proceedings as per its sanctions procedures, including, inter alia, cross-debarment as agreed with other International Financial Institutions, including Multilateral Development Banks, and through the application the World Bank Group corporate administrative procurement sanctions procedures for fraud and corruption; and (ii) as a result of temporary suspension or early temporary suspension in connection with an ongoing sanctions proceeding. See footnote 14 and paragraph 8 of Appendix 1 of these Guidelines.

¹⁸ A nominated sub-contractor, consultant, manufacturer or supplier, or service provider (different names are used depending on the particular bidding document) is one which has either been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

Section VII - Works Requirements

Specifications

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Standards Incorporated by Reference

0. General

GENERAL REQUIREMENTS

0. Scope

The specification defines the standards and quality of materials and workmanship to be used in the Project.

This Specification shall be read in conjunction with all the other documents forming the Contract. Any ambiguity between the documents forming the Contract shall be referred to the Project Manager for clarification in accordance with the Conditions of Contract.

The Contractors shall be deemed to have acquainted themselves with the requirements of all current statutes, ordinances, by-laws, rules, regulations or other instruments having the force of law in Georgia including without limitation those relating to protection of the environment, health and safety, importation of labour and training, taxes, duties, royalties and other levies.

0.1. Acceptance of Work

0.1.1. Conformity with Contract and Project Requirements

If any Clause or Sub-Clause in the Specifications includes a reference to International standards, the requirements of Local standards must be satisfied in first place. International standards might be used if they ensure equal or higher quality and are accepted by the Project Manager. The standards referred to are listed in the Annex of these Specifications.

References to standard test methods and other recognised standards authorities refer to the methods in effect on the date of solicitation for bids. Equipment, materials, or workmanship meeting other standards which ensure equal or higher quality than the standard specified will also be acceptable.

Perform work according to the present specification and the project (further "Project") requirements. Perform all work to the lines, grades, cross-sections, dimensions, and processes or material requirements shown on the plans or specified in the contract or design documents.

Plan dimensions and contract specification values are to be met unless a variance is allowed by the Project Manager. Perform work and provide material that is uniform in character and meets the specified requirements.

Acceptable work conforming to the contract will be paid for at the contract unit bid price unless otherwise stated in the specifications or conditions of contract. Three methods of determining conformity and accepting work are described in the Subsections 'Technical Inspection', 'Certification of Compliance' and 'Measurement or Tested conformance' inclusive. The primary method of acceptance is specified in each Section of work. However, work may be rejected at any time it is found by any of the methods not to comply with the specifications and drawings.

Work that does not conform to the project and contract requirements or to prevailing industry standards where no specific contract requirements are noted, shall be removed and replaced at no cost to the Employer.

As an alternative to removal and replacement, the Contractor may submit a written request to the Project Manager to:

- (a)** Have the work accepted at a reduced price, or

- (b) Be given permission to perform corrective measures to bring the work into conformity.

The request shall contain supporting rationale and documentation. When standard manufactured items are specified, (such as fence, wire, plates, rolled shapes, pipe conduits, etc. that are identified by gage, unit weight, section dimensions, etc.) the identification will be considered to be nominal weights or dimensions. Unless specific project and contract tolerances are noted, established manufacturing tolerances will be accepted.

0.1.2. Technical Inspection

Acceptance is based on technical inspection of compliance of executed works with the contract documents and prevailing relevant technical standards. Payment for work during the course of the project will be made as the work progress providing that it meets the conditions of the plans and specifications

0.1.3. Certification of Compliance

Provide materials, fabricated products and structures (further in text “materials”) from a manufacturer with an effective testing and inspection system. Require the manufacturer to finish documentation of the testing and inspection systems with a Certificate of Compliance that states the work complies with all contract requirements.

Require the manufacturer to furnish a “product certificate” for material commercially produced to a standard specification. The manufacturer shall clearly mark the material or package with unique product identification. Only one “product certificate” may apply to all the supply of material or product incorporated into the project for the one type of manufactures described.

Require the manufacturer to furnish a “product certificate” for material that:

- (a) Is custom made for the project, or
- (b) Is produced or shipped in bulk and therefore not readily identifiable as to manufacturer and product, or
- (c) Has a specific contract requirement.

A “product certificate shall accompany each shipment of material and place of manufacture as well as the lot number or other means of cross referencing to the inspection and testing system. Furnish specific test results on material from the same lot upon request

Materials or assemblies accepted on the basis of a Certificate of Compliance may be sampled and tested at any time. If found not to be in conformity with the contract requirements, all the materials or assemblies will be rejected weather in place or not until the items in place are tested and approved by the Project Manager.

0.1.4. Measurement or Tested Conformance

Provide all necessary production processing and control performance of the work so that all of the work complies with all the contract requirements.

Results from inspection or/and tested used to support acceptance of the work incorporated into the project shall have values within the specified tolerance or specification limits. When no tolerance values are identified in the contract, the work will be accepted based on customary manufacturing and construction tolerances.

0.2. Measurement and Payment

0.2.1. Measurement methods

Accepted work will be measured according to the metric (SI) system.

Unless otherwise specified, measurement will be made when the work is in place, complete and accepted. Measurement will be made for the actual quantity of work performed, or to adjusted or specified limits (staked limits) if not measurement. Structure will be measured to the neat lines shown on the plans or to approved lines that have been adjusted to fit field conditions.

The “measurement” subsections detailing specifics and exemptions for measuring work are described under each Section.

0.2.2. Measurement Terms and Definitions

Unless otherwise specified, the meanings of the following terms are as follows;

(a) Provisional sum. Perform the work only when authorised by written order. The work will be measured and paid for at agreed unit prices, or lump sum price, as established in the order authorising the work. When the unit bid price is designated "provisional sum", the quantity is designated as "All".

(b) Contract Quantity. The quantity to be paid for is the quantity shown in the Bill of Quantities. The quantity will be adjusted for authorized changes that affect the quantity or for errors made in computing this quantity. If there is evidence that a quantity specified is incorrect, submit calculations, drawings or other evidence indicating why the quantity is in error and request, in writing, that the quantity shall be adjusted.

(c) Cubic meter. The volume which will be measured by the average end area method as follow:

(1) Take cross section of the original ground and use with design or staked templates or take other comparable measurements to determine the end areas. Work outside of the established lines or slopes will not be measured.

(2) If any portion of the work is acceptable but is not completed to the established lines and slopes, take re-measure cross section or comparable measurements of that portion of the work. Use these measurements to calculate new end areas.

(3) Compute the quantity using the average end areas multiplied by the horizontal distance along a centreline or reference line between the end areas. Deduct any quantity determined outside the designed or staked slope limits.

Where it is impractical to measure material by the average end area method, other methods involving three dimensional measurements may be used.

(d) Cubic meter in the hauling vehicle. The cubic meter volume will be measured in the hauling vehicle using three dimensional measurements at the point of delivery. Use vehicles bearing a legible identification mark with the body shaped so the actual contents may be readily and accurately determined. Before use, mutually agree in writing on the volume of material to be hauled by each vehicle. Vehicle carrying less than the agreed volume may be rejected or accepted at the reduced volume.

Level selected loads. If leveling reveals the vehicle has been hauling less than the approved volume, all material received since the last leveled load will be reduced by the same ratio as the current leveled load volume is to the agreed volume.

Material measured in the hauling vehicle may be weighed and converted to cubic meters for payment purposes if the conversion factors are mutually agreed to in writing.

(e) Each/unit number. One entire unit. The quantity is the actual number of units completed and accepted.

(f) Litre. The quantity may be measured by any of the following methods:

- Measured volume container
- Metered volume. Use an approved metering system
- Commercially packaged volumes

When asphalt material is measured by the litter, the volume will be measured at 15^o C or will be corrected to a volume at 15^o C using recognized standard correction factors.

(g) Hour/month. Measurement will be for the actual number of hours/months ordered and performed by the contractor.

(h) Linear meter. Measurement will be from end to end parallel to the base or foundation upon which the item is placed.

(i) Lump sum. No direct measurement will be made. The bid amount is complete payment for all work described in the contract and necessary to complete the work for that item. The quantity is designated as "All". The estimated quantities of lump sum work shown in the contract are approximate.

(j) Kilometer. 1000 linear meters. Measurements will be horizontal along the centre line of each roadway, approach road or ramp.

(k) Kilogram. The weight measured according to subsection 'Weighting Procedures and Devices'. If sacked or packaged material is furnished, the net weight as packed by the manufacturer may be used.

(l) Square meter. Longitudinal and transverse measurements for area computations will be made horizontally. Where a pavement structure course is measured by the square meter, the width of measurement will be the top design width of the course plus allowable curve widening, not including side slopes. The length will be the distance measured horizontally along the centerline of each roadway, approach road or ramp.

(m) Station. 1000 linear meters Measurements will be horizontal along the centre line of each roadway, approach road or ramp

(n) Ton. 1000 kilograms. Measurement will be according to subsection 'Weighting Procedures and Devices' No adjustment in contract unit price will be made for variations in quantity due to differences in the specific gravity or moisture content.

Net certified scale weights, or weights based on certified volumes in the case of rail shipments, will be used as a basis of measurement subject to correction when asphalt material is lost from the car or the distributor, wasted, all otherwise not incorporated in the

work. When asphalt material is shipped by truck or transport, net certified weights, subject to correction for loss or foaming, may be used for computing quantities.

When asphalt cement for asphalt concrete pavement is stored in tanks devoted exclusively to the project, quantities will be based on invoices. When asphalt cement for asphalt concrete pavement is not stored in tanks devoted exclusively to the project, quantities will be based on the tank measurements, converted to volumes.

0.2.3. Weighing Procedures and Devices

Furnish, erect and maintain scales or used permanently installed and certified commercial scales for weighing material that are proportioned or measured and paid for by weight.

If bulk material is shipped by truck or rail and is not passed through a mixing plant, the supplier's invoice with net weights or volumes converted to weights may be accepted. Periodic check-weighing may be required.

Batch weights may be acceptable for determination of pay quantities when an approved automatic weighing, cycling and monitoring system is included as part of the batching equipment.

Before use at a new site, have the scales checked, adjusted and certified by an approved testing firm, a laboratory of the State responsible for weight and measures, or a qualified manufacturer's representative. Maintain the scale accuracy to within 0.5% of the correct weight throughout the range of use. Don't use spring balances.

Install and maintain platform scales with the platform level with rigid bulk heads at each end. Make the platform of sufficient length to permit simultaneous weighing of all axle loads of the hauling vehicle. Coupled vehicles may be weighed separately or together.

When a weighing device is determined to indicate less than true weight, no additional payment will be made for material previously weighed and recorded. When a weighing device is determined to indicate more than true weight, all material received after the last previously correct weighing accuracy test will be reduced by the percentage of error in excess of 0.5%.

Furnish competent scale operators to weight and record the gross, tare and net weights of all material measured by weight. Read and record weights to the nearest 50 kilograms. Increments while weighing smaller than 50 kilograms are permitted for automatic weighing system.

Weight the empty vehicles hauling material on platform scales with full fuel tanks at least twice per shift.

Documents that support weighed pay quantities shall contain the following information, as applicable, to the type of scales and recording system used:

- (a) Project identification
- (b) Contract pay item number
- (c) Material source/plant identification
- (d) Date
- (e) Load number
- (f) Truck identification
- (g) Time of weighing
- (h) Applicable empty and loaded weight

(i) Scale operator's signature

Use an approved pre-printed format for the weight records. Furnish the original record(s) and a written certification as to the accuracy of the weight at the end of each shift.

0.2.4 Receiving Procedures

When the method of measurement requires weighing or volume measurement in the hauling vehicle, furnish a person to direct the spreading and distribution of material and to record the location and placement of the material on the project. During the placement, maintain a record of each delivery and document it in an acceptable manner. The document shall include the following information as applicable:

- (a) Project identification
- (b) Contract pay item number
- (c) Location where placed
- (d) Date
- (e) Load number
- (f) Truck identification
- (g) Time of arrival
- (h) Weight of volume
- (i) Spread person's signature

Use an approved pre-printed format for the weight records. Furnish the original record(s) and a written certification as to the accuracy of the weight at the end of each shift.

0.2.5. Scope of Payment

Compensation provided for in the contract is full payment for performing all contract work in a complete and acceptable manner. All risk, loss, damage, or expense arising out of the nature of prosecution of the work is included in the compensation provided by the contract.

If the contract requires work and there is no measurement of the work by the payment Section or no pay item specifically established for the work, there will be no direct payment for the work. The cost of the work is considered included under the other contract pay items.

If a Section references work is in another Section, the referenced work will not be paid for the directly unless the measurement subsection of the referring Section states that the work will be measured.

Work measured and paid under one pay item will not be paid for under any other pay item.

The quantities shown in the bid schedule are approximate unless designated as a contract quantity. Pay quantities will be limited to the quantities staked, ordered, or otherwise authorised before performing the work. Payment will be made for the actual quantities of the work performed and accepted or material furnished according to the contract. No pay will be made for work performed in excess of that staked, ordered, or otherwise authorised.

0.3. Mobilisation

0.3.1. Description

This work consists of moving personnel, equipment, material and accessories to the project and performing all work necessary before beginning work at the project site.

Readiness for commencing works will be considered as fulfilled when the Contractor has provided at least 30% of necessary building materials (bitumen, sand, aggregate, mineral powder) to the site.

All building materials shall have laboratory test certificates on suitability.

0.3.2. Measurement

There will be no measurement for mobilisation.

0.3.3. Payment

Any funds required (if required by the Contractor) for mobilisation will be considered as being included in the Contract's advance payment.

0.4. Laboratory Testing

0.4.1. Description

This section contains the description and Specifications for the Site Laboratory and other quality control testing services to be provided by the Contractor together with definition of the responsibilities of the Contractor for such laboratory and testing. Whenever the term 'Laboratory' is used it shall include the space, utilities and sampling and testing equipment as hereinafter detailed, unless otherwise specified in the Contract documents or the Bills of Quantity.

The Contractor shall provide, to his own design as approved by the Project Manager, a site laboratory for carrying out sampling and testing as required by the technical specifications.

The location shall be as close as possible to the work being done in order to provide continuous control over material being used. The laboratory shall not be removed from the project until so ordered by the Project Manager.

The size and layout of the laboratory shall be suitable to carry out all sampling and testing of materials and workmanship. It shall contain special storage rooms for samples of materials etc., as approved by the Project Manager.

The Contractor shall provide the equipment and consumables necessary for carrying out the sampling, testing and recording required by the Technical Specification and additional numbers of tests instructed by the Project Manager.

The Contractor shall provide a sufficient number of qualified personnel to perform sampling and testing duties when so directed by the Project Manager. The Contractor shall bear all the costs pertaining to obtaining specimens of materials, asphalt mixes and samples cut from the paving courses after compaction, including the provision of necessary equipment and plant for obtaining these specimens and samples and transporting them to the laboratory and for conducting all tests, all as directed by the Project Manager.

The Contractor shall provide a suitable vehicle as approved by the Project Manger with competent driver and including fuel, maintenance, insurance and licensing during the contract period for the exclusive use of the site laboratory. The vehicle should be capable of transporting the driver plus 4 people and samples of materials to be delivered to the site laboratory.

The Contractor shall also provide mobile facilities for sampling and testing which can be carried out in the field at the location of works.

The laboratory shall be maintained in a clean and tidy condition to the satisfaction of the Project Manager.

The laboratory shall be completed and ready for use within 4 weeks of the Start Date. If the Contractor commences any selection or testing of materials for submission to the Project Manager for approval of any permanent works before the 4 weeks period, temporary testing facilities, if approved by the Project Manager, maybe used.

The Contractor shall allow the Project Manager to carry out his own tests for the Contract, using the Contractor laboratory, his equipment, consumables etc., or to have tests carried out by the Contractor's staff

The facilities provided by the Contractor for the Site laboratory shall remain as the property of the Contractor and the Contractor shall remove facilities after completion of the project and receiving final acceptance. He shall restore the site to match the adjacent surfaces and materials as approved by the Project Manger.

Approval of the Laboratory. Prior to the start of the work, the Project Manger shall inspect the proposed laboratory to ensure the Contractor's compliance with these Specifications. In the event the Contractor fails to comply with these Specifications at any time during the Contract period, the Project Manger may order any or all of the following:

1. Stoppage of all work until the specifications have been complied with;
2. Stoppage of any portion or phase of the work and the Specifications have been complied with;
3. A penalty assessment of for each day that specifications are not complied with, which shall commence 7 days after notification of such noncompliance

Equipment and required tests for the laboratory. The laboratory shall contain at least the equipment to carry out the following tests:

1. DETERMINATION OF PARTICLE SIZE DISTRIBUTION, GRANULOMETRIC ANALYSIS (SIEVING METHOD)
2. DETERMINATION OF PARTICLE DENSITY
3. DETERMINATION OF PARTICLE SHAPE OF COARSE AGGREGATE - FLAKINESS INDEX
4. DETERMINATION OF BITUMEN CONTENT AND GRADATION OF THE ASPHALT CONCRETE MIX
5. COMPACTION OF BITUMINOUS MIXTURES USING MARSHALL APPARATUS
6. MAXIMUM DENSITY OF PAVING MIXTURES (% VOIDS)
7. SBULK SPECIFIC GRAVITY OF BITUMINOUS PAVING MIXTURES USING SATURATED DRY SPECIMEN
8. PERCENT OF AIR VOIDS IN COMPACTED DENSE AND OPEN BITUMINOUS PAVEMENTS
9. DETERMINATION OF NEEDLE PENETRATION
10. MOISTURE-DENSITY RELATIONSHIP
11. DENSITY OF SOIL IN-PLACE BY THE RUBBER BALLOON METHOD
12. DETERMINATION OF THE RESISTANCE TO ABRASION
13. MARSHALL STABILITY

Laboratory equipment will not be required, if the contractor has his testing performed by an independent laboratory approved by the Project Manager

0.4.2. Measurement

There will be no measurement of this item.

0.4.3. Payment

Costs associated with this task will be considered as being included in the related pay items for the construction works.

0.5. Record Drawings

0.5.1. Description

The Contractor shall prepare and furnish the Project Manager with accurate record for reconstruction roads and streets drawings to full size and scales as otherwise stipulated showing complete Works as executed with existing and finished levels (top, invert and formation levels, plans, cross and longitudinal sections, locations of all functions, manholes, inlets, extent of concrete beds and structures and all things necessary to form a complete record of the finished Works). Also to be shown are the locations of existing utilities. The Contractor shall provide plans with longitudinal profile and cross sections for sections where asphalt concrete and surface treatment works have been carried out.

The Contractor shall prepare all record drawings to provide accurate and complete record drawings acceptable to the Project Manager. During the course of the work, the Project Manager shall have the right to call for record drawings at any time so that he may check them for accuracy and completeness. The Contractor shall provide a minimum of two prints of each record drawing for this purpose. The Contractor shall finish the record drawings as specified within five days of the date of the request to submit in writing by the Project Manager.

Drawings shall be dated and signed by the Contractor's representative and, if approved, by the Project Manager. The Contractor shall furnish three hard copies of the drawings and three CD's of electronic versions such as AutoCad files, in both English and Georgian languages.

0.5.2. Final submittal

In addition to any record drawings required during the course of work by the Project Manager, as it is described in the section above., the Contractor shall supply to the Project Manager, record drawings, of quantity scale, and schedule as follows:

- (1) One complete (1) set record drawings, full size reproducible
- (2) One complete (1) set record drawings, full size reproducible (for the Project Manager).

0.5.3. Measurement

There will be no measurements of this item.

0.5.4. Payment

There will be no payment for the work of this section. Costs associated with this task will be considered as being included in the related pay items for the construction work. The final certificate of payment will not be issued until all required record drawings have been approved and supplied to the Project Manager.

0.6. Traffic Management

0.6.1. Description

The Contractor shall, based on due consultation with and requirements of the Police and relevant Local Authorities, submit a traffic management plan for the Project Manager's consent within 28 days prior to the commencement of any works affecting public or private rights of way. This shall show the proposed scheme of traffic safety and management measures including all construction details, temporary lighting and signing, and programme of works. Thereafter the Contractor shall provide such further details as necessitated by the Works or required by the Project Manager.

The work consists of controlling and protecting public traffic adjacent to and within the project according to the active traffic rules and regulations in Georgia.

0.6.2. Accommodating Traffic During Work

The Contractor shall provide safe movement of vehicles and pedestrians through work zones in accordance to BCH 37-84. The Contractor shall submit traffic control implementation drawings and alternate traffic control proposals including the following:

- 1) A detailed diagram, which shows the location of all traffic control devices, including advance construction signs and speed limit signs, method, length and time duration for lane closures; and location of flaggers and time duration of flagging operation.
- 2) A tabulation of all traffic control devices shown in the detail diagram.
- 3) An access maintenance plan for all properties requiring access during construction. This plan shall also indicate the areas where equipment will be stored, vehicles parked, construction signs and materials stored, if within the construction site limits. The Contractor shall also indicate ingress and egress to the construction site unless otherwise approved.
- 4) A pedestrian traffic control plan.

The work should be performed in a manner that assures the safety and convenience of the public and protects the residents and property adjacent to the works. Accommodate public traffic on roads within the project until the work is accepted. The contractor will cooperate with local traffic police and obtain all permission required to implement traffic control plan. All lane closures shall be subject to the approval of Project Manager. Request for each lane closures shall be made at least twenty-four hours in advance of the time the lane closure is to be implemented. Lane closures will not be allowed to remain for more than needed for work execution.

0.6.3. Maintaining Roadways During Work.

Perform roadway maintenance as follows:

- a) Maintain intersections with trails, roads, streets, enterprises, parking lots, residences, guarantees, farms, and other objects.
- b) Remove accumulations of soil and other material from travelled way.

The Contractor shall maintain the roadway in a safe and acceptable condition. If corrective action is requested and the corrective action is not taken immediately, the condition may be corrected and the Contractor will be charged for the cost of the corrective action.

0.6.4. Maintain Roadways during suspension of works

Maintain Roadway for public traffic during all work suspensions.

0.6.5. Limitations on construction operations.

When the traffic way is open for public traffic, restrict the construction operations as follows:

- (a) Operate equipment in the direction of traffic;
- (b) Complete construction of adjacent traffic lanes to the same elevation each day, except that differences in excess of 75 mm with a 3:1 fillet may be left overnight with "Uneven pavement" warning signs
- (c) Complete the construction of shoulders to traffic lanes to the same elevation within the period of time specified by the project manager. Sign shoulder drop of in excess of 75 mm with a warning sign "Road Works" and plate "Low Shoulder".
- (d) Provide minimum lane width of 3.5 meters. Use barricades, drums, or other approved device to delineate traffic lanes through areas where the edge of intended path has been obliterated by construction operation
- (e) Locate staging areas at least 4 meters from the traveled way or approved traffic barriers. Obtain approval of the location and access to staging areas. Store unused traffic control devices at staging areas.
- (f) Park equipment at least 4 meters from the traveled way or behind approved traffic barriers.
- (g) Provide parking areas for employees' personal vehicles in approved areas.
- (h) When switching traffic to a completed lane, provide adequate personnel and equipment to set or relocate traffic control devices.
- (i) Limit construction caused delays to public traffic.
- (j) Install permanent traffic barriers within 30 calendar days of completing the surface course.

0.6.6. Working Hours

The Contractor shall perform construction operations during the hours of daylight (after sunrise to before sunset) or as directed by the Project Manger.

0.6.7. Traffic and Safety Supervisor

The Contractor shall provide a competent Traffic and Safety Supervisor for the project. The Traffic and Safety Supervisor shall:

- a) Have traffic safety training or experience in maintaining traffic control devices and protecting traffic through highway construction projects.
- b) Understand the contract requirements

- c) Understand the uniform requirements for Methods of Roadway Movement of Organization of Roadway Movement, during Roadway Construction, published Moscow 1989.
- d) Inspect the condition and position of traffic control devices in use.
- e) Review the project for traffic control devices needed to maintain safe and efficient traffic movement.
- f) Correct all traffic control deficiencies
- g) Coordinate maintenance of traffic operations with the Project Manager
- h) Review work areas, equipment operation and storage, and material handling and storage related to traffic safety
- i) Conduct weekly traffic safety meetings for contractor's employees. Advise the Project Manager of improved safety measures. Invite the Project Manger to attend these meetings.

0.6.8. Acceptance

The work will be accepted providing that it has been built in conformance to the plans and specifications pertaining to the segment involved and is accepted by the Project Manger.

0.6.9. Measurement and Payment

Any cost arising from the application of traffic management and maintenance measures shall be included in the Contractor's unit cost, and is not payable as separate item.

0.7. Control of Material

0.7.1 Source of Supply and Quality Requirements

The Contractor selects sources and provides acceptable material. Notify the Project Manager of all proposed sources before delivery to the project, to expedite material inspection and testing. The Contractor shall not incorporate material requiring submittal testing into the work until approved.

Material must be approved at the source of supply before delivery to the project. This approval does not constitute the acceptance of material. If an approved source does not continue to supply acceptable material during the life of the project, further use of that source may be denied.

0.7.2. Local Material Source.

Source of rock, sand, gravel, earth, of other natural material location will be used by the permission of the Employer. Indicated sources are listed as information to aid the Contractor in locating a source. The decision to use an unidentified source is solely that of the Contractor.

- (a) **Employer-listed sources.** The Employer may list possible material sources. The Employer makes no representation as to the quality or quantity of material, or rights to the availability of the material from these sources. These sources are considered to be Contractor-located sources under (b) below.

(b) **Contractor-located sources.** The Contractor is responsible for these sources, including established commercial sources. Use sources that fulfill the contract quantity and quality requirements. Determine the quantity and type of equipment and work necessary to select and produce acceptable material. Secure all clearances for use of the source and provide copies of the document.

Provide laboratory tests report and data indicating the acceptable material is available from the source .Do not use material from a source that is unacceptable to the Employer. Dispose of unacceptable material and locate another source at no cost to the Employer.

0.7.3. Storing and Handling Material

Store and handle material to preserve its quality and fitness for the work. Stored material approved before storage may again be inspected before use in the work. Locate stored material to facilitate prompt inspection.

Use only approved portions of the right-of-way for storing material and placing plants and equipment.

Provide all additional space needed. The Contractor shall not use private property for storage without written permission of the owner or lessee. Restore all Employer provided storage sites to their original condition.

The Contractor is responsible for the security of all stored material.

0.7.4. Use of Material Found in the Work.

The right to use material found in the work does not include the use of material for other work except for the disposal of waste material. Waste material must be disposed on site if approved by the Project Manager. The Contractor shall be responsible for locating and securing off site waste if required, at no cost to the Employer. If the Contractor produces or processes material from Employer lands in excess of the quantities required for the contract, the Employer may:

- (a) Take possession of the excess material and direct its use, paying the Contractor only for the cost of production, or
- (b) Require removal, replacement with suitable fill material and recondition of the over excavated area to a satisfactory condition at no cost to the Employer.

0.7.5. Measurement and Payment

No direct measurement and payment shall be done for the work associated with this section.

0.8. Construction Material

0.8.1. Cement

Portland and Masonry Cement

Portland Cement and Masonry Cement shall be according to GOST 10178

Do not use different brands or types of cement, or the same brand or type of cement from different mills without approval of the Project Manager.

Provide suitable means of storing and protecting the cement from dampness. Do not use cement that:

- (a) Has become partially set
- (b) Contains lumps of caked cement
- (c) Is salvaged from discarded or previously opened bags.

0.8.2. Bitumen

Bitumen shall comply with GOST 22249-90 and corresponds to the grade shown on the drawings or listed in the specifications.

Requirements to the quality of heavy bitumen (GOST 22245-90), Table 1

Indices	B 40/60	B 60/90	B90/130	B 130/200	Test Methods
Penetration under 25°C 0.1 mm, not less than 0°C	40-60 13	61-90 20	91-130 28	131-200 35	GOST 11501
Softening temperature	51	47	43	40	GOST 11505
Spreading in cm. not less + 25°C °C	45 -	55 3.5	65 4.0	70 6.0	GOST 11505
Brittle temperature not more °C	-12	-15	-17	-18	GOST 11507 Att., 3.2.
Flash point °C	230	230	230	230	GOST 4333
Softening temperature after warm-up, not more °C	5	5	5	6	GOST 18180 GOST 11506 Att., 3.3.
Penetration index	From -1.0 to +1.0				Attachm. 2
Water content %, not more	0.30	0.30	0.30	0.30	GOST 11510

Application Temperatures.

Bitumen should be applied under the temperature ranges shown below in accordance with GOST 22245-90.

Bitumen	Application temperature in °C
B 40/60	130 - 150
B 60/90	130 - 150
B 90/130	130 - 150

Bitumen Supply and Quality Control

Bituminous material will be supplied by the Contractor.

The Contractor has to provide for Project Manager's approval quality certificate for each type of bitumen he intends to use as well as a sample for control testing.

0.8.3. Aggregates

Aggregate for Portland Cement Concrete

Aggregate for Portland Cement Concrete shall conform to VSN 24-88 (17.5.21-5.5-23).

Aggregate for Subbase and Base (SNiP 2.05.02-85)

Aggregates shall consist of hard, durable particles or fragments of crushed stone, crushed slag, or crushed gravel meeting the requirements of GOST 8267-93.

Furnish a material that is free from organic matter and lumps or balls of clay. Do not use material that break up when alternately frozen and thawed or wetted and dried.

Obtain the aggregate gradation by crushing, screening, and blending processes as necessary. Fine aggregate, material passing the 5 (6) mm sieve, shall consist of natural or crushed sand and fine mineral particles.

Hot Asphalt Concrete and Surface Dressing Aggregates

Aggregate for hot asphalt concrete pavement and surface dressing shall consist of hard, durable particles or fragments of crushed stone, crushed slag, or crushed gravel. Crushed gravel must contain completely crushed particles accounting for at least 30 % by weight of particle sizes in excess of 6 mm and completely uncrushed particles accounting for no more than 30 % by weight. The aggregate may not contain any detrimental amount of impurities, such as clay, peat, organic matter etc.

Aggregates for hot asphalt concrete and surface dressing shall meet also the requirements of GOST 8267-93 and GOST 10260-82

The Los Angeles Test Value shall be less than 16 and the Flakiness Index less than 15 for coarse aggregate. (Strength can be measured by using GOST method, if ball mill apparatus is not available). Aggregate for hot asphalt concrete must be sieved to at least three fractions. Size, grade, and combine the aggregate fractions for the mixture in such proportions that the resulting composite blend conforms to the requirements of section 'Hot Asphalt Concrete Pavement'.

0.8.4. Sand (natural or crushed)

Requirements for fine aggregate in bituminous mixtures are shown in GOST 8736-85. Sand for bed course shall conform to SNiP 3.06.03.85.

0.8.5. Mineral Filler

Mineral filler for hot bituminous mixes shall conform to GOST 16557-78.

0.8.6. Water

Only potable water may be used. Water used for concrete shall meet the requirements of GOST 23732-79.

0.8.7. Alternative Materials

The Contractor may propose the use alternative materials to the ones specified in the design. In these cases, the Contractor shall inform the Project Manager about his technical proposal at least 4 weeks before the material is to be used.

0.8.8. Measurement and Payment

No direct measurement and payment shall be done for the work associated with this section. Cost for material, including supply, handling, transport storage, etc. will be considered as being included in the related pay items for the construction works.

0.9. Possession of Site

0.9.1. Description and Requirements

The operations of the Contractor shall be confined to the area of and immediately adjoining the works included in this Contract. Clearance shall be kept to the satisfaction of the Project Manager to permit the statutory authorities or other Contractors to enter the site to carry out other works and to maintain the free flow of traffic so far as is practical with safety on the existing carriageway.

The Contractor shall obtain the approval of the Project Manager for the setting of temporary roads, diversions, paths etc., necessary for the execution of the Contract.

The Contractor must allow for safe crossing by construction traffic of existing roads and tracks.

Where it is necessary to work outside the road reserve and to enter either private or occupied land during the course of road construction or maintenance for the purpose of making temporary road diversions, widening road construction or maintenance materials or for any other reason, the land owner or occupier shall first be consulted by the Contractor and his written permission obtained.

In the event of the owner or occupier withholding their permission, the full circumstances of the case shall be referred to the Project Manager and no further action shall be taken until his instructions are received. In that case the Contractor will not be liable for compensation for idle time.

When the Contractor intends to move his establishment to a new location during the construction period, advance notice of at least 14 days must be given to the Project Manager. The Contractor must allow in his rates for such intended moves.

0.9.2. Measurement and Payment

No direct measurement and payment shall be done for the work associated with this section.

0.10. Health, Safety and Accidents

0.10.1. Description and Requirements

The Contractor shall ensure, so far as is reasonably practicable and to the satisfaction of the Project Manager, the health, safety and welfare at work of his employees including those of his sub-contractors and of all other persons on the Site. His responsibilities shall include:

- (a) the provision and maintenance of Constructional Plant and systems of work that are lighted, safe and without risks to health;
- (b) the execution of suitable arrangements for ensuring safety and absence of risks to health in connection with the use, handling, storage and transport of articles and substances;

- (c) the provision of protective clothing and equipment, first aid stations with such personnel and equipment as are necessary and such information, instruction, training and supervision as are necessary to ensure the health and safety at work of all persons employed on the Works all in accordance with Laws and all local Bye-Laws;
- (d) designation as Safety Officer of one of his senior staff who shall have specific knowledge of safety regulations, and experience of safety precautions on similar works and who shall advise on all matters affecting the safety of workmen and on measures to be taken to promote such safety;
- (e) the provision and maintenance of access to all places on the Site in a condition that is safe and without risk of injury;
- (f) the provision of adequate water-borne sanitation, refuse collection and disposal, complying with the Laws and all local Bye-Laws and to the satisfaction of the Project Manager, for all houses, offices, workshops, and laboratories erected on the camp site or sites;
- (g) the provision of suitable latrines and other sanitary arrangements at sites where work is in progress to the satisfaction of the Medical Officer in the area and of the Project Manager;
- (h) the execution of appropriate measures in consultation with the appropriate Public Health Authority to control within the Site, including the camp sites, mosquitoes, flies and pests including the application of suitable chemicals to breeding areas;
- (i) reporting details of any accident to the Project Manager as soon as possible after its occurrence.

0.10.2. Measurement and Payment

There will be no measurement and payment for this item. Costs associated with this task will be considered as being included in the related pay items for the construction work.

0.11. Environmental Protection

This section describes the environmental mitigation requirements to be followed by the Contractor and measures to be carried out by the Contractor related to environmental protection.

Georgian law and regulations shall be followed in environmental protection as well as the following standards:

GOST 17.2.3.02-78
GOST 17.0.0.04.90

The Contractor shall execute all works and take any measures for the environmental protection and impact mitigation, either for the construction period or for the operation period, in full compliance with the relevant local legislation and norms in force. He shall obtain all the necessary updated information about the Organization for Environmental Protection in Georgia and obtain all the necessary authorizations and carry out complementary studies whenever necessary. He shall obtain environmental approvals for all the temporary works.

During the works, and including the maintenance period and the site mobilization activities, the Contractor and his Sub-contractors in compliance with the norms and regulations in force shall implement the following mitigation measures:

A.Reduction of the Equipment and Plant noise when working in urban areas and in proximity to occupied buildings.

B.Optimal location for crushers, bitumen plants, batching plants and other similar plants, in order to minimize their adverse impact on the natural, human and social environments.

C.Enforcement of an adequate traffic management plan, to minimize the disturbance caused by the site traffic and to safeguard the safety of the public and the Contractor's labor.

D.Protection of rivers, lakes, lands in crop and any areas surrounding the Site, against any pollution, which may be originated either from the permanent road works or from the other activities, related to the Contractor's organization.

E.Control of the method of storage of materials, with a strict observance of the standards, specifications, regarding the most sensitive items, such as fuel, bitumen, lubricants, cement, explosive, etc.

F.Protection and accurate reinstatement at the end of the works of borrow pits, quarries, services and diversion roads, and any other temporary or preparatory work.

G.Reduction of the pollutant's, emissions, when they reach the admissible levels, in accordance with Georgia current legislation and norms.

H.Any other action, which might be necessary, in accordance with the Project Manager. instructions and as required by the current Georgian legislation.

The Contractor shall, at the request of the Project Manager, carry out whatever environmental measurements are required to demonstrate that the requirements of this Clause are being respected. The tests shall be carried out at the location and in the time required by the Project Manager and the Contractor shall carry out such tests at his own expenses with instruments supplied by him.

0.11.1. Noise Control

The Contractor shall follow all the existing laws and regulations concerning the noise control in construction works, asphalt plant and borrow pit activities. The Contractor shall submit a plan to the relevant authorities indicating the type of installation and their respective locations e.g. asphalt plant, mixing plant etc, which is subject for to approval before commencement of the works.

0.11.2. Dust Control

The Contractor shall submit a plan indicating the proposed routes for material transport and make statements on the proposed method of dust control where transport through settlements cannot be avoided.

0.11.3. Management of Solid Waste from Construction and Construction Camps

General

i) Wherever possible recycling / re-use of materials shall be considered.

ii) As a rule, solid wastes generated during the construction phase shall be systematically collected, stored and disposed of in suitable locations as agreed with the Project Manager.

Construction Debris (waste from bridge demolition, the replacement of culverts, crash barriers or handrails from bridges etc.) shall generally be removed from the site in an orderly manner and disposed off site in accordance with existing regulations .

Clean soil material, i.e. later indicated as Spoil Material that is not reusable shall be removed from the site and transported to soil dumping areas approved by the Project Manager.

Domestic waste from temporary construction camps shall be systematically collected and hauled to the designated areas approved by the Project Manager. Should construction camps be erected within a reasonable distance to larger settlements, camp's solid waste

may be integrated into existing collection and disposal facilities of nearby communities subject to their approval.

0.11.4. Protection of Water Resources

(i) During construction, the Contractor shall carry the full administrative and legal responsibility for any pollution of surface waters due to any reason associated with the Works, according to the existing legislation.

ii) The Contractor shall ensure that no oil products, fuel, lubricants, detergents, paint or other harmful substances are introduced into streams, rivers, lakes and irrigation or drainage facilities.

iii) The storage of wastes or production waste as well as filling and parking of machinery or cars is not permitted within a distance of 100 metres of any stream, river or lake including drainage or irrigation facilities. The discharge of oil and fuel onto open soils is prohibited. Fuelling, oiling or lubricating of any machinery shall be restricted to stationary and or mobile filling stations and shall exclusively be carried out by using suitable taps or nozzles. The Contractor shall make all necessary arrangements to ensure that pollution of soils and groundwater will be avoided as far as possible. Mobile filling stations shall carry drip trays that shall be placed below the filling point before any operation begins.

iv) The Contractor shall submit a plan to the relevant authorities indicating the type of installation and their respective locations e.g. fuel and material storage, stationary filling sites, asphalt plant, mixing plant, car wash facilities etc. For each installation the Contractor shall indicate the approximate closest distances to irrigation and drainage channels as well as public or private wells. For each installation beforehand the Contractor shall indicate in written form to the Project Manager in addition to the above the approximate closest distance, which shall be not less than 250 m, to any specified green or protected areas.

v) The direct discharge of sewage from worker's camps into any stream is prohibited. Sewage from these installations shall be collected in septic tanks or soaking pits.

0.11.5. Measurement

There will be no measurement for environmental protection measures.

0.11.6. Payment

There will be no payment for this item. Costs associated with this task will be considered as being included in the related pay items for the construction work.

1. Preparation of construction site

Section 1.1. Preparatory works

Description

1.1.1. This work consists of recondition of route, fixing of the right of way and milling of the pavement.

Construction Requirements

1.1.2. Route recondition and fixing includes: recondition of route, restoration of the lost bench marks and angle and its fixing, measurement of angles, staking of stations, circle, transition curves and artificial structures axis detail staking, establishment of elevations, documentation of field magazines, layout diagram for route staking and handing the route to Engineer.

1.1.3. Milling of the pavement. Where cold-milling of bituminous bound flexible pavement is required, the area of carriageway to be milled shall be removed by a suitable milling machine. The process shall be carried out so as not to produce excessive quantities of dust, which shall be minimized by damping with water sprays.

The cut edges shall be left neat, vertical and in straight lines. The Contractor shall brush and sweep the milled surface by mechanical means to produce a clean and regular running surface with a groove depth not greater than 10 mm, and with a uniform texture.

Existing ironwork shall not be disturbed by the milling action. Where necessary, surfacing in the vicinity of ironwork and in small or irregular areas shall be cut out by pneumatic tools or other suitable methods and removed.

Where milling is carried out on a carriageway open to traffic, temporary ramping to ensure the safe passage of vehicles shall be provided.

If the milled surface profile varies by more than 10 mm, when measured transversely or longitudinally by a 3 meter straight edge, adjustments or replacements shall be made to the cutting teeth on the milling drum before work continues. Any discontinuity between adjacent milling passes exceeding 10 mm, when measured transversely by a 3 meter straight edge, shall be rectified by further milling or regulating before placing bituminous materials.

Where milling is required over extensive areas, the Contractor shall programme the work to allow removal of full lane widths unless this is impracticable. The Contractor shall notify his proposed programme of milling to the Project Manager prior to commencement of the work.

Immediately after milling, surplus materials shall be removed by a machine of suitable and efficient design and the milled surface swept to remove all dust and loose debris.

The material removed from the carriageway shall be removed from site, unless otherwise directed by the Project Manager. No stockpiling shall be allowed on Site unless the material is to be used in the Works.

Carriageways which are closed to traffic to permit milling shall be resurfaced after milling prior to reopening the carriageway to traffic unless otherwise agreed by the Project Manager.

48 hours prior to cold-milling the Contractor shall carry out a sweep of the area(s) to locate any buried metalwork within the layer to be cold-milled. The sweep shall be carried out with electronic detection equipment suitable for the purpose. The surface shall be clearly marked above all objects to show their detected extent. The objects shall be referenced and their location and depth reported to the Project Manager within 6 hours of discovery. Surfacing in

the vicinity of such objects shall be excavated using pneumatic tools or other suitable methods.

The existing bituminous pavement made from cold asphalt shall be milled and sieved to grading for re-use as subbase material or base material. The existing bituminous pavement material does not conform to any given grading, but consists locally of larger gravel and finer material.

1.1.4. Acceptance. The work will be accepted for payment providing that it has been built in conformance to the plans and specifications pertaining to the Sections involved and is accepted by the Engineer.

Measurement

1.1.5. All works that should be done (see Volume of works and corresponding drawings, Section Drawings) will be measured per unit of measurement for the pay items.

Payment

1.1.6. The accepted quantities, measured as provided above, will be paid at the contract price per unit of measurement for the pay items listed below that are shown in the Bill of quantities. Payment will be full compensation for the work prescribed in this Section.

Section 1.2. Removal of existing guardrails

Description

1.2.1. This work consists of removing of existing guardrails, disposing them outside the site for salvaging/ utilization.

Construction Requirements

1.2.2. Salvaging material. Salvage with reasonable care, all material designated to be salvaged. Salvage in readily transportable sections or pieces. Replace or repair all members, pins, nuts, plates, and related hardware damaged, lost or destroyed during the salvage operations. Wire all loose parts to adjacent members or pack them in study boxes with the contents clearly marked.

Stockpile salvaged material to a designated area on the project.

1.2.3. Removing material. Saw cut curbs and pavements when partial removal is required. Except in excavation areas, back-fill and compact cavities left by removal of structures with back-fill material in horizontal layers not exceeding 20 cm in depth. Extend each layer to the limits of the excavation or to natural ground. Compact back-fill with small approved mechanical or vibrator compactors.

1.2.4. Disposing of material. Dispose of material not designated for salvage as follows:

- **Removal from the project.** Make necessary arrangements with property owners and haul debris to suitable disposal locations. Furnish a signed copy of the disposal agreement to the Engineer.

1.2.5. Acceptance. Removal of guardrails, cutting and grubbing of trees will be accepted under the section 0.1.2., provided that it will be carried out in conformity with design, specifications and approved by the Engineer.

Measurement

1.2.6. All works that should be done (see Volume of works and corresponding drawings, Section Drawings) will be measured per unit of measurement for the pay items.

Payment

1.2.7. The accepted quantities, measured as provided above, will be paid at the contract price per unit of measurement for the pay items listed below that are shown in the Bill of quantities. Payment will be full compensation for the work prescribed in this Section.

2. Roadway

Section 2.1. Earth works

Description

2.1.1.

This type of works include all works on road sub-grading, excavation, embankments (soil replacement, layer by layer placing and soil compaction, road-bed layout and slope grading) in accordance to designed profiles

Definition

2.1.2.

(a) Excavation. Excavation consists of the following:

(1) Roadway excavation. All material excavated from within the right-of-way or easement areas, except subexcavation specified below in (2). Roadway excavation included all material encountered regardless of its nature or characteristics.

(2) Unsuitable material excavations. Unsuitable material excavated from below subgrade elevation or from below the natural ground in embankment sections. Excavation does not include conserving the top soil.

(3) Borrow excavation. Material used for embankment construction that is obtained from outside the right of way limits of the project road. Borrow excavation includes unclassified borrow, select borrow, and select topping.

(b) Embankment construction shall be done following the requirements of SNiP 2.05.02-85.

(c) Embankment material.

There is no limitation in using of soils and slag that change their strength and stability only slightly under the influence of weather and climate. Where rock-fill is being used, a leveling course of not less than 0.5 m in thickness shall be provided on the fill between embankment and road pavement, The material for this layer should be of uniform grain size not exceeding 0.2 m in size. When the soil embankment is designed, if the moisture content of the material exceeds the permissible limit, arrangements to provide the required stability of subgrade shall be foreseen in accordance with Clause 6.31 of SNiP 2.05.02-85.

Permissible soil moisture content during the compaction

Soil type	Permissible moisture content W_{opt} in percentage of optimal moisture content under the required degree of compaction m_b			
	1.0	1.0-0.98	0.96	0.90
Clayey sand; light, coarse-grained loamy sand	1.3	1.35	1.6	1.6
Light and clayey loamy sand	1.20	1.25	1.35	1.6
Heavy clayey loamy sand and light clayey loam	1.10	1.15	1.30	1.50
Heavy loam and heavy clayey loam, clay	1.0	1.05	1.20	1.30

The upper layer of subgrade (operational layer) shall consist of non-swelling and non-subsidence soil

(SNiP 2.05.02.-82 Attachment tables 4, 5)

Soil variety (under 0.5 Wo moisture content)	Relative deformation of swelling, thickness % of moistening layer)	Soil variety	Coefficient of subsidence	Relative deformation of subsidence, thickness % of wetting layer
non-swelling	less than 2	Non- subsidence	aver.moist. 0.92	Less than 2

(d) Conserved topsoil. Excavated material conserved from the excavation and embankment foundation areas that is suitable for growth of grass or other cover plants. A material reasonable free from hard soil, rock, clay, toxic substances, litter, or other deleterious material shall be used according to SNiP 3.06.03-85 and SNiP 2.06.02-85.

Material

2.1.3. Material shall conform to the construction Norms and Rules active in Georgia

Construction Requirements

2.1.4. Preparation for Roadway Excavation and Embankment Construction.

Clear the area of vegetation and obstructions according to section 'Site Clearance' and 'Clearing and Re-grading of Existing Ditches'

Conservation of Topsoil. Conserve topsoil from roadway excavation and embankment foundation areas. Stockpile conserved topsoil in wind rows immediately beyond the rounding limits of cut and embankment slopes or in other approved locations. Separate topsoil from other excavated material.

Roadway Excavation. Excavate according to SNiP 3.06.03-85. The preparation of subgrade for earthworks shall be done in accordance with 4.6-4.12 of SNiP 3.06.03-85, and excavation and embankment works in accordance with 4.13-4.25 and 4.51-4.56 of SNiP 3.06.03-85. The compaction degree of subgrade, defined by compaction ratio, shall meet the requirements of SNiP 2.05.02-82 table 22.

Material Replacement. Excavate unsuitable material to the limits designated by the Project Manager. Prevent unsuitable material from becoming mixed with the backfill. Dispose of unsuitable material as approved by the Project Manager. Backfill the subexcavation with topping, or other suitable material. Compact the material according to Subsection 'Compaction' below.

Borrow Excavation. Do not use borrow excavation until all suitable roadway excavation is used. Use select borrow and select topping as shown on the plans. All excess borrow excavation will be deducted from the appropriate borrow excavation quantity.

Obtain borrow source approval according to Subsection 'Local Material Sources'. Develop and restore Government located and provided borrow sources as approved by the Project Manager. Do not excavate beyond the established limits. When applicable, shape the borrow source to permit accurate measurements when excavation is complete. The borrow pit shall be landscaped after the excavation

2.1.5. Embankment Construction. Construct embankment conforming to the requirement of SNiP 3.06.03-85.

2.1.6. Compaction.

Compact as follows:

(a) Rock embankment. Adjust the moisture content of the material to a moisture content suitable for compaction. Compact each layer of material to the full width with:

- (1) Two passes of 20 - 25 t compression-type roller, or
- (2) Two passes of a vibratory roller having a minimum dynamic force of 18 t impact per vibration and a minimum frequency of 1,000 vibrations per minute, or
- (3) Eight passes of 9 t compression-type roller or
- (4) Eight passes of a vibratory roller having a minimum dynamic force of 13.6 t impact per vibration and a minimum frequency of 1,000 vibrations per minute.

Proportion the compactive effort for layers deeper than 300 mm as follows:

For each additional 150 mm or fraction thereof, increase the number of roller passes in (1) and (2) above by two.

For two additional 150 mm or fraction thereof, increase the number of roller passes in (3) and (4) above, by four.

Operate compression-type rollers at speeds less than 6 km/h and vibratory rollers at less than 2.5 km/h.

(b) Earth embankment. Adjust the moisture content of the material to within 2 per cent of the optimum moisture content. Determine the optimum moisture content according to AASHTO T 180-93 use Method C or Method D as appropriate (GOST 22733-77 is also acceptable).

Compact material placed in all embankment layers and the material scarified to a uniform density of not less than 95 per cent of the maximum density. Determine the maximum density according to AASHTO T 180-93. When more than 50 per cent of the material passes the No. 4 (4.75 mm) sieve, use Method C. Use Method D for earth with 50 per cent or more retained on the No. 4 (4.75 mm) sieve. The maximum density may be determined in conformity with GOST 22733-77, if approved by the Project Manager.

Determine the in-situ density and moisture content using AASHTO T 205-86 or other approved test procedures. When required, use AASHTO T 224-86 to correct for coarse particles. The density and moisture content may be determined in conformity with GOST 5180-84 and using Kovalev device if approved by the Project Manager.

2.1.7. Ditches. Slope, grade, and shape ditches. Remove all projecting roots, stumps, rock, or similar matter. Maintain all ditches in an open condition and free from leaves, sticks and other debris.

Form furrow ditches by plowing or using other acceptable methods to produce a continuous furrow. Place all excavated material on the downhill side so that the ditch is approximately 500 mm below the crest of the loose material. Clean the ditch using a hand shovel, ditcher, or other suitable method. Shape to provide drainage without overflow

Acceptance. The work will be accepted providing that it has been done according items 2.1.2 -2.1.6 and to plans and specification and is accepted by the Project Manager.

Measurement

2.1.8. All works that should be done (see Volume of works and corresponding drawings, Section Drawings) will be measured per unit of measurement for the pay items.

Payment

2.1.9. The accepted quantities, measured as provided above, will be paid at the contract price per unit of measurement for the pay items listed below that are shown in the Bill of quantities. Payment will be full compensation for the work prescribed in this Section.

3. Structures

Section 3.1. Culverts

Description

3.1.1. This work consists of repair of culvert.

Material

3.1.2. General. Culverts and materials used for works of the present section shall meet requirements of active standards, Album of typical constructions and following requirements

Aggregate (gravel or crushed stones, sand) shall conform to active standards in Georgia and shall consist of hard durable particles of crushed stone, crushed slag or crushed gravel and shall be subject to the following tests: Sieve analysis, Strength, Wearing and amount of fines.

Materials shall conform to the requirements of sections 3.2.6

3.1.3. Joint fill. Apply joint fill of the type and mix design accepted by the Engineer.

3.1.4. Culverts. Box and pipe culvert shall conform with active standards and specifications in Georgia. The length of culvert shall be as stipulated as in the design.

Construction Requirements

3.1.5. General. Use the same material on all continuous culverts sections and extensions. Use special sections, such as elbows and branch connections, that are the same material and coating as the attached pipe. Culvert material, sizes, and approximate locations are shown on the plans.

3.1.6. Extension of the existing culverts. Extension of the existing culverts shall be started from removing the existing culvert heads. Start at the lower end and lay the bell or groove end upgrade. Fully joint all sections. Structures and materials should be moved to special areas and disposed or buried. Extension of the existing culverts shall be done according to the project drawings. Placing materials and structures shall be done only after the Engineer's approval.

3.1.7. Replacement of existing culverts. Before replacing existing culverts scarify the existing pavement and remove pavement and sub-grade and pile in special areas.

The Contractor shall prepare provisional schemes of traffic control during the construction periods and get approval from the relevant authorities and the Engineer.

Demounted culverts and culvert heads should be disposed of by the Contractor. The work consists of excavation and placing crushed stone bed foundation, installation of culverts, making culvert joints, waterproof new culvert, inlet installation and waterproofed, backfilling and soil compaction, concrete inlet and outlet at culvert heads.

The soil for back filling shall meet requirements of the active standard specifications in Georgia. Laying and compaction of the pavement conform to Section 4.1. and active standard requirements.

3.1.8 Construction of new culvert. Construction of new culvert shall be done according to Sections 3.2.7, except for existing culvert removing.

3.1.9 Acceptance. The work of existing culverts extension, replacement and new culvert construction will be accepted according to subsections 0.2.3 and 0.2.4 providing it has been done according to the plans, specifications and accepted by the Engineer.

Measurement

3.1.10 All works that should be done (see Volume of works and corresponding drawings, Section Drawings) will be measured per unit of measurement for the pay items.

Payment

3.1.11. The accepted quantities, measured as provided above, will be paid at the contract price per unit of measurement for the pay items listed below that are shown in the Bill of quantities. Payment will be full compensation for the work prescribed in this Section.

Section 3.2. Bridge Repair

Description

3.2.1. This work consists of repair works of bridge elements.

Material

3.2.2. Material shall conform to the requirements of the standards and specifications active in Georgia.

Construction Requirements

3.2.3. General. Fabricating, transportation and mounting shall meet the requirements of the standards and specifications active in Georgia.

Carriageway construction works shall be done in accordance with the requirements of of the standards and specifications active in Georgia. and typical design.

Repair of expansion joints in accordance with the requirements of the standards and specifications active in Georgia.

3.2.4. Precast blocks. This work includes the fabricating the blocks and hauling to the project site. Prior to the placing of sidewalk blocks shall be constructed the concrete protective layer.

3.2.5. Parapets. Shall be done by sections, which shall be welded to the embedded elements of the sidewalk blocks.

3.2.6. Painting. After installation of barrier blocks and parapets they shall be painted.

3.2.7. Acceptance. The works will be accepted according to subsections 3.3.2.-3.3.3. Providing it has been done according to the plans, specifications and accepted by the Engineer.

Measurement

3.2.8. All works that should be done (see Volume of works and corresponding drawings, Section Drawings) will be measured per unit of measurement for the pay items.

Payment

3.2.9.The accepted quantities, measured as provided above, will be paid at the contract price per unit of measurement for the pay items listed below that are shown in the bill of quantities. Payment will be full compensation for the work prescribed in this Section.

2.1 CONCRETE WORKS

Description

2.1.1.This work includes technology of concrete works.

Material

2.1.2. Aggregate (gravel or crushed stones, sand) shall conform to building rules and norms and standards active in Georgia and shall consist of hard durable particles of crushed stone, crushed slag or crushed gravel and shall be subject to the following tests: Sieve analysis, Strength, Wearing and amount of fines.

In the following are additions to some of the standards. The additions precede what is written above:

- Concrete shall be composed of Portland cement, fine aggregate, coarse aggregate, water and admixtures as specified, all well mixed and brought to the proper consistency.
- Storage of aggregates: After washing, fine aggregate shall be stored in stockpiles with a free draining base for at least 72 hours and shall be subsequently handled to ensure that sand delivered to the batching plant has a uniform and stable moisture content.
- Storage of Cement: Cement that has not been used within three (3) months from the date of initial sampling shall not be used in the Works unless it has been retested and is shown to conform to the specified requirements.

The following requirements shall apply to the storage and handling of cement at the Site or at any intermediate transfer or storage point:

- All methods for transporting, handling and storing bulk and bagged cement shall be designed beforehand.
- All storage bins and silos shall be drawn down (so as to be substantially empty) at least once every three (3) months.
- All bagged cement shall be stored at all times, up to its use in the Works, in completely weatherproof structures, which shall include a raised floor and be adequately ventilated to prevent the accumulation of moisture. Cement of different types shall be stored separately.
- Do not use cement that: **a)** has become partially set **b)** contains lumps or caked cement **c)** is salvaged from discarded or previously opened bags.

Addition of water to overcome stiffening of the concrete before placing will not be permitted.

Aggregate shall not be batched for concrete or mortar when free water is dripping from the aggregate.

Cement shall be sampled at the source and tested by the manufacturer and certified as conforming to the requirements of this Specification before being dispatched from the factory

of the cement manufacturer. All costs associated with the sampling and testing shall be included in the rates for furnishing and handling cement.

The concrete mixture

The maximum ballast size shall be 32 mm. No aggregates that can cause alkali reactions can be used. The grading scale of the aggregates can be as follows:

- 38 % 0 mm – 4 mm sand (i.e washed quarts)
- 60 % 5 mm - 32 mm (i.e basalt or granite).

All the components and aggregates used in the concrete mix must be laboratory tested according to GOST standards. Moreover, the contractor must specify:

- Place of origin of components and aggregates
- Petrography analysis and chemical composition of all components, including water
- Quality and compressive strength of the aggregates
- Water absorption capabilities of all fractions used (<1 % weight percent)

All reinforced concrete tests, certifications, verifications and documents required by GOST for bridge construction must be complied with.

Requirements for the composite parts of concrete

The composite parts of the structural concrete mass, including filler, sand, rock, additives or plastifiers must have known documented origin and documented properties. The composite parts may not contain any items that can endanger or diminish the structural concrete's or reinforcement's properties and function.

The chloride content of the composite materials must be so low that the total free chloride content (Cl⁻) of the structural concrete not exceeds 0,1% of the binder weight. An independent laboratory must test this criterion.

Cement

The cement must be Standard Portland 400 and comply with the GOST standards and quality requirements.

The chemical composition of the Portland cement 400 must convey to GOST standard. However, the cement type used must be low alkali and high sulphate resistance, LA/SR. The upper C₃A limit must be 5%. The requirements of the Tables 1 and 2 must be fulfilled, too

Table1: Maximum values for certain chemical components in the cement.

Chemical composition	Weight percentage
Cl	0,1
Gravimetric SO ₃ ,	4,0
Inorganic correction materials	5,0
MgO	5,0

Table 2: Complying values for certain properties of the cement.

Cement qualities		
Cementation	3 hours	8 hours
Heat development	Maximum 210 J/g days 1-3	Maximum 250 J/g days 1-7

Compressive strength	Minimum 16 MPa day 7	Minimum 29 MPa day 28
Bend / Shear	Minimum 3 MPa day 7	Minimum 5 MPa day 28

Mineral additives

If mineral additives are used in the concrete, the Contractor must present a special report containing the physical properties of the mineral additives and their chemical composition together with their variation. This report must include:

- Specific Area
- Combined Aggregate Grading
- Production Certificate

Fly ash is not permitted as mineral additive. Other mineral additives will only be allowed in factory-produced concrete. In-situ use of mineral additives is only permitted after the written permission of the Project Manager. Before the use in the structural concrete, the mineral additives have to be tested and analysed and the results presented to the Project Manager. The test results may not exceed the values shown in Table 3.

Table 3: The maximum content values for some products accepted in mineral additives. (Values expressed in weight percentage of dry material).

	Silica	Slag
Cl	0,2	0,1
SO ₃ ,	4,0	4,0
CaO	2,0	
MgO	5,0	
Equivalent alkali content (Calculated as Na ₂ O + 0,66K ₂ O)	0,6	0,6
Glow, loss	5,0	

Concrete casting

The Contractor shall make a work plan for the concrete casting. When necessary, the work plan shall be revised before each casting. Work Plan shall include at least the following items:

- General description of structures
- Special requirements for concrete, e.g. frost resistance
- Requirements for work conditions, e.g. readiness for hot weather conditions
- Available equipment
- Management of works and personnel
- Preparations for concrete casting
- Arrangements to avoid cracks formation
- Mixing
- Casting
- Vibration
- Construction joints
- Temperature measurements during concrete hardening
- Strength measurements
- Repair and finishing

The Contractor shall, where necessary, employ effective means such as pre-cooling the aggregates, refrigerating the mixing water, adding chipped or flaked ice into the mixing water, placing at night or a combination of these, to ensure that the concrete does not exceed the temperature of 35° C or is less than 5° C during curing.

Under no circumstances will concrete be accepted if the temperature of the concrete, as deposited into the formwork, is not within these limits.

The Contractor shall provide for the cooling of mixing water and for the efficient insulation of any storage tanks and pipelines for mixing water.

Aggregate bins, batching and mixing equipment shall be painted white and protected from sunshine as far as practicable.

Appropriate measures shall be taken with respect to transporting and placing the concrete to control the temperature of concrete. Pipelines for conveying concrete shall be shaded and insulated or painted white; the elapsed time from mixing to placing shall be minimised. Concrete shall be placed promptly when delivered and finishing operations shall not be delayed. Concrete surfaces shall be protected from wind and sun, if directed by the Project Manager, during placing, finishing or curing operations.

Immediately before placing concrete, all surfaces upon or against which the concrete is to be placed shall be free from standing water, mud, debris, oil, objectionable coatings and loose, semi-detached fragments. Where directed by the Project Manager, the surfaces shall be cleaned with water jet.

The surfaces of construction joints shall be clean when covered with fresh concrete or mortar. Cleaning shall consist of the removal of all laitance, loose or defective concrete, coatings, sand, curing compound if used, and other foreign material to the satisfaction of the Project Manager.

Construction joints shall be wet usually for 12-14 hours before casting, so that moisture will not be drawn from the freshly placed concrete. Wooden forms shall be wet few days before casting and tightened just before casting.

The Contractor shall place all concrete in structures as shown on the Drawings, or as directed by the Project Manager, in accordance with this Specification, or as approved by the Project Manager. Concrete shall be deposited continuously and at a rate, which will give the prescribed rise of the fresh concrete in the formwork, while a block of concrete is being completed

At every place where concreting is in progress, one of the Contractor's supervisors, well experienced in concrete works, shall be present and responsible for the work. All concreting shall be carried out by skilled workmen under the supervision of a foreman with sound technical knowledge and experience. During concreting, a sufficient number of workmen shall be present to handle the concrete and an adequate number of steel fixers and carpenters shall keep the steel reinforcement and form work under surveillance.

If and when concreting is carried out in the dark, ample lighting shall be provided at the mixing station and at every place where concrete is being deposited.

The concrete shall be handled and placed in such a manner that it will have an approximately horizontal, plastic surface throughout the casting. The rise of concrete in the formwork shall not be less than 100 mm per hour. The maximum permitted rise of concrete in formwork shall not exceed 750 mm per hour, unless otherwise approved by the Project Manager.

When casting the concrete, it must be vibrated so that homogenous construction is obtained. Concrete shall be vibrated in layers 250...300 mm in thickness. At the same time previously

placed layer shall be vibrated. Vertical structures shall be vibrated with vibrators with $D=25\text{...}48$ mm. Vibrator should be kept as vertical as possible. Vibrating time is at least 10 minutes per cubic meter. The Project Manager shall approve vibrators.

Concrete shall be protected against damage from sunshine and rainfall. Concrete may not be placed in water, unless specifically indicated on the Drawings or approved by the Project Manager. The Contractor shall deal with all water encountered during concreting operations in such a manner that the water is prevented from flowing over or exerting pressure against the concrete, until such time after depositing as approved by the Project Manager.

While the concrete is at an early age, the surface of the joint shall be prepared for the subsequent deposition of fresh concrete by the application of high velocity water jet with a pressure of at least 3 atmospheres at the nozzle. The jet shall be applied so that laitance and foreign matters are removed and the clean aggregate exposed, but not so that the edges of the larger particles of the aggregate are undercut.

The Contractor shall inform the Project Manager when concrete will be placed.

Sprinkling of the surfaces with dry cement or any other material during finishing operations for drying off the concrete, to facilitate towelling or for any other purpose will not be permitted.

Curing, protection and finishing the surfaces

At least fourteen (14) days before placing concrete in any structure to be water cured, the Contractor shall submit to the Project Manager details of the equipment and methods he proposes to use for water curing. Water used for curing shall meet the requirements of this Specification for water used in concrete, but with the additional requirement that the water shall not contain any chemicals or other substances that will cause staining of concrete surfaces.

Concrete cured with water shall be kept continuously wet for at least fourteen (14) days immediately following placement of the concrete, or until covered with fresh concrete.

In case of sunshine or windy weather concrete shall be covered with plastic sheeting. Immediately after curing period surfaces will be checked for cracks. Maximum acceptable width of crack is 0.2 mm. In parapets and sidewalk areas cracks 0.1 mm or more in width shall be injected or grouted.

2.1.3. Testing and Quality control

a) Sampling

For each class of concrete in production at each plant for use in the Works, samples of concrete shall be taken at the point of mixing or of deposition as instructed by the Engineer, all in accordance with the sampling procedures described in BS 1881 and with the further requirements set out below.

Six 150 mm or 200 mm cubes as appropriate shall be made from each sample and shall be cured and tested all in accordance with BS 1881, three at seven days and the other three at 28days.

Each sample shall be taken from one batch selected at random and at intervals such that each sample represents not more than 20m^3 of concrete unless the Engineer agrees to sampling at less frequent intervals.

Until compliance with the Specification has been established the frequency of sampling shall be three times that stated above or such lower frequency as may be instructed by the Engineer.

(b) Testing

(i) The slump or compacting factor of the concrete shall be determined for each batch from which samples are taken and in addition for the other batches at the frequency instructed by the Engineer.

The slump of the concrete in any batch shall not differ from the value established by the trial mixes by more than 25 mm or one third of the value, whichever is the greater.

The variation in value of the compacting factor, if used in place of a slump value, shall be within the following limits:

For value of 0.9 or more	±	0.03
For value of between 0.8 and 0.9	±	0.04
For values of 0.8 or less	±	0.05

(ii) The water/cement ratio as estimated from the results of (i) above, determined by samples from any batch shall not vary by more than five per cent from the value established during the trial mixes.

(iii) The air content of air entrained concrete in any batch shall be within 1.5 units of the required value and the average value of four consecutive measurements shall be within 1.0 unit of the required value, expressed as a percentage of the volume of freshly mixed concrete.

(iv) Until such time as sufficient test results are available to apply the method of control described in (v) below, the compressive strength of the concrete at 28 days shall be such that no single result is less than the value shown in Table 6104/1 under the heading "Early Works Test Cubes" and also that the average value of any four consecutive results is not less than the value shown in Table 6104/1 under the same heading.

(v) For any class of concrete mixed in any one plant, the average of any three consecutive results at 28 days shall exceed the nominal strength by not less than half the Current Margin (see below) and each individual result shall not be less than 90 per cent of the Trial Mixes Target Mean Strength.

The Current Margin shall be defined as 1.64 times the standard deviation of cube tests on at least 20 separate consecutive batches produced from one plant over a period exceeding five days but not exceeding six months or on at least 50 separate consecutive batches produced from one plant over a period not exceeding 12 months. If both figures are available, the smaller shall be taken.

The current margin shall in any case not be less than the figure given below:

Minimum Current Margin for			
	10N/mm ²	15N/mm ²	20N/mm ² and above
After 20 batches	3.3	5	7.5
After 50 batches	1.7	2.5	3.8

(vi) Failure to comply with requirements

If any one test cube result in a group of four consecutive results is less than 85 per cent of the nominal strength but the average of the group of which it is part satisfies the strength requirement, then only the batch from which the failed cube was taken shall be deemed not to comply with the Specification.

If more than one cube result in a group of four consecutive results is less than 85 per cent of the nominal strength or if the average strength of the group fails to satisfy the strength requirement then all the batches between those represented by the first and last cubes in the group shall be deemed not to comply with the Specification, and the Contractor shall immediately adjust the mix design subject to the agreement of the Engineer to restore compliance with the Specification. After adjustment of the mix design the Contractor will again be required to comply with Clauses 6105 and 6106 of this Section of this Specification.

The Contractor shall take necessary action to remedy concrete which does not comply with this Specification. Such action may include but is not necessarily confined to the following:-

- Increasing the frequency of sampling until control is again established.
- Cutting test cores from the concrete and testing in accordance with BS 1881.
- Carrying out strengthening or other remedial work to the concrete where possible or appropriate.
- Carrying out non-destructive testing such as load tests on beams.
- Removing the concrete.

2.1.4. Acceptance. The work will be accepted for payment providing that it has been built in conformance to the plans and specifications pertaining to the Section involved and is approved by the Engineer.

Measurement

2.1.5. All works that should be done (see Volume of works and corresponding drawings, Section Drawings) will be measured per unit of measurement for the pay items.

Payment

2.1.6. The accepted quantities, measured as provided above, will be paid at the contract price per unit of measurement for the pay items listed below that are shown in the Bill of quantities. Payment will be full compensation for the work prescribed in this Section.

2.2. Reinforcement

Description

2.2.1. This work includes reinforcement of concrete structures

Material

2.2.2. Reinforcement bars shall meet requirements of Building rules and standards active in Georgia. All material and equipment shall be approved by the Engineer. Contractor shall submit the detailed specifications of material minimum two weeks earlier before planned acceptance date.

Construction Requirements

2.2.3. General requirements. Steel inlay works shall meet requirements of building rules and norms and standards active in Georgia and design documents.

Storing and secure. Haul and store steel bars safely. Avoid the contact of steel bars with aggressive water and soil. In case of pollution by chlorides or other chemical substances clean bars with water, wire brush or sand blasting.

Steel inlays working drawings. Contractor shall develop the working plan for providing rigidity and durability of bars and submit prior to commencement of reinforcing works for approval to the Engineer one week earlier. The plan shall include as well reinforcing bar cells and bars description.

Installation of steel bars. Principal reinforcement shall be inserted with deviation ± 10 mm from design dimensions, the other bars with ± 20 mm. Prior to insertion into the forms the bars shall be free of rust, oil and other substances. Reinforcing bars shall be inserted and tied in such a way that they remain in their required position and stay immovable during the works. The height of support elements shall be higher by 2-4 mm against the surface of forms. During the concrete placing works it should remain immovable. Tie the bars with galvanized or non-corrosive wire. There shall be no contact between exposed steel elements inserted in reinforcement and concrete.

Placing of concrete. Concrete placing works shall be started after the reinforcement works inspection and written approval by the Engineer. The testing results shall be submitted to the Engineer 24 hours earlier prior to commencement of concrete works.

2.2.4. Acceptance. The work will be accepted for payment providing that it has been build in conformance to the plans and specifications pertaining to the Section involved and is approved by the Engineer.

Payment

2.2.5. The accepted quantities, measured as provided above, will be paid at the contract price per unit of measurement for the pay items listed below that are shown in the Bill of quantities. Payment will be full compensation for the work prescribed in this Section.

Section 3.3. Gabion Retaining walls

3.3.1 Description

The works consists of provision of provision and installation of gabion retaining walls, including preparation of surface, assembling, filling, compaction and bracing and wiring lids.

3.3.2 Materials

Gabions shall be type 'Maccaferri' boxes and/or 'Reno' mattresses, or similar, both with diaphragms at 1 metre centres, or similar approved. The maximum mesh size shall be 100 mm x 120 mm for boxes and 60 mm x 80 mm for mattresses. The wire used for the construction of gabions shall be either of appropriate hard plastic material or plastic coated and unless otherwise instructed by the Project Manager and comply with the requirements shown below

Wire for Gabion Construction

3.3.3 Construction Requirements

The alignment of the gabion shall be correct within a tolerance of 100 mm of the instructed alignment and the level of any course of gabion shall be correct to within a tolerance of 50 mm of the instructed level. In addition adjacent gabions shall not vary by more than 25 mm in line and/or level from each other.

The pre-packed elements of gabions shall be of dimension and arranged as shown on the standard drawings.

The surface upon which gabions are to be laid shall be compacted to a minimum dry density of 90 % MDD (AASHTO T180) and trimmed to the instructed level or shape.

Joints in gabions shall be stitched together with 600 mm minimum lengths of binder wire, with at least one stitch per 50 mm, and each end of the wire shall be fixed with at least two turns upon itself.

Adjacent gabions shall be stitched together with binder wire along all touching edges.

Gabion boxes shall be laid with broken bond and throughout to avoid continuous joints both horizontally and vertically.

All wire shall be to BS 1052 having a tensile strength of not less than 40 kg/mm² and plastic coated or appropriate plastic material produced by a reputable manufacturer, subject to the approval of the Project Manager. Galvanising shall comply with the requirements of BS 443.

Gabions shall be constructed to the shapes and dimensions as shown on the Drawings or given in the Special Specification or as directed by the Project Manager. Gabions, as constructed shall be within a tolerance of $\pm 5\%$ on the height or width instructed and $\pm 3\%$ on the length instructed.

Gabions shall be hand-packed with broken rock of 150 mm minimum dimensions and 300 mm maximum dimension. The sides shall be packed first in the form of a wall, using the largest pieces, with the majority placed as headers with broken joints to present a neat outside face. The interior of the gabion shall be hand packed with smaller pieces and the top layers shall be finished off with larger pieces. The whole interior and top layers shall be packed tight and hammered into place.

Where shown on the drawings or where instructed by the Project Manager the Contractor shall place filter fabric ('Terram' or similar approved) behind gabion faces or below mattresses in contact with existing or backfilled ground. The Contractor shall ensure that the filter fabric is not damaged during the construction or backfilling around the gabion works and any damaged or torn fabric shall be replaced.

At the back face and ends of completed gabion work or where shown on the Drawings or instructed by the Project Manager the existing soil shall be backfilled, thoroughly compacted against the sides of the gabions and finished flush with the top surface of the gabion.

3.3.4 Measurement

The measurement of gabion walling and mattresses shall be the volume contained within the outline of the gabions or mattresses as stated in the Contract

3.3.5. Payment

The accepted quantities, measured as provided above, will be paid at the contract price per unit of measurement for the pay items listed below that are shown in the Bill of quantities. Payment will be full compensation for the work prescribed in this Section.

4. Road Pavement

Section 4.1. Hot Asphalt Concrete Pavement

Description

4.1.1. Asphalt concrete pavement works consist of base preparation for pavement, paving and of a/c mix compaction.

This type of work consists of construction of asphalt concrete pavement of one layer. For the layer shall be used hot fine graded dense crushed stone asphalt concrete mix- type B, grade II. The granular content for the mineral filler should correspond to requirements of Standards active in Georgia.

Requirements for construction materials

4.1.2. Materials

a) Bituminous Binders

The various bituminous binders specified shall comply with the relevant Specifications stated below:

Penetration grade bitumens	BS 3690:Part 1 or Part 2 (mixtures of bituminal Trinidad Lake Asphalt)
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The type and grade of bituminous binder to be used shall be 80/100 grade.

(b) Aggregates

Coarse and fine aggregates shall be clean and free from decomposed materials, vegetable matter and other deleterious substances and shall meet the following requirements:

(i) Aggregates

Coarse aggregates shall be crushed rock or slag.

The use of aggregate obtained from crushing dolomite, felsite and norite shall not be permitted for use in continuously graded surfacing unless otherwise approved by the Engineer.

(ii) Resistance to Crushing

The aggregate crushing value (ACV) of the coarse aggregate when determined in accordance with BS 812: Part 3 shall not exceed 25.

(iii) Resistance to Abrasion

The Los Angeles Abrasion Value (LAA) of the coarse aggregate when determined in accordance with AASHTO T96 shall not exceed 30.

(iv) Shape of the Aggregate

The flakiness index of each coarse aggregate size shall not exceed the following values;

>28mm	35
20mm & 14mm	25

(v) Polishing

The polished stone value of aggregate, when determined in accordance with BS 812, shall not be less than 50.

Aggregates with polished stone values below that stated above may be approved for use by the Engineer.

(vi) Absorption

The water absorption when determined in accordance with BS 812 shall not be more than 2%.

(vii) Sand

The blended aggregate used in all asphalt mixes shall have a sand equivalent of at least 40%.

(viii) Design Requirements

The Contractor shall, by conducting the necessary tests, satisfy himself that he will be able to produce a mixture meeting the design requirements specified hereinafter, using the aggregates he proposes to supply within the grading limits specified.

(ix) Grading

The grading of the combined aggregate including any mineral filler added in an approved working mix as described in sub-clause 4.1.2(c) shall be within the limits stated below for the various mixes. The approved grading shall be designated as the target grading and thereafter the composition of the working mix shall be maintained within the limits described in Subclause 4.1.3(a).

TABLE 1

COMBINED AGGREGATE GRADING LIMITS FOR CONTINUOUSLY GRADED ASPHALT SURFACING MIXES

BS Sieve Size mm	Percentage Passing by Mass			
	Bituminous Wearing Course			Bituminous Binder Course
	Coarse (a)	Medium (b)	Fine (c)	
28.0				100.0
20.0	100			92-100
14.0	84-100	100		71-88
10.0	70-92	82-100	100	58-79
5.0	50-70	54-75	64-88	40-61
1.18	26-41	27-42	35-54	18-37
0.6	18-32	18-32	18-32	13-28
0.3	12-23	11-23	11-23	9-20
0.15	7-16	7-16	7-16	6-14
0.075	4-10	4-10	4-8	4-8

(c) Material Fillers

If the grading of the combined aggregate for asphalt surfacing mixes shows a deficiency in fines, an approved mineral filler may be used to improve the grading. Mineral filler may consist of "active" mineral filler as defined hereinafter or of inert material such as rock dust having the required grading necessary to improve the grading of the combined aggregates. In no instance shall more than 2% by mass of active mineral filler be used in asphalt mixes. Inert fillers such as rock dust used to improve grading shall not be subject to this limitation.

(d) Pre-Coated Chippings

Coated chippings shall be 20mm or 14mm nominal size and

- (i) they shall be in accordance with BS 594 : Part 1.
- (ii) the minimum polished stone value (PSV) shall be 50. The maximum aggregate abrasion value (AAV) shall not exceed 10.
- (iii) the polished stone value shall be determined in accordance with BS 812. The aggregate shall be deemed to comply if the mean of the last three months, carried out within the last 6 months, is greater than the specified figure.

(e) General

All materials shall be handled and stockpiled in a manner that will prevent contamination, segregation or damage. Cement and lime shall be used in the order in which it has been received.

The Contractor shall, as often as necessary, test and control the materials received by him from suppliers to ensure that the materials always comply with the specified requirements.

4.1.3. COMPOSITION OF ASPHALT SURFACING

The rates of application and mix proportions of bituminous binder, aggregates and fillers which are given hereinafter, are nominal rates and proportions and shall only be used for tendering purposes. The rates and proportions actually used shall be determined to suit the materials used and conditions prevailing during construction and any approved variation on a nominal mix in the bitumen content or active filler content shall be the subject of an adjustment in payment for binder or active filler variations.

The Contractor shall, at least two months before production or delivery of the materials, submit to the Engineer samples of the aggregates, filler materials and bituminous binders he proposed to use in the mix together with his proposed mix design, so that the Engineer may test the materials and confirm the use of the proposed mix if he is satisfied that it meets the specified requirements.

The Contractor shall, upon the materials becoming available, produce a working plant mix in accordance with the design mix, which working mix must again be tested by him for compliance with the design requirements. Samples of the working mix shall also be made available to the Engineer, who shall authorise the use of the working mix proportions finally approved for use.

The composition of the approved working mix shall be maintained within the tolerances given in Subclause 4.1.14 (a) and (b).

The nominal mix proportions (by total mass of mixture) and test requirements for mix design shall be as follows:

- | | | |
|-------|--|---------------|
| (i) | Aggregate Coarse Grade
(Table 1(a)) | 94.0% - 92.5% |
| | Bitumen | 5.0% - 6.5% |
| | Active mineral filler | 1.0% - 1.0% |
| (ii) | Aggregate Medium and Fine Grade
(Table 1 (b) and (c)) | 93.5% - 92.5% |
| | Bitumen | 5.5% - 6.5% |
| | Active Mineral filler | 1.0% - 1.0% |
| (iii) | Aggregate Bituminous | 94.0% - 93.0% |
| | Bitumen | 5.0% - 6.0% |
| | Active Mineral filler | 1.0% - 1.0% |
| (iv) | Test Requirements | |

TABLE 2

Property	Wearing Course		Bituminous Binder Course	
	Maximum	Minimum	Maximum	Minimum
Marshall stability (kN at 60 °C) (75 blows on each end of specimen)		> 9.0		> 8.0
Marshall Flow mm	4.0	2.0	5.0	2.0
Voids in mix %	5.0	3.0	5.0	3.0
Voids filled with asphalt (VFA)	75	65	75	60

4.1.4. EQUIPMENT

- (a) General

All equipment shall be so designed and operated as to produce a mixture complying with requirements of this Specification. The equipment used shall be of adequate rated capacity, in good working order and subject to the approval of the Engineer. Obsolete or worn-out equipment will not be allowed on site.

- (b) Mixing Plant

Asphalt shall be mixed by means of an approved type mixer of proven suitability for producing a mixture complying with all the requirements of the Specifications.

The mixing plant may be either automatically or manually controlled but in the latter case, two control operators shall be provided.

Tanks for storage of binder shall be capable of heating the material under effective and positive control at all times to the temperature requirements specified. The heating system must be so designed that the binder will not be degraded during heating. A circulation system for the

binder shall be provided and shall be of adequate size to ensure the proper and continuous circulation between storage tanks and mixer during the entire operating period.

Satisfactory means shall be provided to obtain the proper amount of binder in the mix within the tolerances specified, either by weighing or volumetric measurements. Suitable means shall be provided for maintaining the specified temperatures of the binder in the pipelines, weigh buckets, spray bars and other containers or flowlines.

The type of oil used in the burner to dry the aggregates will be subject to the approval of the Engineer. The burner must be operated correctly so as to ensure full combustion of the fuel and no contamination of the aggregates.

(c) Paver

The mixture shall be laid by an approved type of self propelled mechanical spreader and finisher capable of laying to the required widths, thicknesses, profile, camber or cross-fall, without causing segregation, dragging or other surface defects.

All pavers shall be fitted with automatic electronic screed control to maintain the required levels, cambers and cross-falls. Where skids are used they shall be at least 3m long or as specified by the Engineer.

(d) Rollers

Compaction shall be done by means of approved flat steelwheel, vibratory or pneumatic-tyred rollers. These rollers shall be self-propelled and in good working condition, free from backlash, faulty steering mechanism and worn parts. Rollers shall be equipped with adjustable scrapers to keep drums clean and with efficient means of keeping the wheels wet to prevent mixes from sticking to the rollers.

The mass and/or tyre pressures shall be such as to ensure proper compaction to comply with the specifications of surface finish and density.

(e) Pressure Bitumen Distributors

Where bituminous materials are to be sprayed onto areas before commencing the laying of asphalt, approved pressure bitumen distributors are to be used.

(f) Transporting Vehicles

The bituminous materials shall be transported from the mixing plant to the spreader in trucks having tight, clean, smooth beds and sides which have been treated to prevent adhesion of the mixture to the truck bodies. A thin film of soapy water or vegetable oil may be used to prevent adhesion but petroleum products shall not be used for this purpose.

(g) Application of Chippings

The application of coated chippings to areas of wearing course shall be by an approved mechanical spreader capable of distributing chippings to an even rate of spread. Addition of chippings by hand operation shall only be permitted in the following circumstances:

- (i) In confined spaces, where it is impracticable for a chipping spreader to operate.
- (ii) As a temporary expedient, when adjustments have to be made to the spreader distribution mechanism.
- (iii) When hand laying of the wearing course is permitted.
- (iv) To correct uneven distribution of chippings.

Chippings shall be applied uniformly and rolled into the wearing course surface so they are effectively held and provide the specified texture depth.

4.1.5. LIMITATIONS REGARDING WEATHER AND STORAGE OF MIXED MATERIAL

Works on asphalt concrete pavement should be carried out in dry weather and during daylight hours. Place hot mixes at the air temperature of not less than +5°C in the spring and summer and not less than +10°C in the autumn. Asphalt concrete layers can be placed in other weather conditions following the requirements of active standards, and as indicated by the Engineer.

4.1.6. PREPARATION OF SURFACE

(a) Cleaning of Surface

Immediately before applying the tack coat, or where there is no tack coat, before the application of the asphalt, the surface shall be broomed and cleaned of all loose or deleterious material.

Where the prime coat (if any) has been damaged, it shall be repaired by handbrushing or spraying priming material over the damaged portions.

(b) Tack Coat

Where indicated by the Engineer a tack coat shall be applied to the surface to be paved.

The tack coat shall consist of a cut back bitumen and shall be applied a rate of 0.2 to 0.3 litre/m² or as directed by the Engineer.

Proportions of kerbing and guttering, bridge kerbs and railings which will be exposed, shall be suitably protected when applying the tack coat.

4.1.7. PRODUCING AND TRANSPORTING THE MIXTURE

(a) Mixing and Storage Temperatures of Binder

Bituminous binders shall be stored at temperatures not exceeding those given in Table 3 and the aggregate and bituminous binder shall be heated at the mixing plant to such temperatures that the mixed produce shall have a temperature within the range given in Table 4907/1.

TABLE 3

Material	Max storage Temp. °C		Temp range of mix °C	
	Over 24 hrs		Under 24 hrs	
Bitumens	40/50 pen	145	195	140 - 165
	60/70 pen	135	185	135 - 160
	80/100	125	175	130 - 155
	pen	115	165	125 - 150
	150/200			
pen				

No heat shall be added to bituminous materials delivered to the site above storage temperature until the temperature is below those specified above unless the materials are intended for immediate use.

(b) Production of the Mixture

(i) Using Batch Plants

(1) Heating of the Aggregate

The aggregate shall be dried and heated so that when delivered to the mixer, its temperature shall be between 0°C and 20°C lower than the maximum temperature indicated in Table 3 for the mixture. The moisture content shall not exceed 0.5%.

(2) Batching

The aggregate and binder shall be measured separately and accurately and in the proportions by mass in which they are to be mixed. If mineral filler is used, it shall be measured separately on a scale of suitable capacity and sensitivity. The error in the weighing apparatus used shall not exceed 2% for any batch.

(3) Mixing

The aggregate, filler and binder shall be mixed until a homogeneous mixture is obtained in which all particles are uniformly coated. Care shall be taken to avoid excessively long mixing times which can cause hardening of the binder.

(ii) Using Drum Type Mixer Plants

The aggregate and filler shall be accurately proportioned and conveyed into the drying drum-mixing unit. The calibrated amount of binder shall be sprayed onto the aggregates at the correct position. A homogeneous mixture and uniform coating of binder must be achieved and the moisture content of the asphalt mixture shall not exceed 1.5%. Once the final mix temperature has been agreed upon it may not be altered without the prior consent of the Engineer.

(c) Transporting the Mixture

The mixture shall be transported from the mixing plant to the works in trucks complying with the requirements of Subclause 4.1.4(f). Loads shall be covered by waterproof canvas or metal sheets when the haul exceeds 10km or during rainy weather.

Deliveries shall be made so that spreading and rolling of all mixtures prepared for a day's run can be completed during daylight, unless artificial lighting, as approved by the Engineer, is provided. Any asphalt which has become wet due to rain or any other cause will be rejected. Hauling over freshly laid material is not permitted.

4.1.8. SPREADING OF MIXTURE

The mixture shall be delivered to the paver in such a manner that the paver will never be forced to stop for lack of asphalt. The temperature of the mixture shall be controlled by measuring in a random pattern in the truck immediately before emptying, and shall not be more than 10°C below the minimum temperature specified for mixing in Table 4907/1. The adjustment of the screed, tamping bars, feed screws, hopper feed, etc. shall be checked frequently to ensure uniform spreading of the mix. If segregation occurs, the spreading operations shall immediately be suspended until the cause is determined and corrected.

The addition and removal of material behind the paver shall normally not be allowed and the paver shall be capable of spreading the mixture to the correct amounts which will

provide the required compacted thickness without resorting to spotting, picking up or otherwise shifting or disturbing the mixture. Paving shall, if possible commence at the bottom of grades and the lower edges of superelevated curves. Paving shall be done upgrade on grades steeper than 5%.

Spreading shall be so arranged that longitudinal joints do not coincide with joints in lower layers of asphalt base or surfacing.

Unless otherwise specified the paver shall be equipped to provide automatic control of levels and cross section. In the case of surfacing and overlays skids shall be used.

On restricted areas, inaccessible to the spreading equipment used, the mixture may be placed by hand or other means to obtain the specified results. Spreading shall be carried out in a manner which will avoid segregation and which will allow positive control of levels.

The mixer capacity and the operating speed of the paver are to be so adjusted as to ensure continuous laying and to avoid intermittent stopping of the paver.

Spreading shall cease when rain is imminent or when the surfaces to be paved are visibly wet.

4.1.9. JOINTS

All joints between adjacent sections of the work shall be made by cutting back the layer against which the material is to be placed. All loose and incompletely compacted material shall be removed. A cutting wheel shall be used for cutting longitudinal joints.

Joints shall be either at right angles or parallel to the centre line, and joints in the final layer of the surfacing shall, where possible, correspond with the lane markings. Joints in lower layers shall be offset not less than 150mm on either side of the edges of the traffic lanes.

Before a new layer is placed next to an existing layer, the cut edges of the existing layer shall be painted with a thin coat of cut back bitumen of the same type use for the tack coat, if so directed by the Engineer.

Joints shall be neat and shall have the same texture and density as the remainder of the asphalt course. All joints shall be marked out with chalk lines prior to cutting.

The outside edge of the completed asphalt course shall be trimmed along the shoulder, and parallel to the centre line, to give a finished width, as shown on the Drawings, within the tolerances specified.

Any fresh mixture spread accidentally onto existing work at a joint shall be carefully removed by brooming it back with stiff brooms onto the uncompacted work, so as to avoid the formation of irregularities at the joints. Whenever the paving operation is stopped due to lack of mixture, the Contractor shall form a proper joint as specified above, if so directed by the Engineer.

4.1.10. COMPACTION

The mix shall be rolled immediately after laying by steelwheel and pneumatic rollers in a sequence predetermined and approved during the laying of trial sections and such rolling shall be continued only for so long as it is effective and does not have any detrimental effect.

As many rollers shall be used as is necessary to provide the specified pavement density and the required surface texture. During rolling of surfacing the roller wheels shall be kept moist with only sufficient water to avoid picking up the material.

After longitudinal joints and edges have been compacted, rolling shall start longitudinally at the sides and gradually progress towards the centre of the pavement, except on superelevated curves, or road where the road has a straight cross-fall, when rolling shall begin on the low side and progress to the higher side, uniformly lapping each preceding track, covering the entire surface. During breakdown rolling the rollers shall move at a slow but uniform speed (not to exceed 5km/hr) with the drive roller nearest the paver. The sequence of rollers used in compaction is at the discretion of the Contractor provided the completed pavement shall have a density equal to or greater than 98% for wearing course and 96% for bituminous binder course of the Marshall density (75 blows on each face).

The following requirements shall apply to rolling and compacting generally:

- (a) The material shall not be excessively displaced in a longitudinal or transverse direction especially when changing gears, stopping or starting rollers.
- (b) No cracks or hair cracks shall be formed and the bond with the underlying layer shall not be broken.
- (c) The density shall be uniform over the whole area of the layer.
- (d) The type pressure of pneumatic rollers shall be adjusted to the maximum that the mixture can carry without excessive displacement.
- (e) In restricted areas where the specified rollers cannot be used, compaction shall be carried out with hand-operated mechanical compaction equipment or approved miniature vibratory rollers.

4.1.11. SURFACE TEXTURE

The texture depth of the surface of bituminous wearing course shall be measured by the sand patch method described in BS 598: Part 105.

The average texture depth of each 1000m section of carriageway lane, or the complete carriageway lane where this is less than 1000m, shall not be less than 1.5mm. The average of each set of 10 individual measurements shall not be less than 1.2mm.

4.1.12 LAYING OF TRIAL SECTIONS

Before the Contractor commences with the construction of any asphalt surfacing, he shall demonstrate, by laying a trial section 400m² in area, that the equipment and processes that he proposed to use, will enable him to construct the asphalt course in accordance with the specified requirements.

Only when such a trial section has been satisfactorily laid and finished, and complies with the specified requirements, will the Contractor be allowed to commence with construction of the permanent work.

If the Contractor should make any alterations in the methods, processes, equipment or materials used, or if he is unable to comply consistently with the Specifications, the Engineer may require that further trial sections be laid before allowing the Contractor to continue with the permanent work.

The intention of this clause is to avoid any experimentation by the Contractor on the permanent work.

The trial sections shall be laid where indicated by the Engineer. The Contractor shall prepare the surface on which to lay the trial section and shall also, if required, remove the trial section after completion and restore the surface on which it was constructed.

Provision is made for payment of the first trial section of any particular mix type, but subsequent trial sections shall be at the Contractor's own cost. Payment will be made for 400m² of each trial section and should the Contractor fail to produce a satisfactory product for at least a continuous 100m² he shall lay additional areas, at his own cost and no additional payment, until a satisfactory product is obtained for a continuous 100m².

4.1.13. PROTECTION AND MAINTENANCE

The Contractor shall protect asphalt surfacing from all damage until the work is finally accepted by the Employer and he shall maintain the surfacing work until the issue of the defects liability certificate. Any damage occurring to the completed surface, excepting fair wear and tear on surfacing during the defects liability period, or any defects which may develop due to faulty workmanship, shall be made good by the Contractor at his own expense and to the satisfaction of the Engineer.

4.1.14 CONSTRUCTION TOLERANCES AND FINISH REQUIREMENTS

(a) Gradings

The combined aggregate and mineral filler grading shall not deviate from the approved target grading for the working mix by more than the following:

Tolerance/Variations

Material Passing Percentage by Mass

Sieve Size mm.	Wearing Coarse (a) (b) (c)	Sieve Size mm.	Bituminous Binder Course
5.0 and larger sieve	±5	5.0 and larger sieve	±5
1.18 and smaller sieve	±4	1.18 and smaller sieve	±5
0.075	±2	0.075	±2

(b) Binder Content

The binder content in asphalt mixes shall not deviate from the specified binder content by more than ±0.3%

4.1.15 TESTING

(a) Sampling

Sampling of asphalt mixes shall normally be carried out at the mixing plant, but the Engineer may direct that sampling also be carried out at the paver if there is any danger of segregation of the mix during the transporting and spreading process.

(b) Process Control

The minimum frequency of testing that will be required from the Contractor for the purpose of process control shall be as shown in Table 4 or to the satisfaction of the Engineer.

TABLE 4

Test	Testing frequency One test per:
Aggregate:	
Aggregate Crushing Value (ACV)	5,000m ³
Flakiness index	2,500m ³
Polishing value	Every change in aggregate
10% Fine Value (TFV)	5,000 m ³
Los Angeles Abrasion (LAA)	5,000 m ³
Absorption	Every change in aggregate
Sand equivalent	200m ³
Grading (when stockpiling)	1,000
Mixtures:	
Grading and bitumen content	m ³ 200t (min 2 no. Per day)
Marshall stability, flow and voids	2 no. Per day
Marshall mix design	Every change in aggregate or design
Constructed layers:	
100mm diameter cores for compaction, bitumen content, grading and thickness	500m ² and not less than 2 per day
Construction tolerances:	
Width	200m
Surface levels, each carriageway	
Layer thickness, each carriageway	as per Section 4
Cross section	
Smoothness	

(c) Routine Inspection and Testing

Routine inspection and testing will be carried out by the Contractor to test the completed work for compliance with the dimensional tolerances, quality of material, density of compaction and any further requirements stated in this section.

The Contractor shall be deemed to have complied with the requirements if the density of the compacted layer is equal to or greater than the values given below:

TABLE 5

	Wearing Course	Binder Course
Specified density	98% (% Marshall density)	96% (% Marshall density)

In calculating the mean density values differing by more than 4 percentage points from the mean shall be disregarded and a new mean calculated.

Any materials or workmanship that do not comply with the requirements specified, shall be removed and replaced by materials and workmanship complying with the Specifications, or, if the Engineer permits, be repaired so that after being repaired, it shall comply with the requirements specified.

(d) Coring of Asphalt Layers

The Contractor shall supply suitable coring machines capable of cutting 100mm diameter cores from the completed asphalt layer. The cost of extracting cores for process

control shall be included in the Contractor's rates for the construction of asphalt pavement layers and shall not be paid for separately.

All core holes shall be neatly repaired with asphalt and be compacted to the specified density. Wherever possible the cores holes shall be filled with the same mix as that used for the layer tested.

MEASUREMENT

4.1.15. Hot asphalt concrete pavement will be measured in square meters.

PAYMENT

4.1.16. The accepted quantities, measured as provided above, will be paid at the contract price per unit of measurement for the pay items that are shown in the Bill of Quantities. Payment will be full compensation for the work prescribed in this Section and must be approved by the Engineer.

Section 4.3. Cement and Bitumen Emulsion Treated Base Courses

Materials

(a) Portland Cement

Ordinary Portland cement(cement grade not less M-400) shall comply with the requirements of BS 12, AASHTO M 35 or national specifications.

(b) Crushed aggregates to be stabilized

The soil or gravel shall be taken from within the limits of an approved source and shall be subject to such requirements regarding grading, plasticity or other properties as may be required or ordered by the Project Manager.

(c) Bitumen emulsion

(d)

No.	Characteristics	Requirements
1	Bitumen content	60 +/- 2 %
2	Loading	cationic
3	pH – value	< 5
4	Softening point of bitumen	35 – 55 °C
5	Contact between emulsion and cement	no reaction

4.3.1. Mixing and Laying of Materials

(a) Mix in Place Method of Construction

The mix in place method may be used for the addition and mixing in of stabilizer to natural materials to produce low strength stabilized layers by a reduction of the water susceptibility and increase of the stability.

(i) Mixing Equipment

The equipment for pulverizing the material mixing in the stabilizer shall be purpose-built equipment, capable of pulverizing the materials and mixing in the stabilizer to the full depth of the loose layer necessary to give the specified thickness of compacted material mixed and compacted in accordance with this section of the Specification.

The equipment may be either single or multi-pass machines and shall only be acceptable if, during the Site Trials carried out it can produce material to specified requirements.

If single-pass equipment is used for plastic soils, the degree of pulverization as determined in accordance with BS 1924 - Test 17 shall not be less than 80 percent.

The mixers shall be equipped with a device for controlling the depth of processing and mixing blades shall be maintained or reset periodically so that the correct depth of mixing is obtained at all times.

Mixing by grader will not be permitted.

(ii) Preparation of the layer

Before the stabilizer is applied, the material to be treated shall be spread and broken down and oversize material removed so that the maximum size of the particles is not more than specified. If multi-pass processing is employed, the material shall first be pulverized to the required tilth by successive passes. The material shall then be shaped true to line, grade and cross-section and, if required, lightly compacted. The loose thickness shall be such as to give the specified thickness after full compaction has been carried out.

The moisture content of the layer before the addition of the stabilizer shall be adjusted to be within the range 70% - 85% of the Optimum Moisture Content for compaction (AASHTO T180).

(iii) Spreading the stabilizer

The Project Manager following laboratory trials and site trials shall determine the amount of cement to be added to natural materials.

After the layer to be treated has been prepared to the satisfaction of the Project Manager, the stabilizer shall be uniformly spread over the width to be worked at the specific rate. If a spreader is used to spread the stabilizer ahead of the mixer, it shall be fitted with a device to ensure a uniform and controllable rate of spread both transversely and longitudinally.

Only sufficient stabilizer for immediate use shall be spread ahead of the mixing operation and any stabilizer which, in the opinion of the Project Manager, becomes defective, shall be replaced at the Contractor's expense.

Only equipment actually used in the spreading or mixing operation shall be allowed to pass over the stabilizer, when so spread, before it has been mixed into the material to be treated.

(iv) Mixing and watering

Immediately after the stabilizer has been spread, it shall be thoroughly and intimately mixed into the material for the full depth of the layer. Mixing shall continue until the resulting mixture forms a fine and homogenous tilth.

Full width working, without longitudinal joints, will generally be required. Half-width working may be instructed by the Project Manager to pass traffic. When forming longitudinal joints, with a width of at least 100 mm of the adjoining first laid half-width layer shall be re-treated and mixed in with the second half-width layer.

When forming transverse joints at least 1.0 m length of the previously laid treated work shall be incorporated into the new treated layer and the Project Manager may instruct that the percentage of stabilizer be increased at these places.

Care shall be taken that the under laying layer is not disturbed and that no material from the under laying layer or shoulders is mixed with that being processed.

If watering is necessary to bring the mixture to the required moisture content, then this shall be done after spreading and mixing in the stabilizer.

Water shall be added in a uniform and controllable manner and, where necessary, in successive increments. Each increment shall be mixed in as a separate mixing operation. Care shall be taken to avoid a concentration of water at any point or a flow of water over the surface.

Any part of the mixture which becomes too wet after the stabilizer has been added and before the mixture is compacted will be rejected and any such part shall be allowed to dry out until its moisture content is satisfactory and shall be retreated with fresh stabilizer and finished off in accordance with this Sub clause.

Throughout the process of mixing in the stabilizer and water, a uniform thickness of the mixture shall be maintained and, if necessary, the mixture shall be graded to maintain the correct un-compacted thickness and shape. Any part of the mixture that becomes segregated shall be removed and replaced.

(b) Stationary Plant Method of Construction

The mix in plant method shall be used to produce material for stabilized layers of a specified strength, related to the structural load carrying capacity of the layer.

(i) Stationary mixing plant shall be of the power driven paddle or pan type and may be of the batch or continuous type.

If batch mixers are used, the appropriate measured amounts of material and stabilizer shall first be placed in the mixer, water being then added as necessary to bring the moisture content of the resulting mixture within the range determined by the laboratory and Site Trials. Special care shall be taken with batch type paddle mixers to ensure that the stabilizer is spread uniformly in the loading skip so that it is fed evenly along the mixing. Mixing shall be continued until the mixture has the required uniformity.

If continuous mixing is used, the paddles, baffles and rate of feed of materials shall be adjusted to give uniformly mixed material.

If a spray is used for distributing water into the mixer, it shall be adjusted to give uniformity in moisture content throughout the mix.

(ii) Transporting:

Mixed material shall be transported to the road in suitable vehicles. Material that becomes segregated or is affected by weather shall be removed and replaced at the Contractor's expense.

(iii) Laying:

The mixed material shall be spread by means of a mechanical paver to the required width and such thickness that the tolerance requirements are obtained after final compaction. Segregation shall be avoided and the layer shall be free from pockets of coarse or fine material.

(c) Joints between New and Existing Work:

The forming of construction joints and the protection of previously treated materials shall be carried out so as to produce a uniformly compacted and homogenous layer free from ridges or other irregularities.

When forming longitudinal or transverse joints, previous work shall be cut back to expose fully treated and compacted material.

4.3.2. Compaction and Finishing

For cement treated materials final compaction and finishing shall be completed within 2 hours after the cement comes into contact with the material to be treated.

For lime treated materials, final compaction and finishing shall be completed within 4 hours after the lime comes into contact with the material to be treated.

(a) Thickness limitations:

The compacted thickness of any treated layer laid, processed and compacted at one time shall not exceed 200 mm. Where a greater thickness is required, the material shall be laid in two or more layers; each of them at least 100 mm in thickness.

The compacted thickness of any base layer shall not be less than 3 times the maximum particle size of the material and the compacted thickness of any sub-base layer shall not be less than twice the maximum particle size of the material.

(b) Compaction requirements:

Stabilized layers shall be compacted to a dry density that shall reach the following values:

- Treated base: Minimum 96% of MDD (AASHTO T 180)

Unless otherwise instructed by the Project Manager, the moisture content at the time of compaction shall be between 80% and 100% of the corresponding Optimum Moisture Content.

(c) Finishing:

The surface finish after compaction shall be free from ridges, compaction planes, laminations, loose material and other surface irregularities and shall be to line and level and within the tolerances specified.

All defective areas shall be made good to the full thickness of the layer and re-compacted. If this cannot be done within the specified time limits for compaction, the defective material shall be

broken out to the full thickness of the layer, removed and replaced with freshly mixed material compacted to specification.

4.3.3. Curing and Protection

(a) Curing

The stabilized layer shall be protected against rapid drying out for at least seven days following the completion of the layer:

The methods of protection may be any one or more of the following:

(i) The stabilized layer shall be kept continuously wet or damp by spraying with water at frequent intervals. This method shall be used for a period of 48 hours after which time one of methods (ii) or (iii) may be applied. The Contractor is warned that work which is not kept continuously wet or damp but is subjected to wet-dry cycles may be rejected by the Project Manager in his sole discretion.

(ii) The stabilized layer shall be covered with the material required for the following layer whilst the stabilized layer is still in a wet or damp condition. The material forming the protective layer shall be watered at such intervals as may be required to keep the stabilized layer continuously wet or damp, and these intervals shall not exceed 24 hours in dry weather.

(iii) The layer shall be covered with a curing membrane consisting of spray grade emulsion or cutback bitumen, applied at the rate directed by the Project Manager.

(a) Level

At least 90% of all surface levels shall be within the specified surface level $\pm 15\text{mm}$.

(b) Thickness

The thickness of the layer shall comply with the thickness requirement $\pm 21\text{mm}$ 90% of all thickness measurements taken.

4.3.5. Measurement

Base coarse is measured by square meters.

4.3.6. Payment

The accepted quantities, measured as provided above, will be paid at the contract price per unit of measurement for the pay items listed in Bill of Quantities. Payment will be full compensation for the work prescribed in this Section

Section 4.4. Construction of base course, sub-base and leveling course

Description

4.4.1. This work consists of construction of base course.

Requirements to construction materials:

4.4.2. Crushed aggregates and sand mix. Should meet the requirements of standards active in Georgia and of the table below.

Mix Number	Total remainder, % in mass, on sieves of holes size, mm								
	70	40	20	10	5	2.5	0.63	0.16	0.05
1	0	10-20	20-40	25-65	40-75	60-85	70-90	90-95	97-100
2	0	0-5	0-10	10-40	30-70	45-80	60-85	75-92	87-100

Crushed stone (gravel) of mix should have the strength grade of not lower than 200 (crushability is 24 for gravel and aggregates out of gravel).

For draining layer of pavement the sand according to standards active in Georgia is permissible without additional testing with grain content size of less than 0.14 mm and no more than 25% in mass, with dusting clay parts of no more than 5%, including clay parts for natural sand of no more than 0.5% and for crushed stone of no more than 1% in mass.

The filtration ratio under maximum density should be not less than 1 m/day (in accordance with the standards active in Georgia).

Construction Requirements

4.4.3. Placing and Compacting

(a) Spreading of Materials

The materials shall be evenly spread over the whole of the designated area for the layer concerned and in such quantity that the compacted thickness of the layer complies with the specified requirements.

Any new layer of less than 75 mm compacted thickness shall be bonded to the previous layer by scarifying the previous layer to a depth so that the total compacted thickness of the new layer plus the scarified portion of the previous layer will not be less than 100 mm.

(b) Breaking Down and Preparation of the Material

The material placed on the road shall be thoroughly broken down throughout the layer by means of equipment suited to this purpose to a size not exceeding two-thirds of the compacted layer thickness.

Any oversize material, which cannot be broken down to the required size, shall be bladed off the road, loaded, transported and disposed of or utilized as directed by the Project Manager.

Where the coarse and fine fractions of the material are not uniformly distributed or have been allowed to become segregated, the material shall be thoroughly mixed on the road by blading in successive cuts over the full depth of the layer, after the required amount of water has been added. Such mixing shall continue until a uniform mixture of the various size fractions of the material has been obtained.

(c) Watering and Mixing

Any water required before material is compacted shall be added to the material in successive applications by means of water sprinklers fitted with sprinkler bars or by means of pressure distributors all capable of applying the water evenly and uniformly over the area concerned.

The water shall be thoroughly mixed with the material to be compacted by means of soil mixers or other suitable equipment. Mixing shall continue until the required amount of water has been added and until a uniform mixture is obtained. Thereafter compaction may proceed.

The amount of water to be added shall be sufficient to bring the material to the optimum moisture content for the compaction equipment used.

(d) Compaction

Compaction shall be carried out in a series of continuous operations covering the full width of the layer concerned and the length of any section of a layer being compacted shall, wherever possible, be not less than 150 m nor more than can be properly compacted with the available equipment. The Project Manager reserves the right to order the Contractor to reduce the length of any layer compacted in any single operation if the proper compaction of such a layer is not being achieved.

The types of compaction equipment to be used and the amount of rolling to be done shall be such as to ensure that specified densities are obtained without damaging lower layers or structures. During compaction the layer shall be maintained to the required cross-section shape.

If at any time after compaction the layer is damaged by drying out or is damaged by rain, it shall be scarified, aerated and/or watered and re-compacted as specified above, all at the Contractor's expense.

(e) Disposal of Oversize Material

The Project Manager will direct that oversize material be disposed of or utilized elsewhere in one of the following ways:

(i) The material is bladed off the road and utilized in the uniform widening of fills outside the road prism

(ii) The material is bladed off the road, loaded, transported and taken to spoil.

(iii) The material is bladed off the road, loaded, transported to the point of use and utilized in other item of construction.

The Contractor shall exercise all reasonable care not to bring onto the road material which cannot be broken down to the required size by processing on the road.

Moisture Content and Compaction

The moisture content of the sand and gravel mix during the construction shall close to the optimal and the deviation shall not be more than +/- 5 %. If the moisture content, differs more the mix shall be moistened as required 20-30 minutes before the compaction is carried out (SNiP 3.06.03-85 p.7.9). The placed mix shall be compacted in accordance to requirements of p.7.1 and p.7.5 of SNIP 3.06.03-85. Construction of base-course and pavement structure by penetration method shall be carried out in accordance with p.9.1 and p 9.32-9.39 of SNiP 3.06.03-85.

Protection and Maintenance

The compacted layers shall be adequately drained and shaped to prevent water from standing on or scouring the finished work. Windrows shall be removed to facilitate drainage of water from surface.

No material for a succeeding layer shall be placed if the underlying layer is softened by excessive moisture.

The Contractor shall protect and maintain the completed layer at his own expense. Maintenance shall include the immediate repair of any damage or defects that may occur and shall be repeated as often as it is necessary to keep the layer continuously intact. Repairs shall be done in a manner that will ensure restoration to an even and uniform surface.

4.4.4. Acceptance. Works will be accepted according Specifications and is approved by the Engineer.

Measurement

4.4.5. All works that should be done for sub-base and leveling course will be measured in cubic meters, and base coarse- in square meters

Payment

4.4.6. The accepted quantities, measured as provided above, will be paid at the contract price per unit of measurement for the pay items that are shown in the Bill of Quantities. Payment will be full compensation for the work prescribed in this Section and must be approved by the Engineer.

Section 4.5 Bitumen Tack and Prime Coat

Description

4.5.1. This work consists of applying a bitumen tack and prime coat.

Material

4.5.2. Material shall conform to the requirements of standards active in Georgia
Bitumen
Emulsified bitumen

Construction Requirements

4.5.3. Equipment

Equipment to be used shall be approved by the Project Manager. Bitumen shall be sprayed from a pressure distributor and no hand-spraying shall be permitted except in small areas, or to make good a defective area caused by a blocked nozzle.

The nozzles shall be arranged to give a uniform spray and shall be tested prior to spraying by discharging on to suitable material (such as building paper, metal sheets, etc.,) or into purpose made troughs. Testing shall not take place on the road, and any bitumen spilt on the ground shall be cleaned off.

Surface Preparation

Prepare the surface for a prime coat as follows:

Clear the existing surface of all loose material, dirt, or other delirious substances by approved methods. Any defect of the surface shall be made good as instructed by the Project Manager, and bituminous material shall be laid or sprayed or sprayed until the Project Manager has approved the surface. Where required by the Project Manager, immediately prior to the application of prime coat, the surface of the base layer shall be lightly sprayed with water, but in no case saturated.

In order to bring the surface to be primed to the condition required, water shall be applied in small increments by a distributor. Any water on the surface after spraying shall be brushed off or allowed to drain away before the prime coat is applied.

Prepare the surface for a tack coat as follows:

(a) Patching. Remove and dispose of unsuitable asphalt material in the area to be coated. Smoothen all rough edges within the pothole. Clear the existing surface of all loose material, dirt, or other delirious substances by approved methods

(b) Pre-leveling. After pre-leveling dips, depressions, sags, excessive or non existing crown or other surface irregularities shall be corrected. Clear the existing surface of all loose material, dirt, or, other delirious substances by approved methods

(c) Asphalt surfaced roads. Clean the existing surface of all loose material, dirt, or other delirious substances by approved methods.

Weather Limitations. Apply binder prime and tack coat on a dry, unfrozen surface.

Bitumen Application.

Calibrate the bitumen distributor spray bar height, nozzle angle, and pump pressure and check longitudinal and transverse spread rates weekly.

Protect the surfaces of nearby objects to prevent spattering or marring. Spread building paper on the surface for a sufficient distance from the beginning and end of application so that the flow through the distributor nozzles may be started and stopped on the paper. All equipments to be used in the work must be in good condition and functioning property.

Prime coat application is to be at the rate of 0.6 – 1.0 kg/sq.m, or as required in the plans or instructed by the Project Manager.

Tack coat application is to be at the rate of 0.2 – 0.3 kg/sq.m, or as required in the plans or instructed by the Project Manager.

The Project Manager will approve the exact application rate, temperature, and area to be treated before the application and may make adjustments for variations in the field conditions. Apply the bitumen uniformly with an asphalt distributor. Move the distributor forward at the proper application speed at the time the spray bar is opened. Use care not to apply excess bitumen at the junction of spreads.

Apply the coat at a rate to be established by the Project Manager. When a tack coat cannot be applied with an asphalt distributor spray bar, apply the tack coat uniformly and completely by fogging with a hand spray attachment or by another approved method.

If excess binder material is applied, squeegee the excess from the surface. Allow the primed or tacked surfaces to completely cure before placing the covering course. Place the covering course within 8 hours of placing the prime/tack coat.

4.5.4 Acceptance. Tack coat and prime coat treatment will be accepted under Subsection 4.1.14.

Measurement

4.5.5 Bitumen tack and prime coat will be measured in ton.

Payment

4.5.6 The accepted quantities, measured as provided above, will be paid at the contract price per unit of measurement for the pay items in the Bill of Quantities. Payment will be full compensation for the work prescribed in this Section.

Section 4.6. Filling in of shoulders

Description

4.6.1 This work consists of filling in of shoulders with sand and gravel.

Material

4.6.2 Material for filling in of shoulders shall meet the following requirements:

Sand /gravel mix - Active norms in Georgia

Construction Requirements

4.6.3 Filling in of shoulders. Filling in and compaction shall be done layer by layer according to standards active in Georgia relevant to construction sub grade layers. Compaction will be done at optimum mixture content.

4.6.4 Acceptance. The work will be accepted according to Subsection 0.2.4 providing that it has been done according to plans and specifications and Active norms in Georgia and is accepted by the Engineer.

Measurement

4.6.5 Filling in of shoulders will be measured in cubic meters.

Payment

4.6.6 The accepted quantities, measured as indicated above, will be paid at the contract price per unit of measurement for the pay items in the Bill of quantities. Payment will be full compensation for the work prescribed in this Section.

5. Utilities

Section 5.1. Utilities

Description

5.1.1. The work under this section includes the relocation of water pipes and power lines

The contractor is responsible for working closely with any utility company having their infrastructure located within the public right of way.

Material

5.1.2. Materials used in the repairing, replacing, re-routing of any utility company's equipment shall be compatible with the existing utility and approved by the utility company's representative.

Construction Requirements

5.1.3. Before any construction is begun the contractor shall notify the utility companies of the proposed works and request that they mark the location of any types of equipment in the area.

The Contractor is responsible for any and all damages caused to any utility during construction and shall repair them with his equipment or, if the utility company desires, they shall be allowed a free use of his equipment and personnel as required in order to complete repair works.

Should the utility company chose to repair the damaged utility themselves costs inures shall be the responsibility of the contractor.

If any utility equipment is encountered in the proposed work area the contractor shall submit to the Engineer for approval to relocate the utility outside the construction limits in writing. The proposal shall include, but not limited to the proposed duration of the works, plans and details of a new utility route, materials to be used together with any required certification that the material meets the utility company's specification and details of protection methods to be used for any utility materials to be left in place. After the utility has been re-routed the interested utility company shall be notified to inspect the work prior to commencing the back-fill operation. The contractor shall take all necessary steps required and as directed by the Engineer to ensure that all utilities are protected from damage by frost.

Measurement.

5.1.4. All works that should be done (see Volume of works and corresponding drawings, Section Drawings) will be measured per unit of measurement for the pay items.

Payment

5.1.5. The accepted quantities, measured as provided above, will be paid at the contract price per unit of measurement for the pay items listed below that are shown in the Bill of quantities. Payment will be full compensation for the work prescribed in this Section.

6. Road furniture

Section 6.2. Bus stop sites

Description

6.2.1 This work consists of restoration of bus stop sites.

Material

6.2.2. Material shall conform to the requirements of subsection 4;

Construction Requirements

6.2.3 General. The mix design, placing, control and equipment shall meet requirements of subsection 4.

6.2.4. Acceptance. The work will be accepted for payment provided that it has been built in conformance to the plans and specifications pertaining to the payment involved and is accepted by the Project Manager.

Measurement

6.2.5. All works that should be done (see the summary of volumes of works and corresponding drawings, in Section Drawings) will be priced and included in the unit prices for pay items

Payment

6.2.6. The accepted quantities, measured as provided above, will be paid at the contract price per unit of measurement for the pay items listed below that are shown in the bid schedule. Payment will be full compensation for the work prescribed in this Section

Section 6.3. Road Signs

Description

6.3.1. This work consists of constructing permanent traffic control signs, supports, and object markers.

Materials

6.3.2. Material shall conform to the following:

All sign panels shall be manufactured according to standards active in Georgia

All hardware and signposts shall be manufactured according to standards active in Georgia and Typical Album Serial 3.503.9-80.

Cast in place concrete of posts foundation to be in accordance with Section 3.1.

Construction requirements

6.3.3 General. Furnish traffic control devices according to Standards active in Georgia, *Technical Methods of Organising Traffic Movement*, Submit the sign-face list for approval to the Project Manager before ordering. The design of traffic sign and their installation shall be done according to "Traffic Control" design.

6.3.4. Supports. Sign locations and delineator locations shown on the plans may be changed in agreement with the Project Manager to fit the field conditions. Determine the lengths of posts at time of placing.

Drive posts with a suitable driving head or set posts in drilled or punched holes. In accordance with the Typical constructions Album 3.503.9-80 Replace all posts damaged by driving. Erect sign supports plumb, back-fill, and compact.

6.3.5. Panels. Road sign panels to be installed on posts in accordance with Album 3.503.9-80. Mounting of individual signs consisting of prefabricated panels may be made at the place of installation. Do not field drill holes in any part of the panel. Use anti-theft fasteners where possible. Paint all bolt heads, screw heads, and washers that are exposed on the sign face. Match the colour of the paint to the colour of the background or the message area at the point where the fitting is exposed.

If a sign message is not applicable, completely cover the face of the sign with an opaque material. Maintain the covering in good condition until the message becomes applicable. Do not use adhesive tape on the face of a sign. Repair or replace damaged parts including reflective sheeting.

6.3.6. Acceptance. The work will be accepted for payment providing that it has been built in conformance to the plans and Specifications pertaining to the segment involved and is approved by the Project Manager.

Measurement

6.3.7 All works that should be done (see the summary of volume of works and corresponding drawings, in Section Drawings) will be priced and included in the unit prices for pay items, final price will be established for the number of each sign.

Payment

6.3.8 The accepted quantities, measured as provided above, will be paid at the contract price per unit of measurement for the pay items listed below that are shown in the Bill of quantities. Payment will be full compensation for the work prescribed in this Section.

Section 6.4. Permanent Pavement Markings

Description

6.4.1 This work consists of applying permanent pavement markings on the completed pavement.

Material

6.4.2 Material shall conform to the standards active in Georgia. The material is nitro enamel paint, which shall be supplied with a certificate of conformity to the standard. The works shall be done in accordance with active standards.

Construction requirements

6.4.3 General. Pavement marking shall be done in accordance with the active "Traffic Control" design. Establish markings in accordance with standards active in Georgia.

Where existing and final pavement marking locations are identical, stake the limits of all existing pavement markings before any pavement work. Upon completion of the final surface

course, establish line limits for the new pavement for approval before marking. Remove loose particles, dirt, tar, grease, and other deleterious material from the surface to be marked.

At least 7 days before starting pavement marking applications, furnish a written copy to the Project Manager of the marking manufacturer's recommendations for use. A field demonstration may be required to verify the adequacy of recommendations.

Transport the material in appropriate containers plainly marked with the following information as appropriate for the material being furnished:

- (a) Manufacturer's name and address
- (b) Name of product
- (c) Lot/batch number
- (d) Colour
- (e) Net weight and volume of contents
- (f) Date of manufacture
- (g) Date of expiration
- (h) Statement of contents, if mixing of components is required
- (i) Mixing proportions and instructions
- (j) Safety information

Apply pavement marking in the direction of traffic according to standards active in Georgia. Apply all markings to provide a clean-cut, uniform and workmanlike appearance by day or night.

Protect marked areas from traffic until the markings are dried sufficiently to allow traffic on them without damage. Remove all tracking marks, spilled marking material, markings in unauthorised areas, and defective markings, to the Project Manager satisfaction and without damage to the pavement layer below.

6.4.4 Traffic paint. Apply paint when the pavement and air temperatures are above 5°C. Spray paint at 0.4 mm minimum wet film thickness at a rate of 800 g/m².

6.4.5 Acceptance. The work will be accepted for payment providing that it has been built in conformance to the plans and specifications pertaining to the segment involved and is approved by the Project Manager.

Measurement

6.4.6 Pavement markings will be measured by square meter.

Payment

6.4.7 The accepted quantities, measured as provided above, will be paid at the contract price per unit of measurement for the pay items listed below that are shown in the Bill of quantities. Payment will be full compensation for the work prescribed in this Section.

Standards Incorporated By Reference

1	The standards and norms for construction of roads active in Georgia
2	General Technical Construction Specifications for roads issued by Swedish National Road Administration – ROAD 94 Chapter 1 – Common requisities Chapter 2 – Prepared Subgrade Design Chapter 3 – Pavement Design Chapter 4 – Prepared Subgrade Construction Chapter 5 – Unbound Pavement Layers Chapter 6 – Bitumen-bound Layers Chapter 7 – Cement-bound Layers Chapter 8 - Dewatering and Drainage Chapter 9 - Road Markings
3	AASHTO GUIDE FOR DESIGN OF PAVEMENT STRUCTURES, Published by the American Association of State Highway and Transportation Officials
4	FINNISH SPECIFICATIONS 2000

Drawings

See Design Documents

Section VIII. General Conditions of Contract

These General Conditions of Contract (GCC), read in conjunction with the Particular Conditions of Contract(PCC) and other documents listed therein, should be a complete document expressing fairly the rights and obligations of both parties.

The GCC can be used for both smaller admeasurement contracts and lump sum contracts.

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General Conditions of Contract

A. General

- 1. Definitions**
- 1.1 Boldface type is used to identify defined terms.
- (a) The Accepted Contract Amount means the amount accepted in the Letter of Acceptance for the execution and completion of the Works and the remedying of any defects.
- (b) The Activity Schedule is a schedule of the activities comprising the construction, installation, testing, and commissioning of the Works in a lump sum contract. It includes a lump sum price for each activity, which is used for valuations and for assessing the effects of Variations and Compensation Events.
- (c) The Adjudicator is the person appointed jointly by the Employer and the Contractor to resolve disputes in the first instance, as provided for in GCC 23.
- (d) Bank means the financing institution **named in the PCC**.
- (e) Bill of Quantities means the priced and completed Bill of Quantities forming part of the Bid.
- (f) Compensation Events are those defined in GCC Clause 42 hereunder.
- (g) The Completion Date is the date of completion of the Works as certified by the Project Manager, in accordance with GCC Sub-Clause 53.1.
- (h) The Contract is the Contract between the Employer and the Contractor to execute, complete, and maintain the Works. It consists of the documents listed in GCC Sub-Clause 2.3 below.
- (i) The Contractor is the party whose Bid to carry out the Works has been accepted by the Employer.
- (j) The Contractor's Bid is the completed bidding document submitted by the Contractor to the Employer.
- (k) The Contract Price is the Accepted Contract Amount stated in the Letter of Acceptance and thereafter as adjusted in accordance with the Contract.
- (l) Days are calendar days; months are calendar months.
- (m) Dayworks are varied work inputs subject to payment on a time basis for the Contractor's employees and Equipment, in addition to payments for associated Materials and Plant.
- (n) A Defect is any part of the Works not completed in accordance with the Contract.
- (o) The Defects Liability Certificate is the certificate issued by Project Manager upon correction of defects by the Contractor.
- (p) The Defects Liability Period is the period **named in the PCC** pursuant to Sub-Clause 34.1 and calculated from the Completion Date.

- (q) Drawings means the drawings of the Works, as included in the Contract, and any additional and modified drawings issued by (or on behalf of) the Employer in accordance with the Contract, include calculations and other information provided or approved by the Project Manager for the execution of the Contract.
- (r) The Employer is the party who employs the Contractor to carry out the Works, **as specified in the PCC**.
- (s) Equipment is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works.
- (t) "In writing" or "written" means hand-written, type-written, printed or electronically made, and resulting in a permanent record;
- (u) The Initial Contract Price is the Contract Price listed in the Employer's Letter of Acceptance.
- (v) The Intended Completion Date is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is **specified in the PCC**. The Intended Completion Date may be revised only by the Project Manager by issuing an extension of time or an acceleration order.
- (w) Materials are all supplies, including consumables, used by the Contractor for incorporation in the Works.
- (x) Plant is any integral part of the Works that shall have a mechanical, electrical, chemical, or biological function.
- (y) The Project Manager is the person **named in the PCC** (or any other competent person appointed by the Employer and notified to the Contractor, to act in replacement of the Project Manager) who is responsible for supervising the execution of the Works and administering the Contract.
- (z) PCC means Particular Conditions of Contract.
- (aa) The Site is the area **defined as such in the PCC**.
- (bb) Site Investigation Reports are those that were included in the bidding documents and are factual and interpretative reports about the surface and subsurface conditions at the Site.
- (cc) Specification means the Specification of the Works included in the Contract and any modification or addition made or approved by the Project Manager.
- (dd) The Start Date is **given in the PCC**. It is the latest date when the Contractor shall commence execution of the Works. It does not necessarily coincide with any of the Site Possession Dates.
- (ee) A Subcontractor is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract, which includes work on the Site.
- (ff) Temporary Works are works designed, constructed, installed, and removed by the Contractor that are needed for construction or installation of the Works.
- (gg) A Variation is an instruction given by the Project Manager

which varies the Works.

(hh) The Works are what the Contract requires the Contractor to construct, install, and turn over to the Employer, **as defined in the PCC.**

2. Interpretation

2.1 In interpreting these GCC, words indicating one gender include all genders. Words indicating the singular also include the plural and words indicating the plural also include the singular. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Project Manager shall provide instructions clarifying queries about these GCC.

2.2 If sectional completion is **specified in the PCC**, references in the GCC to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion Date for the whole of the Works).

2.3 The documents forming the Contract shall be interpreted in the following order of priority:

- (a) Agreement,
- (b) Letter of Acceptance,
- (c) Contractor's Bid,
- (d) Particular Conditions of Contract,
- (e) General Conditions of Contract, including Appendix,
- (f) Specifications,
- (g) Drawings,
- (h) Bill of Quantities, and
- (i) any other document **listed in the PCC** as forming part of the Contract.

3. Language and Law

3.1 The language of the Contract and the law governing the Contract are **stated in the PCC.**

3.2 Throughout the execution of the Contract, the Contractor shall comply with the import of goods and services prohibitions in the Employer's country when

(a) as a matter of law or official regulations, the Borrower's country prohibits commercial relations with that country; or

(b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's Country prohibits any import of goods from that country or any payments to any country, person, or entity in that country.

4. Project Manager's Decisions

4.1 Except where otherwise specifically stated, the Project Manager shall decide contractual matters between the Employer and the Contractor in the role representing the Employer.

5. Delegation

5.1 Otherwise **specified in the PCC**, the Project Manager may

delegate any of his duties and responsibilities to other people, except to the Adjudicator, after notifying the Contractor, and may revoke any delegation after notifying the Contractor.

6. Communications

6.1 Communications between parties that are referred to in the Conditions shall be effective only when in writing. A notice shall be effective only when it is delivered.

7. Subcontracting

7.1 The Contractor may subcontract with the approval of the Project Manager, but may not assign the Contract without the approval of the Employer in writing. Subcontracting shall not alter the Contractor's obligations.

8. Other Contractors

8.1 The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the Employer between the dates given in the Schedule of Other Contractors, as **referred to in the PCC**. The Contractor shall also provide facilities and services for them as described in the Schedule. The Employer may modify the Schedule of Other Contractors, and shall notify the Contractor of any such modification.

9. Personnel and Equipment

9.1 The Contractor shall employ the key personnel and use the equipment identified in its Bid, to carry out the Works or other personnel and equipment approved by the Project Manager. The Project Manager shall approve any proposed replacement of key personnel and equipment only if their relevant qualifications or characteristics are substantially equal to or better than those proposed in the Bid.

9.2 If the Project Manager asks the Contractor to remove a person who is a member of the Contractor's staff or work force, stating the reasons, the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the work in the Contract.

9.3 If the Employer, Project Manager or Contractor determines, that any employee of the Contractor be determined to have engaged in corrupt, fraudulent, collusive, coercive, or obstructive practice during the execution of the Works, then that employee shall be removed in accordance with Clause 9.2 above.

10. Employer's and Contractor's Risks

10.1 The Employer carries the risks which this Contract states are Employer's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.

11. Employer's Risks

11.1 From the Start Date until the Defects Liability Certificate has been issued, the following are Employer's risks:

(a) The risk of personal injury, death, or loss of or damage to property (excluding the Works, Plant, Materials, and Equipment), which are due to

(i) use or occupation of the Site by the Works or for the purpose of the Works, which is the unavoidable result of the Works or

(ii) negligence, breach of statutory duty, or interference with any legal right by the Employer or by any person employed by or

contracted to him except the Contractor.

(b) The risk of damage to the Works, Plant, Materials, and Equipment to the extent that it is due to a fault of the Employer or in the Employer's design, or due to war or radioactive contamination directly affecting the country where the Works are to be executed.

11.2 From the Completion Date until the Defects Liability Certificate has been issued, the risk of loss of or damage to the Works, Plant, and Materials is an Employer's risk except loss or damage due to

- (a) a Defect which existed on the Completion Date,
- (b) an event occurring before the Completion Date, which was not itself an Employer's risk, or
- (c) the activities of the Contractor on the Site after the Completion Date.

12. Contractor's Risks

12.1 From the Starting Date until the Defects Liability Certificate has been issued, the risks of personal injury, death, and loss of or damage to property (including, without limitation, the Works, Plant, Materials, and Equipment) which are not Employer's risks are Contractor's risks.

13. Insurance

13.1 The Contractor shall provide, in the joint names of the Employer and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles **stated in the PCC** for the following events which are due to the Contractor's risks:

- (a) loss of or damage to the Works, Plant, and Materials;
- (b) loss of or damage to Equipment;
- (c) loss of or damage to property (except the Works, Plant, Materials, and Equipment) in connection with the Contract; and
- (d) personal injury or death.

13.2 Policies and certificates for insurance shall be delivered by the Contractor to the Project Manager for the Project Manager's approval before the Start Date. All such insurance shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred.

13.3 If the Contractor does not provide any of the policies and certificates required, the Employer may effect the insurance which the Contractor should have provided and recover the premiums the Employer has paid from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due.

13.4 Alterations to the terms of an insurance shall not be made without the approval of the Project Manager.

13.5 Both parties shall comply with any conditions of the insurance policies.

- 14. Site Data** 14.1 The Contractor shall be deemed to have examined any Site Data **referred to in the PCC**, supplemented by any information available to the Contractor.
- 15. Contractor to Construct the Works** 15.1 The Contractor shall construct and install the Works in accordance with the Specifications and Drawings.
- 16. The Works to Be Completed by the Intended Completion Date** 16.1 The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the Program submitted by the Contractor, as updated with the approval of the Project Manager, and complete them by the Intended Completion Date.
- 17. Approval by the Project Manager** 17.1 The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Project Manager, for his approval.
- 17.2 The Contractor shall be responsible for design of Temporary Works.
- 17.3 The Project Manager's approval shall not alter the Contractor's responsibility for design of the Temporary Works.
- 17.4 The Contractor shall obtain approval of third parties to the design of the Temporary Works, where required.
- 17.5 All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Project Manager before this use.
- 18. Safety** 18.1 The Contractor shall be responsible for the safety of all activities on the Site.
- 19. Discoveries** 19.1 Anything of historical or other interest or of significant value unexpectedly discovered on the Site shall be the property of the Employer. The Contractor shall notify the Project Manager of such discoveries and carry out the Project Manager's instructions for dealing with them.
- 20. Possession of the Site** 20.1 The Employer shall give possession of all parts of the Site to the Contractor. If possession of a part is not given by the date **stated in the PCC**, the Employer shall be deemed to have delayed the start of the relevant activities, and this shall be a Compensation Event.
- 21. Access to the Site** 21.1 The Contractor shall allow the Project Manager and any person authorized by the Project Manager access to the Site and to any place where work in connection with the Contract is being carried out or is intended to be carried out.

22. Instructions, Inspections and Audits

22.1 The Contractor shall carry out all instructions of the Project Manager which comply with the applicable laws where the Site is located.

22.2 The Contractor shall keep, and shall make all reasonable efforts to cause its Subcontractors and subconsultants to keep, accurate and systematic accounts and records in respect of the Works in such form and details as will clearly identify relevant time changes and costs.

22.3 The Contractor shall permit and shall cause its Subcontractors and subconsultants to permit, the Bank and/or persons appointed by the Bank to inspect the Site and/or the accounts and records relating to the performance of the Contract and the submission of the bid, and to have such accounts and records audited by auditors appointed by the Bank if requested by the Bank. The Contractor's and its Subcontractors' and subconsultants' attention is drawn to Sub-Clause 25.1 which provides, inter alia, that acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under Sub-Clause 22.2 constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Bank's prevailing sanctions procedures).

23. Appointment of the Adjudicator

23.1 The Adjudicator shall be appointed jointly by the Employer and the Contractor, at the time of the Employer's issuance of the Letter of Acceptance. If, in the Letter of Acceptance, the Employer does not agree on the appointment of the Adjudicator, the Employer will request the Appointing Authority **designated in the PCC**, to appoint the Adjudicator within 14 days of receipt of such request.

23.2 Should the Adjudicator resign or die, or should the Employer and the Contractor agree that the Adjudicator is not functioning in accordance with the provisions of the Contract, a new Adjudicator shall be jointly appointed by the Employer and the Contractor. In case of disagreement between the Employer and the Contractor, within 30 days, the Adjudicator shall be designated by the Appointing Authority **designated in the PCC** at the request of either party, within 14 days of receipt of such request.

24. Procedure for Disputes

24.1 If the Contractor believes that a decision taken by the Project Manager was either outside the authority given to the Project Manager by the Contract or that the decision was wrongly taken, the decision shall be referred to the Adjudicator within 14 days of the notification of the Project Manager's decision.

24.2 The Adjudicator shall give a decision in writing within 28 days of receipt of a notification of a dispute.

24.3 The Adjudicator shall be paid by the hour at the **rate specified in the PCC**, together with reimbursable expenses of the types **specified in the PCC**, and the cost shall be divided equally between the Employer and the Contractor, whatever decision is reached by the Adjudicator. Either party may refer a decision of the Adjudicator to an Arbitrator within 28 days of the Adjudicator's written decision. If neither party refers the dispute to arbitration within the above 28 days, the Adjudicator's decision shall be final and binding.

24.4 The arbitration shall be conducted in accordance with the

arbitration procedures published by the institution named and in the place **specified in the PCC**.

25. Corrupt and Fraudulent Practices

25.1 The Bank requires compliance with its policy in regard to corrupt and fraudulent practices as set forth in Appendix to the GCC.

25.2 The Employer requires the Contractor to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the bidding process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.

B. Time Control

26. Program

26.1 Within the time **stated in the PCC**, after the date of the Letter of Acceptance, the Contractor shall submit to the Project Manager for approval a Program showing the general methods, arrangements, order, and timing for all the activities in the Works. In the case of a lump sum contract, the activities in the Program shall be consistent with those in the Activity Schedule.

26.2 An update of the Program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work, including any changes to the sequence of the activities.

26.3 The Contractor shall submit to the Project Manager for approval an updated Program at intervals no longer than the period **stated in the PCC**. If the Contractor does not submit an updated Program within this period, the Project Manager may withhold the amount **stated in the PCC** from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted. In the case of a lump sum contract, the Contractor shall provide an updated Activity Schedule within 14 days of being instructed to by the Project Manager.

26.4 The Project Manager's approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Project Manager again at any time. A revised Program shall show the effect of Variations and Compensation Events.

27. Extension of the Intended Completion Date

27.1 The Project Manager shall extend the Intended Completion Date if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work, which would cause the Contractor to incur additional cost.

27.2 The Project Manager shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Project Manager for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.

- 28. Acceleration** 28.1 When the Employer wants the Contractor to finish before the Intended Completion Date, the Project Manager shall obtain priced proposals for achieving the necessary acceleration from the Contractor. If the Employer accepts these proposals, the Intended Completion Date shall be adjusted accordingly and confirmed by both the Employer and the Contractor.
- 28.2 If the Contractor's priced proposals for an acceleration are accepted by the Employer, they are incorporated in the Contract Price and treated as a Variation.
- 29. Delays Ordered by the Project Manager** 29.1 The Project Manager may instruct the Contractor to delay the start or progress of any activity within the Works.
- 30. Management Meetings** 30.1 Either the Project Manager or the Contractor may require the other to attend a management meeting. The business of a management meeting shall be to review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.
- 30.2 The Project Manager shall record the business of management meetings and provide copies of the record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken shall be decided by the Project Manager either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.
- 31. Early Warning** 31.1 The Contractor shall warn the Project Manager at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work, increase the Contract Price, or delay the execution of the Works. The Project Manager may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Contract Price and Completion Date. The estimate shall be provided by the Contractor as soon as reasonably possible.
- 31.2 The Contractor shall cooperate with the Project Manager in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Project Manager.

C. Quality Control

- 32. Identifying Defects** 32.1 The Project Manager shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Project Manager may instruct the Contractor to search for a Defect and to uncover and test any work that the Project Manager considers may have a Defect.
- 33. Tests** 33.1 If the Project Manager instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples. If there is no Defect, the test shall be a Compensation Event.

34. Correction of Defects

34.1 The Project Manager shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion, and is **defined in the PCC**. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.

34.2 Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Project Manager's notice.

35. Uncorrected Defects

35.1 If the Contractor has not corrected a Defect within the time specified in the Project Manager's notice, the Project Manager shall assess the cost of having the Defect corrected, and the Contractor shall pay this amount.

D. Cost Control

36. Contract Price

36.1 The Bill of Quantities shall contain priced items for the Works to be performed by the Contractor. The Bill of Quantities is used to calculate the Contract Price. The Contractor will be paid for the quantity of the work accomplished at the rate in the Bill of Quantities for each item.

37. Changes in the Contract Price

37.1 If the final quantity of the work done differs from the quantity in the Bill of Quantities for the particular item by more than 25 percent, provided the change exceeds 1 percent of the Initial Contract Price, the Project Manager shall adjust the rate to allow for the change. The Project Manager shall not adjust rates from changes in quantities if thereby the Initial Contract Price is exceeded by more than 15 percent, except with the prior approval of the Employer.

37.2 If requested by the Project Manager, the Contractor shall provide the Project Manager with a detailed cost breakdown of any rate in the Bill of Quantities.

38. Variations

38.1 All Variations shall be included in updated Programs produced by the Contractor.

38.2 The Contractor shall provide the Project Manager with a quotation for carrying out the Variation when requested to do so by the Project Manager. The Project Manager shall assess the quotation, which shall be given within seven (7) days of the request or within any longer period stated by the Project Manager and before the Variation is ordered.

38.3 If the Contractor's quotation is unreasonable, the Project Manager may order the Variation and make a change to the Contract Price, which shall be based on the Project Manager's own forecast of the effects of the Variation on the Contractor's costs.

38.4 If the Project Manager decides that the urgency of varying the work would prevent a quotation being given and considered without delaying the work, no quotation shall be given and the Variation shall be treated as a Compensation Event.

38.5 The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning.

38.6 If the work in the Variation corresponds to an item description in

the Bill of Quantities and if, in the opinion of the Project Manager, the quantity of work above the limit stated in Sub-Clause 39.1 or the timing of its execution do not cause the cost per unit of quantity to change, the rate in the Bill of Quantities shall be used to calculate the value of the Variation. If the cost per unit of quantity changes, or if the nature or timing of the work in the Variation does not correspond with items in the Bill of Quantities, the quotation by the Contractor shall be in the form of new rates for the relevant items of work.

39. Cash Flow Forecasts

39.1 When the Program, is updated, the Contractor shall provide the Project Manager with an updated cash flow forecast.

40. Payment Certificates

40.1 The Contractor shall submit to the Project Manager monthly statements of the estimated value of the work executed less the cumulative amount certified previously.

40.2 The Project Manager shall check the Contractor's monthly statement and certify the amount to be paid to the Contractor.

40.3 The value of work executed shall be determined by the Project Manager.

40.4 The value of work executed shall comprise the value of the quantities of work in the Bill of Quantities that have been completed.

40.5 The value of work executed shall include the valuation of Variations and Compensation Events.

40.6 The Project Manager may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.

41. Payments

41.1 Payments shall be adjusted for deductions for advance payments and retention. The Employer shall pay the Contractor the amounts certified by the Project Manager within 28 days of the date of each certificate. If the Employer makes a late payment, the Contractor shall be paid interest on the late payment in the next payment. Interest shall be calculated from the date by which the payment should have been made up to the date when the late payment is made at the prevailing rate of interest for commercial borrowing for the currency in which payments are made.

41.2 If an amount certified is increased in a later certificate or as a result of an award by the Adjudicator or an Arbitrator, the Contractor shall be paid interest upon the delayed payment as set out in this clause. Interest shall be calculated from the date upon which the increased amount would have been certified in the absence of dispute.

41.3 Unless otherwise stated, all payments and deductions shall be paid or charged in the national currency of the Employer comprising the Contract Price.

41.4 Items of the Works for which no rate or price has been entered in shall not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.

42. Compensation

42.1 The following shall be Compensation Events:

n Events

- (a) The Employer does not give access to a part of the Site by the Site Possession Date pursuant to GCC Sub-Clause 20.1.
- (b) The Employer modifies the Schedule of Other Contractors in a way that affects the work of the Contractor under the Contract.
- (c) The Project Manager orders a delay or does not issue Drawings, Specifications, or instructions required for execution of the Works on time.
- (d) The Project Manager instructs the Contractor to uncover or to carry out additional tests upon work, which is then found to have no Defects.
- (e) The Project Manager unreasonably does not approve a subcontract to be let.
- (f) Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of the Letter of Acceptance from the information issued to bidders (including the Site Investigation Reports), from information available publicly and from a visual inspection of the Site.
- (g) The Project Manager gives an instruction for dealing with an unforeseen condition, caused by the Employer, or additional work required for safety or other reasons.
- (h) Other contractors, public authorities, utilities, or the Employer does not work within the dates and other constraints stated in the Contract, and they cause delay or extra cost to the Contractor.
- (i) The advance payment is delayed.
- (j) The effects on the Contractor of any of the Employer's Risks.
- (k) The Project Manager unreasonably delays issuing a Certificate of Completion.

42.2 If a Compensation Event would cause additional cost or would prevent the work being completed before the Intended Completion Date, the Contract Price shall be increased and/or the Intended Completion Date shall be extended. The Project Manager shall decide whether and by how much the Contract Price shall be increased and whether and by how much the Intended Completion Date shall be extended.

42.3 As soon as information demonstrating the effect of each Compensation Event upon the Contractor's forecast cost has been provided by the Contractor, it shall be assessed by the Project Manager, and the Contract Price shall be adjusted accordingly. If the Contractor's forecast is deemed unreasonable, the Project Manager shall adjust the Contract Price based on the Project Manager's own forecast. The Project Manager shall assume that the Contractor shall react competently and promptly to the event.

42.4 The Contractor shall not be entitled to compensation to the extent that the Employer's interests are adversely affected by the Contractor's not having given early warning or not having cooperated with the

Project Manager.

43. Tax

43.1 The Project Manager shall adjust the Contract Price if taxes, duties, and other levies are changed between the date 28 days before the submission of bids for the Contract and the date of the last Completion certificate. The adjustment shall be the change in the amount of tax payable by the Contractor, provided such changes are not already reflected in the Contract Price or are a result of GCC Clause 44.

44. Currencies

NOT APPLICABLE

45. Price Adjustment

45.1 Prices shall be adjusted for fluctuations in the cost of inputs only if **provided for in the PCC**. If so provided, the amounts certified in each payment certificate, before deducting for Advance Payment, shall be adjusted by applying the respective price adjustment factor to the payment amounts due. **$P = A + B \frac{I_m}{I_o} + C \frac{M_m}{M_o}$**

where:

P is the adjustment factor for the Contract Price payable.

A, B and C are coefficients **specified in the PCC**, representing the nonadjustable and adjustable portions, respectively, of the Contract Price payable and

I_m , and M_m are the indices prevailing at the end of the month being invoiced and I_o , and M_o are the indices prevailing 28 days before Bid opening for inputs payable; both in the currency of the contract and payment as given in the Letter of Bid - Table 1 – Schedule of Adjustment Data.

45.2 If the value of the index is changed after it has been used in a calculation, the calculation shall be corrected and an adjustment made in the next payment certificate. The index value shall be deemed to take account of all changes in cost due to fluctuations in costs.

46. Retention

46.1 The Employer shall retain from each payment due to the Contractor the proportion **stated in the PCC** until Completion of the whole of the Works.

46.2 Upon the issue of a Certificate of Completion of the Works by the Project Manager, in accordance with GCC 51.1, half the total amount retained shall be repaid to the Contractor and half when the Defects Liability Period has passed and the Project Manager has certified that all Defects notified by the Project Manager to the Contractor before the end of this period have been corrected. The Contractor may substitute retention money with an “on demand” Bank guarantee.

47. Liquidated Damages

47.1 The Contractor shall pay liquidated damages to the Employer at the rate per day **stated in the PCC** for each day that the Completion Date is later than the Intended Completion Date. The total amount of liquidated damages shall not exceed the amount **defined in the PCC**. The Employer may deduct liquidated damages from payments due to

the Contractor. Payment of liquidated damages shall not affect the Contractor's liabilities.

47.2 If the Intended Completion Date is extended after liquidated damages have been paid, the Project Manager shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in GCC Sub-Clause 41.1.

48. Bonus

48.1 The Contractor shall be paid a Bonus calculated at the rate per calendar day **stated in the PCC** for each day (less any days for which the Contractor is paid for acceleration) that the Completion is earlier than the Intended Completion Date. The Project Manager shall certify that the Works are complete, although they may not be due to be complete.

49. Advance Payment

49.1 The Employer shall make advance payment to the Contractor of the amounts **stated in the PCC** by the date **stated in the PCC**, against provision by the Contractor of an Unconditional Bank Guarantee in a form and by a bank acceptable to the Employer in amount equal to the advance payment. The Guarantee shall remain effective until the advance payment has been repaid, but the amount of the Guarantee shall be progressively reduced by the amounts repaid by the Contractor. Interest shall not be charged on the advance payment.

49.2 The Contractor is to use the advance payment only to pay for Equipment, Plant, Materials, and mobilization expenses required specifically for execution of the Contract. The Contractor shall demonstrate that advance payment has been used in this way by supplying copies of invoices or other documents to the Project Manager.

49.3 The advance payment shall be repaid by deducting proportionate amounts from payments otherwise due to the Contractor, following the schedule of completed percentages of the Works on a payment basis. No account shall be taken of the advance payment or its repayment in assessing valuations of work done, Variations, price adjustments, Compensation Events, Bonuses, or Liquidated Damages.

50. Securities

50.1 The Performance Security shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in an amount **specified in the PCC**, by a bank or surety acceptable to the Employer, and denominated in the currency in which the Contract Price is payable. The Performance Security shall be valid until a date 28 days from the date of issue of the Certificate of Completion in the case of a Bank Guarantee, and until one year from the date of issue of the Completion Certificate in the case of a Performance Bond.

51. Dayworks

51.1 If applicable, the Dayworks rates in the Contractor's Bid shall be used only when the Project Manager has given written instructions in advance for additional work to be paid for in that way.

51.2 All work to be paid for as Dayworks shall be recorded by the Contractor on forms approved by the Project Manager. Each

completed form shall be verified and signed by the Project Manager within two days of the work being done.

51.3 The Contractor shall be paid for Dayworks subject to obtaining signed Dayworks forms.

52. Cost of Repairs

52.1 Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.

E. Finishing the Contract

53. Completion

53.1 The Contractor shall request the Project Manager to issue a Certificate of Completion of the Works, and the Project Manager shall do so upon deciding that the whole of the Works is completed.

54. Taking Over

54.1 The Employer shall take over the Site and the Works within seven days of the Project Manager's issuing a certificate of Completion.

55. Final Account

55.1 The Contractor shall supply the Project Manager with a detailed account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Project Manager shall issue a Defects Liability Certificate and certify any final payment that is due to the Contractor within 56 days of receiving the Contractor's account if it is correct and complete. If it is not, the Project Manager shall issue within 56 days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Project Manager shall decide on the amount payable to the Contractor and issue a payment certificate.

56. Operating and Maintenance Manuals

56.1 If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates **stated in the PCC**.

56.2 If the Contractor does not supply the Drawings and/or manuals by the dates **stated in the PCC** pursuant to GCC Sub-Clause 56.1, or they do not receive the Project Manager's approval, the Project Manager shall withhold the amount **stated in the PCC** from payments due to the Contractor.

57. Termination

57.1 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract.

57.2 Fundamental breaches of Contract shall include, but shall not be limited to, the following:

- (a) the Contractor stops work for 28 days when no stoppage of work is shown on the current Program and the stoppage has not been authorized by the Project Manager;
- (b) the Project Manager instructs the Contractor to delay the progress of the Works, and the instruction is not withdrawn within 28 days;
- (c) the Employer or the Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation;
- (d) a payment certified by the Project Manager is not paid by the Employer to the Contractor within 84 days of the date of the Project Manager's certificate;
- (e) the Project Manager gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Project Manager;
- (f) the Contractor does not maintain a Security, which is required;
- (g) the Contractor has delayed the completion of the Works by the number of days for which the maximum amount of liquidated damages can be paid, as **defined in the PCC**; or
- (h) if the Contractor, in the judgment of the Employer, has engaged in corrupt, fraudulent, collusive, coercive or obstructive practices, in competing for or in executing the Contract, then the Client may, after giving fourteen (14) days written notice to the Contractor, terminate the Contract and expel him from the Site.

57.3 When either party to the Contract gives notice of a breach of Contract to the Project Manager for a cause other than those listed under GCC Sub-Clause 56.2 above, the Project Manager shall decide whether the breach is fundamental or not.

57.4 Notwithstanding the above, the Employer may terminate the Contract for convenience.

57.5 If the Contract is terminated, the Contractor shall stop work immediately, make the Site safe and secure, and leave the Site as soon as reasonably possible.

58. Payment upon Termination

58.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Project Manager shall issue a certificate for the value of the work done and Materials ordered less advance payments received up to the date of the issue of the certificate and less the percentage to apply to the value of the work not completed, as **specified in the PCC**. Additional Liquidated Damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor, the difference shall be a debt payable

to the Employer.

58.2 If the Contract is terminated for the Employer's convenience or because of a fundamental breach of Contract by the Employer, the Project Manager shall issue a certificate for the value of the work done, Materials ordered, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works, and less advance payments received up to the date of the certificate.

59. Property

59.1 All Materials on the Site, Plant, Equipment, Temporary Works, and Works shall be deemed to be the property of the Employer if the Contract is terminated because of the Contractor's default.

60. Release from Performance

60.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Contractor, the Project Manager shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which a commitment was made.

61. Suspension of Bank Loan or Credit

61.1 In the event that the Bank suspends the Loan or Credit to the Employer, from which part of the payments to the Contractor are being made:

(a) The Employer is obligated to notify the Contractor of such suspension within 7 days of having received the Bank's suspension notice.

(b) If the Contractor has not received sums due it within the 28 days for payment provided for in Sub-Clause 40.1, the Contractor may immediately issue a 14-day termination notice.

APPENDIX TO GENERAL CONDITIONS

Bank's Policy- Corrupt and Fraudulent Practices

(text in this Appendix shall not be modified)

Guidelines for Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, dated January 2011:

“Fraud and Corruption:

1.16 It is the Bank's policy to require that Borrowers (including beneficiaries of Bank loans), bidders, suppliers, contractors and their agents (whether declared or not), sub-contractors, sub-consultants, service providers or suppliers, and any personnel thereof, observe the highest standard of ethics during the procurement and execution of Bank-financed contracts.¹⁹ In pursuance of this policy, the Bank:

(a) defines, for the purposes of this provision, the terms set forth below as follows:

(i) “corrupt practice” is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;²⁰

(ii) “fraudulent practice” is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;²¹

(iii) “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;²²

(iv) “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;²³

(v) “obstructive practice” is

(aa) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or

¹⁹ In this context, any action to influence the procurement process or contract execution for undue advantage is improper.

²⁰ For the purpose of this sub-paragraph, “another party” refers to a public official acting in relation to the procurement process or contract execution. In this context, “public official” includes World Bank staff and employees of other organizations taking or reviewing procurement decisions.

²¹ For the purpose of this sub-paragraph, “party” refers to a public official; the terms “benefit” and “obligation” relate to the procurement process or contract execution; and the “act or omission” is intended to influence the procurement process or contract execution.

²² For the purpose of this sub-paragraph, “parties” refers to participants in the procurement process (including public officials) attempting either themselves, or through another person or entity not participating in the procurement or selection process, to simulate competition or to establish bid prices at artificial, non-competitive levels, or are privy to each other's bid prices or other conditions.

²³ For the purpose of this sub-paragraph, “party” refers to a participant in the procurement process or contract execution.

threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or

(bb) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 1.16(e) below.

(b) will reject a proposal for award if it determines that the bidder recommended for award, or any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;

(c) will declare misprocurement and cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement or the implementation of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;

(d) will sanction a firm or individual, at any time, in accordance with the prevailing Bank's sanctions procedures,²⁴ including by publicly declaring such firm or individual ineligible, either indefinitely or for a stated period of time: (i) to be awarded a Bank-financed contract; and (ii) to be a nominated²⁵;

(e) will require that a clause be included in bidding documents and in contracts financed by a Bank loan, requiring bidders, suppliers and contractors, and their sub-contractors, agents, personnel, consultants, service providers, or suppliers, to permit the Bank to inspect all accounts, records, and other documents relating to the submission of bids and contract performance, and to have them audited by auditors appointed by the Bank.”

²⁴ A firm or individual may be declared ineligible to be awarded a Bank financed contract upon: (i) completion of the Bank's sanctions proceedings as per its sanctions procedures, including, inter alia, cross-debarment as agreed with other International Financial Institutions, including Multilateral Development Banks, and through the application the World Bank Group corporate administrative procurement sanctions procedures for fraud and corruption; and (ii) as a result of temporary suspension or early temporary suspension in connection with an ongoing sanctions proceeding. See footnote 14 and paragraph 8 of Appendix 1 of these Guidelines.

²⁵ A nominated sub-contractor, consultant, manufacturer or supplier, or service provider (different names are used depending on the particular bidding document) is one which has either been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

Section IX. Particular Conditions of Contract

A. General	
GCC 1.1 (d)	The financing institution is: The World Bank – IBRD loan
GCC 1.1 (s)	The Employer is Roads Department of the Ministry of Regional Development and Infrastructure of Georgia 12A Kazbegi ave. Tbilisi, Georgia The authorized representative is: Mr. Irakli Litanishvili, Vice-Chairman of Roads Department of Georgia
GCC 1.1 (v)	The implementation period is: 17 months and the Intended Completion Date for the whole of the Works shall be 17 months from the start date.
GCC 1.1 (y)	The Project Manager prior to selection of the Supervision Company: Authorized Representative of Roads Department The Project Manager upon selection of the Supervision Company: TBD
GCC 1.1 (aa)	The Site is located at : Secondary road Agara-Kornisi-Tskhinvali km1-km4; km9-km16
GCC 1.1 (dd)	The Start Date shall be: after 21 days from the date of signing of the Contract
GCC 1.1 (hh)	The Works consist of: <ul style="list-style-type: none"> • Preparatory works • Rehabilitation of roadway • Rehabilitation of engineering structures • Rehabilitation of road pavement • Rehabilitation of junctions • Rehabilitation of road furniture • Rehabilitation of utilities
GCC 2.2	Sectional Completions are: None
GCC 3.1	The language of the contract is English . The law that applies to the Contract is the law of Georgia
GCC 5.1	The Project Manager may not delegate any of his duties and responsibilities.
GCC 8.1	Schedule of other contractors: None
GCC 13.1	The minimum insurance amounts and deductibles shall be: (a) For the Works, Plant and Materials: 110% of the accepted contract price

	<p>(b) For loss or damage to Equipment: 300,000 GEL</p> <p>(c) For loss or damage to property (except the Works, Plant, Materials, and Equipment) in connection with Contract 100,000 GEL</p> <p>(d) For personal injury or death:</p> <p>(i) of the Contractor's employees: 150,000 GEL</p> <p>(ii) of other people: 150,000 GEL</p>
GCC 14.1	Site Data are: None
GCC 20.1	The Site Possession Date shall be 14 days after Start Date and shall be confirmed by the Employer with a written notification to the Contractor.
GCC 23.1 & GCC 23.2	<p>Appointing Authority for the Adjudicator:</p> <p>"International Arbitration Court of the Georgian Chamber of Commerce and Industry".</p> <p>Address: 29 Berdzeni Str., Tbilisi, Georgia</p> <p>Tel: (995 32) 272-07-10</p> <p>Fax: (995 32) 272-31-90</p>
GCC 24.3	Hourly rate and types of reimbursable expenses to be paid to the Adjudicator: Hourly fees 120 USD (One hundred and Twenty United States Dollars) and travel and accommodation expenses accordingly with actual cost.
GCC 24.4	<p>For contracts with the contractors from the Employer's country:</p> <p>Institution whose arbitration procedures shall be used:</p> <p>"International Arbitration Court of the Georgian Chamber of Commerce and Industry".</p> <p>Address: 29 Berdznis Str, Tbilisi, Georgia</p> <p>The place of arbitration shall be: Tbilisi, Georgia</p> <p>For contracts with the international contractors:</p> <p>"Rules of Conciliation and Arbitration of the International Chamber of Commerce (ICC):</p> <p>All disputes arising in connection with the present Contract shall be finally settled under the Rules of Conciliation and Arbitration of the International Chamber of Commerce by one or more arbitrators appointed in accordance with said Rules."</p> <p>The place of arbitration shall be: Paris, France</p>
B. Time Control	
GCC 26.1	The Contractor shall submit for approval a Program for the Works within 30 days from the date of the contract signing.
GCC 26.3	<p>The period between Program updates is 30 days.</p> <p>The amount to be withheld for late submission of an updated Program is 5,000 GEL (Ten Thousand Georgian Laris)</p>
C. Quality Control	

GCC 34.1	The Defects Liability Period is: 365 days.
D. Cost Control	
GCC 44.1	NOT APPLICABLE
GCC 45.1	The Contract is not subject to price adjustment.
GCC 46.1	The proportion of payments retained is: 5%
GCC 47.1	The liquidated damages for the whole of the Works are 0.1 percent per day of the final Contract Price. The maximum amount of liquidated damages for the whole of the Works is 10 percent of the final Contract Price.
GCC 48.1	The Bonus for the whole of the Works is : None
GCC 49.1	The Advance Payments shall be 20% of the contract price and shall be paid to the Contractor no later than 28 days after receipt and approval of the Advance Payment Security on the same amount.
GCC 50.1	The Performance Guarantee shall be provided to the Employer as a unconditional Bank Guarantee from the Bank for the amount of 10% of the Contract Price
E. Finishing the Contract	
GCC 56.1	The date by which “as built” drawings are required is the date of Completion Date in accordance with GCC Sub-Clause 56.1.
GCC 56.2	The amount to be withheld for failing to produce “as built” drawings by the date required in GCC 56.1 is 10 000GEL (Ten thousand Laris)
GCC 57.2 (g)	The maximum number of days is: 100 days.
GCC 58.1	The percentage to apply to the value of the work not completed, representing the Employer’s additional cost for completing the Works, is 20%

Section X - Contract Forms

This Section contains forms which, once completed, will form part of the Contract. The forms for Performance Security and Advance Payment Security, when required, shall only be completed by the successful Bidder after contract award.

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Letter of Acceptance

[on letterhead paper of the Employer]

..... *[date]*

To: *[name and address of the Contractor]*

Subject: *[Notification of Award Contract No.]*

This is to notify you that your Bid dated *[insert date]* for execution of the
..... *[insert name of the contract and identification number, as given in the PCC]*. for the Accepted Contract Amount of *[insert amount in numbers and words and name of currency]*, as corrected and modified in accordance with the Instructions to Bidders is hereby accepted by our Agency.

You are requested to furnish the Performance Security within 28 days in accordance with the Conditions of Contract, using for that purpose the of the Performance Security Form included in Section X, Contract Forms of the Bidding Document.

[Choose one of the following statements:]

We accept that _____ *[insert the name of Adjudicator proposed by the Bidder]* be appointed as the Adjudicator.

[or]

We do not accept that _____ *[insert the name of the Adjudicator proposed by the Bidder]* be appointed as the Adjudicator, and by sending a copy of this Letter of Acceptance to _____ *[insert name of the Appointing Authority]*, the Appointing Authority, we are hereby requesting such Authority to appoint the Adjudicator in accordance with ITB 43.1 and GCC 23.1.

Authorized Signature:

Name and Title of Signatory:

Name of Agency:

Attachment: Contract Agreement

Contract Agreement

THIS AGREEMENT made theday of, between **[name of the Employer]**. (hereinafter “the Employer”), of the one part, and **[name of the Contractor]**.(hereinafter “the Contractor”), of the other part:

WHEREAS the Employer desires that the Works known as **[name of the Contract]**.should be executed by the Contractor, and has accepted a Bid by the Contractor for the execution and completion of these Works and the remedying of any defects therein,

The Employer and the Contractor agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other Contract documents.
 - (a) Agreement,
 - (b) Letter of Acceptance,
 - (c) Contractor’s Bid,
 - (d) Particular Conditions of Contract,
 - (e) General Conditions of Contract, including Appendix;
 - (f) Specifications,
 - (g) Drawings;
 - (h) Bill of Quantities, and
 - (i) any other document **listed in the PCC** as forming part of the Contract.
3. In consideration of the payments to be made by the Employer to the Contractor as specified in this Agreement, the Contractor hereby covenants with the Employer to execute the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract.
4. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of **[name of the borrowing country]**.on the day, month and year specified above.

Signed by: _____

for and on behalf of the Employer

in the
presence
of:

Witness, Name, Signature, Address, Date

Signed by: _____

for and on behalf the Contractor

in the
presence
of:

Witness, Name, Signature, Address, Date

Performance Security (Demand Guarantee)

(Bank Guarantee)

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: *[insert name and Address of Employer]*

Date: *_ [Insert date of issue]*

PERFORMANCE GUARANTEE No.: *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that *_ [insert name of Contractor, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Applicant") has entered into Contract No. *[insert reference number of the contract]* dated *[insert date]* with the Beneficiary, for the execution of *_ [insert name of contract and brief description of Works]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]* (_____) *[insert amount in words]*,¹ such sum being payable in the type of currency in which the Contract Price is payable, upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire, no later than the Day of, 2...², and any demand for payment under it must be received by us at this office indicated above on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

¹ *The Guarantor shall insert an amount representing the percentage of the Accepted Contract Amount specified in the Letter of Acceptance, less provisional sums, if any, and denominated in the currency of the Contract.*

² *Insert the date twenty-eight days after the expected completion date as described in GC Clause 11.9. The Employer should note that in the event of an extension of this date for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."*

Advance Payment Security

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: *[Insert name and Address of Employer]*

Date: *[Insert date of issue]*

ADVANCE PAYMENT GUARANTEE No.: *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that *[insert name of Contractor, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Applicant") has entered into Contract No. *[insert reference number of the contract]* dated *[insert date]* with the Beneficiary, for the execution of *[insert name of contract and brief description of Works]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum *[insert amount in figures]* () *[insert amount in words]* is to be made against an advance payment guarantee.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]* () *[insert amount in words]*¹ upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating either that the Applicant:

- (a) has used the advance payment for purposes other than the costs of mobilization in respect of the Works; or
- (b) has failed to repay the advance payment in accordance with the Contract conditions, specifying the amount which the Applicant has failed to repay.

A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the advance payment referred to above has been credited to the Applicant on its account number *[insert number]* at *[insert name and address of Applicant's bank]*.

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Applicant as specified in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that ninety (90) percent of the Accepted Contract Amount, less provisional sums, has been certified for payment, or on the *[insert day]* day of *[insert month]*, 2

¹ *The Guarantor shall insert an amount representing the amount of the advance payment and denominated in the currency of the advance payment as specified in the Contract.*

[insert year],² whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

[signature(s)]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

² *Insert the expected expiration date of the Time for Completion. The Employer should note that in the event of an extension of the time for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."*

SAMPLE FORMAT :

Invitation for Bids

[COUNTRY]

[NAME OF PROJECT]

Loan No./Credit No./ Grant No.: _____

Contract Title: _____

Reference No. (as per Procurement Plan): _____

1. The *[insert name of Borrower/Beneficiary/Recipient]* *[has received/has applied for/intends to apply for]* financing from the World Bank toward the cost of the *[insert name of project or grant]*, and intends to apply part of the proceeds toward payments under the contract ²⁶for *[insert title of contract]*²⁷.

2. The *[insert name of implementing agency]* now invites sealed bids from eligible bidders for *[insert brief description of Works required, including quantities, location, construction period, etc.]*²⁸.

3. Bidding will be conducted through the National Competitive Bidding procedures as specified in the World Bank's [Guidelines: Procurement of Goods, Works and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers](#)*[insert correct title and date of applicable Guidelines edition as per legal agreement]* ("Procurement Guidelines"), and is open to all eligible bidders as defined in the Procurement Guidelines. In addition, please refer to paragraphs 1.6 and 1.7 setting forth the World Bank's policy on conflict of interest.

4. Interested eligible bidders may obtain further information from *[insert name of implementing agency, insert name and e-mail of officer in charge]* and inspect the bidding documents during office hours *[insert office hours if applicable i.e. 0900 to 1700 hours]* at the address given below *[state address at the end of this invitation]*²⁹.

5. A complete set of bidding documents in *[insert name of language]* may be purchased by interested eligible bidders upon the submission of a written application to

²⁶Substitute "contracts" where bids are called concurrently for multiple contracts. Add a new para. 3 and renumber paras 3 - 8 as follows: "Bidders may bid for one or several contracts, as further defined in the bidding document. Bidders wishing to offer discounts in case they are awarded more than one contract will be allowed to do so, provided those discounts are included in the Letter of Bid."

²⁷Insert if applicable: "This contract will be jointly financed by *[insert name of cofinancing agency]*. Bidding process will be governed by the World Bank's rules and procedures."

²⁸A brief description of the type(s) of Works should be provided, including quantities, location of Project, construction period, application of margin of preference and other information necessary to enable potential bidders to decide whether or not to respond to the Invitation. Bidding Documents may require bidders to have specific experience or capabilities; such qualification requirements should also be included in this paragraph.

²⁹The office for inquiry and issuance of bidding documents and that for bid submission may or may not be the same.

the address below and upon payment of a nonrefundable fee³⁰ of *[insert amount in Borrower's currency]*. The method of payment will be *[insert method of payment]*.³¹ The document will be sent by *[insert delivery procedure]*.³²

6. Bids must be delivered to the address below *[state address at the end of this invitation]*³³ on or before *[insert time and date]*. Electronic bidding will *[will not]* be permitted. Late bids will be rejected. Bids will be publicly opened in the presence of the bidders' designated representatives and anyone who choose to attend at the address below *[state address at the end of this invitation]* on *[insert time and date]*.

7. All bids must be accompanied by a *[insert "Bid Security" or "Bid-Securing Declaration," as appropriate]* of *[insert amount and currency in case of a Bid Security]*.

8. The address(es) referred to above is(are): *[insert detailed address(es)]*

[insert name of office, room number]

Attn: *[insert name of officer & title]*

[insert postal address and/or street address]

[insert postal code, city, country]

Tel: *[include the country and city code]*

Fax: *[include the country and city code]*

E-mail: *[insert electronic address if electronic bidding is permitted]*

Web site:

³⁰The fee chargeable should only be nominal to defray reproduction and mailing costs. An amount between US\$50 and US\$300 or equivalent is deemed appropriate.

³¹For example, cashier's check, direct deposit to specified account number, etc.

³²The delivery procedure is usually airmail for overseas delivery and surface mail or courier for local delivery. If urgency or security dictates, courier services may be required for overseas delivery. With the agreement of the World Bank, documents may be distributed by e-mail.

³³Substitute the address for bid submission if it is different from address for inquiry and issuance of bidding documents.